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Research and Practice on the Talent Cultivation Model of Dual Integration of Academic Mentors and Modern Apprenticeship System under the Background of Vocational Education

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Abstract: This article takes the city level modern apprenticeship program as the research and application carrier, integrates school enterprise academic mentors, conducts research and practice on talent training models and effectiveness, continuously optimizes and improves the vocational talent training model under the background of industry education integration, improves the quality of student training, and enhances the overall level of industry education integration and school enterprise cooperation. Through the joint training of academic mentors between schools and enterprises, seamless integration of school enterprise cooperation and student development can be achieved.

1. Introduction

Since the beginning of the new century, China's vocational education has developed rapidly, cultivating and delivering a large number of high-quality technical and skilled talents for socialist modernization construction, and making significant contributions to accelerating the development and strengthening of the modern industrial system[1].

Under the new economic normal, the integration of industry and education has gradually established a three-level cultivation system of "national level+ city level+ district level". Through the construction and cultivation of vocational education demonstration groups, industry education integration demonstration bases, modern apprenticeship pilot programs, 1+X certificate pilot programs, dual teacher training bases and other projects, it has driven the whole society to deeply understand the integration of industry and education. The state guides industry education integration oriented enterprises to assume social responsibility, establishes a best-selling mechanism for industry education integration within enterprises, establishes a concept of high-quality development, and widely participates in vocational education modern apprenticeship pilot programs, 1+X certificate pilot programs, job internships, curriculum development, etc., gradually forming a pattern of enterprises actively participating in industry education integration.

Currently, higher vocational education is moving from emphasizing extension and scale expansion to a new stage of emphasizing connotation, improving quality, and developing distinctive features. The "Implementation Plan for National Vocational Education Reform" released by the State Council in 2019 clearly stated that developing higher vocational education is an important way to cultivate skilled workers and craftsmen in a large country, and clarified that cultivating skilled workers is an important responsibility and mission of higher vocational education.

As early as 2014, the "Opinions of the Ministry of Education on Accelerating the Development of Modern Vocational Education" clearly pointed out that "the joint construction of teaching staff by schools and enterprises is an important task in the pilot work of modern apprenticeship system[2-3]. The teaching task of modern apprenticeship system must be jointly undertaken by school teachers and enterprise masters, forming a dual mentor system." Therefore, it is necessary to integrate academic mentors into modern apprenticeship system, that is, to implement the "two to one" cultivation mode, where full-time teachers on campus and craftsmen teachers outside the campus jointly select, cultivate, and recognize talents, and jointly cultivate technical and skilled talents. Through the integration of industry and resources, market and talent, and technology and curriculum, the problems of inadequate structure, quality, and level of talent training supply side and industry demand side can be solved, and the training goal of "knowledge + practice" technical and skilled talents can be achieved.

2. The Problem

Currently, various vocational colleges are actively building modern apprenticeship pilot programs and modern industrial colleges, integrating enterprise internships into the entire process of talent cultivation, adopting a task-based training model oriented towards the real production environment of enterprises, and constructing various forms of industry education integration training bases. However, during the construction process, there are many practical issues that need to be addressed[4-7].

① The comprehensive quality of high skilled talents cultivated through school enterprise cooperation is not high. Enterprises mainly participate in job internships, with less involvement in the integration of course content and professional standards, teaching processes and production processes, resulting in a significant discount on the effectiveness of school enterprise cooperation in training.

② There are relatively few educational and teaching resources developed through school enterprise cooperation. The teaching resources such as textbooks, curriculum standards, and assessment standards developed through cooperation between schools and enterprises are insufficient, and the teaching of on campus courses is disconnected from the practical content of enterprise job placement. During the period of student enterprise on-the-job practice, the learning and life are the responsibility of the enterprise, and there is insufficient participation from teachers on campus.

③The practical job level and technical content are relatively low. The main practical positions for students are assembly line operators, and the guidance provided by enterprise mentors to students is insufficient.

In addition, some vocational colleges have made initial attempts at the dual mentorship system, which mainly takes the form of comprehensive mentorship system and mentorship system for special talents. The connotation and emphasis of their construction are different from each other. Our school has also started to implement academic mentors, and teachers' understanding of the status, role, and necessity of the mentorship system in talent cultivation has gradually shifted from emotional to rational and in-depth. However, there are the following problems in the process of

implementation[8-9]:

①The mentor system model in higher vocational education imitates the mentor system for graduate and undergraduate students, which is detached from the differences in actual objects. The actual results achieved by the implementation of the mentor system in higher vocational education differ greatly from the expected goals.

