Occupation and Professional Education Vol. 2 No. 5, 2025

Research on the Path of Cultivating Practical Teaching Ability of Vocational College Teachers from the Perspective of Type Education

Huili Zhang*, Liang Zhang, Xueqin Wang
School of Intelligent Manufacturinig, Chongqing College of Architecture and Technology, Chongqing, China
**Corresponding Author*

Abstract: From the perspective of type education, vocational education is equally important as general education, and its development is related to the integrity of the education system and the diversification of talent cultivation. This article takes the type attributes of vocational education as the starting point, deeply analyzes its essential attributes, and highlights the key role of teachers' practical teaching ability in the quality of talent cultivation. Through systematic deconstruction, it can be seen that the practical teaching ability of vocational college teachers requires them to have solid theoretical knowledge, rich industry experience, be able to integrate real work scenarios into teaching, and master advanced teaching techniques to achieve the organic unity of theory and practice. However, currently, there are practical difficulties in cultivating the teaching ability of vocational college teachers, such as insufficient depth of school enterprise cooperation, lack of institutional guarantees, and lack of motivation for teacher development, which restrict the high-quality development of vocational education. Based on this, the article constructs a systematic training path from five dimensions: institutional innovation, school enterprise collaboration, capacity reconstruction, teacher self-development, and evaluation feedback. By improving the system to provide policy support, deepening cooperation between schools and enterprises to build practical platforms, promoting capacity reconstruction and updating knowledge and skills, stimulating independent development awareness and enhancing endogenous motivation, optimizing evaluation feedback to achieve dynamic monitoring and improvement, helping teachers enhance their practical teaching abilities, and highlighting the value and significance of vocational education in the era.

Keywords: Type Education; Vocational Colleges; Teachers; Practical Teaching Abilities; Paths

1. Introduction

The 2022 Vocational Education Law clearly stipulates that "vocational education is an education type that has the same important status as general education", breaking the traditional positioning of vocational education as a "supplement to general education" from a legal perspective and establishing its status as an independent education type. This attribute determines that vocational education needs to focus on the cultivation of technical and skilled talents, forming a differentiated development path from the academic talent cultivation path of general education.

As a higher level in the vocational education system, vocational education is the main battlefield for cultivating technical and skilled talents, and an important carrier for achieving type education. The teaching ability of teachers is a key factor affecting the quality and development level of vocational education. The high-level development of vocational colleges must be based on the ability of high-level vocational teachers. Practical teaching, as an important component of higher vocational education teaching, is the key to achieving the positioning of vocational education types. The practical teaching ability of vocational teachers affects the development of vocational colleges in the new round of vocational education reform, and directly determines the quality of talent cultivation [1-3].

However, due to factors such as the insufficient

demand for teachers caused by the expansion of vocational education enrollment, the evaluation mode of vocational college teacher training, and the level of social development, many vocational college teachers currently lack comprehensive practical teaching abilities, and there are widespread problems such as neglecting practice and emphasizing theory. The practical teaching abilities of vocational college teachers are far from meeting the requirements for promoting high-quality development of vocational education, and their shortcomings make it difficult to highlight the "type characteristics" of vocational education. Therefore, it is urgent to study the cultivation path of practical teaching abilities of vocational college teachers from the perspective of type education.

2. The Connotation of Practical Teaching Ability of Vocational College Teachers from the Perspective of Type Education

2.1 The Essential Attributes and Logical Foundation of Abilities in Type Education

As a type of education on par with general education, vocational education's "typification" essentially determines the unique logic of practical teaching ability. From the perspective of typological education, vocational education has multiple typological characteristics, mainly vocational, practical, and cross-border (Figure 1). These characteristics together constitute the unique value system and educational model of vocational education, providing students with a learning path and development space closely aligned with market demand.

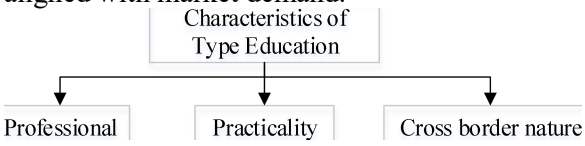

Figure 1. Characteristics of Vocational Education Types

(1) Professionalism: An educational feature guided by professional needs, with precise alignment between professional settings and job positions. The teaching content needs to be synchronized with the subject knowledge system and industrial technology system. The teaching scene integrates schools and enterprises, and the cultivation of professional qualities and skills is integrated. Professional qualities such as "craftsmanship spirit, professional ethics, and safety production norms" are integrated into the entire teaching process.

