Research on the Formation and Expansion Mechanism of the Coupling Point of "Internet Plus" Applied Universities

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Keywords: Applied universities, The coupling point of industry education integration, Expansion mechanism, Internet plus

Abstract: At present, China's colleges and universities pay attention to cultivating applied talents, gradually get rid of the traditional educational concept, and create a school-running mode of combining production with education, aiming at implementing the school-running mechanism of combining production with education in the whole process of teaching practice reform. The integration of production and education has been promoted to the basic institutional arrangement of national education reform and human resources development, and its importance has reached a general consensus in the process of transformation and development of application-oriented undergraduate universities. However, in the era of "internet plus", the development of application-oriented undergraduate colleges must follow closely the transformation logic of "internet plus" on the production format, and strengthen the supply-side transformation with the help of "internet plus". Strengthen macro-policy guidance and smooth the integration mechanism of various resource elements; Increase capital investment and eliminate material obstacles to the integration of applied undergraduate colleges and industries; Strengthen development planning and construction, and scientifically plan the future strategic layout; Optimize the governance structure of universities and enhance their cross-border integration ability. Therefore, in the research process of this paper, firstly, the related problems of the integration of production and education in application-oriented undergraduate colleges are expounded, and the specific industrial integration model is studied. I hope it can provide more development space for students, promote the rapid development of local economy and make some contributions to the more efficient integration of production and education.

1. Introduction

With the transformation and upgrading of the country's economic development mode and industrial structure, the Third Plenary Session of the 18th CPC Central Committee proposed to "deepen the comprehensive reform in the field of education, further promote the integration of production and education, school-enterprise cooperation, and cultivate high-quality workers and skilled talents", which pointed out the direction for the development of application-oriented undergraduate universities[1]. In order to cultivate hundreds of millions of applied, innovative and all-round high-quality talents, the State Council emphasized at the the State Council executive meeting held on February 2 that we should improve our ability to meet the needs of modern occupations, which are compatible with technological progress and changes in production methods and social public services, and the integration of production and education[2]. Application-oriented undergraduate colleges are newly built or upgraded from colleges under the background of popularization of higher education, so they are also called "newly built undergraduate colleges". Their growth has strong characteristics of the times and strong dependence on the social environment. At that time, China is turning from the industrial age to the information age with the Internet as the core carrier. "The wide application of information technology in the field of education has had a revolutionary impact on the educational concept, mode and trend." The change of environment means the transformation of the way of life. It is an important task for China's application-oriented undergraduate colleges to clarify their own development logic, revitalize the

school-running mechanism and explore a new development path with the help of “internet plus”. In April 2018, the Ministry of Education held a press conference on “Promoting the integration of production and education and school-enterprise cooperation”, which emphasized that undergraduate colleges should continue to deepen the integration of production and education, emphasizing “implementing the collaborative education project of production and education, and promoting the transformation of social high-quality resources into educational resources”, which pointed out the direction for school-enterprise cooperation. A series of national policy documents on the integration of production and education have been issued one after another, which has made a systematic, holistic and synergistic strategic deployment to promote the integration of production and education. The idea of running a school with the integration of production and education has become an important part of our school philosophy[4]. In recent years, academia and industry have also made rich practice and research achievements in the integration mode of production and education, implementation path, personnel training, platform construction, etc., but the exploration of integration mechanism is still obviously insufficient, and it is precisely the mechanism problem that leads to the poor effect of integration practice[5]. Although the hot issue of “integration of production and education” has attracted many scholars to make rich research on the background, value and problems of “integration of production and education”, scholars focus more on vocational education and less on local applied universities. From the research perspective, schools, governments and other single-level are common, but multi-level and multi-angle are rare; In terms of research methods, the theoretical analysis and application are relatively simple, and the analytical framework based on interdisciplinary theory is relatively rare[6]. “The change from demand-side reform to supply-side reform is to focus on structure, quality, benefit and innovation from the development of scale and quantity.” In the supply-side reform of application-oriented undergraduate colleges in the era of “internet plus”, it is necessary to use “internet plus” to realize the digitalization, intelligence, online and collaborative level of curriculum, teacher level, practical teaching, school-enterprise cooperation and other elements, innovate teaching content and mode, and enhance talents. The change of the environment means the transformation of the way of life. It is an important task for China's application-oriented undergraduate colleges to clarify their own development logic, revitalize the school-running mechanism and explore a new development path with the help of “internet plus”[7]. From this, it can be seen that it is necessary to promote the integration of industry and education in the process of applied undergraduate education. In the context of the “Double First Class” construction, local applied undergraduate colleges and universities must first solve the problem of insufficient innovation ability, fully explore their own characteristics, lead the development of the school with deep integration of industry and education, and strive to achieve a transition from limited “integration” to obstacle free “integration” with various fields of the economy and society in order to truly find their own position and development path.

