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SUMY NATIONAL AGRARIAN UNIVERSITY
ECONOMICS AND MANAGEMENT FACULTY

Public management and administration department

QUALIFICATION WORK
education degree - Master

on: «**INNOVATIVE HR MANAGEMENT SYSTEM IN
CHINESE VOCATIONAL EDUCATION INSTITUTIONS**»

Completed:

student of
specialty 073 Management
EP «Administrative management»

Danhong Kong

Supervisor

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Sumy - 2024

SUMY NATIONAL AGRARIAN UNIVERSITY

Faculty Economics and Management
Department Public management and administration
Education degree «Master»
Speciality 073 Management EP «Administrative management»

Approved:

Head of
Department _____
« _____ » _____

2024

TASK on qualification work for student *Danhong Kong*

1. Topic of Qualification work: Innovative HR Management System in Chinese Vocational Education Institutions

2. Base of research: Zhejiang Traffic Technician College
Supervisor Svitlana Lukash, PhD (Economics), ass.professor

approved by the university order dated _____

3. Deadline for student completed project (work)

4. Background to the project (work):

Regulatory and legislative acts of China, monographs, textbooks on the subject of research, scientific publications, economic and financial statements for the period of 2021-2023

5. Contents of settlement and explanatory notes (the list of issues to develop):

Analyze foundation of theories related to university administration, identify university administration issues and analysis in the expansion of administrative organizations in colleges and universities, overlapping functions, offside and vacancy of administrative subjects; analyze the the administrative operation mechanism of colleges and universities is not smooth, and the bureaucracy has far-reaching influence, administrative power conflicts with academic power, and administrative orders dominate, the internal supervision mechanism of colleges and universities is not perfect, the supervision system is not perfect, and relevant laws are missing; develop countermeasure to administrative problem in universities: improve the existing administrative organization of colleges and universities; promote the participation of academic authority in university administrative decision-making; create a democratic and rule-of-law administrative environment for colleges and universities; improve the executive power of university administration

6. Date of assignment: _____

CALENDAR PLAN

№	Name of the diploma project's stages	Dates of project stages' performance	Note
1	Definition and approval of the thesis, preparation of the plan - schedule of work	<i>December, 2023</i>	
2	Selection and analysis of literary sources, the preparation of the first chapter	<i>December, 2023-February, 2024</i>	
3	Preparation and presentation of draft of the first chapter of the thesis	<i>March, 2024</i>	
4	Collection and processing of factual material, synthesis analysis of application issues in the enterprise	<i>April – September, 2024</i>	
5	Making the analytical part of the thesis, summarizing the analytical part	<i>October, 2022</i>	
6	Design options improve the research problem	<i>November, 2022</i>	
7	Completion of the project part of the thesis, design chapters	<i>December, 2022</i>	
8	Complete the first draft of the thesis	<i>December, 2022</i>	
9	Previous work and its defense review	<i>December, 2022</i>	
10	Checking the authenticity of the thesis	<i>December, 2022</i>	
11	Deadline for student completed the thesis	<i>September, 2024</i>	
12	Defense of the thesis	<i>September, 2024</i>	

Student

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Danhong Kong

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Checking the authenticity conducted

(signature)

Nadiya Baranik

Thesis allowed for defense

(signature)

Svitlana Lukash

SUMMARY

Innovative HR Management System in Chinese Vocational Education Institutions

Qualification work on specialty 073 “Management” EP “Administrative management” SNAU, Sumy-2024 - Manuscript.

With the rapid development of economic reform and organizational change, management education and development has become an increasingly important topic among Chinese universities, governmental departments as well as industrial organizations. The transformation of the Chinese state - owned management systems into a market - oriented shareholding system, the nationwide organizational reform and downsizing movement among state enterprises, the development of international joint ventures and wholly - owned companies, and the increasingly urgent needs for professional training call for innovative approaches to management education in China. This article presents some current models of management education and innovative strategies for facilitating training and development in Chinese enterprises.

This study focuses on the theoretical mechanisms and real constraints of vocational education in aiding the high-quality development of SMEs. It explores the following areas: First, starting from the concept of high-quality development and the needs of SMEs, the study discusses the ideal orientation of talent cultivation in vocational education. Finally, the study confronts the real issues faced in the development of vocational education and seeks possible solutions.

The key to vocational education talent cultivation lies in how colleges and businesses achieve deep integration of industry and education and science and education. Strengthening the demand orientation of vocational education and promoting the structural match between vocational education talent cultivation and the talent needs of SMEs in high-quality development is crucial for enhancing the quality of talent cultivation in vocational education.

Keywords: improvement, vocational education, innovation, high-quality development, HR

АННОТАЦІЯ

Інноваційна система управління персоналом у китайських закладах професійної освіти

Кваліфікаційна робота за спеціальністю 073 «Менеджмент» ОП «Адміністративний менеджмент» СНАУ, Суми-2024 - Рукопис.

Зі швидким розвитком економічних реформ та організаційних змін освіта та розвиток менеджменту стає все більш важливою темою серед китайських університетів, урядових відомств, а також промислових організацій. Трансформація китайських державних систем управління в ринково-орієнтовану систему акціонерного капіталу, загальнонаціональна організаційна реформа та рух за скорочення державних підприємств, розвиток міжнародних спільних підприємств і компаній, що належать повністю, а також дедалі гостріші потреби у професійній підготовці викликають за інноваційні підходи до управлінської освіти в Китаї.

Це дослідження зосереджено на теоретичних механізмах і реальних обмеженнях професійно-технічної освіти в допомозі високоякісного розвитку МСП. У ньому розглядаються наступні сфери: По-перше, починаючи з концепції високоякісного розвитку та потреб МСП, дослідження обговорює ідеальну орієнтацію розвитку талантів у професійно-технічній освіті. стикається з реальними проблемами, з якими стикається розвиток професійно-технічної освіти, і шукає можливі рішення.

Ключ до розвитку талантів у професійній освіті полягає в тому, як коледжі та підприємства досягають глибокої інтеграції промисловості й освіти, науки й освіти. Посилення орієнтації професійно-технічної освіти на попит і сприяння структурній відповідності між культивуванням талантів у професійно-технічній освіті та потребами МСП у талантах у високоякісному розвитку має вирішальне значення для підвищення якості культивування талантів у професійно-технічній освіті.

Ключові слова: вдосконалення, професійно-технічна освіта, інновації, якісний розвиток, HR

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INTRODUCTION

In the era of knowledge economy, human resources have become the core of inter-organisational competition, especially in the field of vocational education, the quality of human resources is directly related to the competitiveness of institutions. Building an efficient human resource management system is the key to improving the quality of vocational education and enhancing its competitiveness in the market.

With the deepening of the reform of secondary vocational education, and especially with the increase in the ratio of vocational education to general education in recent years, the number and quality of students entering secondary vocational colleges and universities is increasing year by year, which inevitably poses higher challenges to the development of secondary vocational colleges and universities and to the strength of their teachers and their management level. Among them, human resource management in vocational schools is inextricably linked to the construction of "dual-teacher" teaching force. Teachers are the first resource for the development of vocational education, the key force to support the reform of national vocational education in the new era, and the construction of high-quality "dual-teacher" teachers is the basic work to accelerate the modernisation of vocational education. Therefore, to some extent, the construction of a "dual-teacher" teaching force must rely on the human resources management and development of vocational schools.

The objectives of this study are mainly in the following three aspects: first, to analyse the relevant literature and understand the current situation of the construction of "dual-teacher" teachers in domestic and foreign institutions; second, to design a questionnaire survey and supplement it with in-depth interviews based on ZHEJIANG TRAFFIC TECHNICIAN COLLEGE, so as to explore the construction dilemmas and causes; third, to put forward the feasible optimization strategies. Combined with the actual situation of Zhejiang Province, it can effectively guarantee the effective implementation of policies related to the construction of "dual-teacher" teachers in secondary vocational schools and promote

the construction of "dual-teacher" teachers and the sustainable development of vocational education.

The significance of this study is mainly in the following aspects: Firstly, it is to provide reference for the path of improving the "dual-teacher" ability of teachers in secondary schools. Through school-enterprise cooperation, recruitment and introduction, school transformation, bringing the old to the new, and job training and other multi-dimensional aspects, it creates a standardised reference path to improve the "dual-teacher" competence of secondary teachers. Secondly, it provides reference for secondary vocational schools to establish and improve the "dual-teacher" teacher system. The system of "dual-teacher" teachers will be improved through the establishment of a salary system, assessment and evaluation system, apprenticeship system, internship training system and positive incentive system for "dual-teacher" teachers.

The methodology of this study is based on motivation theory, competence management theory and human capital theory as the cornerstone, and the comprehensive use of literature review, interviews, research, special case analysis, statistical charts and other diversified research means, to carry out a systematic and in-depth analysis of the human resources management of Zhejiang Transportation Institute of Technology in the construction of the "dual-teacher" teacher team. It collects teachers' real feedback and needs, and comprehensively reveals the opportunities and challenges facing the construction of "dual-teacher" teacher team. Through scientific statistical analysis and intuitive charts, we accurately grasp the current situation, and provide practical strategies and suggestions for optimising the teacher structure and improving the teaching quality of Zhejiang Institute of Transportation Technology.

The innovation of this study is to focus on the construction of "dual-teacher" teachers in the human resource management of Zhejiang Institute of Transportation Technicians, which is a key force in the improvement of the quality of vocational education, and the study is very accurate, important and representative. This study is the first in-depth discussion of the construction of "dual-teacher" teachers in this

college, which opens up a new perspective for the study of vocational education in Zhejiang. The study is rich in content and rigorous in logic, from the analysis of the current situation to the summary of the dilemmas, then to the attribution of the discussion, and finally put forward targeted strategies to promote the improvement of the quality of teachers and the optimisation of educational resources, showing a high degree of rationality, completeness and innovativeness, and providing valuable references for the modernisation of vocational education.

The structure of the work. The work consists of an annotation, content, introduction, three sections that contain 10 subsections, conclusions, a list of references from ?? sources. The total volume of the work is 83 pages.

Publications:

1. Danhong Kong. INNOVATIVE HR MANAGEMENT SYSTEM IN CHINESE VOCATIONAL EDUCATION INSTITUTIONS - CASE OF ZHEJIANG TRAFFIC TECHNICIAN COLLEGE. *Матеріали науково-практичної конференції викладачів, аспірантів та студентів Сумського НАУ (14-16 травня 2024 р.).* Суми, 2024. С.518.

2. Danhong Kong. ANALYSIS OF THE APPLIED VALUE OF INFORMATIONIZATION IN AGRICULTURAL ENTERPRISE MANAGEMENT. *Економіка підприємства: сучасні проблеми теорії та практики: Матеріали дванадцятої міжнар. наук.-практ. конф., 8 вересня 2023 р.* Одеса: ОНУ, 2023. Рр. 343-345.

SECTION 1

REVIEW OF THE CURRENT STATE OF RESEARCH AND THEORETICAL FOUNDATIONS

1.1 Review of the current state of research

1.1.1 Overview of domestic studies

(i) Connotation of "dual-teacher" teachers

Xiao Fengxiang and Zhang Chi analysed the original and extended meanings of the concept of "dual-teacher", and concluded that there has not yet been a unified and comprehensive interpretation of the expression "dual-teacher", and the academic concept has not yet been formed. We analyse the expressions of "dual-teacher" teachers in China's education policy documents, condense the practical wisdom of vocational education teacher team building, and reflect on the basis of scholars' expressions. A "dual-teacher" teacher is defined as an educator with basic education and vocational work literacy, proficiency in the technical principles of a particular profession, and the ability to practise in a professional capacity, who is able to perform the tasks of educating and training vocational education learners.¹ Zhang pointed out after an in-depth research that at present there are many deficiencies in the construction of dual-teacher teaching force in China, such as vague definition of conceptual standards, lack of specific and substantive measures in policies, lack of professional qualification certificate system for teachers in management, imperfect training system and content, and narrow scope of construction². Yao Guiping pointed out in the definition of "dual-teacher" teachers, "dual-teacher" teachers in addition to the necessary teacher qualification certificate and skill level certificate, but also must have the basic abilities and qualities of the teacher at the same time,

^[1] 肖凤翔,张弛.“双师型”教师的内涵解读[J].中国职业技术教育,2012(15):69-74

² 陈鹏,陈沛西.双课程整合视野下职业教育“双师型”教师新解[J].江苏高教,2017,No.194(04):89-93.

highlighting the industry professional ethics, management ability, organisation and coordination ability, and innovation and adaptation ability³. Lu Shuangying introduced the concept of "integrated" teachers into the development stage of "dual-teacher" teachers, arguing that some teachers may indeed have both teaching and practical abilities, but they are not very proficient in both, so they can carry out integrated teaching work, but their teaching results are not as good as they could be. Teachers at this stage of competence are called "integrated" teachers. It is explained that "integration" is only a type or a stage of "dual-teacher" teachers, and it is also considered to be a diversified development space for teachers with different ability condition⁴s.

(ii) In terms of transformational improvements within schools

Zhang Changqian, through the study of improving the "dual-teacher" teacher certification mechanism, believes that vocational schools should establish a "dual-teacher" teacher qualification platform and give full play to the leading role of "school-based" training. The study concluded that vocational schools should establish a "dual-teacher" teacher certification platform and give full play to the leading role of "school-based" training. It improves the quality of teachers and enhances their adaptability, thus promoting the development of dual-teacher teachers⁵. Song Mingjiang concluded that there are significant differences in the academic qualifications of "dual-teacher" teachers in vocational colleges and universities. Academic qualifications are positively correlated with teaching cognitive ability, teaching design ability and teaching research ability. Therefore, in the process of transforming and developing the teaching ability of "dual-teacher" teachers in secondary vocational colleges and universities, it is necessary to strengthen the cultivation of "dual-teacher" teachers' self-learning ability and teaching ability from the perspective of academic qualification enhancement.

