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Research on the Construction of "Double-Qualified" Teachers in Higher Vocational Colleges

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Abstract: The aim of this study is to explore the best practices in the construction of the "double qualified" teacher team in vocational colleges. Through interviews with 10 teachers, qualitative data analysis reveals three themes: the dilemma of "double qualified" teachers in vocational colleges in China, the training mechanism for "double qualified" teachers, and the guarantee measures for "double qualified" teacher training. These themes indicate that in the context of the reform of higher vocational colleges in China, the professional development of "double qualified" teachers has faced both opportunities and challenges. Interview research and theoretical analysis indicate that despite favorable national policies, the organizational environment still lacks an environment for eugenics, and the endogenous motivation of "dual teacher" teachers is also weak, which brings many challenges to the development of current "dual teacher" teachers. Combining interview results and cause analysis, exploring feasible paths from optimizing organizational environment and individual self-development can help change the current situation and find possible solutions.

Keywords: "Double-qualified" Teachers; Vocational Colleges; Training and Development.

1. Introduction

As we all know, the aim of higher vocational education is to train highly qualified people and highly skilled talents to meet the employment needs of front-line production, construction, management and service posts of industry enterprises. Based on the special orientation of running a school and the goal of talent training, higher vocational colleges also put forward the requirement of "double qualification" for teachers. Double qualification refers to the requirment of the ministry of education of China for teachers to undergo continuours training through futhur education and industry exposure. This is an important part of the talent team in higher vocational colleges, “Double-qualified” teachers are the key support to highlight the school running characteristics and strengthen the training of skilled talents. In recent years, the State has successively issued the Implementation Plan for Accelerating Education Modernization (2018-2022), the 2035 Modernization of China's Education, "the Opinions of the CPC Central Committee and the State Council on Comprehensively Deepening the Reform of the Construction of Teachers in the New Era", "the Implementation Plan for Improving the Quality of Teachers in Vocational Colleges (2021-2025) " and other documents, the key role of higher vocational education in the process of education in China is repeatedly emphasized and higher requirements are put forward for the development of vocational education.

In the present era, teachers play a very important role in the integration of production, study, research, innovation and application. To deepen the reform of higher vocational education and realize the modernization of higher vocational education, an important point is to build a "Double-qualified" teacher team. Under the situation of social development and industrial upgrading in the new era of China, vocational colleges are required to cultivate skilled applied talents, and training "Double-qualified" teachers is the key guarantee. In order to significantly improve the modernization level of China's higher vocational education and the quality of talent training, provide support for high-tech skilled talents, promote the sustainable development of social economy, improve national competitiveness, and build a team of "Double-qualified" teachers with noble ethics and excellent quality is the focus of the connotation construction of higher vocational colleges.

2. Significance of the Study

The purpose of this study is to solicit the opinions of teachers to ensure that they strike a balance between "Double-qualified" in response to the requirements of the Chinese Ministry of Education regarding teacher qualification standards. Specifically, this study will make a qualitative treatment of the experience of teachers in Wenzhou Polytechnic. Therefore, this study will be helpful in the following aspects.

2.1. Theoretical Significance

First of all, it enriches the research on the construction of "Double-qualified" teachers. Since the end of the last century, scholars have launched a heated discussion on the construction of "Double-qualified" teachers from the definition, training methods, certification standards and other aspects. It is of great significance to deeply understand the connotation of "Double-qualified" teachers, comprehensively formulate the training plan for "Double-qualified" teachers, and build a "Double-qualified" teacher team. However, the development of science and technology has brought about an urgent need for high-quality skilled personnel. As the main body of talent cultivation, what new qualities should teachers possess in the new era, what new changes have taken place in the connotation of "Double-qualified" teachers, and how to cultivate "Double-qualified" teachers in line with the needs of the development of the times has become an urgent problem to be solved in current higher vocational education.

In recent years, with the increasing demand of the society

for vocational education students, the state and governments at all levels have also paid more attention to the development of vocational education, and the teaching staff of vocational colleges are also constantly improving, but they are still far from their needs. In order to achieve the development goal of "taking ability cultivation as the standard and employment as the guidance", it determines that vocational colleges should take the "Double-qualified" teacher team as the main body to develop their teaching staff, reflecting their professional and practical advantages. Deepening the systematic research on the construction methods of the "Double-qualified" teacher team and enriching the theoretical basis can provide theoretical basis for the specific practice of higher vocational colleges.