(2) Practicality: A talent cultivation model centered on practical teaching, guided by the "work process", constructing a multi-level practical system such as "practical training courses, enterprise internships, and project practical training" to cultivate skills. Teachers are required to have the ability to transform professional activity scenarios into teaching situations, with skill development as the core and emphasizing "learning by doing" and "learning by doing".

(3) Cross disciplinary: Breaking down the barriers between education and industry, breaking down the boundaries between schools and enterprises, teachers need to have the ability to connect industries and enterprises, and become dual practitioners of educational laws and industry rules. Cross disciplinary practice in teaching scenarios, such as building "productive training bases" on campus to achieve synchronous teaching and production; Off campus based on enterprise internship bases, we carry out "on-the-job internships" and "on-the-job internships" to master professional skills in real-life scenarios.

Taking Germany as an example, vocational school teachers need to have 'dual qualifications': both a teacher qualification certificate and at least 3 years of work experience in enterprises, and must participate in 120 hours of enterprise practice every 5 years. This' mandatory enterprise practice 'mechanism ensures that teachers' practical abilities are synchronized with the industry, and their student employment rate remains above 95% throughout the year. Japanese vocational colleges require teachers to participate in enterprise technology research and development for no less than 2 months each year through the 'Enterprise Joint Education' program. For example, teachers at Toyota Technological University are required to jointly develop courses with enterprise engineers, and their patent conversion rate reaches 34%, significantly higher than the average level in China. From this, it can be seen that the type attribute of higher vocational education requires teachers to have practical teaching abilities that are not only about "teaching", but also a combination of "educating people" and "nurturing craftsmen". They need to possess professional practical literacy and teaching transformation ability.

2.2 Deconstruction of the Connotation of Practical Teaching Ability of Vocational

College Teachers

At present, there is no unified standard for defining the concept of teachers' practical teaching ability in academia, and different scholars have proposed different connotations and interpretations of teachers' teaching ability from different perspectives. This article draws on previous research experience and believes that from the perspective of type education, the practical teaching ability of vocational college teachers refers to their ability to deeply integrate professional theoretical knowledge with industry practice based on the characteristics of vocational education types and guided by the needs of professional positions. Through the three-dimensional linkage of "teaching practice industry", it achieves the integrated teaching ability of "knowledge transmission, skill training, and professional ethics cultivation". The core lies in whether teachers can break the closed nature of the "school classroom", integrate the characteristics of type education into the entire teaching process, and cultivate high-quality technical and skilled talents that meet the needs of the industry [4-5].

3. The Realistic Dilemma of Cultivating Teachers' Practical Teaching Ability from the Perspective of Type Education

3.1 Government and Enterprise Level: Inadequate Collaborative Mechanism

Although the concept of vocational education as a type of education is constantly forming in our country, teachers who delve into vocational colleges will find that they lack a high sense of identification with the type attributes of vocational education, and lack clear direction and implementation measures on how to cultivate professional talents. Many teachers are unable to clearly describe the differences between vocational education and general education, resulting in unsatisfactory outcomes in cultivating students' vocational abilities. The government's policy support and funding for school enterprise cooperation are insufficient, and there is a lack of clear legal norms and incentive measures, resulting in insufficient motivation for enterprises to participate in teacher practical training. Based on the consideration of production efficiency, enterprises often regard teacher practice as "cheap labor", or believe that teachers have limited practical abilities and are unwilling to provide long-term practical positions for teachers. Even if they accept teacher internships, they often arrange marginal work, which makes it difficult for teachers to achieve in-depth practical training and more of a formality.