³ 江军.职业院校“双师型”教师的专业特质及其培养培训[J].职业技术教育,2015,36(16):50-54.

⁴ 王屹,李天航.基于实践共同体的职业教育“双师型”教师队伍培养[J].现代教育管理,2018,No.338(05):88-92.

⁵ 刘磊.“线上线下,虚实结合”的职业教育教学模式研究[J].山东广播电视大学学报,2019(04):35-38

Teachers are encouraged to enroll in master's and doctoral programmes to improve their teaching ability and comprehensive quality through off-the-job or on-the-job learning⁶. Liu Lei proposed that due to the different qualities and abilities of "dual-teacher" teachers, it is difficult for schools to achieve the same level of transformation, so it is necessary to establish the evaluation system of the initial, intermediate and high-level⁷. Wang Liping argues that the process of transforming and improving the ability of teachers in schools is also the process of intelligent innovation and creation of human resources in schools⁸. It is necessary to fully stimulate the creativity and subjective initiative of transformed teachers, to be people-oriented, to care for secondary teachers from a caring perspective, and to provide the necessary practical training platform for transformed teachers, so as to better and faster complete the transformation of the ability to improve the development of human resources in secondary institutions and improve the level of education and schooling.

(iii) Industry-education integration and school-enterprise co-operation

Jia Wensheng believes that from the perspective of the school-enterprise community, one of the most effective ways to enhance the competence of "dual-teacher" teachers is to open up channels for "dual-teacher" teacher training, implement school-enterprise linkage, and jointly train both internal and external teachers. He also proposed that the construction of "dual-teacher" teaching force must implement full-time teacher access standards, strengthen the construction of part-time teachers, pay attention to teacher specialisation, and develop and strengthen teachers' vocational training⁹. Liu Dongju, Zhang Jianhua and Liu Qiang proposed after empirical evidence that an objective and fair "assessment" system is the basic guarantee for the construction of the "dual-teacher" team, and a systematic

⁶ 袁湘.转型高校“双师型”教师考核评价体系研究——评《“双师型”视域下高职院校教师在职培养困境研究》[J].科技管理研究,2020,40(23):270.

⁷ 林家欣,郭伟.转型高校“双师型”教师培养存在的问题及路径选择[J].商业经济,2019,No.511(03):187-189.

⁸ 刘海艳.中职学校“双师型”教师教学技能提升途径研究[J].教育现代化,2017,4(17):57-58+63.

⁹ 黄丽.职业院校“双师型”教师培养的困境、转向与路径[J].当代职业教育,2021,No.112(04):69-75.

and complete "training and learning" system is the basic guarantee for the construction of the "dual-teacher" team. The system of systematic and complete "training and learning" is the fundamental guarantee for team building, the standardised and perfect "part-time" system is the optimisation and enhancement of team building, the system of "skills competition" is the driving force for team building, and the appropriately inclined "salary and benefits" system is the driving force for team building. The "salary and welfare" system is the power source of team building¹⁰. Xie Yongqi summarises the training methods of "dual-teacher" teachers into three categories, the first one: the mode of training in colleges and universities, i.e. by recruiting free teacher trainees or sending in-service teachers to colleges and universities to entrust them to carry out training and transformation.¹¹ The second is the school-enterprise co-operation mode, ie. building a platform for co-operation between secondary schools and enterprises, and sending secondary teachers to co-operative enterprises for learning, which is the most important training mode in foreign countries, and has gradually started to be popularised in our country. The third type: school-based training mode, that is, the school hires front-line skilled personnel as part-time scholars to give lectures in schools, and brings the work practice experience into the campus. According to Wu Zhongjiang¹², school-enterprise co-operation should adhere to the combination of production and learning, and co-operate with the industry to develop applied disciplines and improve teachers' practical ability¹³. At the same time, it should also work with schools, enterprises and government administrations to formulate talent standards, build educational platforms, share equipment, venues and other resources, and jointly form teaching teams, so as to form a combination of school talent cultivation and enterprise quality enhancement and efficiency improvement. Zhang Weiping pointed

¹⁰ 王昕.中职院校“双师型”教师培养研究[J].中小企业管理与科技(上旬刊),2019(07):105-106.

¹¹ 吕大章.试论中职学校“双师型”教师的专业成长[J].职业教育研究,2016,No.155(11):50-53.

¹² 曹晨宇,李平.关于培养职业院校高层次“双师型”教师的探讨[J].职业教育研究,2021,No.215(11):81-85.

¹³ 龚波.校企合作背景下双师型教师队伍建设的措施研究[J].教育现代化,2019,6(06):74-77.

out that school-enterprise cooperation projects should be adapted to the construction of "dual-teacher" teachers and local industrial planning objectives, integrate the concept of operation into talent training, explore and promote the two-way mobility of training teachers and backbone of the enterprise, two-way part-time and job exchange¹⁴. The construction of resource-sharing training bases, the exploration of enterprise production and operation and school teaching modes of "enterprise in school" and "enterprise in school", and the provision of facilities and environments for teachers' practical training and students' top-level internships.

1.1.2 Overview of foreign research

PintoEDKC pointed out in his study that some vocational colleges in Europe and the United States have adopted classified management of faculty, and teachers are appointed in separate posts, and different assessment and evaluation indexes and incentive mechanisms are developed for different posts¹⁵. The positions are mainly divided into lecture system and tenure tracking system. In the tenure tracking system, teachers are divided into two types: tenured teachers and non-tenured teachers according to their years of employment. In the management of teachers in vocational colleges and universities, multi-dimensional "qualitative" and "quantitative" indicators have been formulated for teachers in different positions in different systems, such as evaluation of teachers' performance, evaluation of teachers' development potential, evaluation of remuneration and punishment, and developmental evaluation. Such evaluation focuses on the evaluation of teaching effectiveness and the real level of teachers. At the same time, setting evaluation and incentives in the evaluation index system is more conducive to the construction of the teacher team. SunH, after researching and analysing several countries with a more developed economy and a relatively mature field of vocational education, presented a few of the most representative modes of secondary vocational education

¹⁴ 李英泽.校企合作下双师型教师培养的困境与对策初探[J].才智,2019(17):14.

¹⁵ Pinto E D K C. School Leadership for Reducing Teacher Isolation: Drawing from the Well of Human Resources.[J]. International Journal of Leadership in Education,2016,9(2): 129- 155.

through generalization¹⁶. In Germany secondary vocational education implements a dual system, that is, every secondary student has to go through the study in the school and the internship in the enterprise, and passes the examination in both aspects at the same time before he/she can graduate. Vocational ethics, professional foundation, theoretical knowledge and so on need to secondary vocational students in school to the theoretical course teachers to learn, while the practice of practical skills need students to go to the professional counterparts of the enterprise, in-depth production line, to the practice of work experienced technicians to learn, so that the theory into hands-on ability to guide the practice of specific. The vocational education system in the United States and Germany is different, the United States pay more attention to the cultivation and construction of vocational education capacity, relatively high requirements for teachers in vocational colleges and universities. The first requirement is the academic qualification, the American secondary teachers must be above bachelor's degree, and also require secondary teachers to have the dual ability of theoretical knowledge and practical skills, the threshold of American secondary teachers is relatively high, and at the same time in the human resource management and development system, the treatment of the American secondary teachers is also linked to the requirements for the ability, so the treatment is also generally higher. Canada's secondary education system is different from the above two countries, they believe that the most important ability of secondary teachers is the practical ability, compared with the level of theoretical knowledge, the unified view in the field of secondary vocational education in Canada is that only when the secondary teachers really have the ability of practical ability, it is possible to teach vocational students who also have the ability of practical ability. Therefore, many Canadian secondary teachers are senior technical workers imported from enterprises. These technical workers may not have high academic qualifications, but they are professionals who have matured in the actual production environment of enterprises. In the course of their teaching, they make

¹⁶ Sun H. Management of Human Resources- An Important Concept of Management of College Teacher Resources[J]. Higher Education Forum, 2014.

greater use of teaching methods such as demonstration and on-site teaching to impart practical skills to secondary students.

It can be seen that foreign economically developed countries attach great importance to the development of secondary schools, pay attention to the human resources management and development of "dual-teacher" teachers in secondary schools, and, on the premise of focusing on the cultivation of students' professional skills, also attach importance to the personal career development and skills upgrading training of secondary teachers.

1.1.3 Review of research

Along with the reform of vocational education, secondary vocational education is often mentioned as one of the main means of providing professional and skill-based academic education and training an applied labour force. However, research on vocational education, especially secondary vocational education, and on the professional development of "dual-teacher" teachers by domestic and foreign educational research institutions is not yet sufficient, and the quantity and depth of research needs to be improved, and the main problems are as follows:

First, with the continuous development of China's manufacturing industry and the deepening of education reform in recent years, experts and scholars have paid more attention to the field of vocational education, but both in terms of the quantity and quality of the research literature, the research on secondary vocational education, especially on the secondary vocational "dual-teacher" teachers is still a little weak. However, both in terms of quantity and quality, the research on secondary vocational education, especially on secondary vocational "dual-teacher" teachers, is still weak, which is still extremely incompatible with the needs of vocational education, which is increasingly highlighting the importance of socio-economic development, and also restricts the process of reforming the teachers' qualifications of secondary vocational colleges and universities to a certain extent. Therefore, the research on the professional development of "dual-teacher" teachers at the level of secondary vocational schools needs to be in-depth, the content of the research needs

to be further enriched, the depth of the research needs to be further explored, and the level of the research needs to be further upgraded.

Secondly, looking at the domestic research literature in the field of education, there is no unified understanding of the connotation and definition of the concept of "dual-teacher" teachers. Whether in the education or academic circles, there are more or less different voices on the scope, type and conditions of the identification of "dual-teacher" teachers. This difference makes it impossible to reach a consensus on the recognition standard of "dual-teacher" teachers. So far, "dual-teacher" teachers have only remained in words, with no clear definition and no clear evaluation criteria, resulting in a lack of a clear basis for judgement of "dual-teacher" teachers.

Thirdly, by analysing the literature on the reform and upgrading of teachers' qualifications in foreign vocational education, we can see that foreign research in the field of vocational education is indeed more in-depth than ours, and that we can learn from the advanced management concepts, management methods and management experiences of foreign vocational education, and by activating the production vitality of the teachers' team, vocational colleges and universities and co-operative enterprises, we can make all-round upgrading of "dual-teacher" teachers' qualifications of secondary vocational colleges and universities in terms of policies, institutions and cultivation modes. By activating the productive vigour of the teaching force, vocational colleges and cooperating enterprises, we can improve the capacity of "dual-teacher" teachers in secondary vocational colleges in all aspects, including policies, systems and training modes, so as to serve our vocational education and social economy.

1.2 Definition of concepts

Concepts are our most essential understanding of things. The prerequisite for studying things is to clarify and define concepts. Only when the concepts are clear can we move from perceptual to rational understanding, then summarise them and finally form a unified consensus.

Human resources management

Human resource management refers to the policies and management activities for human resources. Human resource management activities relate to the formulation of human resource strategies, recruitment of staff, training of staff, development of human resources, performance appraisal of staff, development of remuneration systems, mobility of managers, management of staff, security of staff, etc¹⁷. In other words, human resource management is the adoption of advanced management methods by the organisation to select human resources, carry out human resources, utilise human resources, etc., and the various plans, systems, and management activities carried out to achieve these ends to ensure that the organisational objectives can be successfully achieved. Nowadays, the world has entered the knowledge and information age, whether the organisational goals can be successfully achieved depends on the quality of human resources management, management expert Drucker believes that "from the perspective of competition, the future competitiveness of the level of competitiveness will depend on the number of human resources, quality and production"¹⁸. From the content point of view, scholars at home and abroad generally take human resources as a special resource to study, as follows: Peter Drucker as the father of modern management science. Peter Drucker, as the father of modern management, once pointed out in his book "The Practice of Management" that "the only difference between human resources and all other resources is that people are resources with special assets that have to be taken into account". The American scholar Ivan Burger suggests that "human resources are the only difference between human beings and all other resources. Burger proposed that "human resources are the vigour, skills and knowledge of human beings that can be used to produce products or provide various services." In China, Mr. Zheng Shaolian, chief professor of Fudan University, believes that "human resource refers to the sum of human intellectual and physical labour capacity that can promote the development

¹⁷ 陈维政, 余凯成, 程文文.人力资源管理.高等教育出版社, 2006.18~27

¹⁸ 彼德·德鲁克.管理的实践.机械工业出版社.2006.3~35

of the whole society and economy of China, which also includes both quantity and quality."¹⁹ From the above arguments and discourses of experts and scholars at home and abroad, it can be seen that human emotional intelligence, physical, intellectual, mental, moral, ability and many other aspects are the main components of human resources. The characteristics of human resources are also different from different perspectives, and human resources have the following characteristics:

Firstly, the characteristics of the times are different for the characteristics of the talent requirements are also different, in the current knowledge of the main era, need to have knowledge of the talent, certain skills and the ability to always new employees, this formation process has the nature of the times.

Secondly, in modern economic activity, human resources are the dominant dynamic resource, with active and positive characteristics in comparison with other passive factors of production, and also with the role of developing the dynamism of social objects.

Thirdly, from a non-macroscopic point of view, there are different workers in different labour groups, and therefore human resources exist in different socio-economic units; from a non-microcosmic point of view, human resources are social activities, and the social environment influences to a certain extent its formation, allocation, development and utilization; therefore, human resources belong to the category of social resources, and are characterized by the social nature of the organizational process.

