

Research on the Cultivation Path of "Dual-teacher" Teacher Team in Higher Vocational Colleges Based on the Integration of Industry and Education

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Abstract: The essence of "dual-teacher" teacher team in higher vocational education remains that of educators, who should possess both theoretical and practical teaching capabilities. This requires teachers to have proficient industry practice skills and the ability to demonstrate these skills through various teaching methods to better assist in enhancing students' practical abilities. This article explores the establishment of a platform for cultivating "dual-teacher" teacher teams through the integration of industry and education, focusing on improving the practical and teaching abilities of higher vocational teachers. It discusses collaborative efforts with industry associations and enterprises to establish long-term and relatively stable cooperative forms, exploring diverse cooperative paths. The implementation of seven projects is proposed to promote the cultivation of "dual-teacher" teacher teams in higher vocational education. These projects include enterprise internships for higher vocational teachers to gain practical experience, the construction of full-time and part-time teacher teams, training and assessment for professional skill level certificates, engaging in social services, the development of practical training facilities, and the construction of course resources and innovation in teaching methods and reforms. These initiatives aim to foster a "dual-teacher" teacher workforce that is well-equipped with both theoretical knowledge and practical skills, thereby enhancing the quality of higher vocational education.

Keywords: Industry-Teaching Integration; Dual-teacher Team; Practical Teaching Ability; Higher Vocational; Integration of Industry and Education

1. Introduction

The Notice of the General Office of the Ministry of Education proposes to accelerate the high-quality construction of the "dual-teacher" teacher team in vocational education, and to improve the teacher standard system. The Circular on the Recognition of "Dual-Type" Teachers proposes to accelerate the construction of a high-quality "dual-teacher" teacher team in higher vocational education, improve the standard system for teachers, and raise requests for the identification of "dual-teacher" teacher team. The release of this circular solved the problem of identifying "dual-teacher" teachers, and pointed out the direction for the cultivating of "dual-teacher" teachers in higher vocational colleges. According to this notice, local education administrations can consider the actual situation of their own regions and schools, and formulate the standards and implementation measures for the identification of "dual-teacher" teacher team at all levels, in order to promote the targeted training and identification of teachers in higher vocational colleges around the world. Li Hong et al. proposed that vocational colleges and enterprises should establish a specialized agency to communicate with each other, set up a new type of cooperation platform between schools and enterprises, and jointly carry out project research, in order to help the construction of the "dual-teacher" team and the cultivation of high-quality technical and skilled talents [1]. Based on the research of many experts and scholars on school-enterprise cooperation to cultivate "dual-teacher" teacher team, this paper will start from the practical teaching ability of higher vocational "dual-teacher" teacher team, according to the current higher vocational "dual-teacher" teacher team's cultivation in the existence of the "dual-

teacher" teacher team. This paper will start from the practical teaching ability of the higher vocational "dual-teacher" teacher team, and explore the path of higher vocational "dual-teacher" teacher team training based on the current problems of higher vocational "dual-teacher" teacher team cultivation in the light of the integration of industry and education.

2. The Connotation of "Dual-Teacher" Teacher Team in Vocational Education

Regarding the connotation of "dual-teacher" teachers, there are many different views, such as "dual-certificate" (teacher qualification certificate and vocational qualification certificate or vocational skill level certificate), "dual-title" (teacher's title and non-teacher's title), "dual-competence" (theoretical teaching and practical teaching ability), and so on. (teacher series title and non-teacher series title)", "dual competence (theoretical teaching and practical teaching ability)" and so on. Xie Lihua and others believe that the essence of "dual-teacher type" lies in the unity of the "dual-teacher quality" of VET teachers, and that the starting point lies in the enhancement of the professional teaching ability of the unity of the dual-teacher quality [2]. All these concepts are essentially stating that "dual-teacher-type" teachers should have the ability to teach practical business skills in the industry on the basis of the ability to master education and teaching.

