

Discussion on the Teaching Management Mode of Cooperation Among Schools Against the Background of Industry-education Integration

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Abstract—In order to improve the quality of teaching, realize the teaching mode of theory-practice integration, implement the concept of "mass entrepreneurship and innovation", school-enterprise cooperation and integration of production and education is the teaching management method adopted by colleges and universities. According to the characteristics of industry-education integration, and the analysis of the current implementation of industry-education integration in colleges and universities, teaching management mode of schools cooperation is proposed.

Keywords—industry-education integration; analysis of current situation; cooperation among school

I. INTRODUCTION

At present, in order to improve the effect of practical teaching, and implement the concept of "mass entrepreneurship and innovation" proposed by Premier Li Keqiang, the higher vocational colleges adopt the method of industry-education integration to closely link industry with teaching. The teaching content is constructed based on the development of the industry, which improves the students' practical ability and cultivates the craftsmanship spirit of the students in practical teaching.

II. OVERVIEW OF INDUSTRY-EDUCATION INTEGRATION

The industry-education integration refers that higher vocational colleges set up professional industries according to their own professional conditions, closely integrate industry and teaching, support each other, promote each other, and integrate the school into an industrial operation entity integrating talent cultivation, scientific research and service to form a school-running model in which schools and enterprises are an integral whole. At present, the path of carrying out industry-education integration in vocational colleges is mostly the way of school-enterprise cooperation, which can not only provide students with internship conditions, but also provide opportunities for teachers to practice and experience in enterprises, improve teaching quality, and make contribution to the construction of higher vocational colleges.

A. The Background of Industry-education Integration

In 2014, President Xi Jinping systematically expounded the main features of the new normal of China's economic development at the APEC meeting, and emphasized that the economy should be transformed from factor-driven and investment-driven to innovation-driven. In the same year, Premier Li Keqiang proposed "mass entrepreneurship and innovation." At present, "entrepreneurship and innovation" has become a high-frequency hot word in relevant national documents. Innovation is the soul of social progress, and entrepreneurship is an important way to promote social and economic development and improve people's livelihood. Innovation-driven can inspire the infinite creativity of the people, and combine creativity and market to form a powerful new kinetic energy. With the transformation of intelligent manufacturing as the core, relying on the innovation model, it is possible to accelerate the implementation of "Made in China 2025" and "Internet + Manufacturing" strategy, which is promoting manufacturing technology change and transformation and upgrading through entrepreneurial innovation. At the same time, through the "entrepreneurship and innovation", it is possible to better mobilize people's enthusiasm and creativity, and improve the country's core competitiveness. The cultivation of students' innovative ideas and abilities needs systematically study. The teaching mode of industry-education integration allows students to understand the profession in theoretical study, and cultivates dedication, professionalism, and problem analysis and solving ability in practical teaching.

B. The Significance of Industry-education Integration

The teaching mode of industry-education integration can achieve the goal of "entrepreneurship and innovation" and improve the teaching quality of vocational students:

- At present, China is transformed from a manufacturing country to a manufacturing power, from made in China to wisdom in China, and realizes "Made in China 2025". This requires regaining the spirit of craftsmen in the process of education and cultivating the great craftsmen of the new era." However, in order to achieve this goal, only paying

attention to the classroom teaching cannot cultivate the application-oriented talents who have both the entrepreneurial spirit of innovation and the traditional industry skills. Through industry-education integration, students' operational ability and entrepreneurial spirit are cultivated.

- The teaching mode of industry-education integration can improve the employment problem of students. At present, the number of graduates from higher vocational schools in China is large, but in the process of employment, students from higher vocational school are sometimes discriminated against by the employer. Through the teaching mode of industry-education integration, it is an important method to cultivate students' awareness of "industry-education integration", actively guide and encourage higher vocational college students to start their own businesses and promote employment through entrepreneurship.
- The teaching mode of industry-education integration conforms to the development of the times and is also in line with the needs of higher vocational education reform. The industry-education integration is carried out by higher vocational colleges in combination with the development needs of local industries. The production and education park reflects the local industry characteristics, allowing students to understand the development of the local industry in advance in the process of learning in colleges and universities and continuously innovate through theoretical and practical learning.