Fourthly, in today's era of great development of the knowledge economy, science and technology are developing rapidly, and knowledge is constantly being updated at an ever-changing rate; an organisation can only be invincible in today's fierce competition through continuous learning and self-renewal, and therefore human resources must be advanced and sustainable in their development process.

Fifthly, since time is an indispensable influence in the process of human resources development, it will have a limiting effect to a large extent. Therefore, the

¹⁹ 胡君辰, 郑绍濂. 人力资源开发与管理. 复旦大学出版社, 2005.23~42

difference between human resources in the overall development system and the development system should be analysed in the context of time. As far as individual units are concerned, human resources also have individual characteristics, and in the process of individual units' labour, the resources they can use and the range of abilities they can develop are limited by their own age, so the degree of their ability to develop is uneven. In terms of the social influence and status of human resources as a whole, the specific components of human resources are affected by the time period of social development, and the different development situations at different times limit the space for the development and effective use of human resources.

Sixthly, three broad phases, namely, growth, adulthood and old age, make up the human life cycle. The developmental period cannot be called human resources because physical and labour power are in the accumulation stage during this period, which is insufficient to create value; only in adulthood can they be called human resources, because the development of physical and mental power during this period has reached a level that allows them to engage in labour, which contributes to the creation of value; and when they enter old age, they gradually lose their ability to work, and thus can no longer be called human resources. According to the life cycle of human beings and the development of human resources, the relationship between them shows an inverted "U"-shaped graph, highlighting the characteristics of timeliness. The inevitable depletion of human resources, which is a characteristic of the timeliness of human resources, must be overcome through a forward-looking and scientific management approach that makes rational use of human resources and maximises their usefulness.

Human resources management began to take shape only in the mid- to late 1970s, a relatively late start among the disciplines. Personnel management, as its foundation and predecessor, has a longer history of development, having been used during the industrial revolution in the late 18th century, with human resources management beginning to take root in the mid- to late-20th century, and replacing personnel management in the 1970s.

Macro-management and micro-management are classifications that are generally agreed upon by researchers at home and abroad at this stage. Macro human resource management is to ensure the operation and development of the social economy by planning and integrating the human resources of the society as a whole, so that the overall human resource situation of the society can be improved and better adapted to the requirements of social reproduction. Through the management of individuals and affairs within an organisation, coordination of the relationship between individuals, integration of individuals and specific affairs, mobilisation and stimulation of individual potential, guidance and planning of various human activities, and achievement of the organisation's expected goals, this is micro-human resource management.

1.2.2 Secondary vocational schools

Schools implementing secondary vocational education are called secondary vocational schools. The secondary vocational education stage is equivalent to the general high school education stage, and the objective of the training is to focus on the technical training of specialised professional skills on the basis of compulsory education, with the main focus on the teaching of cultural knowledge at the high school level, and vocational knowledge and skills in line with the requirements of occupational positions²⁰. It is mainly for junior high school graduates or students with equivalent junior high school qualification status, and is divided into three categories (i.e., junior college, technical school and vocational high school) for three years of academic study. After receiving secondary vocational education, they can obtain the corresponding secondary school qualification.

1.2.3 "Two-teacher" teachers

The definition of "dual-teacher" teacher is widely disputed in the academic world, there are dual-title, dual-certificate, dual-competence, dual-level, etc. In academic research and specific practical work, gradually recognised by most scholars, the definition of "dual-teacher" teacher is: Teachers who have rich

²⁰ 职业教育基础概念的历史溯源 孟景舟 - 《天津大学博士论文》 - 2012-05-01

theoretical knowledge and high teaching ability, as well as strong professional and technical operational skills, and at the same time have good professional ethics, professionalism, management ability and adaptability and other comprehensive abilities²¹. It can also be expressed as educators in vocational education institutions who have basic educational and vocational work qualities, are well versed in the principles of a particular professional process, and have the professional practical skills to perform the tasks of educating and training learners in vocational education

1.3 Theoretical foundations

Motivation Theory

One is the Hierarchy of Needs Theory. Also known as Maslow's Hierarchy of Needs Theory, this theory was named for the American social psychologist Abraham Maslow.

The theory's hierarchy of needs starts from two basic points. The first point of departure sees human beings as individuals with a sense of needs, which depends on what is obtained and what is still missing, and only when needs are not satisfied. In other words, needs do not have a motivating effect when they are satisfied. The second basic idea is that human needs are hierarchical, and that higher needs emerge only when the lower ones are satisfied. Based on these two points of view, Maslow feels that at a particular time, assuming that human needs are not satisfied, then satisfying the most needed ones is more urgent than the others, and the later needs will show motivational effects only after the earlier ones have been fulfilled²².

Therefore, Maslow feels that there are five levels of needs in an individual: self-actualisation needs, respect needs, emotional or social needs, safety needs, and physiological needs. The main point of this motivation theory is that people's needs level shows a trend from low to high level, according to Maslow's theory, the school in the process of performance appraisal of the teaching force or the establishment of

²¹ 中美职业教育师资培养模式的比较研究 蔡燕 - 《湖北工业大学硕士论文》 - 2011-05-01

²² 中职学校教师人力资源开发研究 蔡君君 - 《浙江工业大学硕士论文》 - 2017- 12-01

incentives, we must fully understand the needs of the teachers, which have been satisfied, which are in urgent need of solution, which need time to gradually achieve, only targeted Only by designing a targeted management mechanism can teachers devote themselves to their work and play an active role in teaching and educating people.



Figure 1.1 - Maslow's theory in the field of vocational education teachers

Source: [5]

While the low-level basic needs at the bottom of the pyramid are easier to safeguard, meeting the high-level needs at the top of the pyramid is more of a test of the management level of education management workers in respect of the teaching force, and at the same time poses a higher level of test of the teachers' own ability, such as the appointment and evaluation of titles, assessment and evaluation, student evaluation, as well as the moral and ethical behaviour of the teachers, the level of teaching and the ability to put into practice, and so on.

The second is the two-factor view (Motivation-Hygiene Theory). This theory, also known as Motivation-Hygiene Theory (Motivation-HygieneTheory), was proposed by American psychologist Frederick Herzberg in the late 1950s. He conducted a survey of nearly 2,000 white-collar workers in 11 industrial and

commercial establishments in the Pittsburgh area. By comprehensively analysing the results of the survey, Herzberg found that the factors that cause people to be dissatisfied tend to be external to their jobs, mostly related to their working conditions and environment. The factors that bring people satisfaction are usually intrinsic to the job and are determined by the job itself.

As a result, Herzberg believes that there are two main types of factors that have an impact on people's behaviour: motivational and health factors. Factors related to people's dissatisfaction are health factors, mainly management, policy, supervision, working conditions and interpersonal relationships. Factors of this nature do not motivate employees, but can only maintain the status quo and keep employees motivated, so these factors are also known as maintenance factors. Factors related to people's satisfaction are motivational factors. If and can reasonably deal with motivational factors, can let the staff to produce a satisfactory mood, assuming that improperly handled, at most, is not produce good mood, will not lead to the generation of dissatisfaction. He feels that the latter are mainly the following: the pleasure brought by the work and the performance opportunities generated by the work, the sense of achievement generated by the work, the employee is rewarded for outstanding performance, a sense of responsibility for the position, and expectations for the future.

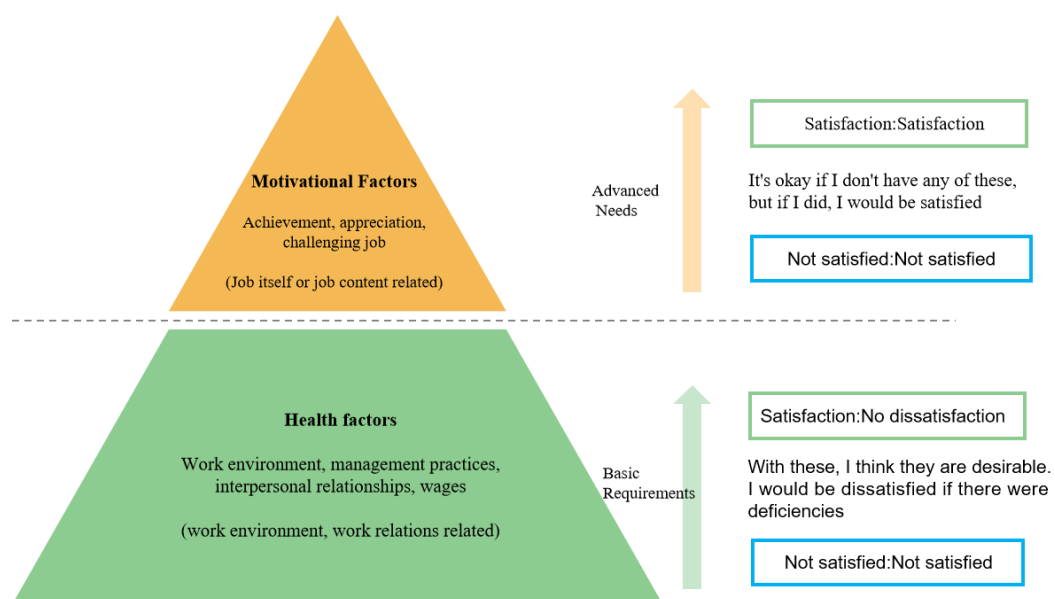


Figure 1.2 - Dual Factors in the field of Vocational Education Teachers

Source: [6]

Herzberg's theory of motivation proposes a dual factor, i.e., a motivational factor and a health factor, and this theory revolutionises the traditional dissatisfaction-satisfaction conception²³. The traditional conception is that the opposite of dissatisfaction is satisfaction and that the opposite of satisfaction is entirely dissatisfaction without any element of satisfaction and similarly the opposite of dissatisfaction is entirely satisfaction without any element of dissatisfaction.

Health factors are the main factors in maintaining and mobilising teachers' motivation and discouraging dissatisfaction. In vocational school teacher building, attention should be paid to and improvement of health care factors related to teachers' working environment and conditions, such as school policies, management systems, working facilities, and collegiality, in order to create a favourable working atmosphere and to safeguard teachers' basic job satisfaction. However, it is more important to encourage and guide teachers to improve their work enthusiasm and create an optimistic and positive work environment through motivational factors. In vocational school teacher building, emphasis should be placed on the use of motivational factors, such as providing challenging teaching tasks, giving teachers a sense of achievement and recognition, and providing opportunities for career development, in order to stimulate teachers' intrinsic motivation and creativity, and to promote their professional growth and all-round development.

Energy-based management theory

The essence of energy-based management is people-based management, a product of the development of people-based management to a new stage, the core of which is still to emphasise human ability, and to emphasise that "energy-based" is composed of basic knowledge, practical skills and innovative awareness²⁴. The competence emphasized in the theory of people-centred management is based on a

²³ (美)赫茨伯格等著, 张湛译. 赫茨伯格的双因素理论. 中国人民大学出版社, 2009.

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²⁴ 林芳兰. 能本管理: 中国制造走向国际化的战略选择[J]. 国家行政学院学报, 2007(02): 106-108.

gradual and progressive development process from the lower to the higher levels, and at the same time emphasizes the people-centred approach, with competence at the foundation, taking competence as the core driving force of human resources development, and ultimately realizing the goals of the organization, while at the same time realizing the enhancement of people's competence and innovation.

Competency-Based Management Theory		Application of Competency-Based Management Theory in Vocational Education
Advanced Level	Innovative Consciousness	Academic Patents
		Practical Innovation
		Innovation in Teaching Methodologies
Intermediate Level	Practical Skills	Practical Skills
		Integrated Theory-Practice Teaching Capability
		Practical Experience
Beginner Level	Basic Knowledge	Professional Ethics and Teaching Demeanor
		Specialized Knowledge
		Theoretical Foundation

Figure 1.3 - Application of energy-based management theory in the field of vocational education

Source: compiled by author used [2,3,35]

Under the framework of the theory of energy-based management, as far as vocational education is concerned, the faculty is the key to the ability of the people, and the faculty power is more embodied in the "energy-based" on the premise that only the staff in the mastery of the basics and the basic teacher moral qualities, and to further improve the ability of education and teaching to enhance the individual practice of practical ability, towards the "dual-teacher" standards and requirements, and ultimately in the professional field taught by academic patents, practical innovations, etc., the faculty power of vocational education will be further improved, thus realising the teacher capacity. Only when the teaching staff further improve their educational and teaching abilities, enhance their practical skills and work towards the standard and requirements of "dual-teacher", and eventually obtain academic patents and practical innovations in the professional fields they teach, the

teacher power of vocational education will be further improved, thus maximising the value of teacher competence.

Human capital theory

The main representatives of this theory are Thodore.W.Schults, Gary. Gary S. Beeker, Edward F. Denison. Edward F. Denison. In the 1960s, the American economists Gary and Schultz created the doctrine of human capital theory, which opened up a new way of thinking about the analysis of human beings' own productive capacity. Schultz pointed out that in today's society, human capital is the main driver of economic growth and that "the prospects for human development depend to a large extent on investment in knowledge and the quality of the population"²⁵. The core elements of human capital theory are: first, human resources are the most important of all resources, and the core of economics is the development of human capital theory. Secondly, in the process of economic growth, the role of physical capital is much smaller than the role of human capital, and the strength of investment in human capital is positively proportional to the income of the national economy, which grows faster than physical resources. Thirdly, improving the quality of the population is a central part of the theory of human capital, and investment in education is the main component of investment in human capital. The reproduction of human capital should not be regarded as a form of consumption, but rather as an act of investment, the benefits of which are even greater than the economic benefits created by material investment. The improvement of human capital is mainly achieved through education, and therefore investment in human capital can also be described as an investment in education. Human resources with a high level of technology and knowledge will create significantly more benefits than those with a low level of technology and knowledge. Decisions on investment in education should be measured by fluctuations in the price and cost of human resources, based on market supply and demand.