2. Construction of the System and Mechanism of Combination of Production and Teaching

2.1 Construction of Organization System and Leadership System of Combination of Production and Teaching

Usually, the organizational system and leadership system for the integration of industry and education are determined through joint consultation among the cooperating parties based on different cooperation models[8]. To ensure the effectiveness of industry education integration, different leadership systems should be established at the school and specific cooperation project levels. However, due to the influence of some traditional educational concepts, graduates from applied universities face various problems when entering the social workplace, which contradict the development needs of the socialist economic market. For example, society is disconnected from education, students lack creative ability, and their practical application ability is weak. Therefore, in order to strengthen the teaching ability of applied undergraduate colleges and improve the quality of high-quality applied talents[9]. Actively exploring the development strategies of applied

universities under the mechanism of industry education integration, starting from the education model and methods of industry education integration, and accelerating the progress of industry education integration in applied universities[10].

By analyzing some influencing factors of industrial integration mode, we can understand the main contradictions at this stage and put forward a better integration mode of production and education. For most university, students spend most of their time in class because of their heavy academic work and many courses. At the same time, in order to cope with all kinds of exams, it takes a lot of time to review. Therefore, by giving certain policy support to enterprises, the government can guide enterprises to actively participate in the process of combination of production and teaching and school-enterprise cooperation. At the level of specific cooperation projects, establish a cooperation Committee or Council for the combination of production and teaching, and at the same time, set up an expert steering Committee outside the cooperation Committee or Council according to different cooperation needs; Under the Cooperation Committee or the Council, a leading group for personnel training and a leading group for technical support are set up separately, so as to clarify the specific responsibilities of each Committee and leading group and ensure a “seamless” link between all aspects of the combination of production and teaching.

2.2 The Demand of Cultivating Practical and Applied Talents

Solicit and listen to the opinions and suggestions of industry and enterprise experts on talent cultivation specifications, professional core competencies, curriculum design, etc. Introduce professional qualification conditions in talent cultivation specifications, industry standards in the recognition of professional core competencies, and enterprise production technology in the setting of professional core courses. Develop specific talent development plans based on the industry's demand for talent, core competencies, and core competencies. Set up courses based on the actual industry requirements for talent abilities and majors, ensuring that the course offerings are in line with the actual needs of the enterprise. For enterprises, it is difficult to put forward a more clear direction of industrial integration in the process of combining with university due to the backward development of the enterprise's industry education integration model. In the process of recruiting interns within the company, the treatment given to interns is often insufficient, and the positions arranged are not reasonable enough, which cannot cultivate talents and make certain contributions to the development of the enterprise, reflecting some problems in the integration of industry and education in the current stage. This is a new thing involving multiple stakeholders, and the management system, operating mode, and interest mechanism all need to be continuously explored, practiced, and improved. There is no standard or mature paradigm to follow.

The basic prerequisite for the realization and continuous operation of the combination of production and teaching is that all parties involved have motivation and enthusiasm, which must balance the interests of all parties. Only when one party benefits, the combination of production and teaching can not be sustained. We need to find out the interests of each subject, which means creating new value through the complementary integration and optimization of resources among the subjects, and distributing the new value appropriately among different subjects. On the one hand, in the process of resource allocation, the standardized operation of all parties involved in the combination of production and teaching is restricted by a certain system, and the value system not only leads the direction of all parties involved in the combination of production and teaching, but also affects the system arrangement to a certain extent, which runs through the whole process of the combination of production and teaching, and can judge the desirability of the combination of production and teaching, that is, the operation of the combination of production and teaching leads the direction through the value system, and needs the system to help standardize the operation of the organization, so that the combination of production and teaching can finally realize its due function. On the other hand, the integration of industry and education will promote innovation and change in value and system to adapt to its development in the process of continuous cooperation among all parties (the operation of the combination system). In summary, the architecture of these three mechanisms is an inseparable whole, and their interactivity directly affects the effectiveness of

industry education integration. The school government enterprise collaborative education mechanism is under the macro regulation or coordination of the government, guided by the needs of industrial enterprises and supported by projects, universities jointly carry out talent training services based on multi-party participation and division of labor cooperation. In the process of forming a collaborative education mechanism, it is necessary to clarify the responsibilities and positioning of each participating entity in policies, objectives, models, and platforms, promote the unity of talent cultivation education concepts and industrial goals, enhance the integration of majors, courses, teachers, and industries, and handle the transformation and upgrading of talent cultivation plans.