The Issuance of the Implementation Plan for National Vocational Education Reform, released in January 2019, states that "dual-teacher" teacher team are "teachers who have the ability to teach both theory and practice". The essence of "dual-teacher" teacher team is still teachers, who undertake the important tasks of imparting knowledge, cultivating skills and guiding the growth of students. Traditional teachers in vocational colleges are good at teaching professional theoretical knowledge and guiding students' growth, but in the context of the new era when the demand for high-skilled personnel by enterprises in various industries is becoming more and more common and widespread, the level of high-skilled training of students in vocational colleges has yet to be upgraded. Cultivating highly skilled personnel has become the ultimate training goal of vocational colleges, and practical teaching has become

one of the most typical tasks, which requires that teachers in vocational colleges must master proficient practical business operation skills of industry and enterprises, and have rich working experience in industry and enterprises, so that they can, on the basis of the traditional theoretical teaching, better guide the students in learning and mastering the practical skills of industry and enterprises, and complete the task of cultivating highly skilled personnel. Cultivation of highly skilled personnel task. Therefore, teachers in vocational colleges should have practical teaching ability, which is the trend of the development of the new era, the mission of the reform of vocational education, and the root of the "dual-teacher" teacher team. Therefore, how to promote the practical teaching ability of teachers in vocational colleges and cultivate "dual-teacher" teacher team has become a problem in urgent need of solution.

3. The Current Situation of the Cultivation of "Dual-Teacher" Teacher Team in Higher Vocational Education

3.1 Exploration of the Cultivation of "Dual-Teacher" Teacher Team in Higher Vocational Education

Over the years, the State has issued a set of circulars and documents on "dual-teacher" teacher team, providing guidance and norms for schools and colleges around the world to formulate local standards and implementation measures for the identification of "dual-teacher" teacher team in their own schools. For example, a school has formulated the "Dual-Teacher" Teacher Qualification and Management Measures, which identifies "Dual-Teacher" teacher team as primary, intermediate and senior in terms of teacher ethics, professional teaching, enterprise practice, vocational certificates, horizontal technical services, patent competitions, and social service projects, in order to cultivate teachers who are both "Dual-Teacher" and "Dual-Teacher". In order to cultivate a team of "dual-teacher" teacher team who are capable of teaching theoretical courses, have abundant practical experience and exquisite vocational skills, and are capable of guiding internships and transferring skills to apprentices. Jin Bo et al. pointed out that Hangzhou Vocational College of Technology, based on the school-

enterprise community, with practice as the logical starting point, to create a teacher teaching innovation community with a "five-community model", and jointly with the regional leading enterprises, the school-enterprise collaborative cultivation of dual-teacher quality teachers [3]; Wang Hui believes that the "dual-teacher" teacher training of higher vocational colleges is a process which requires a lot of experience and knowledge, and is a project that requires multi-party collaboration, and that the school-enterprise collaborative cultivation mode should be constructed from the cultivation concept, competence structure, and operation system in three dimensions [4]. The series of documents issued by the state and the research of relevant experts and scholars have largely promoted the construction of "dual-teacher" teacher team, and schools around the world are endeavoring to build high-quality "dual-teacher" teacher team.

3.2 Deficiencies in the Cultivation of Higher Vocational "Dual-Teacher" Teacher Team

Currently, most of the research on the cultivation of "dual-teacher" teaching force focuses on the policy system, thinking mode and other practical issues [5]. According to the "Implementation Plan for Deepening the Reform of Construction of "Dual-Teacher" Teacher Team in Vocational Education in the New Era" issued by the Ministry of Education and others, the shortage of "dual-teacher" teacher team with theoretical and practical teaching abilities has become a bottleneck that restricts the reform and development of vocational education. Although schools around the world have gradually set up their own "dual-teacher" teacher team recognition programmers, which have to a large extent solved the problem of the evaluation mechanism for "dual-teacher" teacher team and enabled many teachers to obtain the corresponding level of "dual-teacher" teacher recognition, it is not easy to find a solution to the problem of "dual-teacher" teacher team [6]. To a large extent, the programme has solved the problem of the evaluation mechanism of "dual-teacher" teacher team, enabling many teachers to be recognized as "dual-teacher" teacher team of the corresponding grade. However, in terms of the improvement of teachers' practical teaching ability, there are

still problems such as teachers' cultivation of industry-teaching integration is not in-depth, practical ability is not prominent, practical ability needs to be renewed, and practical teaching ability needs to be upgraded. It is necessary to further deepen the integration of industry and education and to explore the path of school-enterprise cooperation in training teachers.