²⁵ Alzbeta Kucharcíková. "Investment in the Human Capital as the Source of Economic Growth." (2014). 29-35.

The theory of human capital breaks away from traditional theories by pointing out that physical capital is not the only capital, and that capital consists of two categories, one of which is physical capital and the other is human capital. According to this viewpoint, one is able to analyse economic theories and practices from a broader perspective. The theory of human capital mentions that: physical capital refers to the capital that people obtain through material products, such as machines, land, money, equipment, etc.; human capital refers to the capital that is formed on the body of human beings, for example, the condensation of the capital investment and cost value investment in the members of an organisation, such as education and training of personnel, which is mainly embodied in the quality of the organisation's members in terms of their health, labour capacity and management level. According to this point of view, when human beings carry out economic activities, they have to continuously invest a large amount of capital into production activities, and at the same time make a large amount of human resources investment in order to improve and develop the physical, moral, and intellectual qualities of human beings, and then obtain a more lasting development momentum. According to this theory, there is a similarity between physical capital and productive capacity; in other words, human capital refers to the capital formed by the human body itself, which contains knowledge and productive skills.

The main features and concepts of the human capital management stage: enterprise culture is an important concept guiding the operation of enterprises; human capital management; human capital management is the activity of market operation and capital investment in order to achieve the value appreciation of human capital; the establishment of enterprise organisational system has an important role in human resource management.

To sum up the above, now scholars at home and abroad generally believe that among them the main ones that have a strong role and significance for the study of innovation problems in colleges and universities are NFF model theory. It is a flexible management of human resources based on unit production or group production, the manpower and equipment needed to produce a class of products or

services together. That is, under the influence of this model, human resource management needs to be done to play a role and power to gather the role of the group of talents, and effectively combine hardware facilities with software facilities.

The development and operation of secondary vocational schools cannot be separated from human capital theory. On the one hand, secondary vocational schools are an important place to cultivate skilled and technical talents for the society, and teachers of secondary vocational schools bear the important responsibility of cultivating the human capital of secondary vocational school students, providing human resources for the comprehensive development of the society, and the comprehensive quality of teachers determines the quality of human capital. Increasing the degree of investment in the construction of secondary vocational school teachers is the core essence of increasing investment in secondary vocational school education. On the other hand, the main backbone of the teaching force in secondary vocational schools is not the high-quality, highly educated "dual-teacher" teachers, who should have profound professional theoretical knowledge and exquisite professional skills and techniques, and further promote the development of secondary vocational schools to produce greater educational benefits. Secondary vocational schools produce greater educational benefits. For secondary vocational schools, the management and development of human resources run through the construction of "dual-teacher" teachers, and the cultivation and training of "dual-teacher" teachers is the most profitable and long-lasting investment for secondary vocational schools. Therefore, the human capital theory aims to highlight the necessity and importance of the construction of "dual-teacher" teachers in secondary vocational schools.

SECTION 2

REVIEW OF THE CURRENT STATE OF RESEARCH AND THEORETICAL FOUNDATIONS

2.1 Current situation of education in Zhejiang Province and overview of Zhejiang Traffic Technician College

Status of secondary vocational education in Zhejiang Province

The 2023 Statistical Bulletin on the Development of Education in Zhejiang Province shows that there are 357 schools of secondary vocational education (including vocational high schools, general secondary specialised schools, adult secondary specialised schools and technical schools), with an enrolment of 233,600 students, a student population of 706,700 and a graduate population of 223,000. The number of graduates of secondary vocational schools (the following data on secondary vocational schools do not include technical schools) who obtained vocational qualification certificates was 167,700. There were 39,100 full-time teachers, with a student-teacher ratio of 12.9:1, and the qualification rate of full-time teachers was 98.6 per cent, 0.2 per cent higher than that of the previous year. The proportions of dual-teacher teachers to full-time teachers and professional teachers were 45.9 per cent and 89.7 per cent respectively. The average floor area of school buildings per student is 29.7 square metres, an increase of 4 square metres compared with the previous year; the average number of books per student is 48.8, an increase of 5.5 books compared with the previous year; the average value of instruments and equipment per student is RMB 16,571.49, an increase of RMB 2,688.04 compared with the previous year.

Current Development of Secondary Vocational Education in Jinhua City

Jinhua City, a prefecture-level city under the jurisdiction of Zhejiang Province, is located in the central part of Zhejiang Province, in the eastern part of the Jinqu Basin, neighbouring Taizhou City in the east, Lishui City in the south, Quzhou City in the west, and Shaoxing City and Hangzhou City in the north, with a total area of 10,942 square kilometres. As of October 2023, Jinhua City has 2 districts and 3 counties under its jurisdiction, and is in charge of 4 county-level cities, with the Municipal People's Government stationed at No. 801 Shuanglong South Street in Wucheng District. As of the end of 2023, the resident population of Jinhua City was 7.163 million, with an urbanisation rate of 70.4%.

At present, there are 27 secondary vocational schools in Jinhua City (including 7 private ones), with 64,948 students, 17,056 enrolled in 2023, a ratio of 0.41:0.59, and 22,686 secondary school graduates, with the proportion of those who went on to higher-level vocational schools above 80 per cent. There are 3,780 full-time teachers in the city's secondary schools, 1,870 "dual-teacher" teachers, and 11 senior teachers (3 new teachers in 2023). In 2022, the city and county Vocational Education Development Assessment won the first prize.

Vocational education in Jinhua City covers 20 major categories such as finance and commerce, equipment manufacturing, medicine and health, electronics and information, transport, culture and art, etc., and basically builds an education system that mainly serves the local economy. A total of 4 secondary schools in the city have been selected as the provincial high-level school construction units, and 14 key specialities of 9 secondary schools have been selected as the provincial high-level speciality (group) construction projects. At present, the number of students enrolled in high-level majors reaches 26.31 per cent of the total number of students in the construction units, ranking first among all majors of the affiliated schools in terms of percentage, and showing strong social attraction and competitiveness.

Overview of Zhejiang Traffic Technician College

Zhejiang Traffic Technician College was founded in 1974, formerly known as Zhejiang Automobile Driving Technical School Jinhua Branch; in 1987, it was

transferred to the management of the provincial department; in 1988, it was renamed Zhejiang Jinhua Automobile Technical School; in 1989, it was renamed Zhejiang Automobile Technical School; in 1999, it was reconstructed as Zhejiang Traffic Higher Technical School; in 2003, it was upgraded to Zhejiang Traffic Technician College. At present, the college is the first batch of national secondary vocational education reform and development demonstration schools, national electromechanical high-skilled personnel training base, national high-skilled personnel training base, the World Skills Competition Body Repair Project training base in China, the National Transportation Vocational Education Demonstration Institutions, the National Technical Colleges and Universities of Engineering Integration of the first phase of the construction of institutions, the first batch of middle-level vocational schools in Zhejiang Province, the first class of Zhejiang Province, the first-rate technician colleges construction units.

The college is located in the central business district of Duo Lake, Jinhua City, Zhejiang Province. The campus covers an area of 560 mu, with a building area of 258,700 square metres and total assets of RMB 890 million. The college offers 22 majors in 3 categories of transport, electromechanics, economics and trade, including 1 model major of transport in national vocational colleges and 5 provincial brand/demonstration/quality featured majors; it jointly runs schools with Ningbo Engineering College, Shaoxing Vocational and Technical College, Zhejiang Jiaotong Vocational and Technical College and other colleges and universities, and opens "higher education classes", such as 3+4 secondary school and college, and 3+2 secondary and higher education integration. ". It recruits fresh graduates from junior high schools and graduates from general high schools, vocational high schools, junior colleges and technical schools, and organises vocational skill level recognition for 41 types of jobs, such as automobile maintenance workers and CNC machine tool operators. There are more than 9,400 full-time students enrolled in the school, with more than 19,000 social training sessions and more than 9,000 skill level recognition sessions annually.

The school is the partner of Tesla, Toyota, Hyundai, General Motors, BYD, Lexus, Azera, Jingdong and other famous enterprises at home and abroad, with more than 250 stable cooperative enterprises, and has set up "Tesla order class", "Jingdong order class", "Telecom order class", "Toyota class", "Hyundai class", "Ningbo Railway order class", and so on. Tesla Order Class", "Jingdong Order Class", "Telecom Order Class", "Ningbo Railway Order Class", "Toyota Class", "Hyundai Class", "General Class", "Hyundai Class", and so on. "The employment rate, professional matching rate and employer satisfaction rate of graduates are stable at over 99%, 91% and 93% respectively. Weng Mengyong, the former vice minister of the Ministry of Transportation and Communications, pointed out during his visit to Zhejiang that the school's operation embodies the characteristics of vocational education, which is "enrollment is labour recruitment and graduation is employment". Over the past 50 years since its establishment, the school has cultivated more than 400,000 skilled personnel of various types, and many outstanding graduates have been named national model workers, technical pacesetters, and have become backbones and elites on the front line of the industry. The school has been awarded the National Highly Skilled Personnel Training Award for Outstanding Contributions, the National Advanced Collective for Employee Education and Vocational Training, and has been regarded as the "Cradle of Transportation Craftsmen and Pioneer of Vocational Education Reform". It is known as "the cradle of transport master craftsmen and the pioneer of vocational education reform".

In May 2020, the then vice governor of Zhejiang Province, Liu Xiaotao personally visited the college, pointing out that "the college's schooling is very distinctive, and the teachers and students are in a very good state of mind." In August 2020, the then governor of Zhejiang Province, Zheng Jiejie, and the vice minister of the Ministry of Human Resources and Social Welfare, Tang Tao, gave full affirmation of the achievements of the school's training of skilled personnel at the first Skilled Personnel Construction Achievement Exhibition in Zhejiang Province. In June 2023, in the second exhibition of Zhejiang Province, Zhang

Yanyun, vice governor of Zhejiang Province, visited the booth of the college and listened to the introduction of the college's professional settings, personnel training and other information, and highly praised the school's effectiveness in running the school.

At present, the school is grasping the important historical opportunity of the country's vigorous development of vocational education, in line with the construction of a high-level transport province and the local economic and social development needs, towards a higher level, a larger scale, more distinctive, more powerful, better quality and quantity of the province and even the country's first-class technical colleges stride forward!

Human Resource Management System of Zhejiang Traffic Technician College

The existing human resource management system of Zhejiang Institute of Transportation Technology mainly adopts the rigid management mode, which realises the standardisation and standardisation of management through the use of quantitative indicators, rules and regulations, and other rigid factors, combined with rewards and penalties linked to interests. This system has formed a closed-loop management process by formulating relevant rules and regulations, guiding the recruitment of staff, setting staff salaries, conducting performance appraisals and implementing rewards and punishments from the development objectives of the college.

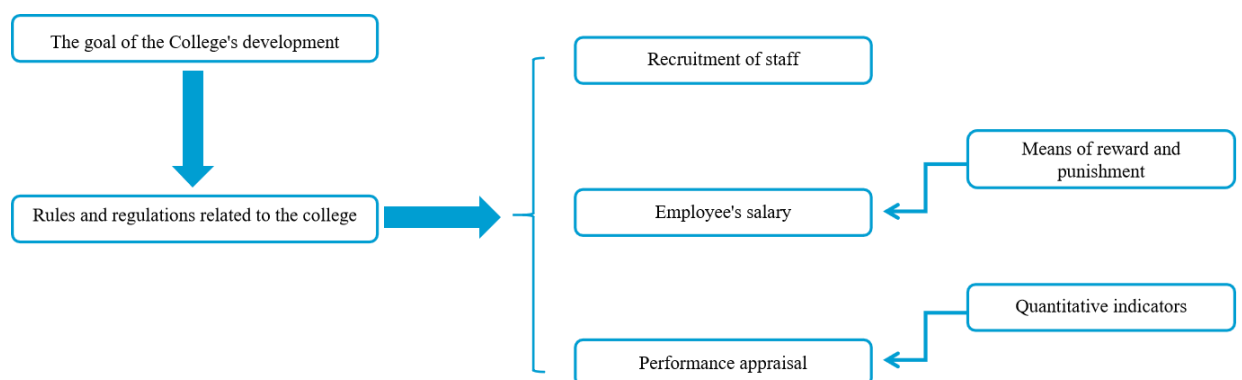


Figure 2.1 - Quantitative Indicator Chart

Source: developed by author

Based on the existing human resource management system of ZHEJIANG TRAFFIC TECHNICIAN COLLEGE, the advantages in the construction of dual-teacher team are mainly reflected in the solid foundation of system guarantee and standardised management. On the one hand, guided by scientific management theory, the college has established perfect rules and regulations, which provide a clear basis and strong support for the selection, training and assessment of dual-teacher teachers. On the other hand, the rigid management mode ensures the orderly construction of the dual-teacher team, and through the formulation of scientific and reasonable assessment and evaluation standards, it is able to comprehensively understand the comprehensive quality and teaching level of the teachers, and provide strong support for the team construction.

However, in the process of promoting the development of a dual-teacher teaching force, the College is also facing some difficulties and challenges. Firstly, the inconsistency between the recognition criteria and the incentive mechanism may lead to difficulties in fully mobilising teachers' motivation. Secondly, the problem of uneven distribution of resources limits the improvement of dual-teacher teachers in terms of practical ability and professionalism. Furthermore, the insufficient depth of school-enterprise co-operation makes it difficult for teachers to obtain adequate industry practice opportunities and resource support. Finally, the lack of clarity in teachers' personal development paths may lead to confusion and lack of motivation in their careers.

