

Research on "Order-based" Talent Cultivation Mode in Higher Vocational Colleges

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Abstract: This paper examines the challenges in "order-based" talent training at a Jinan City vocational college, analyzing contributions from government, education authorities, schools, and enterprises. It identifies a lack of advanced concepts and deficiencies in teacher quality and practical training in schools. Recommendations for the government and education bodies include enhancing public opinion propaganda, policy development, and establishing legal and regulatory frameworks for support. For schools, the paper suggests creating distinct educational characteristics and strengths, securing diverse training orders, improving teacher training, developing relevant curricula for practical training, and implementing a dual-certificate assessment system. Enterprises are advised to increase investment, offer internships, participate in training evaluations, and strengthen talent management for better economic efficiency. This comprehensive approach aims to optimize vocational education effectiveness.

1. Introduction

This study investigates the "order-based" talent training approach in a vocational college in Jinan City, where schools and enterprises collaborate closely. In this method, vocational colleges and universities tailor their training programs to meet the specific needs of hiring companies, forging employment and training agreements. This collaboration[1-2] involves joint program development, enterprise involvement in the entire training process, and deep cooperation in areas like teaching staff and technical equipment. Students are educated through a blend of theoretical and practical teaching in both school and corporate environments. Upon graduation and successful assessment, they are directly recruited by the contracting enterprise.

However, this approach has encountered issues in recent years. Primarily, it often focuses solely on company-specific processes and culture, losing the broader educational perspective. Additionally, students tend to acquire only specific skills, lacking comprehensive knowledge, which hampers their ability to adapt to new job requirements post-employment.

Addressing these challenges, the study analyzes the current state of "order-based" training,

identifies its shortcomings, and offers recommendations for improvement. It emphasizes the need for a more balanced educational approach that prepares students for a dynamic working environment.

2. Research on the "order-based" talent training model

2.1 Study on the connotation of the "order-type" talent training model

The "order-based" talent training model, still without a unified definition, involves schools and employing units collaboratively developing training programs and signing employment orders[3]. This model is characterized by joint efforts in curriculum development and resource utilization, with students directly employed by enterprises after passing assessments.

This approach strengthens educational alignment with market demand and production needs, enhancing the synergy between schools and enterprises. It gears education towards market needs, serving economic development more effectively. From an employer's perspective, this model produces highly adaptable, "tailor-made" talents, reducing training costs and human resource expenses[4-5]. For students, the most significant benefit is alleviated employment pressure.

Research highlights the model's impact in three main areas: For schools, it improves the quality of talent training, fosters the development of training bases, and strengthens the "dual-teacher" system, where instructors are proficient in both theory and practice[6]. For enterprises, the primary advantage lies in acquiring needed talents, thereby boosting economic efficiency. For students, the most direct impact is achieving employment through a streamlined process closely aligned with industry requirements. This model represents a strategic alignment of educational objectives with market and industry needs, benefiting all stakeholders involved[7].

2.2 Problems in the process of "order-type" talent cultivation in higher vocational colleges and universities

The "order-based" talent cultivation model, an innovative educational approach, creates a win-win scenario for colleges, enterprises, and students. It conserves human resource costs, saves time, and enhances economic efficiency, while enabling students to avoid employment pressure and secure jobs[8]. This model, a form of school-enterprise cooperation, is increasingly adopted by vocational colleges and universities, yielding notable results. However, challenges persist: the training, often tailored strictly to a company's process and culture, risks losing its broader educational value. Students may acquire only limited skills, lacking comprehensive knowledge, which hinders their adaptability to new job requirements after job changes.

This study focuses on a specific vocational college in Jinan, analyzing its implementation of the "order-based" model. It assesses the current state of this training approach, identifying existing problems. The paper advocates for improvements in the quality of "order-based" talent cultivation, suggesting a need for more holistic and adaptable training strategies that better prepare students for the dynamic demands of the workforce[9-10].

3. Case study of "order-type" talent cultivation mode in a higher vocational college in Jinan, China

This paper examines the recently established rail traffic college, a key focus area for the school, offering majors in urban rail transit communication signal technology, operations management, electromechanical technology, and a newly added urban rail transit vehicle technology in 2020. The college emphasizes the integration of education and industry, maintaining robust partnerships with

domestic metro companies like Jinan Railway Transportation Group, Hefei Metro, and Ningbo Metro. These collaborations have successfully secured professional orders for the college, demonstrating a practical approach to education and industry alignment.