2.2. Practical Significance

First, to innovate the new path of the construction of "Double-qualified" teachers. So far, higher vocational colleges have entered the key stage of connotation construction. As a long-term cause of the development of higher vocational education, strengthening the construction of teachers has attracted extensive attention and attention from all walks of life. However, there are still some problems in the construction of "double-qualified" teachers in higher vocational education, such as insufficient quantity, unreasonable structure, inconsistent certification standards, and imperfect incentive guarantee mechanism. The second is to enhance the effectiveness of school-enterprise cooperation and improve the actual problem of the imbalance of talent demand structure. Teachers are the subjects who impart knowledge and skills. Different from general education, vocational education aims at cultivating application-oriented talents who meet the needs of industrial economic development and have both professional theoretical knowledge and professional operational skills. This basic educational goal determines that teachers in vocational colleges should also be "double-qualified" teachers with theoretical knowledge and professional skills. However, in reality, the lack of "Double-qualified" teachers in higher vocational colleges has become the key to restrict the realization of their goals. What higher vocational colleges provide is not what enterprises need, which not only leads to the structural imbalance between talent supply and talent demand, but also reduces the internal motivation for enterprises to participate in school-enterprise cooperation and highlights the normalization of school-enterprise cooperation.

From a practical point of view, this study provides a reference for solving the problems of weak teachers and unreasonable structure in vocational colleges, which is conducive to realizing the characteristics of colleges and universities in running schools, strengthening school-enterprise cooperation, satisfying the needs of local economic development, solving the contradiction between supply and demand in talent market, and producing high quality, high quality and high ability vocational school graduates, which is conducive to the development of society and schools.

3. Research Status at Domestic and Abroad

3.1. Research Status Abroad

From the existing literature, the concept of "Double-qualified teacher" has not been clearly put forward in foreign countries. The keywords such as "Double-qualified teacher" or "dual qualified teacher" found in foreign literature are all literally translated by scholars according to the Chinese language of "Double-qualified teacher". Looking at the research results abroad, although there is no such term as "Double-qualified" teachers, the research on vocational education can be traced back to a long time ago. In combination with their own characteristics and advantages, countries have their own requirements and standards for the training of teachers in vocational education.

3.1.1. Connotation of Vocational Education

Wieland (2015) believes that Germany's "dual system" vocational education has become an important guarantee and intellectual support to accelerate Germany's socio-economic development. Dual education mainly refers to the personnel participating in the training. They not only need to obtain professional theoretical knowledge related to the industry through vocational school learning, but also need to carry out practical training in some places outside the school to receive professional skills training from enterprises. As the birthplace of the Industrial Revolution, Britain's vocational education system was established earlier. After long-term development and practice, it is now relatively perfect. Burnett, (2015) pointed out that the "apprenticeship" originated in the United Kingdom, which means that people determine the relationship between teachers and apprentices with predecessors in the industry through formal or oral commitments, not only to understand the basic rules and regulations in the industry, but also to learn crafts and skills. This kind of "apprenticeship", which is based on the relationship between teachers and apprentices, is different from the previous vocational education in the training process and teaching evaluation, and has opened a new training mode for skilled personnel. McCall, (2016) believes that the community college is a native invention of the United States. It is a teaching institution centered around the community and radiating around the surrounding areas, mainly composed of transfer education, vocational education and community training. The students recruited by the community college cover a wide range from high school students, social personnel to in-service personnel, ensuring that as many people as possible enjoy the opportunity to receive education.

3.1.2. Vocational Education Teachers

Graf, (2016) proposed that the greatest feature of the German dual system is the deep cooperation between schools and enterprises to cultivate teachers. German enterprises play an active leading role in school enterprise cooperation and training of skilled talents. Teachers in German vocational colleges will spend a lot of time every year in enterprises to participate in front-line work, increase practical experience in the industry and enterprises, and also learn advanced professional technology. At the same time, Renato Andrin Villano,Ray Cooksey,John Rice, (2017) believes that German vocational schools attach great importance to the employment and management of part-time teachers. The team of part-time teachers is growing and has become the key technical support for German vocational education teachers. Keith, (2015) pointed out that the vocational education in Britain is mainly based on continuing education. Vocational teachers are mainly front-line staff of enterprises. They need to pass the examination of teachers' qualification certificate before entering the workforce. After entering the workforce, special enterprise instructors will provide systematic training for teachers. The orientation will last for five years, during which the trainees will receive continuous assessment, and judge

whether to promote or increase salary or continue to be employed based on the assessment results. Kreisman, (2017) stressed that the US government attaches great importance to vocational education and has given a lot of economic and policy support to community colleges. Among the teachers, only 30% are full-time teachers, while more than 60% are part-time teachers with rich practical experience from industry enterprises. Nakamura, (2016) believes that Australia now has a mature system in the field of vocational education and teacher training. For the vocational education of students and the training of teachers, the current cooperation between schools and enterprises is mainly reflected in the combination with the front-line technology of the industry. They believe that the vocational education of students can bring more economic benefits to others. Therefore, various industries also hope to communicate and cooperate with vocational schools.