Zhejiang Traffic Technician College needs to further improve its human resource management system. Specifically, the college should pay more attention to the construction of dual-teacher team, develop more scientific and reasonable recognition standards and incentive mechanisms; optimise the allocation of resources, increase the investment of resources for dual-teacher teachers; deepen the cooperation between schools and enterprises, and broaden the practice channels of teachers; at the same time, make clear the path of teachers' personal development, and provide strong guidance for teachers' career planning. Through the implementation of these measures, the college will be able to build a more perfect,

flexible and energetic human resource management system to provide a strong guarantee for the construction of dual-teacher teachers.

Basic Situation of Teaching Staff of Zhejiang Traffic Technician College

Zhejiang Traffic Technician College has 474 teaching staff. Among them, there are 365 teachers. There are 2 senior titles, 82 deputy senior titles, and 241 "dual-teacher" teachers. Enjoy the State Council special government subsidies 1 person, the national transport secondary vocational education professional leader 1 person, the national technical expert 2 people, the national transport technical expert 7 people, Zhejiang Province, 12 technical expert, Zhejiang Province, the top ten skilled craftsmen, Zhejiang Province, Zhejiang Province, 100 lines of 100 stars 1 person, Zhejiang artisan 1 person, Zhejiang Province, 2 young post masters, Zhejiang Province, Zhejiang Province, 6 young craftsmen, Zhejiang transport technical expert, Zhejiang Golden Blue Collar, 2 people, 1 person, the transport vocational education teaching master. Transportation vocational education teaching master 1 person, zhejiang province technical colleges and universities provincial professional leader 3 people, zhejiang province technical colleges and universities teaching and research star 4 people, zhejiang province intermediate vocational master 1 person, jinhua city labour model 1 person, jinhua city vocational education master 4 people, zhejiang province transportation system teaching master 1 person, jinhua city teaching rookie 1 person, eight wu outstanding goldsmiths 5 people, eight wu goldsmiths 11 people, jinhua city teacher morality advanced individual 3 people, Jinhua City straight teacher moral advanced individual 2 people.

· Analysis of the age structure of secondary school teachers

The data of the analysis of the age structure of teachers show that: in the teaching force of Zhejiang Institute of Transportation Technology, the proportion of teachers under 30 years old is the largest, 42%; the proportion of teachers aged 31-40 years old is 27%; the proportion of teachers aged 40-45 years old is 19%, and the proportion of teachers aged 50 years old or above is 12%. The age structure of teachers is youthful.(As the data of figure 2.1)

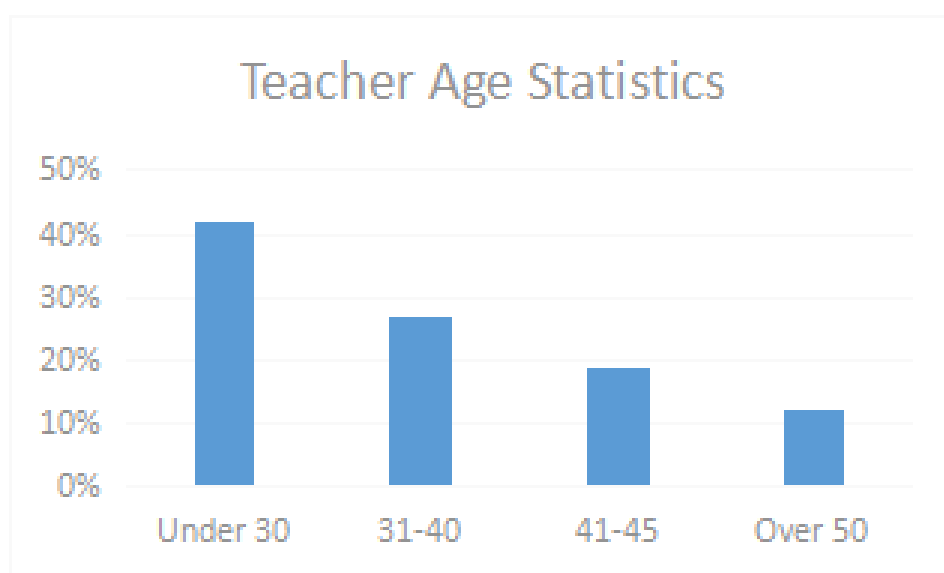


Figure 2.1 - Age structure of teachers

Source: compiled by author

The data of the analysis of the age structure of teachers show that: in the teaching force of Zhejiang Institute of Transportation Technology, the proportion of teachers under 30 years old is the largest, 42%; the proportion of teachers aged 31-40 years old is 27%; the proportion of teachers aged 40-45 years old is 19%, and the proportion of teachers aged 50 years old or above is 12%. The age structure of teachers is youthful.(As the data of figure 2.2)

·Educational composition of secondary school teachers

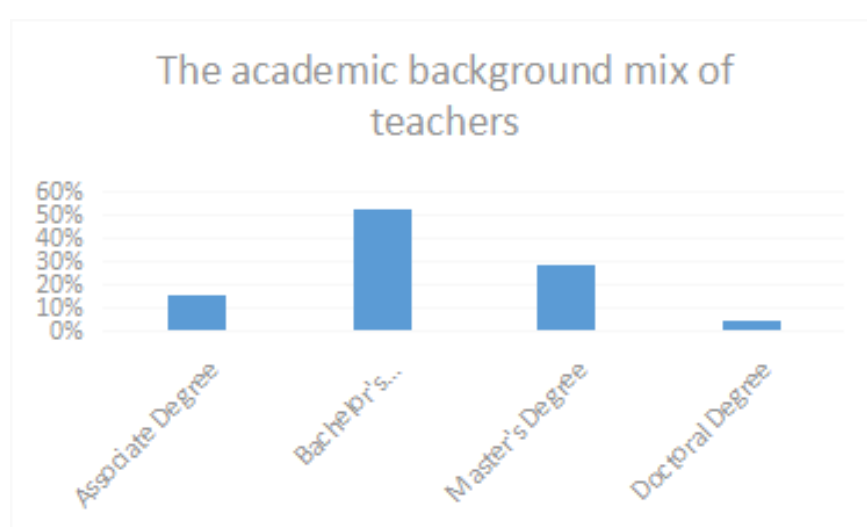


Figure 2.2 - Composition of Teachers' Qualifications

Source: compiled by author

The results of the survey show that the percentage of teachers with specialist qualifications is 15 per cent, with 52 per cent having a bachelor's degree, 28 per cent having a master's degree and 4 per cent having a PhD. The results show that most of the teachers in the school have bachelor's degree, few teachers have master's degree or above, and the teaching force is not strong enough.

· **Composition of secondary school teachers' titles**

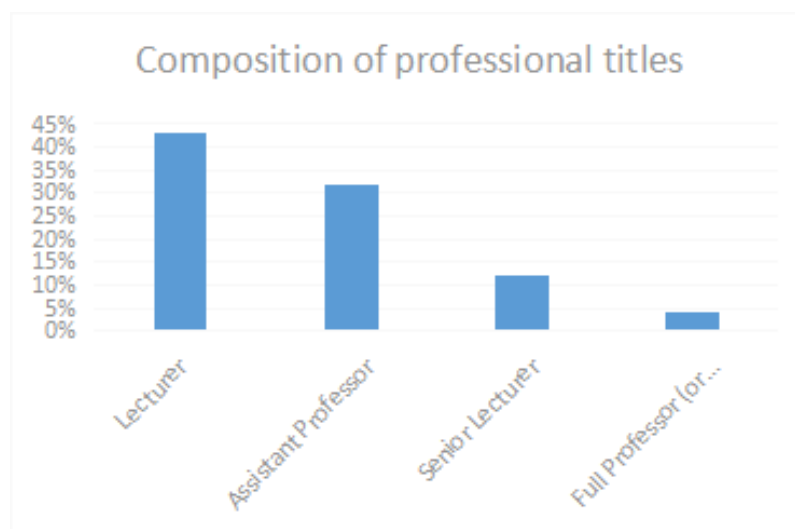


Figure 2.3 - Composition of Teachers by Title

Source: compiled by author

A survey of the data shows that the proportion of lecturers is relatively high, accounting for 43 per cent of the total number of teachers, followed by assistant lecturers at 32 per cent, senior lecturers at 12 per cent and full senior lecturers at 4 per cent. The proportion of lecturers is close to half of the total teaching staff.

· **Sources of secondary school teachers**

Teachers in secondary schools come from three main sources: first, they enter secondary schools directly after graduating from general institutions of higher learning; second, they have worked in the community and have a wealth of work experience, and then move on to teaching positions; and third, they are transferred in from other institutions of learning

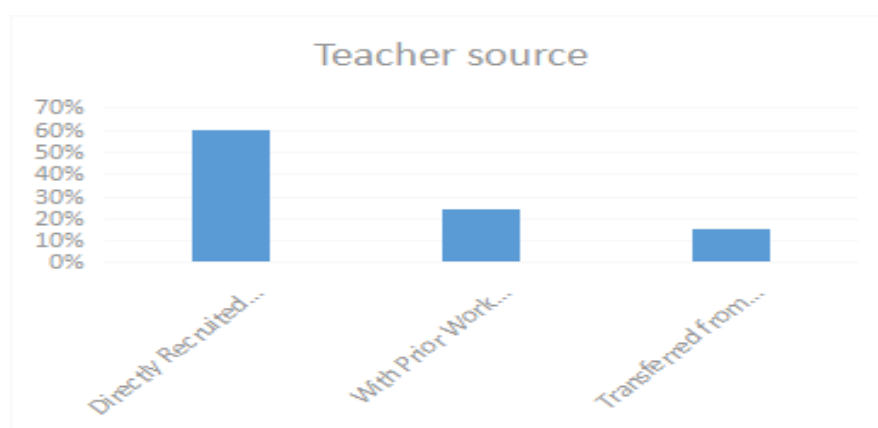


Figure 2.4 - Source of Teachers

Source: compiled by author

The results of the survey show that: 60 per cent of teachers enter schools directly through recruitment after graduating from general higher education institutions; 24 per cent have worked in enterprises and have a wealth of work experience, and then move on to teaching positions; and 15 per cent are transferred from other institutions, making the source of teachers relatively homogeneous.

Analysis of "dual-teacher" teachers training

Table 2.1 - Summary of the training of "dual-teacher" teachers

Number	Question	Answering	Number of people	Percentage
1	Dual teacher type teacher	yes	339	64.50%
		no	186	35.50%
2	Dual teacher standard	Professional technical ability	271	51.60%
		Practical operational ability	170	32.30%
		Educational and teaching ability	84	16.1%
3	Dual teacher treatment	It's much better	84	16.1%
		A little bit better.	75	24.20%
		almost	312	59.50%
		unclear	98	28.60%
4	Time interval	Within one month	102	19.40%
		2-6months	63	12.1%
		7-12months	94	17.90%
		More than1year	437	83.30%
5	Training methods	School based training	170	32.30%
		on-the-job training	254	48.40%
		School enterprise training	21	4.00%
		National/Provincial Training	80	15.30%

Source: compiled by author

Data surveys show that 64.5 per cent of teachers in schools are "dual-teacher" teachers; 51.6 per cent of teachers consider professional and technical competence to be important in terms of "dual-teacher" criteria; "In terms of dual-teacher treatment, 59.5 per cent of teachers think that "dual-teacher" teachers are treated more or less the same as non-dual-teacher teachers; in terms of the interval between teacher trainings, 83.3 per cent of teachers haven't received any training for more than one year; in terms of the mode of training, 48.4 per cent of teachers have received post-training, and school-enterprise training accounts for a very small proportion of only 4 per cent. In terms of training methods, 48.4 per cent of teachers received job training, while school-enterprise training accounted for a very small proportion of 4 per cent.

2.2 Zhejiang Traffic Technician College, "dual-teacher" the main problems in the construction of the teaching force

Insufficient and unbalanced development of the total volume

Under the background of the current rapid development of vocational education, the shortage of "dual-teacher" teachers in secondary vocational schools and their uneven distribution are becoming more and more obvious, which has become a key factor restricting the improvement of the quality of vocational education and the cultivation of skilled talents. This phenomenon is not only reflected in the whole country, but also in Zhejiang Province, a region with developed economy and strong demand for vocational education. According to the latest statistics, the total number of teaching staff in secondary schools in Zhejiang Province is about 26,283, and the average teacher-student ratio is 12.9:1. Although this ratio reflects the allocation of teaching resources to a certain extent, there is still a huge gap between the actual number of "dual-teacher" teachers and the target demand, especially at the level of backbone professional teachers, where the scarcity is even greater. In particular, at the level of key professional teachers, their scarcity is even more prominent. In addition, in terms of geographical distribution, "dual-

teacher" teachers are mainly concentrated in developed cities and economically advanced regions, while secondary vocational schools in rural areas and underdeveloped regions generally face a shortage of "dual-teacher" teachers. This geographical imbalance not only exacerbates the uneven distribution of vocational education resources, but also further affects the improvement of the overall quality of vocational education and the coordinated development of regional economies.

As an important position for vocational education in the province, the proportion of "dual-teacher" teachers in Zhejiang Traffic Technician College, for example, is only 64 per cent, which is far lower than the ideal proportion of demand. This data not only reveals the inadequacy of the school in the construction of "dual-teacher" teachers, but also maps out the general predicament of secondary vocational education in Zhejiang Province and even the whole country in this field. A number of surveys and analyses conducted by the Ministry of Education and relevant research institutes have pointed out that the total number of "dual-teacher" teachers has become one of the bottlenecks restricting the high-quality development of vocational education, and that the contradiction between supply and demand is even more acute, especially in the case of backbone teachers with strong professional skills and rich practical experience.