3. Research on the Formation and Expansion Mechanism of the Coupling Point of Industry Education Integration in Applied Universities

3.1 Innovate the "Matrix" Operating Mechanism, Promote Enterprise Participation in the Entire Process of Talent Cultivation, and Solve the Problem of "Integration But Not Depth"

How enterprises can continuously and effectively participate in the process of talent training needs to establish the operation mechanism of combination of production and teaching. On the one hand, this operating mechanism should not only solve the problem of who makes decisions on major issues related to the combination of production and teaching in the process of personnel training, but also solve the problem of who will do the specific work of the combination of production and teaching in the process of personnel training; On the other hand, it is necessary to solve the problems of management ownership, work funds and remuneration of both schools and enterprises. For example, in view of the technical transformation needs of enterprises, the school set up enterprise projects with its own funds to help enterprises solve problems and let enterprises recognize the attitude and ability of the school. On this basis, enterprises are willing to hand over their other projects to schools to complete. Enterprises need a large number of interns at some point, and schools cooperate with enterprises to let students of related majors practice to solve a large number of temporary employment needs of enterprises. In exchange, enterprises open other high-tech or management positions to schools, so that students' practical ability can be fully exercised. In order to prevent enterprises from "coming and going", the combination of production and teaching becomes a mere formality, and schools and enterprises innovatively construct a "matrix" operation mechanism with horizontal cooperation content and vertical school-enterprise management, as shown in Figure 1.

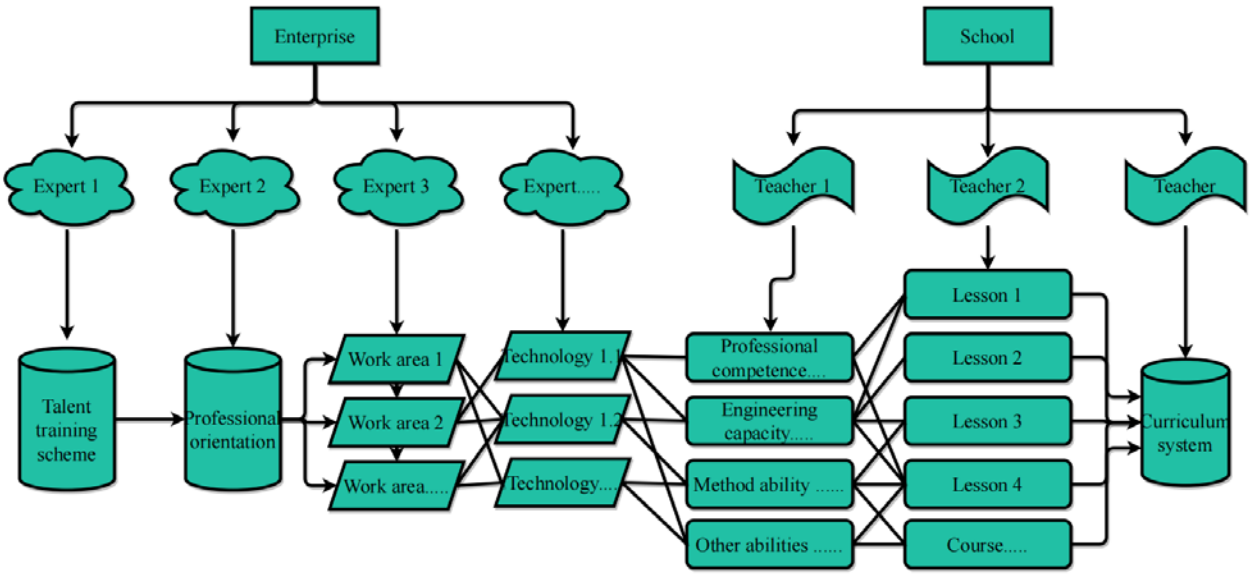

Fig.1 "Matrix-Like Operation Mechanism of Enterprises Participating in the Whole Process of Talent Training"

One is to implement ideological and political education through "three introductions and three

inputs". Education should first address the issue of "who cultivates people for". The second is "OBE/DACUM", which enhances the matching between talent cultivation and industrial demand. The school organically combines the Outcome-Based Education (OBE) concept and competency based curriculum development methods. The school's education experts, together with the technology and management experts of enterprises, aim at the industry and reconstruct the curriculum system based on the logic of "technology capability curriculum".