III. THE DEVELOPMENT STATUS OF INDUSTRY-EDUCATION INTEGRATION

At present, in the coastal areas of China, due to the obvious industry characteristics, the rapid development of enterprises and the large demand for talents of enterprises, the higher vocational schools and enterprises are closely connected. The exploration of the teaching and training mode of the factory in school and the school in factory achieve the goal of integration of learning, teaching and working. However, in the inland higher vocational colleges, the development characteristics of enterprises are not so obvious, and the development of industry-education integration is not so easy to form, and most of them are in the form.

- The educational model of industry-education integration is to require students to participate in the practice of the enterprise, so that students can be involved in the theoretical study with the problems found in practice, and improve the students' enthusiasm for learning. However, the current industry-education integration is reflected in the following aspects: first, the participation of students is not high with only a small number of students participating, and most students are still "audiences"; second, the courses required by enterprises are mainly lectures, electives classes and other forms, which

have not received the corresponding attention of schools, teachers and students. Third, there are few opportunities of practice for students that can really arrange the practice of corresponding posts with theoretical studies, so it can not reflect the integration of teaching, learning and working.

- The curriculum setting against the background of industry-education integration needs to be improved. At present, vocational colleges in China have limited practical conditions. There are many theoretical courses, few practical courses, and poor connection between theory and practice, which cannot fully reflect the needs of science and technology and social development in the era of "Internet +".
- Teachers under the mode of industry-education integration need to be strengthened. The theory-practice integration is the characteristic of practice-industry education mode. At present, the main body of practical teaching is school teacher, and the participation of enterprises is not high, but most of the teachers in the school lack practical experience in enterprise practice or social entrepreneurship. It is difficult to connect with the latest development of industry development in the course teaching, so they cannot stimulate the students' practical enthusiasm, and the teaching effect is not significant.
- The industry-education integration cannot be implemented, and the speed of construction and practice of the practice base is lagging behind. The construction of practice bases often costs a lot of money, and once completed, if students' practical teaching can't connect with enterprises, it can't bring benefits, which leads to the inability to guarantee equipment renewal. In the Internet era where technology is advancing rapidly, students' internships training is often out of touch with society, and it cannot truly reflect the development of contemporary technology, so students' enthusiasm for learning cannot be stimulated.

IV. ANALYSIS OF SCHOOL-ENTERPRISE COOPERATION AGAINST THE BACKGROUND OF INDUSTRY-EDUCATION INTEGRATION

At present, in order to achieve the teaching effect of industry-education integration, various higher vocational colleges have adopted different school-enterprise cooperation modes according to the school's school-running characteristics, mainly reflected in the following aspects:

A. "Factory in School" Mode

The school provides the venue, and the enterprise builds the factory building as required. The school-enterprise cooperation meet the production of the enterprise, and at the same time meet the regular position practice of the school students, as well as the practical research of the professional teachers in the school, so that the factory in school can produce benefits and the requirements of teaching practice

can be met. Then schools and enterprises can have a win-win situation.

B. "School in Factory" Mode

School-enterprise cooperation set up a talent training program together. Some theory-practice integration courses are completed in the factory by enterprise experts and school teachers. They complete the teaching work on the spot combining theory and practice to enable students to complete cognitive training post practice and internship in the factory.

C. "Device Sharing" Mode

The enterprise and the school jointly provide equipment and establish a productive training base. When the enterprise is producing, it provides students with productive training positions. This cooperation mode realizes the complementation and sharing of school-enterprise resources, so that the equipment of both parties has both teaching and production functions, which greatly improves equipment utilization.