3.1 Implementation and Operation Mechanism of "Order-based" Talent Cultivation

The "order-based" education model, aiming to produce talents meeting societal needs, is market-driven and closely aligned with industrial development. Schools proactively gather market information through various channels to understand talent market demands, which guides the determination of specialties and the development of teaching plans. Regular visits to rail transport enterprises help in understanding their labor demands and establishing mutual interests between enterprises and schools. Key steps in this approach include:

1) The school conducts thorough research to choose cooperative enterprises, prioritizing high-quality companies with superior technical, equipment, and human resources, and offering better treatment.

2) Central to "order-based" training is the 'order', distinguishing it from other industry-academic training models. Post extensive research, schools and enterprises sign agreements covering employment, talent training, training specifications, rights and obligations, and graduates' employment terms. These agreements enable the joint development of talent training programs and the provision of necessary training conditions. Qualified graduates are employed by the enterprise as per the agreement.

3) Upon signing the cooperation agreement, schools and enterprises jointly develop a talent cultivation program, encompassing "order" talent specifications, a comprehensive teaching plan, curriculum design, and a blend of theoretical and practical teaching strategies. The program aims to equip students with professional skills in urban rail transit operation management, train organization, passenger transport, and service, preparing them for related industry roles. It details the degree of enterprise involvement: initially, students focus on theoretical learning and intermittent enterprise internships, with companies hosting and supervising these internships.

4) As the program progresses, enterprise engagement increases, requiring them to provide internship sites, oversee student training, and manage logistics like accommodation and meals. Teaching evaluation is a dual-component process, assessing both the effectiveness of teaching and student learning. Teacher performance is indirectly gauged through students' exam results and pass rates, while students are encouraged to document their learning experiences and insights. The school primarily evaluates students based on academic achievements and examination success rates. This holistic approach ensures a balanced development of theoretical knowledge and practical skills, tailored to align with industry needs.

3.2 The core problem in practical teaching: disconnection between theory, practical training content and job requirements

The college emphasizes internships and practical training, evident from its two training buildings compared to one teaching building and partnerships with numerous domestic and foreign enterprises and educational institutions. Additionally, the "order class" boasts an equal balance of practical training and theoretical classes, with a 1:1 ratio. Despite these apparent commitments to practical training, there are still practical issues.

Firstly, the relevance of internships and practical training to actual job roles is low. For instance, in urban rail transit operation, students spend considerable time in internships but are relegated to auxiliary roles rather than frontline management at underground stations. Some enterprises even use students as cheap labor for tasks unrelated to their majors. In the urban rail transit vehicle testing

and maintenance specialization, students' third-year internships at enterprises often consist merely of visits rather than hands-on work, reducing these internships to a mere formality without enhancing students' operational skills.

Secondly, there is a significant gap in professional guidance during internships. On-campus internships supervised by college teachers lack industry-specific insights, and enterprise internships suffer from even less professional oversight. In these settings, students are often guided by frontline workers instead of professional teachers, leading to a shortfall in achieving internship objectives. This lack of teacher-led guidance impedes the improvement of operational skills and fails to meet job requirements. These issues highlight the need for a more integrated and practical approach to internships and training, ensuring that students gain the relevant skills and experience needed for their future careers.

4 Suggestions and countermeasures to further deepen the "order-based" talent training model

The school-enterprise cooperation talent training model, while having distinct advantages, hasn't been widely implemented in our country due to a lack of mature theoretical guidance and inherent flaws. Hence, it's crucial to further investigate the "order-based" talent cultivation mode to understand its positive impacts and challenges.

Firstly, developing the college's distinctive educational characteristics is essential. Every college has unique features, either in specific specialties or management. Emphasizing these characteristics can enhance trust with enterprises and social credibility, making it easier to secure high-quality "orders" and facilitate school-enterprise cooperation. This approach enables colleges to find common ground with enterprises more effectively.

