

Research on Innovation and Practice of University Education Management Mode Based on School-Enterprise Cooperation and Integration of Industry and Education

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Abstract: With the continuous development of social economy, school-enterprise cooperation and the integration of industry and education have become an important direction in the innovation and practice of college education management mode. This paper aims to explore the innovation and practice of university education management mode based on school-enterprise cooperation and integration of industry and education, so as to provide theoretical support and practical reference for China's university education reform.

1. Introduction

Under the background of economic globalization and social informatization, industrial upgrading and the change of talent demand structure have put forward new requirements for higher education management. The traditional subject-based education model is difficult to meet the needs of the society for personnel training, while the school-enterprise cooperation and the integration of industry and education, as a new education model, aims to combine education and industry closely to better meet the needs of the society for high-quality and application-oriented talents. Therefore, it is of great theoretical and practical significance to study the innovation and practice of university education management mode based on school-enterprise cooperation and the integration of industry and education.

2. Innovation of college education management mode based on school-enterprise cooperation and integration of industry and education

2.1 Concept Innovation: from "discipline-centered" to "student-centered"

In the field of education, the traditional teaching model is usually subject centered, while the modern education concept is more student-centered. This shift means that educators need to focus on students' needs, interests and abilities in order to promote their well-rounded development. This paper will discuss how to realize the transformation from "discipline-centered" to "student-centered" from the following aspects.

2.1.1 Understand students' needs and interests

The student-centered education model requires educators to deeply understand the needs and interests of students, so as to formulate teaching strategies that are more in line with the characteristics of students. This requires educators to use observation, interview, questionnaire and other methods to collect students' views and preferences on different disciplines, according to the development trend of modern economy and the needs of enterprises, set up courses closely combined with the industry, so that students can learn practical knowledge and skills.^[3]

2.1.2 Pay attention to students' individual differences

Each student has their own unique character, interests and abilities, and the student-centered education model requires educators to pay attention to the individual differences of students and respect their development speed and direction. In the teaching process, educators should adopt flexible and diverse teaching methods according to the actual situation of students, provide personalized learning support, and help students play their advantages, overcome difficulties, and achieve all-round development.

In short, to realize the transformation from "discipline-centered" to "student-centered", educators need to pay attention to the needs, interests and abilities of students, create a lively and interesting learning environment, guide students to actively participate in the teaching process, and pay attention to the overall development of students. Only in this way can we cultivate more high-quality talents with innovative spirit and practical ability to contribute to the future development of the country.

2.2 System innovation: Build a long-term mechanism for school-enterprise cooperation and the integration of industry and education

On the basis of the university education management model of school-enterprise co-operation and integration of production and education, the relevant departments require that university administrators formulate corresponding policies and measures to promote in-depth co-operation between schools and enterprises in talent cultivation, technological innovation, resource sharing, etc., so as to build a long-lasting mechanism for school-enterprise co-operation and integration of production and education.

2.2.1 Clarify the goals and responsibilities of cooperation between the university and the enterprise

To construct the long-term mechanism of school-enterprise cooperation and the integration of industry and education, it is necessary to clarify the cooperation objectives and responsibilities of both sides. Both schools and enterprises should jointly formulate talent training objectives, ensure that the educational content is closely connected with the needs of enterprises, and jointly cultivate high-quality and application-oriented talents that meet the needs of industrial development. The two sides should also clarify their respective responsibilities to ensure the smooth sharing of resources and technical exchanges in the cooperation process.

2.2.2 Establish diversified cooperation models

In order to better realize the cooperation between school and enterprise and the integration of industry and education, both sides need to constantly innovate the cooperation model. Diversified cooperation modes include: co-construction of practice and training bases, joint scientific research

projects, cooperative curriculum development, and practical teaching cases provided by enterprises. Through these cooperation models, both schools and enterprises can realize resource sharing, complementary advantages, and improve the quality of talent training.

2.2.3 Building an information exchange platform

Building an information exchange platform is the key link to realize school-enterprise cooperation and the integration of industry and education. The two sides can establish information sharing system, hold regular forums, organize seminars and other forms to timely understand the needs of both sides and cooperation progress, and provide effective information support for cooperation. At the same time, the information exchange platform also helps to strengthen the communication and trust between the school and the enterprise, laying the foundation for long-term cooperation.

