## **On Construction of Industrial college Course Group**

Guo Can

School of Foreign Languages, Guangdong University of Science and Technology, Dongguan,523083, China

Corresponding author E-mail: 583843848@ qq.com

### Abstract

The establishment of industrial college is the concrete manifestation of deepening the integration of industry and education. At present, the industrial college curriculum group is facing the dilemma of not establishing the normal course design discussion mechanism, the teacher's teaching ability is insufficient, and the practice teaching link is weak. Based on this, the paper puts forward some suggestions for the collaboration of industrial college course group with local industrial development: the goal of course group construction should reflect the integration of industry and education and highlight the adaptability of posts; The teaching mode of curriculum group should be innovative and give full play to the advantages of integrating production and education. The construction of curriculum group system should be "standardized process, systematic content and dynamic adjustment". Implement the strategy of "going out" and "bringing in", and jointly build a high-quality teaching team; The teaching process is "student-oriented", and the assessment system with students' ability as the core is constructed.

## Keywords

Integration of production and education; Industrial College; Industrial chain; Course group construction.

## 1. Introduction

In 2017, the "Several Opinions of The General Office of the State Council on Deepening the Integration of Industry and Education" proposed to "build an overall and integrated development pattern of education and industry." In 2019, the "National Vocational Education Reform Implementation Plan" proposed that "higher vocational schools should cultivate high-quality technical skills to serve regional development." The Industrial College is an upgraded version of the traditional "school-enterprise cooperation", "on-the-job internship", "order-type" training and the establishment of "internship training base", etc. It takes "win-win cooperation and resource sharing" as the main purpose, adheres to the concept of "school-enterprise cooperation", and highlights the characteristics of service industry, cross-border cooperation and deep docking. Industrial college is a new organizational form with the integration of industry and education, which helps to improve the integration of industry and education, the level of school-enterprise cooperation, the quality of personnel training and the ability to serve social and economic development.

According to the core competitiveness theory of Hymer and Pujara, core competitiveness refers to the resources that can bring comparative competitive advantages to enterprises, and the allocation and integration of resources. The core competitiveness of the school of Industry is mainly focused on efficient resource integration, unique professional groups, course groups adapted to the industrial chain and high-quality graduates. Among these four core indicators, curriculum group construction is one of the curriculum reform strategies under the background of industrial college construction. Deepening the integration of production and education, and promoting the organic connection of the education chain and the talent chain with the industrial chain and the innovation chain are strategic measures to promote the integration, coordination and mutual promotion of education priority development, talent-led development, industrial innovation and development, and high-quality economic development.

## 2. Connotation and characteristics of Industrial College course groups

At present, the definition of curriculum group is concentrated in three aspects: the nature of curriculum, the basis of combination and the purpose of construction. "In nature, it includes several expressions such as serial or systematic curriculum groups, organic whole or curriculum system integrated by related courses; On the basis of combination, including two perspectives that belong to a certain discipline, can be interdisciplinary or cross-professional; The purpose of construction includes improving the cognitive structure of the teaching object, obtaining the overall advantage and building the disciplinary advantage." According to the definition of course group, the construction of industrial college course group should highlight the following characteristics: First, service and focus. The function and positioning of the industrial college is mainly to serve the leading industries with local characteristics and provide high-quality technical skills and technical services. The construction of course groups should break through the limitation of traditional professional courses focusing on large and comprehensive, and focus on the industrial chain related post groups of specific services of industrial colleges, focusing on the practical skills required by post groups, and highlighting the characteristics of course teaching knowledge points serving specific industrial posts. Second, cooperation and symbiosis. The construction of industrial college curriculum group needs the cooperation of multiple subjects, including schools, enterprises, industry associations, etc., to jointly promote the integration of industry, university and research. At the same time, through the construction of the course group of the industrial college, the benign operation of the industrial college is promoted, and all subjects are built into a community of interests. Only in this way can the sustainable development of the industrial college be guaranteed. Third, career and innovation. Industrial colleges should focus on the leading industries with local characteristics, build professional groups according to the industrial chain, scientifically locate the training goals of talents, and effectively enhance the adaptability of talents to high-quality economic development.

## 3. The dilemma of industrial college course group coordinating with local industrial development

## 3.1. No normal course design discussion mechanism has been established

Through the function of price, supply and demand and competition mechanism, the market allocates resources to the more efficient links, realizes the optimal allocation of resources, and makes the economy full of vitality and efficiency. The main purpose of participating in the construction of industrial college is to reduce the operating cost of enterprises guided by economic benefits. When building industrial colleges, enterprises want to reduce labor costs, shorten the pre-job training cycle of employees, improve their career adaptability, and achieve the goal of profit; The school is teaching-oriented, and the curriculum design focuses more on the improvement of students' knowledge and skills. According to factor endowment theory, schools and enterprises have their own comparative advantages. The university has the advantages of human capital, such as highly educated talents and strong scientific research ability; The enterprise has material capital and technological advantages, such as the enterprise's projects and funds, resources, technology research and development team, etc. At

present, the teaching design of industrial colleges is dominated by schools and supplemented by enterprises, which leads to the lack of participation enthusiasm of enterprises. In addition, the school has fixed teaching and research activities, teaching meetings time, enterprises have daily work meetings and monthly reports, quarterly reports, annual reports system, but the arrangement of the enterprise and the school is not synchronized, so that the course seminar of the industrial school is mere formality.

