Journal of Contemporary Educational Research, 2024, Volume 8, Issue 3
http://ojs.bbwpublisher.com/index.php/JCER
ISSN Online: 2208-8474
ISSN Print: 2208-8466

Exploration of the Construction and Path Selection of the Deep Integration Model of Industry-Education in Universities

Yufei Zhang*, Chang Yu

Shenyang Urban Construction Institute, Liaoning Yufei Decoration Design Engineering Co., Ltd., Shenyang 110000, Liaoning Province, China

Corresponding author: Yufei Zhang, 521088388@qq.com

Abstract: Against the backdrop of continuous development in the field of education, universities are encouraged to innovate their talent cultivation systems and objectives. The deep integration of industry and education has emerged as an effective strategy, aligning with the basic requirements of the new engineering education initiative and exerting a positive impact on socioeconomic development. However, an analysis of the current state of industry-education integration in universities reveals several issues that require optimization, affecting the ultimate effectiveness of integration. To optimize this phenomenon and achieve high-quality development, universities need to further explore the construction of a deep integration model of industry and education, adhering to corresponding principles to form a comprehensive system. On this basis, pathways for deep industry-education integration can be summarized.

Keywords: Universities; Industry-education integration; Deep integration; Construction model; Pathways

Online publication: March 24, 2024

1. Introduction

The state has clearly emphasized the need for universities to further deepen the integration of industry and education, establishing close ties with enterprises. The traditional model of industry-education integration can no longer meet development requirements and requires further innovation and reform, enabling universities to find paths suitable for themselves. To achieve this goal, universities should recognize their advantageous disciplines, establish enterprises aligned with these disciplines, and provide bases for practical training and opportunities for fixed-post internships for teachers and students. Moreover, in the educational process, universities need to further improve the practical teaching system, focusing on cultivating students' learning abilities, innovative capabilities, and practical skills. This ensures the creation of modern industry-education institutions, building mechanisms for diverse collaboration in talent cultivation under the integration of industry and education, following the laws of industry-education integration, and thus achieving good development outcomes.

2. Important values and significances of deep integration of industry and education in universities

2.1. Ensuring the integration of education and industry

In the new era, universities should establish close ties with enterprises, industries, and government departments, build good practice bases for students, and formulate corresponding talent cultivation mechanisms. By inviting enterprise technical talents to serve as professional lecturers or practice instructors, a talent cultivation model of shared achievements and resources is formed. In the actual teaching process, universities need to determine corresponding talent cultivation goals and their own positioning based on the actual needs of industrial development and the economic development situation, innovate the talent cultivation mechanism, and link it with the development needs of industrial clusters and the requirements for enterprise technical innovation talents, involving enterprises and governments in talent cultivation. In professional education, university teachers also need to uphold the concept of serving enterprises, construct bases for entrepreneurship and innovation, and research and development centers, to maximize the educational value of enterprises [1].

2.2. Integrating course setting with industry

Under the background of deep integration of industry and education, universities can construct a review system integrated with government, enterprises, and academic specialties. In the process of course setting, taking into account industry guidance, school capabilities, and social demands makes it more in line with social needs, the corresponding professional structure is further optimized and integrated with local characteristic industries, forming an applied education cluster. Through investigating and researching industry demands, universities have found that enterprise involvement in talent cultivation allows for the setting of courses according to the actual situation of industrial development, with distinct characteristics and advantages, making trained students more in line with current job demands. Therefore, applied universities have clarified the industrial development needs of enterprises through the integration of industry and education, and then set courses and specialties around these contents, bringing universities and social enterprises closer [2].

2.3. Encouraging universities to innovate talent cultivation models

The construction of a deep integration model of industry and education will encourage universities to flexibly use the rich teaching resources within the government and enterprises, construct a perfect talent cultivation mechanism, and form a mutually beneficial and fully participatory development model. In this process, the school will discuss new models and mechanisms of talent cultivation with various departments, achieving collaborative education. Furthermore, universities can also cooperate with modern enterprises in talent cultivation, open order-based classes, construct corresponding course systems based on the current production needs of enterprises, and enterprises can provide employment internship opportunities for students, addressing their employment issues. Lastly, universities can also construct employment and internship bases with enterprises, adopting a work-study alternation method and enabling students to have strong adaptability, recognize their deficiencies in professional development, and achieve targeted improvement.

3. Basic principles for the construction of the deep integration model of industry and education

To achieve deep integration of industry and education and explore diversified implementation paths, the following principles must be adhered to.

3.1. Adhering to education-centric approach

The primary goal of industry-education integration is to provide society with more high-quality and innovative talents to meet the needs of industrial development. In the process of talent cultivation, the importance of education must be first recognized. During the critical period of comprehensive transformation and development of universities, innovation in talent cultivation mechanisms and educational methods is crucial. To cultivate high-quality, innovative talents, it is essential to focus on the education of students' ideological and moral qualities, which can lead to more diligent work and positively impact the deepening of industry-education integration. The outcomes of university education not only affect national economic development but are also related to the future development of the nation. Therefore, during the educational process, comprehensive implementation of employment-promotion and demand-driven principles should be ensured, so that students possess solid professional skills and knowledge, as well as good professional ethics, thereby meeting the needs of industrial development [3].