3.3 Ideas for Promoting the Training of "Dual-Teacher" Teacher Team through the Integration of Industry and Education

Firstly, according to the trial standards, and in combination with the "dual-teacher" teacher recognition standards and other implementation documents formulated by each school, sort out the indicators related to the practical teaching ability, which can be exercised and improved through the school-enterprise co-operation; secondly, sort out the existing and potential platforms and resources for teacher training and improvement; thirdly, build a resource platform for the integration of industry and education, and promote the practice of the integration of industry and education, so as to improve the practical ability and improve the practical ability of teachers[7]. Secondly, collate the existing and potential teacher training platforms and resources, and analyze the possible paths of teacher training through industry-teaching integration. Thirdly, set up a resource platform for industry-teaching integration, and promote the practice of industry-teaching integration training for "dual-teacher" teacher team, in order to improve teachers' practical ability and practical teaching ability. Fourthly, summarize and analyze the "dual-teacher" teacher training. Finally, it summarizes and analyses the successful experiences and deficiencies in the cultivation of "dual-teacher" teacher team, and puts forward improvement measures. By ensuring the continuous development of "dual-teacher" teacher training and the continuous improvement of practical teaching ability, the training of talents in vocational colleges will be able to meet the demand of industry and enterprises for the continuous improvement of high-skilled talents.

3.4 Practical Path of Industry-Teaching Integration to Promote the Cultivation of "Dual-Teacher" Teacher Team

According to the policy documents of the Ministry of Education and the local schools on the cultivation and recognition of "dual-teacher" teacher team, the cultivation of "dual-teacher" teacher team should focus on cultivating teachers' practical teaching ability based on improving their theoretical teaching ability [8]. The cultivation of teachers' practical teaching ability is carried out in two aspects, one is the improvement of teachers' practical ability, and the other is the conversion of practical ability into practical teaching ability, which means that teachers can show their practical ability through various teaching methods to better promote the improvement of students' practical ability. Higher vocational colleges should, according to relevant policies and documents, discuss and build co-operation with industry associations and enterprises, establish long-term and relatively fixed forms of co-operation, and explore various forms of co-operation paths to promote the enhancement of the practical ability of "dual-teacher" teacher team and their practical teaching ability.

4. Establishing a Platform for the Training of "Dual-Teacher" Teacher Team for Industry-Teaching Integration

Based on the demand and cultivation of talents in the industry, the construction of practical teaching resources, and the project tasks issued by the competent authorities, the industry associations, industry enterprises, higher vocational colleges and other cooperative parties sign long-term and relatively fixed contract agreements, with the cooperation contents mainly including the cultivation of special modern apprenticeship, the construction of teaching resources for the courses, the mutual employment of industry experts and higher vocational teachers, the training and assessment of vocational qualifications (skills) certificates, social services and so on [9]. Certificate training and assessment, and social services. Relevant support policies have been fully utilized to meet the demand for talent training, and industry associations and enterprises have been promoted to join the industry-teaching integration platform built by multi-party cooperation.

4.1 Paths for the Development of Teachers'

Practical Skills

In the platform jointly built with industrial societies, industrial enterprises, etc., the cultivation of teachers' practical ability is promoted by promoting the implementation of each specific project, and the path of cultivation of teachers' practical ability is explored as follows:

Higher vocational teachers have rich theoretical teacher experience, and relevant business skills operation, operation and management positions are provided by industrial enterprises, or higher vocational teachers are invited to join the operation team of a new project, so that higher vocational teachers can completely participate in the whole process and the whole process of project implementation. During the period of top-ranking exercise, the senior teachers should strengthen their learning and accumulation in accordance with the requirements of enterprise norms and systems, business operation process standards, etc., enhance their sensitivity to the industry market, perceive the industry technology development trend, the trend of talent demand, etc., and improve the accumulation of practical skills and experience in the enterprise's real business processes, operation skills, operation and management, project implementation, team management and other aspects.