②The implementation of the mentor system in vocational colleges has not been combined with talent cultivation models such as "industry university research cooperation", "social practice", "combination of work and study", and "alternation of work and study", which deviates from the training objectives of vocational colleges to cultivate innovative, high skilled and applied talents.

③ The implementation of the mentorship system has not been utilized to promote the improvement of teachers' professional qualities, skill requirements, and coordination abilities.

Therefore, based on the current characteristics, development trends, talent cultivation models, and existing problems of vocational education, in order to better promote the deep integration of industry and education, improve the quality of talent cultivation, and promote industrial transformation and upgrading, we will work together with enterprises to implement professional construction and curriculum development, curriculum implementation, and continuous improvement of teaching quality. We will implement academic mentors with vocational characteristics under the background of modern apprenticeship system to meet the needs of vocational education development and student growth and development, and achieve the modern educational concept of educating all staff, all process, and all aspects.

This article relies on the city level modern apprenticeship pilot project, integrates the academic mentor system, fully explores the role of mentors in "guiding learning", "guiding industry", "guiding ability" and other aspects, implements the fundamental task of cultivating morality and talents, and carries out the ideas of "school enterprise dual subject, student dual identity", "engineering alternation, training and education interaction" and "on-the-job training, on-the-job development" to achieve the transformation of different identities and scenarios, promote the continuous improvement of professional basic abilities, professional core abilities, and professional comprehensive abilities of new energy vehicle technology professionals, achieve seamless integration between talent training standards and enterprise job requirements, and cultivate high-quality technical and skilled talents in new energy vehicle technology that meet the needs of Chongqing's industrial upgrading.

3. Main methods

Starting from cultivating technical and skilled talents who understand technology and are willing to endure hardship, we connect professional direction with employment direction, connect student practical content with enterprise employment positions, and connect teaching content with professional standards. School enterprise academic mentors jointly cultivate students' craftsmanship spirit, innovation literacy, and professional skills, transforming knowledge into students' professional abilities, self-learning ability, innovation ability, and hardworking character. The specific methods include:

3.1. Develop a dual integration training model of academic mentors and modern apprenticeship system

First, we comprehensively analyze the respective strengths and weaknesses of schools and enterprises in the process of talent cultivation, then integrate academic mentors into modern apprenticeship systems. Based on it, we jointly establish a sound team of academic mentors by

school and enterprise personnel, and form a "dual subject" training model of talent co education, process co management, cost sharing, and achievement sharing in cooperative education, base construction, etc., jointly select, cultivate, and recognize talents.

3.2. Develop standards for academic mentor construction based on the modern apprenticeship model

Two-way regulation and training for school and enterprise personnel is implemented in order to improve the practical ability and teaching level of professional teachers. First, we need establish a sound performance evaluation system and select outstanding academic mentors from schools and enterprises. Academic mentors for practical teaching is selected from industry experts, high skilled talents, and skilled workers with practical experience.

3.3. Develop a new mechanism for talent cultivation that integrates academic mentors with modern apprenticeship systems

①School enterprise academic mentors jointly participate in the development of talent training programs

According to the professional teaching standards of the Ministry of Education's higher vocational schools and the revised requirements of the school's talent training plan, and based on the concept of "on-the-job training and talent development", academic mentors from both the school and the enterprise jointly develop a talent training plan that fully reflects the professional qualities and abilities of the position, as well as the personalized needs of the enterprise. Assessment methods is enriched and diversified. It is focused on assessing students' comprehensive qualities and problem-solving abilities.

②Joint construction of high-quality curriculum resources by school enterprise academic mentors

The school enterprise cooperation carried out industry and job vocational ability research and analysis, extracted the general basic vocational abilities and core vocational abilities required for competent job positions, and constructed a curriculum system based on job work processes. The construction of course and teaching resource libraries for professional courses in the curriculum system is carried out, based on the actual job tasks and processes, reconstruct teaching content, design teaching projects, and develop new forms of teaching materials. And relying on the Chaoxing Learning Platform, we will create an online teaching resource library.