3.2. Emphasizing industry as a priority

Industry is the foundation of national development. With the continuous reform and innovation of industries and corresponding changes in management concepts, only by cultivating talents who keep pace with the times can the demands of industry development be met. Therefore, schools can scientifically set talent cultivation targets based on their advantageous disciplines, constructing a talent cultivation system that aligns with industry, ensuring that students have strong job adaptability upon graduation and are better equipped to work. In summary, as the main venue for the gathering of talents in scientific and technological innovation, universities should implement a systematic design of "industry-academia-research-application" to better realize their self-value and continuously inject fresh blood into industrial development.

3.3. Promoting collaborative innovation

Under the background of deep integration of industry and education, collaborative innovation is the main direction of educational reform in universities and an effective way to better serve the local economy and industrial transformation, ensuring a significant improvement in education quality. In this process, it is necessary to fully demonstrate the leading roles of universities, local governments, and industry associations, achieve comprehensive planning and coordination among regional industries and educational resources, and explore diversified school-enterprise alliance cooperation models, promoting the continuous innovative development of universities [4].

4. Effective pathways for the deep integration of industry and education in universities

4.1. Adhering to open educational operation for integrated development

Deep integration of industry and education aims to establish a close connection between the industrial and educational sectors, not merely cooperation between a single enterprise and a university. It requires the collaboration of universities, enterprises, governments, and research institutes within the entire region, ensuring the utilization of their strengths to align talent cultivation with societal development and to promote innovation and reform in industries. To achieve this development goal, universities need to move away from their previously closed operational modes, adapting to the current trend of integrated development in education, economy, and society, and building an open educational operation.

Universities should align with government strategic planning, proactively connect with local needs, and

build a community of shared destiny based on the actual development situation of the locality to assist the government in solving current difficulties and achieving high-quality development, thereby obtaining more policy and financial support in the future. With limited economic conditions, universities cannot rely solely on government power. They should connect with local industries, establish specialty groups, and cultivate applied talents. In this process, they can build public service facilities with local governments, sharing talents, equipment, and culture to reduce the burden of urban development. They can also establish local offices to manage internal and external resources, facilitating the transformation of old and new energies and creating a community of cultural, knowledge, and skill innovation, providing excellent services for regional innovative development [5].

Meanwhile, universities should establish a normalized communication mechanism, breaking away from their currently independent existence, and build long-term communication and exchange with local governments, industries, and enterprises, adjusting education dynamically according to industry reforms and government changes. University leaders need to step out of traditional concepts, regularly visit government agencies, industry associations, and enterprises, grasp government policy trends and local development trends, and seek cooperation opportunities. They should also encourage close contact and communication between various departments and colleges within the university with governments and enterprises, exploring diversified paths to lay a solid foundation for the development of industry-education integration.

4.2. Clarifying goal orientation and exploring unique development paths

For sustainable and healthy development, universities need to continuously study the actual economic development situation of their region and the educational philosophies of peer institutions. From there, they should clarify their educational orientation, ensuring they can identify their strengths. By differentiating their discipline and talent cultivation positioning from other universities, they can achieve distinctive development and reduce homogeneous competition. In this development scenario, universities can complement each other's strengths, use their unique aspects to attract government support, and gain recognition from society and students [6].

Firstly, the most crucial point for universities is to clarify their training orientation, ensuring the competitiveness of their graduates is significantly enhanced. Talent cultivation, as a primary function of universities, is also an effective means of serving the local community. To cultivate more high-quality, innovative talent resources, universities should highlight their strengths in setting up disciplines, focusing on professions with high demand not covered by other universities and better aligning with local needs. Besides, they should innovate the talent cultivation system, enabling students to master advanced technologies and skills and injecting fresh blood into the local economy.

Secondly, universities should clarify their cooperation orientation, achieving close cooperation with enterprises. Adhering to the principles and concepts of deepening cooperation and sharing results, universities should connect with growth-oriented enterprises that have a positive impact on professional construction and considerable development prospects. By continuously exploring and identifying problems, they gradually gain recognition from enterprises, forming an innovation community for skill accumulation, co-building classes and laboratories, and laying a solid foundation for sustainable and healthy cooperation between universities and SMEs (small and medium-sized enterprises).

Lastly, universities need to clarify industry standards and leverage their advantages within the service industry. To achieve deep integration of industry and education, universities should establish connections with local economic and social development, promoting comprehensive transformation and upgrading of the

industry. Industry organizations can not only provide information about talent needs but also offer directions for whom to cultivate, becoming an indispensable bridge for cooperation with enterprises. Universities should start from the current situation of regional industrial development, set up specialty groups, seek more help from industry organizations, adjust their educational philosophy, and achieve good outcomes in industry-education integration [7].