More homogenous sources of teaching staff

In the field of vocational education, the composition of the teaching force has a decisive influence on the quality of teaching and the development of students' abilities. The analysis of the data on the source of "dual-teacher" teachers in Zhejiang Institute of Transportation Technology reveals a significant problem: the homogenisation of the source of teachers, i.e., mainly relying on graduates of general higher education institutions. This phenomenon not only restricts the diversified development of the teaching force, but also poses a serious challenge to the practice orientation of vocational education and the quality of talent cultivation.

Firstly, as the main source of "dual-teacher" teachers, graduates from general higher education institutions have the advantage of a strong academic foundation

and solid theoretical knowledge. However, as emphasised in many studies²⁶, the core of vocational education is to cultivate applied talents with job-adaptive ability and practical skills. This requires teachers not only to be proficient in theory, but also to have rich practical experience and industry insight. Unfortunately, the current unitary teacher source model has led to many teachers lacking the necessary practical exercises, making it difficult to effectively incorporate practical elements into their teaching, thus affecting the cultivation of students' practical ability.

Secondly, the lack of teachers' practical ability directly restricts the fulfilment of the objectives of vocational education. Vocational education emphasises the principle of "learning by doing", which requires teachers to be able to design and implement targeted practical teaching activities in accordance with the characteristics of the jobs. However, due to the single source of teachers and the low proportion of teachers with practical working experience and industrial background, the teaching content is out of touch with the market demand, and it is difficult for students to obtain skills training and vocational training that meet the requirements of the workplace. This not only affects students' competitiveness in employment, but also weakens the ability of vocational education to serve economic and social development.

Poor professionalism and low practical skills of teachers

In the vocational education system, the teaching of professional skills is one of the indispensable duties of "dual-teacher" teachers. However, an in-depth analysis of the "dual-teacher" teacher team in Zhejiang Traffic Technician College shows that there is a significant difference in the level of professional skills, and behind this phenomenon, the lack of practical skills experience of young teachers has become a key factor.

As the new force of school development, young teachers are full of vigour, active thinking and generally possess high professional theoretical literacy, injecting new vitality into the college. However, as pointed out by numerous educational

²⁶ 魏玉琪.校企深度融合促中职“双师型”教师成长的思考[J].课程教育研究,2020(06):201-202.

studies²⁷, vocational education is not only the transfer of knowledge, but also the transmission and innovation of skills. In this context, although young teachers have a solid theoretical background, they often appear to be inexperienced in terms of professional practical skills, making it difficult for them to be comfortable in practical teaching.

Specifically, due to the lack of necessary practical experience in the industry and the accumulation of clinical skills, young teachers appear to be incapable of navigating the practical classroom. They may have difficulty in effectively combining abstract theoretical knowledge with concrete practical operations, resulting in students' difficulty in forming a deep knowledge of skills and proficiency in the learning process. In addition, due to the limitations of their own practical skills, young teachers often find it difficult to grasp the latest technological developments and trends in the industry, and are unable to teach students the most up-to-date clinical skills, thus affecting the timeliness and practicality of the teaching content.

This phenomenon of varying levels of professional skills not only affects the learning effect of students and the development of vocational skills, but also restricts the improvement of the overall teaching level of the "dual-teacher" teacher team.

Unreasonable teacher structure system

The irrationality of the structural system of the teaching team of Zhejiang Traffic Technician College is a multi-dimensional and deep-rooted problem, which is not only related to the obvious factors such as the age, title and academic qualifications of the teaching team, but also touches on the core dimensions of the accumulation of teaching experience, the inheritance of practical skills as well as the cultivation of the academic innovation ability.

(i) Imbalanced age structure and shortcomings in experience and skills

In terms of age structure, the teaching force is dominated by young teachers under the age of 30, accounting for as much as 42 per cent, a proportion much

²⁷ 刘尚明.校企合作培养双师型教师的方法与路径研究[J].农业科技与装备,2019,No.294(06):71-72.

higher than that of teachers in other age groups, showing a clear trend of rejuvenation. As pointed out by numerous educational research institutes ²⁸, although young teachers are energetic and easy to accept new knowledge and technology, their lack of teaching experience and practical skills is a shortcoming that cannot be ignored. Teaching experience is the crystallisation of wisdom accumulated by teachers in long-term teaching practice, which plays an important role in improving the quality of teaching and promoting the overall development of students. Practical skills, on the other hand, are one of the indispensable abilities of vocational education teachers, which are directly related to the cultivation of students' skill level and the competitiveness of their future career development. Therefore, the shortness of experience and skills due to the imbalance of age structure is a major challenge facing the current teaching force.

(ii) Structural imbalance in job titles and lack of academic leadership

In terms of title structure, lecturers and assistant professors occupy the majority of the teaching staff (43 per cent and 32 per cent, respectively), while the proportion of senior lecturers and full senior lecturers is relatively low, only 12 per cent and 4 per cent. This imbalance in the title structure not only reflects the overall academic level of the teaching force to be improved, but also affects the school's leadership and innovation in educational research and teaching reform. Teachers with senior and full senior titles often have profound academic background and rich teaching experience, and are the backbone of discipline construction and academic innovation. Their lack will undoubtedly limit the space for schools to develop in academic research and educational innovation.

(iii) Uniform academic structure and lack of high-level talent

In terms of academic structure, although teachers with bachelor's degree occupy the main part (52%), the proportion of teachers with doctoral degree is only 4%, showing the lack of high-level talents. With the accelerated development of

²⁸ 廖德岗,廖婧菲,李宝斌.基于深度校企合作的“双师型”队伍建设探索与实践[J].牡丹江教育学院学报,2021,No.228(09):21-22+78.

internationalisation of education and cross-fertilisation of disciplines, having teachers with high academic qualifications and high levels is of great significance in enhancing the overall academic level of the university and promoting the reform of education and teaching. Their joining not only brings cutting-edge academic ideas and research results, but also promotes the improvement of the overall quality of the teaching team and the creation of an academic atmosphere.

2.3 Analysis of the causes of the construction of the "dual-teacher" teacher team in Zhejiang Traffic Technician College

Inadequate financial and policy support

The problem of financial input. In the field of vocational education, the advancement of teaching instruments and equipment and the perfection of learning places are directly related to the cultivation and improvement of students' practical ability. However, the current predicament faced by Zhejiang Traffic Technician College in terms of capital investment seriously restricts its pace in the construction of teaching resources. As shown in many studies at home and abroad, sufficient funds are the key to guarantee the teaching quality of vocational education and promote the formation of students' skills and the cultivation of innovative ability. Although schools have invested in teaching equipment and learning places, compared with the rapidly developing demand for vocational education and the increasing expectations of students for practical learning, these investments are still insufficient to fully meet the needs of teaching practice. The lack of funds not only limits the upgrading of teaching equipment and affects the depth and breadth of practical teaching, but also may lead to a disconnect between the teaching content and industry standards, weakening the competitiveness of students in employment. In addition, the lack of funds also limits the school's investment in teacher training, curriculum development, scientific research and innovation, which further restricts the school's overall level of operation and sustainable development ability.

Policy support. The policy environment as the external driving force for the development of vocational education, and its perfection is directly related to the healthy operation of the vocational education system and the effectiveness of the construction of the "dual-teacher" teaching force. At present, Zhejiang Transportation Institute of Technology in the policy support problems faced in two aspects: on the one hand, the "dual-teacher" teacher team construction policy is insufficiently specific: although the national and local levels have repeatedly stressed the strengthening of vocational education teacher construction, but specific to the "dual-teacher" Although the national and local levels have repeatedly stressed the need to strengthen the construction of vocational education teachers, there is a lack of systematic and operable policy guidance on the identification standards, training paths and incentive mechanisms for "dual-teacher-type" teachers. This has led to a lack of clear direction and basis for schools in the implementation process, making it difficult to effectively promote the construction of "dual-teacher" teachers. On the other hand, there is a gap in the policy and law of school-enterprise cooperation: as an important mode of vocational education, the effective implementation of school-enterprise cooperation can not be separated from the perfect policy and legal protection. However, the national regulations on the rights and obligations, benefit distribution, risk bearing and other key issues in school-enterprise co-operation are still unclear. This lack of policy and law not only increases the difficulty and cost of school-enterprise cooperation, but also easily leads to disorderly and short-term behaviour in the process of cooperation, making it difficult to form a long-term and stable cooperative relationship and win-win situation.

Inadequate staff training and development

Training is one of the effective ways to improve the level of competence of the members of an organisation and is the most important tool in human resource development. Effective training can provide new working ideas, knowledge, information and skills for organisational development. For the present, the training of staff in China's higher vocational colleges and universities is seriously lagging

behind, without sufficient support in human, material and financial resources, which seriously affects the effectiveness of the school's management and the efficiency of human resource management work.

Shandong Silk Textile Vocational College on the staff of effective human capital investment and talent investment is not enough, failed to give full play to the staff's individual talent and potential, to provide them with a place to use. College did not people-oriented, respect for people, care for people, the concept of service to others instilled into the human resources management work, but also failed to really "talent first, staff-oriented" concept really into the majority of employees in the management of the work, can not effectively mobilise the enthusiasm of the staff, and thus can not play to stimulate the enthusiasm of the staff and the role of creativity. Creativity. Mainly manifested in, first, the institutions for the staff training work lack of mechanism to protect and manage the system of effective deployment, without taking into account the actual development of training blindly; second, a lot of training work is carried out through the classroom and teaching, mostly in the theoretical re-education of the level of the specific skills of the practical effect of the training is very little, especially for the teaching staff of the specific work capacity training, with the actual training of colleges and universities, and the actual training of the staff. Third, the training of teachers is too simple, basically in accordance with the fixed training process, not according to the actual needs of these training processes to update, so that many teachers' training report will be completed earlier than the completion of the training work, so that the training of the whole training work is like training for the purpose of the training report of the teachers, so as not to truly and effectively reflect the training work, and the training of teachers. This does not reflect the true value of the training work.

Inadequate performance appraisal system

In the human resource management system of Shandong Silk Textile Vocational College, the existing human resource management evaluation system and indicators set up irrationally, for the quantitative and qualitative evaluation of the work of the staff is not specific enough to evaluate the design of indicators, can not

be adapted with the overall development strategy of the college, especially in the performance appraisal system, the appraisal methods used in the form of a formality, the substance of the content of the lesser, did not play the role of the staff work to carry out an objective and fair evaluation of the role of the staff. It does not play the role of objective and fair evaluation of employees' work, and loses the substantive effect of promoting work improvement through appraisal, which seriously affects employees' motivation for work and hinders the extension of employees' creativity for work.

Firstly, the indicator system of evaluation is not scientific in the design aspect. The assessment standards are not designed in accordance with the actual development of the college, and the operability of the comprehensive indicator system is not taken into account; at the same time, the setting of the assessment environment and the design of the assessment indicators do not make an effective distinction between different disciplines. The formulation of assessment standards lacks its own characteristics and strategic objectives, and the trajectory of staff development deviates from the course of the organisation's strategic development objectives. The current assessment standards developed by the college cannot be measured by a deep evaluation standard, making the level of indicator design unreasonable. The strategic objectives of the development of Shandong Silk Textile Vocational College have changed, but the old personnel management system is still in use without corresponding adjustments based on the college's new strategic objectives, and without building and improving the performance appraisal index system according to environmental changes. In addition, the judgement of the effectiveness of teaching and research results of different disciplines varies, but the same evaluation content and indicators continue to be used, which inevitably leads to inaccuracy and lack of fairness in the measurement of teachers of different disciplines.

Secondly, the performance appraisal system lacks an effective means of communication and feedback. Employee's work performance appraisal for objective evaluation is characterised by the use of the passage of time to bring out its strengths

and weaknesses, the causes of the strengths and weaknesses of the targeted pointing to analyse the strengths and weaknesses of the differentiation of the strengths and weaknesses of the means of a clear distinction between rewards and penalties to improve the efficiency of the assessment and the effectiveness of the staff's work for the purpose of the purpose. However, the college's performance appraisal system for a long time only focuses on the monitoring of the process, but ignores the effective feedback on the final results, resulting in teachers and staff of the performance appraisal results of the anxiety of the state of mind and attitude of bias, which gives rise to the human resources department and the appraisal results of the distrust of the idea and the idea that the performance appraisal is just a formality, and do not pay attention to the appraisal work of the attitude. This makes it impossible for performance appraisal to play its proper role in some necessary procedures and to play a guiding and educational role.

Finally, it is a single performance appraisal system for teaching staff. On the one hand, the overall procedure of performance appraisal of teaching staff in Shandong Silk Textile Vocational College is fixed and unchanged, and at the same time, on the basis of which, the formation of the specific performance appraisal work procedures are also the same, which leads to the appraisal can't play a real role. The assessment methods used lack flexibility, and the assessment results obtained are all the same, making the performance appraisal lose its significance to a large extent; on the other hand, the evaluation content and evaluation scope of the performance objectives of Shandong Silk Textile Vocational College are only limited to the evaluation of the front-line teachers and the evaluation of the teaching teachers by the students they teach, and they do not extend the evaluation scope to all the students, as well as to all the faculties, departments, and the administrative departments. The evaluation scope has not been extended to all students as well as the administrators of the faculties and administrative departments to carry out an all-round and multi-angle assessment and evaluation.