Secondly, creating professional advantages is vital. Specialties where a college excels, backed by excellent teachers and training conditions, naturally attract enterprise collaboration. Colleges should leverage their resources in these areas to develop professional strengths, thereby gaining enterprise trust and a solid social reputation. These professional advantages, coupled with distinctive educational characteristics, are key to securing more high-quality "orders," enabling further development of the college.

Lastly, attention to market and enterprise demand research is crucial. Vocational colleges must thoroughly understand market trends and enterprise talent needs, aligning with regional and industry-specific requirements. Establishing a directory of key enterprises for collaboration based on this research can guide effective partnerships. This comprehensive approach, focusing on distinct characteristics, professional advantages, and market research, is critical for the successful implementation and advancement of the school-enterprise cooperation model in talent training.

5. Conclusions

The "order-based" talent training model, still developing in vocational education, requires refinement from theoretical foundations to practical applications. This paper aims to enrich and improve this model by reviewing previous research and introducing theories on the implementation and operation mechanisms of "order-based" talent training. This model is beneficial for cooperative enterprises, as it involves effective pre-planning by businesses, career planning for staff, and deep collaboration with vocational colleges. This joint training approach, aiming for a precise match between individuals and job roles, allows students to transition directly to employment upon graduation. This significantly reduces pre-employment training costs and social recruitment expenses for enterprises. Moreover, the model positively impacts the employment rate of vocational college graduates. "Order class" students are essentially guaranteed employment upon enrollment,

with a clear training goal to meet the demand for new technologies and high-skill talents required by cooperative enterprises. Additionally, this model aids in the development of vocational college faculty. By aligning with industry needs and integrating practical skill training, teachers can enhance their expertise and teaching methods, further enriching the educational experience. Overall, the "order-based" model offers a structured approach to vocational education, benefiting students, enterprises, and educational institutions alike.

References

- [1] Zhang B, Sun W. An innovative study of the cultivation of film and television talents in higher vocational colleges from the perspective of production-teaching integration [J]. *Advances in Applied Sociology*, 2021, 11(11): 523-529.
- [2] Ninga Z. Research on the application of computer aided Design in clothing Design teaching in higher vocational colleges [J]. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 2021, 12(3): 4817-4821.
- [3] Muding W. Construction of innovation and entrepreneurship education ecosystem model of colleges based on vocational education[J]. *Adult and Higher Education*, 2023, 5(2): 92-96.
- [4] Gao T, Chen Y. Social and Affection: Design Procedures and Methods Curriculum Reform Based on Project-Based Learning[C]//*Proceedings of the 2023 3rd International Conference on Modern Educational Technology and Social Sciences (ICMETSS 2023)*. Springer Nature, 2023, 784: 341.
- [5] Chen C Y, Wang W D, He X H, et al. Research and Practice of International Education in Railway Engineering Oriented Towards the "Belt and Road Initiative" [J]. *Journal of Higher Education in Architecture*, 2021, 30(4): 1-6.
- [6] *Innovation Mechanism of GBA in China: A Free Port Approach*. Singapore: Springer Nature Singapore, 2022: 201-305.
- [7] Zhou Y, Xu G. Vocational School–Enterprise Cooperation in China: A Review of Policy Reforms, 1978–2022[J]. *ECNU Review of Education*, 2023: 20965311231167895.
- [8] Zhang, Min, & Gao, Jianing. (2022). Innovative Exploration of Practical Teaching System in Urban Rail Transit Operation Management Major in Higher Vocational Colleges: A Case Study of Subway "Order Class." *Innovation and Entrepreneurship: Theory Research and Practice*, 5(5), 75-77, 87. DOI: 10.3969/j.issn.1672-8963.2019.06.024.
- [9] Pan, Changshan, Fang, Yuan, & Wang, Qian. (2019). Exploration and Practice of "Order-Style" Talent Training Mode in Urban Rail Transit Major. *Hebei Vocational Education*, 3(6), 89-92. DOI: 10.3969/j.issn.1672-8963.2019.06.024.
- [10] Wei Z, Yun W. Research on Vocational Education Teaching Mode Based on Industry-Education Integration of School-Enterprise Cooperation [J]. *The Theory and Practice of Innovation and Entrepreneurship*, 2020, 3(12): 107.