2.2.4 Establish an effective incentive and evaluation mechanism

In order to ensure the long-term development of school-enterprise cooperation and production-education integration, it is necessary to establish an effective incentive and evaluation mechanism. Schools may set up special funds for school-enterprise cooperation projects to support the implementation of school-enterprise cooperation projects; Enterprises can also encourage students to participate in school-enterprise cooperation projects by providing internship opportunities, scholarships and other forms. In addition, the two sides should also establish a cooperation results evaluation system, regular evaluation of cooperation projects, to ensure the effectiveness of cooperation.

In short, to build a long-term mechanism of school-enterprise cooperation and the integration of industry and education, both schools and enterprises need to work together to clarify cooperation objectives and responsibilities, establish diversified cooperation models, build information exchange platforms, strengthen the construction of teacher teams, and establish effective incentive and evaluation mechanisms. Only in this way can we achieve a win-win situation between education and industry and contribute to our country's economic and social development.

2.3 Model innovation: Implement project-driven and task-oriented teaching model

College education management mode based on school-enterprise cooperation and integration of industry and education requires college education administrators to implement project-driven and task-oriented teaching mode, guide students to participate in practical engineering projects, and cultivate students' ability to solve practical problems and innovative spirit.^[2]

2.3.1 Clarify project-driven and task-oriented teaching objectives

The project-driven and task-oriented teaching mode emphasizes that students learn in actual projects and master knowledge and skills by completing specific tasks. Educators should make clear the goal of this teaching mode, that is, to cultivate students' practical ability, innovation ability and teamwork ability. In order to achieve this goal, educators need to combine the needs of industrial development, develop teaching content that is consistent with the actual project, and ensure that students can really improve their comprehensive abilities in the process of completing the task.

2.3.2 Design reasonable projects and tasks

In order to implement project-driven and task-oriented teaching model, educators need to design reasonable projects and tasks. The project should have practical significance and application value,

and be closely related to the needs of industrial development; The task should be challenging, so that students can give full play to their innovative ability in the process of completing the task. In addition, educators should also design projects and tasks of different difficulties according to the actual abilities and interests of students, so as to ensure that all students can practice at their own difficulty.

2.3.3 Build practical teaching platform

To implement the project-driven and task-oriented teaching mode, it is necessary to build a practical teaching platform. Educators should make full use of resources inside and outside the school, establish laboratories, practice and training bases and other practice places to provide students with a good practice environment. At the same time, educators should also actively cooperate with enterprises and research institutions to introduce practical projects, so that students can learn in a real working environment and improve their practical ability.

2.3.4 Establish an effective evaluation mechanism

In order to ensure the effectiveness of project-driven and task-oriented teaching model, it is necessary to establish an effective evaluation mechanism. The evaluation mechanism should pay attention to the cultivation of students' practical ability, innovation ability and teamwork ability, and fully consider the performance of students in the process of completing projects and tasks. In addition, educators should also use a variety of evaluation methods, such as process evaluation, team evaluation, self-evaluation, etc., to fully understand the learning outcomes of students.

3. Practice of university education management based on school-enterprise cooperation and integration of industry and education

3.1 Establish the organizational structure of school-enterprise cooperation and integration of industry and education

College education administrators should establish an organizational structure for school-enterprise cooperation and the integration of industry and education, clarify the responsibilities and rights of all parties, and promote in-depth cooperation between the two sides in personnel training, technological innovation, resource sharing and other aspects. The establishment of the organizational structure of school-enterprise cooperation and the integration of industry and education is an important guarantee for the deep cooperation between the two sides in personnel training, technological innovation and resource sharing. Here are a few steps to establish the organizational structure of school-enterprise cooperation and integration of industry and education:

3.1.1 Clarify objectives and responsibilities

First of all, it is necessary to clarify the goals of school-enterprise cooperation and the integration of industry and education, including improving the quality of personnel training, promoting technological innovation and industrial development. At the same time, it is necessary to clarify the responsibilities of both schools and enterprises, such as universities are responsible for the development of curriculum systems, training programs and teaching quality monitoring, and enterprises are responsible for providing practice bases, internship and training opportunities and professional mentors.