Inadequate remuneration system

Remuneration can be divided into direct and indirect components according to the characteristics of its constituent elements. The direct component of remuneration consists of remuneration of value. Indirect remuneration includes tangible services and benefits. Influenced by the social remuneration system, as well as economic conditions, financial support and other objective factors, Shandong Silk and Textile Vocational College pays its employees in the above two aspects of the remuneration problems, the staff's motivation has been seriously affected, and its sense of responsibility and sense of belonging is also reduced.

First, there are still traces of equal distribution. Shandong Silk Textile Vocational College pays its employees a basic salary in addition to a dynamic wage remuneration including professional qualification subsidies, title subsidies, post subsidies and class hourly fees. However, each department will find a balance when making the relevant arrangements, and the weekly class hourly fee is also basically balanced relative to the same standard of the average number of hours per week for teachers, which results in the egalitarianism of the salary distribution system. This distribution system has resulted in the failure to truly reflect the differences in teaching quality between teachers, with the standard of class fees and the amount of timetable being the same for good teachers and bad teachers. Such a salary distribution system will undoubtedly affect the motivation of teachers and will not be able to promote the willingness of the staff themselves to improve their teaching standards through a scientific and reasonable distribution system.

Secondly, the incentive role in terms of benefits has not been demonstrated. Welfare as a form of indirect remuneration part of the performance of its purpose is to play a motivational role to attract and retain talented people, improve teachers' job satisfaction and sense of occupational well-being, reduce the mobility of human resources, cohesion of the centripetal force of the front-line teaching staff, so as to improve the effectiveness of the college's human resource management and development. However, the benefits provided by Shandong Silk Textile Vocational College for its teaching staff are also limited to the payment of five insurance

policies and other social types of insurance as stipulated by the state, and there is a lack of sufficient welfare incentives that can effectively improve the teachers' sense of occupational well-being.

Inadequate incentive and constraint mechanisms

In human resource management, the organisation's motivation of talents is generally achieved through the comprehensive use of stimulating and encouraging means to motivate employees to work as well as to bring their potential into play, so as to improve the overall effectiveness of human resource management. The incentive system includes both material incentives and spiritual encouragement. The College has not really infiltrated the idea of "people-oriented" management into the human resources management mechanism. Especially in the incentive and constraint mechanism, due to the lack of effective management measures and management orientation, it can not effectively improve the motivation of the staff, and can not play the role of improving the staff's satisfaction with their work and enhance their sense of belonging. Shandong Silk Textile Vocational College of human resource management is still stuck in the traditional personnel management stage, the formulation of employee remuneration, the issuance of simple salary management activities such as this stage of the incentive and constraint mechanism is the main form of expression. Maslow said in his creation of the hierarchy of needs theory, "when the community of low-level material needs to be satisfied, they began to pursue the spiritual needs, in the spiritual needs to be satisfied before the need to get self-worth. In terms of salary incentives, Shandong Silk Textile Vocational College only focuses on the staff's material needs, but ignores the staff's needs in the spiritual aspect, not to mention the use of effective incentives to provide staff with the space and carrier to realise their self-worth.

First, there is a lack of emotional motivation. People's behaviour will be directly affected by emotion, which is an important force that can fully stimulate their own talents and even generate creative activities. Shandong Silk Textile Vocational College put forward the concept of "feelings" for many years, but so far, the school's leadership and staff emotional communication channels have not been

established, the effectiveness of communication is very little, there is still a utilitarian relationship between the leader and the staff, the lack of mutual trust and support between the two levels, the emotional connection is relatively thin.

Secondly, culture is not sufficiently motivating. A clear culture with its own characteristics can profoundly influence the members of the organisation, closely linking the organisation's development and individual achievements, thus playing an effective role in motivation, while the culture itself can stimulate the organisation to move forward. For higher vocational colleges and universities, a culture with rich connotations can play the role of motivation and constraint, and can effectively improve the awareness and behaviour of organisational members. As of now, the college has not paid enough attention to the construction of its organisational culture, has not invested enough in the construction of the campus cultural environment, and has not created a good campus cultural atmosphere.

Low conviction and motivation

In exploring the challenges faced by secondary vocational schools, one root cause that cannot be ignored is the widespread prejudice and misunderstanding of vocational education in society. This prejudice often manifests itself in the perception of secondary education as a "second-class choice" or a "last resort". Such negative social comments not only weaken the sense of identity and pride of students and their families towards vocational education, but also inadvertently reduce the sense of professional honour and mission of the teachers' group. In such an environment, both teachers and students find it difficult to establish firm educational beliefs and learning goals, resulting in a lack of intrinsic motivation in teaching activities and the formation of a negative self-fulfilling prophecy. Further, students' adolescence, rebelliousness and the need for self-exploration, coupled with a relatively weak capacity for active learning, make it a great challenge to improve the effectiveness of teaching and learning. Teachers, despite their efforts, are often unable to produce a significant positive effect on a student body that lacks a positive attitude towards learning and a clear goal orientation, thus increasing frustration and

alienation in the teaching process and contributing to the spread of the phenomenon of "sweeping the snow in front of each door".

In the face of the high-quality requirements of "dual-teacher" teachers, teachers are required to have both solid theoretical skills and rich practical experience. Although the state and schools have put forward clear objectives, they have failed to provide corresponding incentives in time, which constitutes a major obstacle on the path of teachers' professional development. Unsatisfactory salary and ambiguous promotion paths have a direct impact on teachers' career satisfaction and motivation for self-improvement. In the absence of effective incentives, teachers are prone to burnout, satisfied with the status quo, and no longer actively pursuing professional growth and skill improvement, which not only restricts the overall quality of the teaching force, but also hinders the further improvement of the quality of secondary education.

Inadequate school-enterprise co-operation system

School-enterprise cooperation first emerged in foreign manufacturing powerhouses, and also gradually developed into a common form of vocational education in developed countries, and was subsequently introduced into China, where school-enterprise parties make full use of their own advantages, with schools providing human resources, and enterprises providing orders, practical training equipment and venues, to achieve complementarity of strengths, and to stimulate the vitality of schools and enterprises, which is gradually recognised by vocational colleges and universities, as well as enterprises and institutions in the society.

School-enterprise cooperation plays a pivotal role in the construction of "dual-teacher" teaching staff in schools. One of the constraints on the development of secondary vocational schools is the serious lack of "dual-teacher" teachers who can teach professional and technical theories as well as master practical skills, and who can supervise students in internships. The imperfection of the school-enterprise co-operation system and the mode of co-operation have made it impossible for school-enterprise co-operation to be carried out in a deeper way, and it has also made it difficult for teachers to go to enterprises to learn advanced practical skills through

the transformation of the school. It can be seen that at present, the degree of perseverance of secondary vocational education and social market demand still exists a certain deviation, vocational education, "behind closed doors" phenomenon still exists, to truly achieve school-enterprise co-operation, integration of industry and education system to promote and implement, is the immediate dilemma before the secondary vocational colleges and universities, but also is the main way out and the main way out of the prison of institutions of secondary vocational education in the future. At the same time, it is also the main way out and development direction for secondary vocational education to escape from the prison of institutions in the future.

Practical training resources are insufficient to support the successful transition of teachers

In the field of vocational education, the wisdom of the old saying that "to teach students a bowl of water, teachers must have a bucket of water" profoundly reveals the intrinsic connection between teachers' profound knowledge and teaching quality. However, as the wave of information technology sweeps across the world today, this concept has been given a new connotation. Vocational education, especially practical training teaching, as a bridge connecting theoretical knowledge and practical skills, it is particularly important to improve the professionalism and ability of its teachers. Practical training teachers not only need to have a solid theoretical foundation, but also need to follow the industry dynamics, master the most cutting-edge technology and knowledge, in order to guide students to adapt to the rapidly changing market demand. However, the enhancement of practical training teachers' ability does not exist in isolation, it is highly dependent on the effective allocation and continuous updating of practical training resources. At present, there are many deficiencies in the allocation of practical training resources in vocational education, which has become one of the key factors restricting the enhancement of teachers' competence. Firstly, some schools have a lack of practical training resources, which makes it difficult for them to meet the daily teaching needs, let alone supporting teachers to carry out learning and research on cutting-edge

technologies. Secondly, even if practical training resources are in place, the subsequent updating, maintenance and repair work often lags behind, resulting in aging equipment, outdated technology, unable to keep pace with the development of the industry, which reduces the effectiveness and relevance of practical training teaching.

SECTION 3

RECOMMENDATIONS FOR BUILDING A "DUAL-TEACHER" TEACHING FORCE

3.1 Integration of quality resources at the policy level for the upgrading of teachers in secondary vocational education

By analysing the status quo of "dual-teacher" teachers' ability in vocational colleges and dissecting the reasons behind this phenomenon, we can see that to improve the "dual-teacher" ability of teachers in ZHEJIANG TRAFFIC TECHNICIAN COLLEGE is not an effective solution only by the promotion of a certain main body. We can see that to improve the "dual-teacher" ability of teachers in ZHEJIANG TRAFFIC TECHNICIAN COLLEGE can not be achieved by only one subject, but requires the joint efforts of government agencies, education authorities, cooperative enterprises, vocational colleges and teachers themselves, and the formation of multi-pronged, synergistic, in order to achieve a satisfactory result. In the following, we will try to put forward suggestions and concrete initiatives for improvement in several dimensions.

It is about the quality of vocational education teaching, the skill level of secondary students, and the lifeline of secondary vocational education, which requires the joint attention of the education department and administrative departments such as organisations and personnel, and even the whole society. The 2019 government work report of Zhejiang Province clearly states, "Vigorously promote vocational education, and achieve full coverage of vocational and technical training for unemployed graduates of junior and senior high schools." That is to say, it is required that the unemployed junior and senior high school graduates should be enrolled in secondary vocational colleges and universities to learn vocational skills, which is not only the gospel of secondary vocational and technical colleges and universities in our region, but also faces challenges. Based on the strategy of "developing the country through vocational education" and "making the country

stronger", attaching great importance to the construction of "dual-teacher" teachers in secondary vocational colleges and giving guarantee at the policy level is the best way to enhance the vocational skills of teachers in secondary vocational colleges. It is an important measure to enhance the "dual-teacher" ability of secondary teachers, and it is also the first step.

First, in the allocation of human resources, to completely open up the enterprises and institutions between the personnel and the establishment of the barriers to mobility, the true realisation of those who have a position, the selection of theoretical knowledge and practical skills rich in "dual-teacher" practical training teachers.

Secondly, in terms of teachers' promotion channels, secondary teachers with outstanding teaching ability and scientific research achievements in the integration of science and practice should be given appropriate policy preferences in terms of title evaluation and appraisal, and teachers with "dual-teacher" teaching ability should be given full recognition and respect.

Thirdly, in terms of stabilising the teaching force, for teachers with "dual-teacher" abilities and qualifications, the workload of classroom hours and training workload should be set scientifically, and in addition to fulfilling their duties of teaching and learning, they should also practise a new type of teacher-apprentice system, and give play to their responsibility of "passing on knowledge and helping others". At the same time, reference can be made to the performance pay system of enterprises to enhance the competitiveness of the income of "dual-teacher" teachers and stimulate their work motivation.

Incorporating excellent "dual-teacher" teachers into the education sector's system of evaluation and selection of excellence

First, the construction of a "dual-teacher" teacher evaluation system. According to the characteristics of education and teaching in secondary vocational colleges and universities, as well as the different needs and professional qualities of various professions, the evaluation system of "dual-teacher" teachers is set up scientifically and reasonably, and the experts in the field of industry and enterprises

are included in the main body of the assessment, so as to make professional evaluations of the education and teaching, practical training and operation abilities of "dual-teacher" teachers. The evaluation system of "dual-teacher" teachers includes experts from industrial enterprises and other industrial fields as the main assessment body, and makes professional evaluation of "dual-teacher" teachers' education, teaching and practical training ability, and takes it as one of the assessment bases of "dual-teacher" teachers' management, so as to make the evaluation of "dual-teacher" teachers as an effective tool for the development of human resources in vocational colleges and universities, as well as an important part of the mechanism for the development of vocational education talents. The evaluation of "dual-teacher" teachers should be regarded as an effective tool for the development and management of human resources in vocational colleges and as an important part of the mechanism for the development of vocational education talents, so as to form a professional talent evaluation mechanism that is clearly orientated, precise and scientific, standardised and orderly, and based on competition and merit, and to form a favourable situation in which everyone strives to be a dual-teacher, and everyone displays a good performance of being a dual-teacher, and to make the truly outstanding talents stand out.

Secondly, improve the management system of "dual-teacher" teachers. Establish and improve the system and mechanism for "dual-teacher" teachers to be able to move up and down, and to be able to move in and out, so as to truly incorporate teachers with professional theoretical qualities and professional practical abilities into the "dual-teacher" team for management. The establishment of "dual-teacher" teachers' salary system standards, so that capable teachers get the corresponding work remuneration, but also help to stabilise the "dual-teacher" teachers who really have professional ability. Improve the approved standards for the teaching workload of "dual-teacher" teachers, incorporate open and demonstration classes into the required actions of "dual-teacher" teachers, strengthen the assessment of teaching quality, and effectively improve the role model

leadership of "dual-teacher" teachers. Strengthen the assessment of teaching quality, and effectively improve the role model of "dual-teacher" teachers.

Integrate incentives and disincentives to reshape teachers' remuneration structure

Compensation management, as one of the most effective means of human resource development and management, in order to comprehensively promote the capacity building of the dual-teacher teaching team, the design of the compensation system needs to take into account fairness, competitiveness and incentives, forming a systematic and efficient human resource management strategy. Specifically, firstly, the salary system should ensure fairness and transparency, and implement differentiated salary distribution based on key indicators such as teachers' professional skills, teaching achievements, practical training and instructing abilities, and social service contributions, so as to ensure that each teacher's efforts can be rewarded accordingly.