3.1.3. Construction of Vocational Teachers

Marita, (2015) pointed out that Germany established a professional development system for teachers in vocational colleges earlier, and set different talent training goals and programs for different majors. Germany is very strict about the qualification certification of vocational education teachers, and the domestic vocational education teachers' qualification certificates can be recognized throughout the EU. Schrank, (2020) pointed out that the United States attaches great importance to the theoretical and practical work experience of its teachers in the training of professional teachers related to vocational education. Vocational colleges will hire a certain scale or number of part-time teachers to teach professional courses for their students every year, and these professional part-time teachers are the elites of large enterprises with years of rich theoretical and practical work experience and excellent knowledge and technology, this has an obvious effect on the training and upgrading of theoretical and practical work skills of many vocational college students.

3.2. Domestic Research Status

The "Double-qualified" teacher team is the core of the development of vocational colleges at present and in the future. For how to establish a stable and efficient "Double-qualified" teacher team, Chinese scholars have done a lot of research in this area, and put forward a more pertinent solution. Most of them put forward plans conducive to the construction of vocational teachers in China by means of literature review and comparative research.

3.2.1. Connotation of "Double-qualified" Teachers

The term "Double-qualified teachers" was first proposed by Wang Yicheng in 1991. He believed that in order to run a college well, it is necessary to establish a "Double-qualified teacher who is capable of both writing and writing and combining theory with practice". This provides a new direction for the development of vocational college teachers, and provides a reference for future generations to further study the "Double-qualified" teachers. Dai Xiaorong, (2017) believes that "Double-qualified" teachers should mainly understand from the following two aspects: one is to require them to have the basic skills of both theoretical teaching and practical teaching; Second, in addition to a series of qualification certificates and professional titles for teachers, it is necessary to obtain qualification certificates in other industries again. Li Junmin, (2017) believes that "Double-qualified" teachers are an organic combination of college teachers and front-line technical backbones of enterprises. They can not only use solid professional theoretical knowledge to organize classroom teaching, but also use skilled practical skills to guide students to solve practical problems related to the industry. Li Mengqing, (2018) emphasized that the teaching of higher vocational education is closely related to the profession, and its special technicality and professionalism enable teachers in higher vocational colleges not only to have the ability to teach book theoretical knowledge, but also to track and master the latest development of the profession, so as to apply the technical skills requirements of the front-line industry to teaching. After analyzing several typical viewpoints, Lou Shizhou, (2020) proposed that, on the basis of the basic quality of being a model, the "Double-qualified" teachers in vocational colleges should understand the growth law of technical and skilled talents, and also master the knowledge system, professional qualifications, standards and professional development context of the profession they teach in the industry.

3.2.2. Construction of "Double-qualified" Teachers

Kang Xiaomeng, (2017) pointed out that there is no uniform standard for the certification of "Double-qualified" teachers in China. The "double certificate" theory, "double title" theory, "double structure" theory and "double quality" theory are relatively one-sided. The source of "Double-qualified" teachers is one-sided, vocational education teaching lacks systematic cognition and professional quality is not high enough. Lei Wei and Wang Chengfang, (2018) believes that the difficulty of funding will also restrict the construction of the "Double-qualified" teachers. Adequate funds are the basic premise for building "Double-qualified" teachers, and post service training and incentive policies need financial support. Cui Yuxin and Shi Weiping, (2020) believes that the current professional title evaluation of vocational colleges still overemphasizes papers, academics and class hours, and lacks quantifiable evaluation methods for technical skills and teaching quality, which makes teachers in vocational colleges pay more attention to topics and articles, and do not pay enough attention to theoretical teaching and practical skills guidance, thus affecting the quality of "Double-qualified" teachers. Jin Lishu,(2019) believes pointed out that there is a big problem in the current "Double-qualified" teacher team, which is reflected in the following three aspects: first, the proportion of young teachers is too high, and the age structure is not reasonable; Secondly, among the Double-qualified teachers, the number of intermediate professional titles is mainly, the number of senior professional titles is small, and the structure of professional titles is not reasonable enough; The third is that the setting of some specialties is not enough to better serve the regional economic development, and appropriate adjustments should be made to solve the current situation of unreasonable specialty structure.