3.1.2 Establishment of specialized agencies

In order to promote the implementation of school-enterprise cooperation and the integration of industry and education, institutions can be established in colleges and universities, such as the school-enterprise cooperation office or the integration center of industry and education. The institution can be responsible for coordinating the communication and exchange between the school and the enterprise, promoting the signing and implementation of cooperation agreements, and organizing activities such as student internship and practical training and teacher suspension in enterprises.

3.1.3 Establishment of professional cooperation consortia

According to the needs of industrial development and the professional Settings of colleges and universities, professional cooperation associations can be established to promote in-depth cooperation between colleges and enterprises of the same specialty. The professional cooperative association may be responsible for the formulation of professional personnel training programs, curriculum systems and practical teaching standards, as well as the coordination of teaching resources and teachers of both schools and enterprises.

3.1.4 Building an information sharing platform

In order to promote information sharing and resource exchange between schools and enterprises, an information sharing platform of school-enterprise cooperation and integration of industry and education can be established. The platform can release school-enterprise cooperation project information, enterprise recruitment information, teacher enterprise temporary needs, etc., but also can provide online video courses, virtual practice training and other functions to facilitate exchanges and cooperation between schools and enterprises.

In short, the establishment of school-enterprise cooperation and the integration of industry and education needs to clarify the objectives and responsibilities, the establishment of specialized agencies, the establishment of professional cooperation consortia and the establishment of information sharing platform. Through these measures, we can promote the in-depth cooperation between the university and the enterprise, and provide strong support for personnel training and industrial development.^[1]

3.2 Formulate implementation strategies for school-enterprise cooperation and integration of industry and education

According to their own characteristics and the needs of industrial development, college education administrators should formulate implementation strategies for school-enterprise cooperation and the integration of industry and education, including curriculum system setting, teaching mode reform, and teacher team construction. In today's era, school-enterprise cooperation and the integration of industry and education have become an important mode of education reform and personnel training. In order to better realize the deep cooperation between schools and enterprises, we need to develop a set of scientific and effective implementation strategies. The following are several aspects of formulating the implementation strategy of school-enterprise cooperation and industry-education integration:^[4]

3.2.1 Clear objectives and positioning

First of all, it is necessary to clarify the goals and positioning of school-enterprise cooperation

and the integration of industry and education, including improving the quality of personnel training, promoting technological innovation and industrial development. On this basis, combined with the actual situation of universities and enterprises, clear the specific areas and directions of cooperation, such as curriculum system construction, teacher team construction, practice teaching base construction.

3.2.2 Formulate cooperation plans

According to the goals and positioning of school-enterprise cooperation and the integration of industry and education, schools should formulate specific cooperation plans, including cooperation projects, implementation steps, timetables and expected results. Cooperation planning should fully consider the resources and needs of both the university and the enterprise to ensure the feasibility and effectiveness of cooperation projects.

3.2.3 Improve policies and systems

In order to ensure the smooth implementation of school-enterprise cooperation and the integration of industry and education, it is necessary to formulate a series of policies and systems, such as school-enterprise cooperation agreement, resource sharing mechanism, intellectual property protection, etc. At the same time, relevant laws and regulations should be improved to provide strong legal support for school-enterprise cooperation.

3.2.4 Establishment of cooperation mechanism

Schools should establish a long-term mechanism for school-enterprise cooperation and the integration of industry and education, including professional cooperation consortia and school-enterprise cooperation offices. These cooperation mechanisms can coordinate the communication and exchange between the school and the enterprise, promote the signing and implementation of cooperation agreements, and organize activities such as student internship and practical training and teacher suspension in enterprises.

3.2.5 Strengthen the construction of teaching staff

In the process of school-enterprise cooperation and the integration of industry and education, teachers are the key. Universities and enterprises should jointly strengthen the cultivation and training of teachers to improve their practical ability and professional level. At the same time, teachers are encouraged to participate in school-enterprise cooperation projects to promote education and teaching reform and innovation.

3.2.6 To carry out cooperation projects

To promote the concrete implementation of school-enterprise cooperation and the integration of industry and education, a series of cooperation projects need to be carried out, such as curriculum co-construction, practical training, innovation and entrepreneurship, industry-university-research cooperation, etc. Through these cooperation projects, we can promote the organic connection of the education chain, the talent chain and the industrial chain, and improve the pertinence and practicality of talent training.