3.2 Institutional Level: Insufficient Institutional Guarantees and Resource Support

The assessment and evaluation system at the institutional level does not focus on practical teaching, and the certification of "dual teacher" teachers is formalized. Some institutions equate "dual teacher" with the quantity of "teacher qualification certificate+skill certificate", without substantive examination of practical teaching ability. A considerable number of "dual teacher" teachers lack frontline experience in enterprises. Most vocational colleges still use the general education thinking and adopt the teacher evaluation standard of "emphasizing theory over practice". They still use scientific research achievements, the number of published papers, and the level of research projects as core assessment indicators. The achievements of practical teaching have not been fully recognized, which weakens the enthusiasm of teachers to participate in practical teaching and improve their practical teaching abilities.

The training equipment lags behind the industry, with professional equipment such as intelligent manufacturing having an update cycle of 5 years, far exceeding the industry's technology iteration cycle (2-3 years). In addition, the shortage of resources and funds for practical teaching has led to an imperfect training system, mainly reflected in the fact that on campus practical training focuses more on theoretical knowledge and lacks practical training jointly conducted with enterprises; Internship in off campus enterprises often becomes a formality, and teachers find it difficult to access core technical positions, resulting in limited improvement of practical abilities. In addition, the slow updating of equipment in the on campus training base creates a gap with the production environment of enterprises; The stability of off campus internship bases is insufficient, and the initiative of enterprises to participate in talent cultivation is low.

3.3 Teacher Capability Level: Lack of Typological Ability Structure Leads to Teaching Disconnection, and there is an

Imbalance between Practical Experience and Teaching Ability

Vocational college teachers are mostly "college graduates who directly teach" and lack frontline work experience in enterprises. They are not familiar with industry and enterprise trends. Although they have solid theoretical knowledge, it is difficult to solve practical engineering problems when guiding students in internships, resulting in related courses still staying at the theoretical level. Although some teachers are hired and introduced from enterprises, they initially have strong practical abilities. However, as time goes by, they have not been put into practice through on-the-job training in enterprises. With the continuous updating of professional practical knowledge, they gradually deviate from practice and lack understanding of new technologies and processes in the industry. Their technical skills lag behind the development of the industry, and their practical abilities have significantly deteriorated, unable to meet the needs of students for cultivating practical abilities.

3.4 Teacher Development Level: Lack of Motivation and Digital Shortcomings

The prominent problem of lack of intrinsic motivation in teacher practice lies in the dual absence of career development incentive mechanisms and recognition of practical values. According to research data, 62% of teachers believe that the practical achievements of enterprises have limited help in promoting professional titles and job appointments, and only 28% consider practice as an active means of improvement [6-10]. In addition, the heavy teaching workload has led to teachers not having the energy to participate in corporate practice, and some teachers have even formed a habitual thinking of "emphasizing theoretical teaching and neglecting practical improvement", believing that "teaching PPT is more in line with the career development path than going to the workshop" [11-13].

In addition, the lagging digital practical ability has become a "technical bottleneck" for the development of type education. Data shows that only 29% of teachers are proficient in teaching with VR/AR and other virtual simulation tools, and 18% are familiar with the teaching application of new technologies such as industrial Internet and digital twins. Students need to relearn digital tools after joining the company. The deep-seated contradiction lies in the fact that although young teachers under the age of 40 have a foundation in information technology, 73% lack experience in enterprise digital positions; Teachers over 50 years old have practical experience, but find it difficult to adapt to new teaching tools such as smart training platforms, resulting in a disconnect between practical teaching and industrial digital transformation.

4. The Path of Cultivating Practical Teaching Ability of Vocational College Teachers from the Perspective of Type Education

4.1 Policy and Institutional Innovation: Rigid Guarantee and Incentive Driven

Firstly, it is necessary to strengthen the recognition of type education in higher vocational education at the government level, and clarify that practical teaching ability is the core carrier of the characteristics of vocational education types. At the same time, it is suggested that the government introduce relevant policies to clarify the responsibility and incentive measures for enterprises to accept teacher practice. For example, providing a certain subsidy per capita per year to enterprises that receive teacher practice, or using school enterprise cooperation tax leverage, such as deducting value-added tax at a certain proportion, to promote the improvement of practical teaching ability of university teachers. The state has established a fund for the integration of industry and education to support the cultivation of teachers' practical abilities.

Standardization leads the development of typification, such as formulating the "Teacher Practice Teaching Ability Standards from the Perspective of Type Education", establishing a unified national ability grading certification system, and promoting the standardization of practical teaching ability cultivation.