3.2.3. Countermeasures for the Construction of "Double-qualified" Teachers

Liu Lei, (2019) emphasized that the quality of "Double-qualified" teachers is an important indicator to measure the level of the teaching team. He took the overall level and quality of "Double-qualified" teachers as an important part of the school's teaching performance assessment. The professional title review will focus on the practice of industry enterprises and the experience of guiding students' practice, and will list these factors as the conditions for professional title review. Wang Lina, (2020) believes that higher vocational colleges should broaden the source of "Double-qualified" teachers, make reasonable use of public opinion to

formulate standards for "Double-qualified" teachers, improve the qualification recognition procedures and rules by integrating the professionalism, demonstration and academic aspects of teachers, dynamically manage the recognition of "Double-qualified" teachers, and implement diversified standards for the timeliness, content and level of teacher qualification certificates. Let the "Double-qualified" teachers identify work as normal. Nie Xiaowu, (2020) proposed that higher vocational colleges should guide teachers of professional courses to become more familiar with local industrial institutions, master the real needs of the industry in which they belong to for current technical and skilled talents, so as to formulate talent training programs according to local conditions. At the same time, schools should increase the assessment of teachers' practical teaching ability, and urge teachers of professional courses to improve their "dual teacher" quality. Wu Yangwei, (2020) believes that if we want to speed up the construction of the "Double-qualified" teacher team, we can tap the potential to transform and revitalize the existing teachers. Highlight the construction of professional groups, mobilize the strength of professional leaders to train teachers with weak practical skills in a targeted way, cooperate with the "Double-qualified" teaching team, and encourage the team to help each other, communicate and cooperate.

3.3. Synthesis

The research on vocational education in foreign academic circles has accumulated rich achievements. Although there are differences between China and foreign countries in terms of external environment, vocational education system and employment mode of vocational teachers, the practice of vocational school teachers' replacement in enterprises and incentive mechanism is worth learning. In terms of domestic research, Chinese scholars have done a lot of research on the connotation of "Double-qualified" teachers and the status quo of their level. They have also done some research on the difficulties and countermeasures in the construction of "Double-qualified" teachers, laying a foundation for research in this field and providing good guidance and reference for this research. Looking at the current research results, there are still some deficiencies in the following aspects:

1. Domestic scholars have pointed out that the shortage of teachers is a common problem among "Double-qualified" teachers at present, but the suggestions on how to broaden the source of teachers and optimize the structure of "Double-qualified" teachers are relatively general, lacking certain pertinence and operability.

2. Existing researches have all realized the importance of strengthening teacher training to improve the quality of the "Double-qualified" teacher team, but there is a lack of comprehensive and systematic research on broadening the training content and form, and how to effectively implement the training quality.

3. The professional skill level of teachers in vocational education has a more intuitive impact on the training of students. Scholars at home and abroad have the same understanding of this, but there is no more in-depth research on how to cooperate with enterprises to jointly build a "Double-qualified" teacher training and practice base.

To sum up, in view of the shortcomings of existing research at home and abroad, how to systematically improve the ability of teachers in higher vocational colleges to solve practical production problems, strengthen the professional quality of "Double-qualified" teachers, enhance the core competitiveness of teachers, so as to adapt to the new requirements of "quality improvement, value-added and enabling" of vocational education is the focus of this study. In this study, literature analysis and qualitative method are combined, theoretical analysis and practical research are combined, to study the problems and countermeasures in the construction of "double professional" teachers in a higher vocational college in Zhejiang Province. Through the analysis of existing problems, this study puts forward targeted countermeasures and suggestions from both theoretical and practical aspects to realize the value of the study.

4. Research Methodology

Qualitative methods were used in this study. Through this method, the paper analyzes the essence of the research on the construction of "double qualified" teachers in China's higher vocational colleges. In order to understand the nature of the construction of "double qualified" teachers in China's higher vocational colleges. With this in mind, the researchers conducted an in-depth analysis of this performance.

Descriptive qualitative design and phenomenological approach were adopted. This is a research design that employs in-depth investigation of the meaning of experience to people (Bliss, 2016). Johnson and Christensen (2014) explain that the purpose of phenomenological research is to gain a view of the living world of research participants and to understand the meaning that is personally constructed from their experience.