D. "Post Contract" Mode

The college undertakes the outsourcing business of enterprise production process, and carries out production activities with the support of the enterprise technical personnel. The teachers become the technical and management personnel in the production process, and the students alternately carry out the internship work. Through this cooperation, the company reduced production costs and labor costs, and the teachers and students of the college got the training of real production.

E. "Project Contract" Mode

Some of the company's projects are introduced to the college and the college provides free venues and equipment. Under the leadership of the enterprise experts, the school teachers and students can complete the enterprise project together. With the project teaching mode, the college curriculum can closely follow the enterprise requirements and technology development. At the same time, the team of part-time teachers has also been expanded. Through the implementation of the project, the school not only benefits in equipment and technology, but the enterprise teachers also get the practical training in the process of project implementation, and students' employment quality of is also guaranteed.

V. ANALYSIS OF TEACHING MANAGEMENT MODE OF COOPERATION AMONG SCHOOL

Since the majors of all colleges and universities are not single, no matter what mode the colleges and universities adopt to implement the integration of production and education, they cannot meet the practical internships of teachers and students of all majors, and they cannot fully integrate the production and education no matter from the input or the energy. To meet the teaching needs of all majors, the open school-running mode of cooperation among schools can be adopted.

A. Teaching Management Mode of Cooperation Among Schools

In order to meet the students' practical teaching ability and improve the teaching quality, colleges and universities can adopt the mode of cooperation among schools to make full and rational use of resources. In colleges and universities can cooperate with schools with the same majors in school-running. They can jointly discuss to complete talent training programs. The cooperative schools negotiate the construction direction of the training bases and build one or two professional on-campus and off-campus training bases. In the partner institutions, the internship training bases of the same major don't need to be built duplicated, and the internship training bases are shared by the schools. The courses setting and the teaching content and methods are offered coordinately by cooperative colleges to use resources reasonably.

B. Analysis of the Advantages of Teaching Management Mode Under the Cooperation Among Schools

1) Resource sharing can make teaching resources equal:

In the cooperation among schools, teachers of partner colleges jointly discuss and complete teaching content and teaching process. The scope of theoretical teaching can be completed by teachers of the school, but the practical teaching is completed by the partner colleges. In different institutions, the same curriculum is offered in different time period to rationally arrange the teaching process, which will not only improve the level of teaching cooperation and the quality of teaching, but also improve the overall quality of the teaching staff through open discussion and practice. The open teaching model can make the educated subjects be treated fairly, and integrate the teaching resources of the school so that the teachers of different institutions can communicate with each other in ideas and teaching methods. This kind of communication is equivalent to teacher training with substantive teaching content, and this kind of open and cooperative thinking can also be subtly rooted in the students, so that students get relatively fair teaching resources.

2) *Resource sharing can reduce teaching costs:* The cooperation among schools can make different institutions build hardware training bases of different professions, and then share the training bases, thus avoiding the redundant construction of resources and improving the utilization of resources within the school. Moreover, the sharing of teachers of the same professional and other resources in colleges and universities makes up for the shortcomings of single institutions and insufficient resources, which can provide more and more reasonable resources for teaching and practice.

3) *Resource sharing is conducive to the timely updating of teaching resources and keeping pace with the times:* Through cooperation among schools, the colleges can concentrate their funds on the construction of a certain professional resource, and improve the utilization of

resources through the cooperation among schools, so that resources can be updated in time and the training equipment can match the development of the industry and keep pace with the times.

VI. CONCLUSION

The industry-education integration advocates a kind of teaching concept of theory-practice integration, which connects students' learning and the society, so that students and posts can be seamlessly connected. At the same time, students' learning enthusiasm and initiative are improved through the practice of teaching process. However, the implementation of industry-education integration is not enough for a single institution to meet the requirement of students from all majors. In this context, cooperation among schools is a teaching model worth exploring.

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