③Collaborative and rational arrangement of teaching process by school enterprise academic mentors

The teaching process follows a segmented model arrangement of "student apprentice apprentice employee", adhering to the combination of moral and technical education, the integration of engineering and practice, and the implementation of engineering alternation, to meet the needs of mutual transfer and learning between schools and enterprises. Through the alternating teaching arrangement of "school enterprise school enterprise", different identities and scenarios of "student employee" and "college enterprise" can be transformed, promoting the continuous improvement of apprentices' professional basic abilities, professional core abilities, and professional comprehensive abilities, and achieving seamless integration between talent training standards and enterprise job requirements.

④Collaboration between school and enterprise academic mentors focuses on ensuring the integration of academic credentials

When school enterprise academic mentors jointly formulate teaching standards, they adhere to the integration of professional qualification standards, typical work tasks, and work processes, and

timely incorporate new technologies, processes, and norms into curriculum standards and teaching content. When studying in school, integrate relevant content such as vocational skill level standards into professional curriculum teaching. During enterprise internships, it is provided vocational skills certificate practice and assessment conditions, and organize student (apprentice) exams. School enterprise cooperation focuses on ensuring the mutual integration of vocational skill level certificates and educational certificates.

3.4. Research on the Assessment Mechanism of School Enterprise Academic Mentors

Both schools and enterprises should jointly establish an academic mentor management system that is compatible with the modern apprenticeship system, clarify teaching management, student (apprentice) assessment and evaluation standards, teaching quality evaluation, and student (apprentice) management rules, and achieve standardized management of the modern apprenticeship system. Utilizing the advantages of modern apprenticeship system in collaborative education, methods such as talent training objectives, graduation requirements, curriculum system construction, classroom teaching, student management, teaching team building, curriculum construction, and training effectiveness evaluation are employed.

4. Conclusion

This article aims to cultivate technical and skilled talents, using the city level modern apprenticeship program as a platform and academic mentors as the starting point, to promote research and practice on the reform of technical and skilled talent cultivation, integrate academic mentors with modern apprenticeship system, and ensure the talent cultivation effect of modern apprenticeship system. This article introduces academic mentors into the research of vocational skills training for vocational education students, expanding the scope of the role of academic mentors. It is propose the implementation path of vocational skills training for vocational college students in the modern apprenticeship system through school enterprise academic mentors, providing theoretical basis for the research on the training mode of technical and skilled talents. Integrating academic mentors with modern apprenticeship systems, reflecting the characteristics of higher vocational education, is an effective path to cultivating students' skills.

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References

[1] Fang Wenchao. Research on the Challenges and Countermeasures of Enterprises Supporting Vocational Education under the Background of Industry Education Integration [J]. Journal of Jilin Provincial Institute of Education, 2022.

[2] Liu Renxiong, Huang Liwen, Shang Weilai, et al. Policy Origins and Promotion Paths for Deepening the Integration of Industry and Education in Higher Vocational Education: From the Perspective of Exploring the Construction of University Science and Technology Parks. Vocational and Technical Education, 2021.

[3] Ning Hui. Research on the Path of Industry Education Integration in Vocational Colleges [J]. Vocational Education Research, 2021.
[4] Zhao Yanhe. Research on the Construction of Long term Mechanisms for School Enterprise Cooperation under the Background of Industry Education Integration [J]. Liaoning Journal of Vocational Education, 2020
[5] Ping Qi, Pang Jianyong, Rong Chuanxin, etc. Thoughts on the Construction of Undergraduate Mentor System under the Concept of "Three pronged Education" in the New Era [J] Journal of Anhui University of Science and Technology: Social Sciences Edition, 2020.
[6] Xu Gang. Differences in Job Responsibilities among Class Teachers, Counselors, and Academic Mentors in the Process of Higher Education Reform and Development [J]. Education Management, 2018.
[7] Ma Fei. Analysis of the Academic Mentor System from the Perspective of Undergraduate Academic Mentors [J]. Science and Education Guide, 2018.
[8] Ba Jiahui. Innovation of "Dual Mentor System" Talent Training Model for Tourism Majors in Higher Vocational Education [J]. Journal of Ningbo Vocational and Technical College, 2018.
[9] Zhao Yongsheng. Research on the Cultivation of Craftsman Talents in Vocational Colleges [J]. Journal of Shandong Vocational and Technical College of Commerce, 2019.