In addition, it is an inquiry strategy in which researchers attempt to gather information by focusing on and describing a phenomenon in an insightful and comprehensive way, generally through interviews, open-ended questions or focus groups (Penley, 2018). Furthermore, according to Pathak (2017), Creswell points out that the best criteria for determining the use of phenomenology is when the research problem requires a deep understanding of the common experience of a group of people. In addition, such research addresses questions about universal human experience (Ary, Jacobs, & Sorensen, 2014).

Creswell (2007), Moustakas (1994), and van Manen (1990), as cited by Yuksel & Yildirim (2015), explicitly state that phenomenological studies begin and end with lived experience. It should be a meaningful, important experience of phenomena. In this study, the different perspectives of each co-participant in the "double-qualified" teacher team of Wenzhou Polytechnic will provide comprehensive and important data, because it describes the nature of the "double-qualified" teacher team.

Therefore, the phenomenological method is adopted in the research process to have a deeper understanding of the construction of "double qualified" teachers in Chinese higher vocational colleges.

Based on the domestic and foreign literature collected in the early stage and the relevant basic data of Wenzhou Vocational and Technical College, the personal interviews mainly target at the heads of relevant functional departments and middle-level leaders, including the heads of personnel department, the heads of teacher development center and the heads of academic affairs Office. It includes the understanding of the connotation of "double-qualified" teachers and the view of a series of measures taken by the

school to "double-qualified" teachers. To understand the relevant research, the interview outline of full-time teachers' representatives and leaders of relevant functional departments such as the academic Affairs Office and the Personnel Office was set up to deeply understand the views and opinions of the teaching staff on the construction of "double-qualified" teachers in Wenzhou Vocational and Technical College at the present stage from all levels.

5. Discussion of Findings

The final result of this study is the result of the seven-step qualitative data analysis method proposed by Colaizzi in (1978), cited by Abalos (2016). First, the important statements of the interviewees and the meanings summarized by the researchers are sorted out. Then, refine the topic based on the meaning summarized. Finally, a theme is presented, which represents the results of the investigation and analysis of the construction of "Double-qualified" teachers in higher vocational colleges.

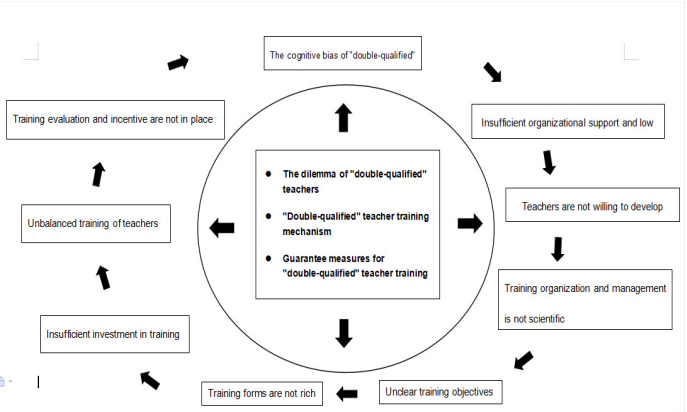


Figure 1. Thematic Map

5.1. The Dilemma of "Double-qualified" Teachers

The dilemma of "Double-qualified" teachers is based on the structure of three topic groups, and the cognitive bias of "Double-qualified" teachers, insufficient organizational support, low satisfaction, and low willingness of teachers to develop themselves.

Higher education institutions are part of higher education institutions, and their organisational environment should be in line with the cultural characteristics of higher education development. Accordingly, in order to distinguish them from research universities and higher education institutions, a misconception of "emphasising practice over theory" has gradually become prevalent in higher education institutions. On the one hand, for the sake of development, most of the higher vocational colleges and universities are converted or upgraded from colleges and universities with strong practical culture, and their teachers' strength and development level still have a big gap compared with those of research universities; on the other hand, due to the ambiguity of the definition of the concept of higher vocational colleges and universities, they are eager to meet the needs of social development, and a slogan of application-oriented practice and emphasis on the cultivation of application-oriented talents has become the legal basis for their orientation. This misguided orientation weakens the legitimacy of higher education institutions. This misguided orientation has weakened the nature of higher education institutions in their quest for knowledge, thus hindering the development of higher education institutions in China, and is not conducive to the proper perception of the identity of "Double-qualified" teachers in these institutions.