Enterprise experts have many years of practical work experience in enterprises, with skilled business operation skills and rich experience in operation and management. They are introduced as part-time teachers of the school through higher vocational colleges and join the professional teacher team. With the assistance of the team teachers, they participate in the teaching of professional cognition, practical training, internship and other practical courses. Through the construction of the full-time and part-time teacher team, the superb business skills of enterprise experts and the rich teaching experience of higher vocational teachers are combined to promote the communication and cooperation between enterprise experts and higher vocational teachers, and to help higher vocational teachers improve their practical ability.

Departments such as the Ministry of Education have issued a series of skill level standards for professions and occupations, selected training

and evaluation organizations including trade associations, industry head enterprises, etc., and established a perfect certificate training, assessor training, assessment and evaluation system, etc., which has strongly promoted the cultivation of skilled personnel of higher levels. Higher vocational teachers' participation in and passing the training and assessment of higher grades (Level 2 and Level 1) of vocational skill level certificates can promote higher vocational teachers to learn and master the practical ability, and visually reflect the grades of teachers' ability.

According to the tasks and demands of subject projects, technical services, public welfare activities and other tasks issued by competent institutions at all levels, industrial enterprises and so on, higher vocational teachers take the initiative to participate in research and implementation, such as joining with industrial enterprises and so on to participate in the Ministry of Education's Industry-Teaching Integration Community Construction, On-site Engineer Cultivation Programme, Supply-Demand Docking Employment Nurturing and Hubei Academician Experts' Enterprise Tour and other projects of industry-teaching integration; and scientific research topics issued by industrial societies and enterprises, vertical and horizontal projects such as technical consulting; and other projects such as public welfare training and services [10]. By participating in these projects, the cooperation within vocational colleges and industrial enterprises has been deepened, and the process of project implementation has facilitated the exchange between teachers and industrial professions, as well as the enhancement of teachers' practical abilities.

4.2 Paths for the Development of Practical Teaching Skills

After being proficient in the industry's practical competence, higher vocational teachers need to present the teaching of practical competence in the classroom, which requires teachers to master a high level of practical teaching competence, which requires teachers to convert the practical competence into teaching resources and use them in campus classrooms and enterprise classrooms, which facilitates students' learning and training. Practical teaching requires well-equipped practical training classrooms, including on-

campus training room and off-campus enterprise training room, on-campus training room should at least have the conditions of professional typical business operation skills simulation training, off-campus enterprise training room can be in the real business scenarios, in accordance with the standard specification of enterprise operation skills, using the existing equipment and so on, to complete the real business operations. Through on-campus business operation simulation training and off-campus real skills operation, the simulation and practical learning of professional skills can be achieved.

In the process of enterprise top workout, full-time and part-time teacher team building, and carrying out social service and other projects, on-campus teachers should focus on the collection of information on industry enterprises' business operation process, enterprise cases (standard business process operation, easy to appear wrong operation, handling of abnormal situations, safety and security, etc.), job skill demand specifications, personnel comprehensive ability requirements, etc., and collate them into a more common and widely received by industry enterprises. By analyzing the content of business processes, operational skill standards, industry common cases, job specifications, and comprehensive quality, these contents are transformed into the form of online teaching resources such as videos, animations, images, case studies, and question banks, and online platform courses are constructed. These teaching resources need to be updated and replaced in a timely manner as the industry changes and develops.

Strengthen in-depth cooperation with industrial enterprises to achieve resource sharing and complementarity of advantages, and jointly formulate professional talent training programmes, core curriculum standards, teaching plans, curriculum resources, etc. introduce the modes of case-based teaching, project-based teaching and situational teaching, and carry out enterprise case study, project task training and real scene training to enhance the practical guidance ability of teachers and the practical ability of students.

5. Conclusion

The release of the pilot standard for "dual-teacher" teacher team has greatly promoted the identification and training of "dual-teacher"

teacher team in various schools around the world. Regardless of the cultivation path, the fundamental starting point is to improve the practical ability and practical teaching ability of higher vocational teachers, which requires industry enterprises and higher vocational colleges to deepen the integration of industry and education, and explore more cooperation paths to promote the continuous improvement of "dual-teacher" teacher cultivation. In the future, as the international influence of China's vocational education continues to expand, international "dual-teacher" teacher team will be an important part of the internationalization of China's vocational education.

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