The school-running goal of application-oriented university is to build economic and social development and improve all talents. By using the professional setting and the industry's requirements for talents, we should set reasonable curriculum content and professional literacy standards, realize the effective docking with the development of enterprise units in the teaching process, and jointly reach the development strategy of collaborative education, improve the quality of college students' employment practice ability and post adaptability, and then enhance the workplace competitiveness of our students.

3.2 Create a Practical Teaching and Platform for the Integration of Government and Enterprises in University

The modern apprenticeship talent cultivation model cannot do without the support of practical teaching platforms. Therefore, after achieving joint talent cultivation between universities and industry enterprises, it is necessary to establish an integrated practical teaching and innovation platform. In the context of the construction of pilot cities for the integration of industry and education, the government, universities, and enterprises jointly plan the construction of the platform, and the government presides over the establishment of a three party liaison mechanism to solve issues such as policy support and financial guarantee; Universities and enterprises jointly establish professional training centers and scientific and technological innovation platforms, and jointly establish stable and reliable off campus practical teaching bases. In terms of the classification mechanism of local universities, there has been a shift from government leadership to a combination of independent selection and government guidance. Universities clarify their types and talent training directions through market mechanisms, the government provides financial support, and coordinates guidance and accountability at the macro strategic level; In terms of disciplinary adjustments, the role of the government should transition from being the creator of professional catalogs to being a regulator and guide, creating a better macro environment for the integration of industries and university disciplines, such as eliminating administrative monopolies, improving labor market distortions, and truly reflecting the talent needs of industries; In terms of resource allocation, the government should lean towards local application-oriented universities, establish a special fund for the integration of industry and education in local application-oriented universities to promote the development of industry and education integration. Through operational policies such as tax reduction and government procurement, enhance the sense of policy acquisition for enterprises to participate in industry and education integration, guide the cooperation between industry and application-oriented universities, reform and innovate the system of property rights and interest distribution for the subjects of industry and education integration, Ultimately, it forms a truly effective driving force for promoting the integration of industry and education. In particular, it is necessary to clarify the manpower, material resources and financial resources that should be invested by all partners, the specific mechanism of benefit distribution and risk sharing among all partners, and the integration management of production and education, resource sharing, ownership and management of intellectual property rights, etc., so as to ensure that all partners can benefit from the cooperation process. After a period of operation, with the improvement of the "hematopoietic" function of the platform, all partners can adjust the proportion and method of benefit distribution in real time according to their contribution to ensure the fairness and fairness of benefit distribution.

At the same time, encouraging teachers and students in university to start businesses together will help promote the incubation of scientific and technological achievements, thereby enhancing the success rate of transforming scientific and technological achievements into actual industries,

actively promoting the construction of innovative industrial bases, making use of the cooperative relationship between colleges and enterprises, and giving full play to their own abilities to assist college educators in promoting the development and completion of school practice teaching bases. Once scientific and technological achievements achieve the target plan, they should accelerate the promotion of technological achievements to society. Train a group of economic teams with professional supervision technology, be responsible for the promotion of achievements and payment process, carry out patent tracking, patent inquiry, patent transfer and patent acquisition, and ensure the effective use of scientific and technological achievements in university. Relying on the off-campus industry enterprise expert database, give full play to the utility of talents, invite industry enterprise experts to participate in the revision of talent training scheme, specially hire or select high-level talents and industry experts, arrange industry enterprise experts to systematically teach professional courses and guide professional practice, and improve the quality of training applied technical talents.

4. Conclusions

In summary, the integration of industry and education has demonstrated a certain necessity in the process of modern social development. Traditional higher education, due to its conservatism and backwardness in the process of theoretical teaching, makes it difficult to provide students with a certain practical space, resulting in a serious disconnect between their knowledge and social development. Actively seek cooperation with enterprises, units, and companies, adjust the professional setting structure of applied universities according to market demand and recruitment standards of employers, and achieve a collaborative education model of industry education integration in specific teaching links, improve the reputation and status of universities in society, and cultivate high-quality skilled talents that truly conform to the development of the market economy. Therefore, it is necessary to innovate the construction mechanism of school-enterprise cooperation in the combination of production and teaching, build an incentive mechanism for the combination of production and teaching, create a cross-integration mechanism for professional clusters, form a collaborative education mechanism between government and enterprises, and improve the feedback and evaluation mechanism for the combination of production and teaching.

Acknowledgements

The authors acknowledge the “The 14th Five-Year Plan of Education Science in Liaoning Province, 2021” Research on the Construction of High-quality Education Integration System Supported by New Education Infrastructure “(Project approval number: JG21DB230).

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