As a core member of the institution's development, the emphasis on the development of the practical skills of "Double-qualified" teachers is a common phenomenon in higher education institutions today, as can be seen from the interviews above. However, the concept of "Double-qualified" is also poorly defined, and the fact that most of the "Double-qualified" teachers in these institutions are mainly masters' degree holders with weak research skills and come from a variety of sources, with part-time teachers taking on teaching tasks as their own, could easily lead to another This reality is likely to lead to another misconception of "teaching over academics", leading to the phenomenon that some "Double-qualified" teachers are capable but not productive. In the end, the blurred definition of the concept and the misconception of 'double,' together induce 'double-teacher' teachers to over-amplify their practical knowledge and abilities for professional development, leading to a weakening of other aspects, which is not conducive to the growth of 'double-teacher' teachers and can also hinder their professional development. This is not conducive to the growth of "Double-qualified" teachers and can hinder their professional development. As Xia Zhengjiang says, the two interact and permeate each other, and the practical application skills of Double-qualified teachers cannot be improved without the guidance and support of theoretical knowledge. It is also a necessary precondition for "Double-qualified" teachers to face the uncertainty of practice. Therefore, an organisational environment that tends to focus too much on practice and teaching has become a poor breeding ground for the professional development of "Double-qualified" teachers.

Firstly, the change in educational attitudes of "Double-qualified" teachers can easily lead to impediments. These teachers have been living and working in relatively stable and comfortable institutions for a long time, with relatively stable financial security and a "family-supporting" way of adaptation. The quality of students is lower than that of academic universities, and students are less motivated and less active in learning. This requires that "Double-qualified" teachers are aware of and able to consciously practise the concept of 'knowing and doing' in all aspects of their training. However, there are still no operational guidelines for this model of education in China, and for these teachers, accepting new ideas means spending a lot of energy relearning and taking the risk of failure. In the long run, the "Double-qualified" teacher will not be able to do so. In the long run, "Double-qualified" teachers will lose their sense of urgency to improve their professional knowledge and skills, and will show indifference and lack of understanding towards their own professional development, resulting in a strong inertia.

Ms. Jia: For us, it is not meaningful to be awarded a "Double-qualified" teacher. In terms of career development, we all have to go through the process of title assessment, but "Double-qualified" teachers are not included in the title system, nor are they considered an honour, nor are they necessarily linked to the existing title assessment. We are still teaching in our own way, and the selection of "Double-qualified" teachers is mainly at the request of the College.

Therefore, combined with the analysis of the previous interviews, the dilemma of professional development of

"Double-qualified" teachers in higher education institutions is attributed to both external and internal factors. In the face of the demands of social development, the task of training applied talents undertaken by higher education institutions will become more and more complicated, and the reform will be gradually deepened, which requires "Double-qualified" teachers to make corresponding changes and take up various duties such as education and teaching, applied research and practice, and serving the local economy. It is urgent that the organisational environment is optimised and that the role of managers and teachers is transformed in a way that determines the quality and height of the professional development of "Double-qualified" teachers.

5.2. "Double-qualified" Teacher Training Mechanism

The training mechanism of "Double-qualified" teachers is based on the structure of three subject groups, and the training organization and management are not scientific, the training objectives are not clear and the training forms are not rich.

It is a rigorous and scientific organisational structure, characterized by a fine division of expertise, a clear division of authority and responsibility, strict rules and regulations, and a pyramidal hierarchy. In short, the hierarchy requires uniformity of command, i.e., the individual will be subordinated to the collective will and behavioural norms are controlled by managers at all levels. As a result, managers who uphold control-oriented values tend to focus on the development of the faculty as a whole, to the detriment of individual faculty development, and to ignore the needs of individual faculty members in favour of the effectiveness of faculty output. The policies developed by administrators without understanding the current situation and needs of the people they are implementing are also not rational and scientific.

In management, incentives are based on three principles: systemic, fair and equitable, and based on need. In the case of "Double-qualified" teachers, a reasonable incentive mechanism is an important external force for their professional development. However, in the current system of Chinese higher education institutions, the incentive mechanism is one of the most important factors hindering the professional development and competence of "Double-qualified" teachers.

Teacher training is an essential part of teacher growth and development, and an important guarantee of professionalism and specialisation. The importance of training is self-evident, and "Double-qualified" teachers are expected to improve their professional knowledge and skills through training in order to promote professional development. However, from the interviews above, it is clear that existing training has not been effective, and that it has gradually become a perfunctory form of 'going through the motions'. On the one hand, the training system is not scientifically designed. According to the teachers interviewed, the one-off systematic pre-service teacher education training has created the illusion that it is sufficient to support teachers throughout their teaching careers, while the simple post-service training mode of imparting professional knowledge in the form of lectures is not conducive to enhancing the practical skills of "Double-qualified" teachers. On the other hand, the training needs are not targeted, and training programmes are not tailored to the professional development dilemmas of "Double-qualified" teachers.