4.2 At the Institutional Level: Institutional Guarantees and Resource Support, Building a Typological Training Support System

Firstly, vocational colleges need to reshape the standards for dual qualified teachers, incorporating core indicators such as "depth of enterprise practice", "effectiveness of technical services", and "achievements of school enterprise collaboration" into the recognition of dual qualified teachers. They should also

develop "dual qualified teacher competency standards" to strengthen the requirements for practical teaching.

Secondly, establish a cross-border practice platform. Constructing production-oriented training bases, such as the nationwide "Robot Production Training Base" jointly built by colleges and enterprises, where teachers directly participate in training, while developing new courses, conducting curriculum reform, and professional construction. By introducing a digital simulation platform and building a virtual training environment, teaching can be conducted through the platform, reducing the cost of student training.

Finally, it is recommended to hire vocational education experts to provide targeted guidance for teachers' practical teaching, so that they can focus on the nature of type education in teaching design, implementation, and evaluation. Only in this way can the goal of "type education" be truly implemented at the practical level.

4.3 Capability Reconstruction: Carry out Comprehensive Cooperation between Schools and Enterprises, Continuously Improve the Practical Teaching Ability of the Teaching Staff

4.3.1 Senior teachers and industry joint colleges collaborate to cultivate the practical teaching ability of the teaching staff

Firstly, carry out research and development projects. Senior teachers lead a team of teachers to actively conduct professional research and tackle common technical and management issues in the industry and enterprises. Secondly, guide skill competitions. Senior teachers lead a team of teachers, actively organize vocational skills competitions, hire industry and enterprise experts as guidance teachers, and exercise teachers' practical teaching abilities in the process of jointly cultivating students be-tween schools and enterprises. Thirdly, conduct social training. Senior teachers lead backbone teachers and young teachers to form a training team composed of schools, industry associations, and enterprises, carry out social training, and promote the continuous improvement of the practical teaching ability of the teaching team.

4.3.2 Developing the ability to transform work processes Special training on "Teaching oriented Transformation"

Organize teachers to participate in the "Teaching oriented Design of Enterprise Projects" workshop to learn how to transform real enterprise projects into teaching projects.

4.3.3 Cultivation of collaborative education ability between schools and enterprises

Dual teaching qualification certification: Establish a qualification certification system for teachers and enterprise technical personnel to collaborate in teaching. Collaborative mechanism of "industry mentors": Hire enterprise technical backbones to serve as "industry mentors" and form teaching teams with on campus teachers. Type culture cultivation: Integrating industrial elements into campus culture construction, such as building "corporate culture corridors" and "master craftsman studios".

4.4 Teacher's Autonomous Development: Activating Lifelong Learning and Technological Iteration

The "Dual Certification Integration" incentive plan aims to establish a training mechanism of "promoting teaching with certification and strengthening skills with certification", supporting teachers to obtain "1+X" vocational skill level certificates and industry advanced qualification certifications that are highly matched with their majors. After obtaining the certificate, teachers can independently develop modular characteristic practical training courses and enjoy special allowances.

Establish a technology tracking fund to support teachers and allocate a certain amount of funds annually for new technology training. Enhance teachers' practical ability to understand new technologies, policies, and industrial development directions.

Build a cross disciplinary practice community, establish the "Teacher Industry Practice Innovation Alliance", and promote cross disciplinary collaboration. Facing the trend of industrial integration such as "Internet plus+ specialty" and "intelligence+ specialty", we organized teachers to collectively learn short video production and other knowledge, and jointly developed professional courses. Regularly hold "technology salons" and invite enterprise experts to share cutting-edge trends. Teachers are required to submit a "Technology Innovation Reflection Report", which will be evaluated and included in the annual assessment as one of the core indicators for excellence and teaching, forming a virtuous cycle of "learning practice teaching trans-formation".

4.5 Evaluation Feedback Optimization: Establishing a Dynamic Evaluation System for Type Education Characteristics

Establish a dynamic evaluation system, increase dimensions such as "integration of industry and education" and "technological innovation", and evaluate teachers' practical teaching ability, fault diagnosis, process optimization and other abilities through simulating enterprise projects. The evaluation results are linked to performance-based pay. Establish a tracking system for graduates' practical abilities, conduct reverse evaluation of teaching effectiveness through enterprise research and job data analysis, identify problems, and adjust teachers' enterprise practice content in a timely manner.