In short, to formulate the implementation strategy of school-enterprise cooperation and the integration of industry and education, we need to start from the aspects of clear objectives and positioning, formulate cooperation plans, improve policies and systems, establish cooperation mechanisms, strengthen the construction of teachers, carry out cooperation projects, and evaluate

and optimize cooperation. Through these measures, we can promote the in-depth cooperation between the university and the enterprise, and provide strong support for personnel training and industrial development.

3.3 Build a practice platform for school-enterprise cooperation and integration of industry and education

College education administrators should build a practice platform for school-enterprise cooperation and the integration of industry and education, and promote the organic connection of education chain, talent chain and industrial chain through practice and training, innovation and entrepreneurship, and industry-university-research cooperation. The practice platform of school-enterprise cooperation and the integration of production and education is an important way to cultivate high-quality and applied talents. In order to better achieve this goal, we need to build a scientific and effective practice platform. The following are some suggestions for building a practice platform for school-enterprise cooperation and production-education integration: ^[5]

3.3.1 Establishment of practice teaching base

Colleges and universities can build practice teaching bases with enterprises in industrial parks, science and technology parks and other places to provide students with places for practice and training. Enterprises can also introduce some production links into the campus and jointly build production training bases with colleges and universities.

3.3.2 Carry out curriculum co-construction

Universities and enterprises can jointly develop courses and integrate the advanced technology, management experience and practical cases of enterprises into course teaching to improve the practicality and pertinence of courses.

3.3.3 Implement project-driven teaching

The school conducts practical projects in cooperation with enterprises, guides students to participate in project implementation, and cultivates students' ability to solve practical problems and innovative spirit.

3.3.4 Carry out industry-university-research cooperation

Universities and enterprises can jointly undertake scientific research projects to promote technological innovation and industrial development of both sides, while providing students with opportunities for scientific research practice.

3.3.5 Organize student practice training

Colleges and universities should establish long-term and stable internship and training cooperation with enterprises to provide students with abundant internship and training opportunities. Enterprises should actively participate in the internship and training process of students and provide professional career guidance and practical experience.

3.4 Application cases of school-enterprise cooperation

In today's era, the integration of industry and education, as an important mode of education reform and personnel training, has been paid more and more attention and practice by universities

and enterprises. This paper will show the successful application of the integration of production and education in practical operation with several concrete examples, in order to provide some reference and enlightenment for everyone.

Example 1: Building practical teaching base with enterprises

In order to improve students' practical ability, a college and a well-known enterprise built a practical teaching base. In this base, students can personally participate in the production, management, research and development of enterprises, and have a deep understanding of the actual situation of enterprise operation. This mode of cooperation not only enriches students' practical experience, but also provides enterprises with a reserve of outstanding talents, and realizes a win-win situation for schools and enterprises.

Example 2: Carry out course co-construction to realize the docking of course content and industrial demand

Another university has partnered with a local technology company to develop a course. The course content is closely integrated with the actual needs of enterprises, incorporating the latest technological developments and management concepts. This co-construction mode not only enables students to access the cutting-edge knowledge of the industry, but also helps enterprises to improve the comprehensive quality of employees.

Example 3: Implement project-driven teaching to exercise students' practical ability

A university partnered with a software company to implement project-driven teaching. Students participate in software development projects as a team, from requirement analysis, system design, coding implementation to test launch, and participate in the whole process. This project-driven teaching mode enables students to exercise teamwork and practical skills in actual projects, laying a solid foundation for future employment.

In short, as a new education model, the integration of production and education has been widely practiced and applied in our country. Through the above examples, we can see that the integration of industry and education has played an important role in personnel training, technological innovation, and industrial development. In the future, we should continue to explore a new model of the integration of industry and education to inject new vitality into talent training and industrial development.

4. Conclusion

The innovation and practice of college education management mode based on school-enterprise cooperation and the integration of industry and education will help improve the quality of college education and cultivate high-quality and application-oriented talents more in line with the needs of society. College education administrators should give full play to their own role, promote the in-depth development of school-enterprise cooperation and the integration of industry and education, and provide strong support for China's college education reform.

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