## 3.2. The teacher's teaching ability is insufficient

The teaching tasks of industrial colleges are mainly undertaken by school teachers and enterprise teachers. Although school teachers have rich professional knowledge and teaching experience, they lack enterprise practice experience and practical teaching ability. At the same time, facing the pressure of promotion, school teachers tend to devote more energy to teaching, scientific research and guiding students in competitions, and do not spare more time to learn new ideas and new technologies. In addition, due to the strict personnel management system of schools, school teachers often can only use their spare time to practice in enterprises, and it is difficult to systematically master professional post skills. Although enterprise teachers are rich in practical experience, they lack systematic training of teaching skills and understanding of educational laws and teaching methods, which leads to the lack of theoretical depth of teaching content.

## 3.3. The practice teaching link is weak

Most industrial colleges have a loose organizational structure, and there is no fixed teaching and office space, nor special training room or studio after being established, so it is inevitable to share teaching resources with secondary colleges. Due to the limitation of teaching space, the courses of most industrial colleges are taught in traditional multimedia classrooms and professional training rooms, and students can only really touch the actual jobs in the two stages of post practice and graduation practice.

# 4. Proposals for the integration of industrial college courses with local industrial development

## 4.1. The goal of course group construction should reflect the integration of production and education and highlight the adaptability of posts

The goal of course group construction of industrial college is mainly to start from the needs of vocational posts, pay attention to the scientific and rational combination of disciplines and majors, and ensure that the course group is closely connected with the industrial chain. When the enterprise technology and service mode change, the course group construction of industrial college should eliminate the weakly related courses in time and add new courses. In the specific implementation process, the course teaching seminar is generally organized by the expert team of the university and enterprise, and the core skills and auxiliary skills of vocational posts are determined according to the development trend of local industries. In addition to retaining traditional courses, the industrial college curriculum group also needs to add new media marketing, cross-border e-commerce, big data analysis and other emerging courses.

## 4.2. The course group teaching mode should be innovative and give full play to the advantages of integrating production and education

Deepen the integration of production and education, promote the organic connection of education chain, talent chain with industrial chain and innovation chain, cultivate students in accordance with industry standards, adhere to the unification of industrial demand orientation and education goal orientation, and improve students' vocational ability and comprehensive quality. Build a practical teaching platform linking the campus practice teaching base with the

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off-campus practice training base to promote the school-enterprise cooperation in education and coordinated development. For example, in the modern business talent incubation Center of the College of Industry, practical courses for entry-level positions such as design sketch, design color, design composition, clothing display design, clothing display design, clothing marketing planning, and overall design of clothing collocation can be set up for the clothing industry. At the same time, we will open more lectures for senior positions such as community drainage and fission, and community e-commerce industry analysis. The teaching process is all completed in the professional training room and talent incubation center, so that students have a more intuitive feeling and stimulate students' interest in professional learning.

In the course group construction process of industrial college, we should lay emphasis on the construction of vocational practice courses, and set up four practical courses modules: basic skills, core skills, expanding skills and post practice. The College of Industry should build a fourin-one talent training model of "in-class practical training - special course practical training -Industrial College talent incubation center practice - enterprise on-the-job practice", and create a practical teaching system integrating "in-class and extra-curricular, on-campus and offcampus, practical training and actual combat, simulation and full reality", so as to cultivate highquality technical and technical talents for regional economic development, and promote effective connection between the demand side and the supply side of vocational education.

#### **4.3**. The construction of course group system should be "standardized process, systematic content and dynamic adjustment".

The construction of course group system should realize the sharing of resources and complementary advantages between schools and enterprises. The school is responsible for providing teaching teachers, internship students and training sites, and the enterprise is responsible for providing project capital and facilities and equipment.

The school and enterprise cooperate in education, co-construction and sharing, and jointly discuss the construction of talent training programs and course group system. For example, a curriculum construction steering committee composed of industry and enterprise leaders, experts, school leaders, backbone teachers, and famous teachers of vocational education has been established, and relevant rules and regulations have been formulated. Enterprise experts regularly participate in campus curriculum construction seminars and teaching and research activities, and put forward rectification suggestions for course teaching content and teaching programs; Teachers in the school regularly practice in enterprises, understand industry enterprises and industrial development trends, improve teaching content, and highlight the pertinence of teaching content. The construction of course group system follows the train of thought of "emphasizing technical skills, encouraging innovation and entrepreneurship, taking into account the development of comprehensive quality".