Ms Zhu: I remember that before I joined the school, the school conducted a half-month pre-service training for new teachers, mainly on pedagogy and psychology, after which similar systematic training and training on educational content were rare. In terms of pedagogical knowledge, I did not learn much, I basically taught and then felt my way around. In terms of professional skills training, although we had cooperation with many companies, we had few opportunities to go for practical training and there were not many places. In general, the school invites experts from partner companies to come to our school to give lectures, and most of them are deans and directors who are familiar with them, so they contact us and let us go there to listen. The next article. It is impossible to think that we can improve after one training session or one lecture.

On the whole, this administrative system, coupled with inadequate institutional development, has become one of the major causes of the professional development difficulties of "Double-qualified" teachers.

5.3. Guarantee Measures for "Double-qualified" Teacher Training

The guarantee measure of "Double-qualified" teacher training is based on the structure of three theme groups, which has insufficient investment in training, unbalanced training teachers and inadequate training evaluation and incentive.

Teacher team building is the key to the efficient implementation of school-based training for "Double-qualified" teachers in higher education institutions. In this regard, we can establish a team of teachers with strong professional ability through self-training, cooperative training and external recruitment. Firstly, depending on the type of teacher's specialism, experienced professionals and technicians from the relevant enterprises and those who have mastered the frontiers of expertise in the relevant fields can be recruited, so that the elite of the enterprises can come to the school to participate in the training and impart their professional knowledge and competence. Secondly, the ideal trainer should also include senior professors with cutting-edge subject knowledge and advanced educational theories, as well as subject leaders with extensive practical experience. With a balanced team of trainers, it is possible to gain an in-depth understanding of the latest developments in the professions in which the teachers of different disciplines work, and to achieve a more rapid and comprehensive improvement in their professional competence.

The lack of an effective evaluation mechanism is the most prominent and difficult problem of school-based training for "Double-qualified" teachers in higher education institutions. The evaluation mechanism should be reformed and improved as soon as possible, and the school-based training of "Double-qualified" teachers in higher vocational institutions should be included in the daily assessment, so that teachers participating in training in higher vocational institutions can have greater autonomy in the evaluation of training, so as to enhance their motivation. Secondly, in the construction of the evaluation system, a highly operational, developmental and process-oriented evaluation system should be established in accordance with the specific objectives of the school-based training of "Double-qualified" teachers in higher education institutions, and the evaluation, tracking and feedback during the training process should be strengthened. It is important to

focus not only on leadership and expert evaluation, but also on the involvement of multiple actors in evaluation, and to encourage teachers to conduct self-evaluation so that they can effectively absorb the content of school-based training. Thirdly, at the end of the evaluation, it is important to avoid assessing all training content in the form of written tests and to increase follow-up and feedback after the evaluation, paying attention to analysis of the causes and promoting improvement of training-related issues.

To address the problem of unreasonable incentives for school-based training of "Double-qualified" teachers in higher education institutions, the incentives should be clarified, with positive incentives as the main motivation to mobilize teachers to actively participate in school-based training, and cultural incentives added to improve the incentive effect of school-based training. Firstly, in the incentive measures for school-based training, the school should pay attention to material incentives, and enhance teachers' enthusiasm for school-based training through the use of external motivation, and strengthen teachers' emotions and attitudes towards school-based training, such as linking school-based training with policies on title promotion, performance pay and incentives, and implementing different extra points policies. In general, when teachers' material pursuits are met, they have a sense of security about their basic physical needs and can be motivated to take part in training. The second is to incorporate the culture of the institution into the training incentives, to focus on the professional development needs of teachers at different stages of their careers, to encourage teachers to actively participate in training activities, and to provide advice that will help the school's development in the context of their own professional development needs, to highlight the teacher's leading role in the training, and to achieve motivational effects.

6. Recommendations

Based on the above findings and the clear insights drawn from the accounts of the co-participants, the following recommendations are made:

In the current context of change in China's higher education institutions, the professional development of "Double-qualified" teachers is now faced with both opportunities and challenges. The empirical study and theoretical analysis in the previous paper show that, despite the favourable national policies, the organisational environment still lacks a favourable soil and the endogenous motivation of "Double-qualified" teachers is weak, which brings many challenges to the development of these teachers. In conjunction with the regression results and the analysis of the causes, it is possible that the optimisation of the organisational environment and the development of individual autonomy could help to change the situation and find possible solutions.