Simultaneously establish a "Graduate Practical Ability Tracking System" to collect satisfaction survey data from enterprises (such as the rate of graduates meeting job skill standards), analyze the trend of job demand changes, and evaluate the effectiveness of teachers' practical teaching in reverse. As the decision-making basis for adjusting teacher training programs in colleges and universities, a closed-loop optimization mechanism of "industry demand teaching implementation ability feedback" is formed.

5. Conclusion

The core of cultivating teachers' practical teaching ability lies in breaking the closed nature of "school education", forming a positive cycle of "practice teaching industry" through the "rigid guarantee" of policy systems, the "scene supply" of school enterprise cooperation, the "ability shaping" of institutional systems, and the "active evolution" of individual teachers. This process needs to always be based on the characteristics of vocational education types, allowing teachers to develop their abilities in real industrial scenarios, deepen their understanding in teaching transformation, and ultimately achieve the dual goals of "cultivating high-quality technical and skilled talents" and "serving the high-quality development of the industry".

Acknowledgments

This paper is funded by the 2023 Chongqing Municipal Education Commission Vocational Education Teaching Reform Research General Project (Project No.: Z233248).

This paper is funded by the 2024 project of the 14th Five-Year Plan for Education and Science of Chongqing (Project approval number: K24YG3150453).

References

[1] Xu, S.T., Xue, F., Ma, C.W.: A Study on the Influencing Factors of Practical Teaching for Engineering Cost Major under the Background of Professional Certification—Taking Jiangxi University of Science and Technology as an Example. Heilongjiang Education (Theory and Practice), 2025, (06): 97-100.

[2] Yi, B., Ye, H., Zhi, J.H.: Discussion on Strategies for Improving the Practical Teaching Ability of Young Teachers in Vocational Colleges under the Background of "Double High-Level Program". University, 2025, (04): 139-142.

[3] Xia, Y.G.: Structure and cultivation of teachers' practical ability: from the perspective of pre-service education. Shanghai Education Research, 2016, (03): 58-62.

[4] Sun, K.: Research on the Path to Improve Vocational College Teachers' Practical Teaching Ability from the Perspective of Industry-Education Integration. Journal of Hubei Open Vocational College, 2025, 38 (10): 57-59.

[5] Fang, F.B., Sha, L., Sun, L., et al.: Exploration on the three-stage cultivation of practical teaching ability of "double-qualified" teachers under the background of "Double High Plan". Vocational and Technical Education, 2022, (02): 27-30.

[6] Bai, X.G.: Construction and implementation path of teacher education model focusing on practical teaching ability training. Education Theory and Practice, 2022, (12): 38-42.

[7] Shi, W.P.: Logic and path of high-quality development of vocational education from the perspective of type education. Educational Research, 2021, (10): 52-61.

[8] Xu, G.Q.: Technological philosophy interpretation of the type characteristics of vocational education. Educational Research, 2020, (08): 101-110.

[9] Xu, W.L., He, S.H., Yang, L.: Discussion on the ways to improve the practical teaching ability of young teachers in engineering majors of research universities. Heilongjiang Researches on Higher Education, 2019, 37(03): 82-85.

[10] Li, M.: Structural model and optimization

path of practical teaching ability of higher vocational teachers under the background of "typified" education. Chinese Vocational and Technical Education, 2021, (30): 70-74.

[11]Zhang, Y.N.: Innovative Practice Research on Improving Vocational College Teachers' Practical Teaching Ability from the Perspective of Science-Education Integration. Shanxi Youth, 2025, (05): 160-162.

[12]Vesudevan, M.: Teachers' perception about factors influencing ICT integration in teaching and learning and students' interest in lesson. Muallim Journal of Social Science and Humanities, 2021, (05): 28-40.

[13]Johnson, M.: "Teachers tell and children show and explain": the complementary dynamics of teacher and peer scaffolding techniques in a mixed ability group. International Journal of Teaching and Education, 2016, (04): 12-29.