#### Implement the strategy of "going out" and "bringing in", and jointly build a **4.4**. high-quality teaching team

First, School teachers should not only strengthen internal communication, but also "enter the post, study the post and adapt to the post". In addition to having a high theoretical knowledge, teachers should also have a strong practical ability. Teachers should not only master the professional knowledge of the subject they teach, but also learn the knowledge of other subjects, and constantly expand the field of knowledge, so as to be able to quote widely and understand by analogy. Therefore, schools should improve the teaching level of teacher education and promote the professional growth of teachers through various ways. The concrete measures include: encouraging teachers to actively participate in the instruction training of education authorities; Select young backbone teachers to directly participate in the operation and

management of industrial college; Guide teachers to actively apply for horizontal projects and promote the integration of production, learning and research.

Second, Enterprise teachers should not only guide practical projects, but also achieve "enrollment, enrollment and research". Enterprises should select technical backbone and management personnel to serve as part-time teachers on campus and participate in the construction of course groups and daily teaching activities of industrial college. For example, enterprise teachers rely on practice bases inside and outside the school to provide on-site teaching guidance to students, integrating theoretical teaching and practical operation to enhance students' perceptual cognition and ability to solve practical problems. In addition, enterprise teachers are encouraged to carry out online teaching, strengthen teacher-student communication, so that students can also get timely guidance outside of class.

#### 4.5. The teaching process is "student-oriented", and the assessment system with students' ability as the core is constructed

The teaching process is "student-oriented", and the production and education cooperate with the education of people to "do the actual work, go deep and climb high". Classroom teaching should carry out the concept of "student-oriented", make full use of information teaching means, and improve the quality of education and teaching. First, the use of modern information technology to build the core courses of industrial college curriculum groups into SPOC or MOOC, etc., to promote the integration and sharing of high-quality teaching resources. Second, according to the talent training objectives of industrial colleges, school-enterprise cooperation in the construction of courses and teaching resources, including curriculum standards and teaching plans, courseware and teaching plans, test question bank, enterprise cases, comprehensive practice projects, etc., to break through the barriers of time and space. Third, the use of Blue ink Cloud, learning App and other courses, as well as the internship management platform for extracurricular assistance teaching, such as pushing teaching resources, finishing homework, internship process tracking, student works display.

Both schools and enterprises should cooperate to explore the teaching mode of "micro-lesson learning unit - course - micro-major". "Micro-class" meets students' demands for fragmented learning of knowledge and skills. The "learning unit" is designed based on typical vocational activities, so that students can learn a career activity quickly and flexibly. The "curriculum" is constructed according to the discipline system, and the online and offline teaching is mixed to promote students' personalized and independent learning. "Micro major" takes the combination of majors and industries as the starting point to meet the needs of students' continuous growth. Students can quickly acquire working skills in a certain field through the study of 3 to 5 courses.

Actively promote project-based teaching, and give "3+1" advice to students who enter the project team, that is, they should have a sense of hunger, a sense of purpose, a sense of responsibility, and always keep learning. Through vocational practice, students insist on lefthanded theoretical learning and right-handed practical practice, and vocational skills and innovation and entrepreneurship ability have been comprehensively improved.

2. Diversified assessment subjects, systematic and standardized evaluation system. First, adhere to the diversification of evaluation subjects, through student mutual evaluation, teacher evaluation and enterprise evaluation, to achieve the learning content and results of "learning is testing, testing is evaluating". Second, build a systematic and standardized evaluation system. The evaluation index should include the scale of the course group, the logical relationship between the courses of the course group, the operability of the evaluation procedures and methods. Third, the College of Industry should set up an expert committee to not only conduct regular spot checks and supervision on the quality of course teaching, ensure the standardization and standardization of the teaching process, but also evaluate the employment rate of graduates, career satisfaction, innovation and entrepreneurship ability, and test the quality of talent training and scientific research level of the college of industry.

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## References

- [1] Zhang Lianxu, Han Juan. Construction path of Industrial College in Higher Vocational Colleges under the background of integration of production and education [J]. Journal of Guangzhou City Vocational College, 2019 (2) : 1-4.
- [2] Xuan Kui-kui, Wang Hong-cai. The Basic elements of Core competitiveness of industrial colleges and their improvement paths [J]. Jiangsu Higher Education, 2018 (9) : 21-25.
- [3] Wu Jinling. Analysis on the construction of Higher Vocational College based on the integration of Production and Education [J]. Education and Career, 2019 (9) : 31-35.
- [4] Lv Jiangyi, Song Jiantong. Research on core competence of Industrial College of Higher vocational colleges [J]. Adult Education, 2019 (10) : 63-68.
- [5] Jin Wei. Construction logic, realistic dilemma and solution Path of Higher Vocational Industrial College in the new era [J]. Education and Careers, 2020 (15) : 28-34.