6.1. Change the Concept, Enhance the Status of "Double-qualified" Teachers

In the light of the preceding discussion, it is crucial that both Chinese higher education institutions and "Double-qualified" teachers themselves are proactively involved in research on the professional development of "Double-qualified" teachers. Therefore, in order to change the current misconceptions of Chinese higher education institutions, it is necessary to gain a deeper understanding of "Double-qualified" teachers and to provide quality soil for the growth and development of "Double-qualified" teachers. First of all, institutions should focus on changing the traditional concept of education, break the hierarchical division of higher education institutions, fully explore the advantages of our teachers, clarify the status of "Double-qualified" teachers in policy formulation, increase the investment in theoretical research on teacher education, and strive to create a "theory and practice" and "teaching and learning" environment. In addition, the university's teacher education system has been strengthened to ensure that teachers are trained in both theory and practice and that teaching and research are given equal emphasis. Secondly, in the face of the differences in the development of individual "Double-qualified" teachers, institutions can also guide public opinion by vigorously publicizing the advanced deeds of outstanding "Double-qualified" teachers, strengthening the sense of competition among "Double-qualified" teachers, and further enhancing the competitiveness of "Double-qualified" teachers. This will further enhance the sense of superiority of "Double-qualified" teachers and lead the way for "Double-qualified" teachers to gain more respect in the organisational environment.

6.2. Improve the Incentive Mechanism and Establish a Scientific Appraisal System

In terms of salary and welfare, "Double-qualified" teachers should be distinguished from ordinary professional teachers. Most of the "Double-qualified" teachers in China's higher vocational colleges are faced with high living costs. Appropriately increasing salary income is conducive to mobilizing the enthusiasm of professional teachers to transform into "Double-qualified" teachers and improving the self-development consciousness of "Double-qualified" teachers.

Establish and perfect the development-oriented "Double-qualified" teacher training and evaluation system, and further tap the inherent potential of "Double-qualified" teachers' sustainable development. The developmental evaluation system pays attention to the collection of information about promoting teachers' professional growth and teaching level development, plays a formative, incentive and autonomous role, and aims at cultivating professional dedication, stimulating labor enthusiasm, inspiring teachers' professional autonomy and freedom, and promoting teachers' personal professional development.

6.3. Use Corporate Resources to Enrich Training Forms

As for the problem that the school-based training forms of "Double-qualified" teachers in higher vocational colleges are not rich enough, higher vocational colleges should explore their own hardware and software training resources according to their characteristics, and then make full use of the software and hardware resources of enterprises to determine the different types of training forms for teachers to choose comprehensively, so as to ensure the overall benefits of "Double-qualified" teacher training in higher vocational colleges.

The school-based training of "Double-qualified" teachers in higher vocational colleges can be adopted in the following ways. The first is the way of enterprise integration; The second is the expert-directed approach; The third is to learn from each other; The fourth is the research-led approach.

Of course, training is not limited to the above-mentioned

forms, but can also be conducted in the form of online lectures by renowned experts and online courses on specific topics. In short, the training format should be enriched and greatly innovated as the training content varies, making it diverse and flexible, giving full play to the advantages of different training formats and ensuring the best possible training results.

6.4. Multi-channel Funding for Training and The Construction of Training Bases by Schools and Enterprises

All aspects of training activities require financial support, which requires higher education institutions to actively raise funds through various means to better carry out school-based training. For the problem of insufficient funding for school-based training and the lack of training resources to meet the desired standards, one can work with the local government to set up a training fund to provide financial support for the good operation of school-based training; the other can provide services for enterprises through school-enterprise cooperation to solve the problems of student training, internship and employment, so as to increase the income of the school and turn such income into funds for school-based training.

Training resources can be built not only by increasing funding, but also by integrating enterprise resources to enrich school-based training resources, through the in-depth combination of school resources and enterprise resources to do a good job of building training resources. The first is to make use of the resources already available to the school to fully explore external enterprise resources for cooperative training, to find the appropriate enterprises according to the different specialties taught by teachers, to start cooperative training with different types of well-known enterprises, to strengthen the training cooperation between institutions and enterprises, and to invite enterprise experts and leaders to the school for training. The second is to establish school-based training practice bases on campus. Higher education institutions can entrust enterprises with the establishment of training practice bases to strengthen teachers' understanding of their own profession-related industries, improve training effects and turn enterprises into "Double-qualified" teacher training bases.

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