4.3. Building high-quality platforms for innovative development

The deep integration of industry and education is a gradual process that cannot yield results in a short period. If universities remain stagnant, not seeking opportunities and platforms on their own, they will fail to attract enterprises for cooperation, thereby affecting the effectiveness of industry-education integration. This situation would leave the integration merely superficial, without achieving deep collaboration. Therefore, universities need to grasp the policies issued by the state and the importance placed on the deep integration of industry and education, promote themselves, and significantly enhance their competitiveness to seize development opportunities. In this process, universities can utilize national platforms to gain an early advantage in the development of industry-education integration. Implementing the spirit of the "Opinions," the education sector has designed various projects for the integration of industry and education, providing universities with excellent platforms to quickly overcome current limitations in geography, environment, information, and resources, and establish deep cooperation with enterprises. Schools can consider factors such as risk, cost, and benefit to select appropriate projects based on their actual development situation, achieving high-level development. Additionally, universities can leverage national organizations to share information at the forefront of transformational development [8].

With the support of the education sector, universities have built a national alliance of universities of applied technology, establishing corresponding civilian and academic alliances of applied universities in different regions and sectors. These organizations have become networks for information exchange and resource sharing among universities, facilitating academic exchanges and the cultivation of applied talents during this period. They have provided the main direction for the reform and innovation of the educational and teaching system, promoting mutual benefit among schools and achieving common development [9].

5. Conclusion

As described in the article, against the backdrop of continuous development in the field of education, the deep integration of industry and education has become a primary direction for the reform of university education. Establishing a close connection with enterprises is essential to ensure that the cultivated talents meet the demands of job development. In the process of constructing the deep integration model of industry and education, universities should focus on the local economic transformation and changes in industrial structure, comprehensively optimize the talent cultivation system and professional settings, and achieve collaborative innovation and education. To open a new paradigm of industry-education integration, universities need to further explore pathways for the deep integration of industry and education, promote open educational operations, and collaborate with enterprises, governments, and research institutes. By clarifying goal orientation, highlighting their developmental advantages, and continuously seeking opportunities for innovative development, universities can supply more high-quality talents to the local and social economy.

Funding

2023 Annual Project of the China Association for Construction Education "Research on the Development Path of Private Colleges and Industry Integration in Liaoning Province Under the Strategy of Intelligent Manufacturing Strong Province" (Project number: 2023239)

Disclosure statement

The authors declare no conflict of interest.

References

[1] Zhang J, 2022, Exploration of the Closed-Loop Cultivation Mechanism for Cybersecurity Talents in Universities Under Deep Integration of Industry and Education. Journal of Hebei Energy Vocational and Technical College, 22(02): 82–85.

[2] Cui Y, 2022, Considerations on the Construction of Applied Courses in Private Universities from the Perspective of Deep Integration of Industry and Education. Heilongjiang Science, 13(01): 66–68.

[3] Li W, 2021, Practical Research on Deep Integration of Industry and Education in Higher Vocational Colleges Under the "Double High" Construction Background - A Case Study of School-Enterprise Cooperation at Kunming Railway Vocational and Technical College. Occupation, 2021(18): 33–36.

[4] Zhang X, Sun Y, Zhou J, 2021, Pathways for Cultivating Entrepreneurial Technical Talents in Local Universities Based on Deep Integration of Industry and Education. Technology and Entrepreneurship Monthly, 34(08): 140–143.

[5] Xu J, Yu J, 2020, Pathways for the Initial Transformation of Applied Undergraduate Colleges Towards Deep Integration of Industry and Education. Education and Vocation, 2020(13): 46–50.

[6] Lü W, Su J, 2020, Construction and Implementation of the Talent Cultivation Model of Elevator Engineering Technology Specialization Through School-Enterprise Cooperation Based on Deep Integration of Industry and Education. Research on Engineering Technology, 5(11): 233–234.

[7] Wei J, Zhao J, Jia J, 2020, Exploring the Path of Collaborative Education Through Deep Integration of Industry and Education - An Analysis Taking "Blockchain Technology" as an Opportunity. Science and Technology in Chinese Universities, 2020(05): 69–72.

[8] Chen Y, Xu C, 2019, Research on the Path Selection and Operation Management Mechanism of Platform Construction for Deep Integration of Industry and Education in Higher Vocational Education - A Case Study of Changzhou Science and Education City Mold Intelligent Manufacturing Base. Journal of Taiyuan City Vocational and Technical College, 2019(02): 9–11.

[9] Cai J, Yu G, Liu H, et al., 2018, New Concept, Whole Process Integration: A New Exploration of Deep Integration of Industry and Education in Applied Universities. Research on Applied Higher Education, 3(01): 1–4 + 10.