Secondly, colleges need to pay close attention to market dynamics and conduct regular research on salary levels to ensure that the salary levels of dual-teacher teachers are not only in line with the industry standard, but also remain competitive among similar institutions, so as to attract and retain outstanding talents. On this basis, in combination with the actual situation and development strategy of the college, an attractive salary structure is designed, including basic salary, performance bonus, title allowance, hourly fee and various kinds of incentive allowances, so as to stimulate the enthusiasm and enthusiasm of teachers.

Furthermore, the remuneration system should be closely linked to performance appraisal, and a set of scientific, objective and comprehensive performance appraisal systems should be set up to assess teachers' performance on a regular basis, and the results of the assessment should be used as an important basis for salary adjustments, job promotions, and the evaluation of excellence. In this way, the fairness of salary distribution is ensured and the overall quality of the teaching force is promoted.

In addition, colleges should also focus on the motivational role of non-financial compensation to enhance teachers' sense of career satisfaction and well-being through the provision of rich career development opportunities, a favourable working environment, a harmonious working atmosphere and necessary psychological support. At the same time, differentiated indirect compensation design, such as the provision of diversified benefit options and flexible working arrangements, should be implemented to meet teachers' individual needs and further enhance their job satisfaction and loyalty.

3.2 Organisational talent recruitment aspects

Expanding the introduction of high-level and urgently needed talents for secondary schools and colleges

Recruitment of human resources is the basic guarantee for upgrading the faculty strength of secondary vocational colleges and universities. The recruitment of teachers and the introduction of talents is the most effective means to do a good job in the development of human resources, as well as to provide sustainable development of secondary vocational colleges and universities and leaps and bounds to provide continuous and powerful guarantee of talents and intellectual support, and at the same time, to create an atmosphere of respect for knowledge, respect for talents and respect for skills in the cultivation of talents. Promote the implementation of the "autonomous region of high-level and urgent shortage of talent introduction of interim measures" to enhance the attractiveness of secondary vocational and technical schools to talent, the introduction of talent at the same time, but also to do a good job in retaining talent, the urgent shortage of talent to give policy tilt, fully understand the introduction of talent needs, to ensure that the introduction of talent on the basis of the basic life, but also for the introduction of talent to provide the talent can show its talent platform, to fulfil the promise of the introduction of talent! The introduction of the commitment, so that talents feel needed, respected, and enhance the sense of access, sense of achievement.

Optimise teacher structure and accelerate recruitment of full-time teachers

According to the economic development and industrial restructuring in each region, and the demand for secondary vocational technicians' profession, combined with the current status of teachers, accelerate the recruitment of full-time teachers for professions in short supply, further optimise the structure of teachers in secondary vocational colleges and universities, the academic structure and age structure, make up for this serious short board of the lack of practical teaching ability of teachers in secondary vocational colleges and universities, and make integrated planning, stabilise the stock of teachers and expand the incremental professional talents. Let the human resources with real professional practice skills enter the campus, so as to achieve the effect of common growth and two-way promotion between vocational colleges and professional teachers. This is not only an urgent need for teachers' personal development, but also a key initiative to improve the quality of education and teaching. To make full use of the free teacher training students, career recruitment and other talent import mechanism, combined with the region, the actual unit, scientific and reasonable set of professional and work experience, in order to optimise the teacher structure as the goal, to accelerate the recruitment of professional practical training teachers.

3.3 Training aspects of the industry

Nowadays, when vocational education is booming, the professionalism and practical ability of teachers in secondary schools have become the core elements to improve the quality of education and cultivate high-quality skilled talents. In order to create a "dual-teacher" teaching team that is proficient in both theoretical teaching and practical guidance, we need the joint efforts of the industry authorities and the education administration to stimulate the inner potential of teachers through innovative training modes, deepening the training content, and taking human resource management as the driving force.

Sectoral authorities should guide secondary school teachers to self-improvement

First, make use of national training, provincial training and network learning to do a good job of training professional teachers and improve their comprehensive level. Secondly, make use of school-based training to strengthen the improvement of teachers' skill level and practical training level. According to the professional teacher training teaching ability, regularly organise teachers into the training workshop training or out of school into the enterprise practice, through the transformation of the school, to create a hard-working, skilled "dual-teacher" professional teacher team. Thirdly, it is to inherit the good tradition of "passing on and helping" to accelerate the rapid growth of young teachers.

The teacher section of the education administration should assist secondary schools in establishing positive incentives

Practice has proved that the implementation of scientific and effective performance management in vocational colleges and universities can activate the endogenous motivation and teaching vitality of the faculty and staff, and at the same time can also substantially improve the level of teaching, teaching and research and practical training, and really play the role that performance management should play, and be responsible for the hard work of the teachers and staff, it is necessary to introduce a positive incentive mechanism, set up the concept of modernised performance management, and establish a set of characteristics suitable for their respective secondary vocational schools. It is necessary to introduce positive incentive mechanism, set up modern performance management concept, and establish a set of modern performance management system suitable for the characteristics of each secondary school. The incentive system should focus on highlighting the role of incentives for "dual-teacher" teachers, take the quality of vocational ability and professional skills level as the evaluation standard, set up excellent dual-teacher teacher demonstration posts and other honours, and link it with the title evaluation assessment, so as to guide secondary teachers to take the initiative to actively transform themselves and improve their working ability.

Encouraging secondary schools to improve the "dual-teacher" training system

Secondary vocational colleges and universities should be based on their own reality, correctly assess and judge the real situation of "dual-teacher" teacher construction, and combine the policies and documents of the education administrative departments at all levels to construct a "dual-teacher" teacher training programme suitable for their respective secondary vocational colleges and universities.

The system for the development and cultivation of "dual-teacher" teachers should be implemented consistently to form a working mechanism. At the same time, it is necessary to make clear in the system the policy inclination towards "dual-teacher" teachers, and through the practice of the system for the cultivation of "dual-teacher" teachers, both the efforts and endeavours of teachers who have obtained the "dual-teacher" qualification are fully acknowledged, and the development goals and directions for teachers who have not yet obtained the "dual-teacher" qualification are set. Through the practice of the "dual-teacher" teacher training system, not only to fully affirm the "dual-teacher" qualification teachers' efforts and endeavours, but also to determine the development goals and directions for the teachers who have not yet obtained the "dual-teacher" qualification, and to mobilise the resources of all parties that can be mobilised by the vocational colleges and universities, to unify the consensus and form a synergy, so as to really We should mobilise the resources of all parties that can be mobilised by secondary schools and institutions, unify the consensus and form a synergy, so as to truly realise the enhancement of the "dual-teacher" teacher capacity of secondary schools and institutions.

3.4 Aspects of internal upgrading of vocational institutions

Breaking down barriers to staff mobility and coordinating innovative teacher mobility mechanisms between schools and enterprises

One is to organise backbone teachers into enterprises in a planned manner, according to the semester or year as the training cycle, according to the professional

direction of teachers, targeted training or on-the-job practice, so that teachers on-the-job really master the most advanced production equipment performance, understand the latest production technology, production processes, etc., to keep abreast of the times and broaden the horizons.

The second is to actively recommend teachers to relevant industries or enterprises for short-term study, monthly or weekly to take a fixed time to go to the enterprise, in the form of training courses or research, to the backbone of the enterprise to ask for professional skills, communicate with the direction of the industry, while absorbing the advanced concepts of the enterprise.

Thirdly, to give full play to the advantages of the scientific research ability of individual backbone professional teachers, and cooperate with the backbone of enterprises and industries or experts, to carry out the development of new skills in the industry and enterprises, on the one hand, to enhance the core competitiveness of enterprises, and on the other hand, to improve the enthusiasm of the participation of "dual-teacher" teachers.

Fourth, to break the barriers to mobility of personnel, take the off-campus employment of enterprise experts, through the use of hiring honorary professors, honorary studios and other ways to attract enterprises to work within the professional skills of engineers, experts in the campus to teach long-term practical training courses in the relevant professions, truly activate the flow of teachers and enterprises both sides of the mechanism.

Explore job shadowing for professional teachers

On 24 March 2021, Premier Li Keqiang presided over the executive meeting of the State Council, and adopted the Vocational Education Law of the People's Republic of China (Draft Revision), the draft education law on school-enterprise cooperation, integration of industry and education, and strong support for the social forces to run the vocational education in the law to give affirmation and recognition. In accordance with the concept of school-enterprise cooperation and integration of production and education in running vocational education, we fully explore the connotation of school-enterprise cooperation, give full play to the technological

advantages and talent advantages of cooperative enterprises, and provide human resources, technology and venues for professional training teachers to go to enterprises to follow their internships, so that the teachers can really put down roots, bend down, and go in to participate in the enterprise's production and internship. Widely employ industry and enterprise professional and technical personnel or skilled craftsmen to participate in the school's master teacher workshops, training bases, professional construction, teaching and research, industry-academia cooperation, teacher training and practical teaching and other aspects of guidance and construction work. At the same time, the duties and tasks of the enterprise instructors are clarified and regulated in the system, the rights and treatment are clarified, the incentive mechanism and appraisal mechanism of the enterprise instructors are established and improved, the working conditions are created for the teachers to follow the internships, the training and management of the practical hands-on ability of the teachers following the internships are strengthened, and the level of the practical skills of the practice is constantly improved to ensure that the internships play a role in the enhancement of the ability.

Coordinating enterprise "experts" as guest lecturers in secondary schools

Firstly, the school is responsible for taking the lead in actively inviting industry experts to give lectures on campus, and at the same time participating in the professional construction and curriculum construction of practical training guidance together with teachers, especially the "dual-teacher" teacher training programme both inside and outside the school, so as to truly integrate the new concepts of the production process in enterprises into the secondary vocational curriculum system, and impart new methods and technologies to practical training instructors. The new concepts in the production process of enterprises are truly integrated into the curriculum system of secondary schools, and new methods and technologies are taught to the instructors of practical training, so as to improve the overall level and quality of practical training teaching in secondary schools.

Secondly, professional practical training teachers are encouraged to participate in relevant trade associations, take part in examinations and certificate

assessment organised by trade associations, enhance their sense of smell and sensitivity in the professional field through close participation in the activities of trade associations, keep abreast with the development of the industry, and always stay at the forefront of the professional field.

Thirdly, regular activities are carried out to invite successful entrepreneurs or "industry experts" to share their growth trajectories with teachers and students of secondary vocational colleges and universities, so that they can set up a scientific and positive attitude towards teaching and learning, and take professionals as role models, so as to build a good bridge of interaction between the industry and vocational colleges and universities.

3.5 Give full play to teachers' subjective initiative

In today's fast-developing educational environment, the subjective initiative of teachers is not only a key force in promoting educational reform, but also an important guarantee for promoting the all-round development of students and cultivating talents to meet the needs of the future society. Therefore, it is particularly important to strengthen teachers' awareness of self-development, formulate personalised development plans, enhance their professional development capacity and consciously fulfil their professional responsibilities.

Enhancing self-development awareness

Teachers should establish the concept of lifelong learning, not be satisfied with the existing level of knowledge and skills, and always maintain a keen sense of new knowledge, new technologies and new ideas and an active attitude of absorbing them. This means that teachers should take the initiative to broaden their knowledge horizons and constantly update and optimise their knowledge structure by reading professional books, attending academic seminars, online course learning and other means. At the same time, they should have the courage to step out of their comfort zone, dare to challenge themselves, apply what they have learnt in their teaching practice, constantly explore teaching methods and strategies that suit the

characteristics of their students, and endeavour to become continuous learners and innovators in the field of education.

Establishment of a self-development plan

Teachers' professional development is a long-term and systematic process that requires clear goals and reasonable planning as a guide. When making self-development plans, teachers should combine their personal interests, professional expertise and school development needs to divide their career into different stages and set specific and measurable milestones. When they first enter the workplace, they should focus on quickly adapting to the requirements of their positions and improving their basic teaching skills; with the accumulation of experience, they should gradually pursue the mastery of the art of teaching and the formation of their individual styles; and ultimately, they should work towards becoming expert teachers in the field of education and leading the way in educational innovation. The goals of each stage should be specific and feasible, and should be well connected to the next stage, ensuring the coherence and sustainability of the career development path.

Enhancing professional development capacity

In order to effectively improve their professional development capacity, teachers should actively participate in various professional training and further training programmes, especially the "dual-teacher" teacher training, which usually combines theoretical teaching and practical operation and helps teachers to better apply what they have learnt to their actual work. In addition, teachers should also make full use of the platform of school-enterprise cooperation to learn advanced technology and management concepts from the front line of enterprises, and understand the dynamics and development trend of the industry, so as to enhance their practical ability and the ability to solve practical problems. At the same time, teachers should pay attention to the combination of practical experience and curriculum teaching, innovative teaching methods and means to improve the relevance and effectiveness of classroom teaching.

Conscious fulfilment of professional responsibilities

In the face of secondary students who are in the critical period of growth, teachers should approach the work of education and teaching with a high sense of responsibility and mission. This means that teachers should treat every student with an equal attitude and respect their personality differences and growth needs; they should impart knowledge and cultivate skills with professionalism and rigour; moreover, they should set an example and teach by example, influencing and infecting students with their words and deeds. In their daily work, teachers should pay attention to the all-round development of students and focus on cultivating their comprehensive quality and innovation ability; when facing difficulties and challenges, teachers should maintain a positive and optimistic mindset and resilient spirit to set a good example for students. Only in this way can they truly fulfil the professional responsibility and mission of secondary school teachers and contribute to the healthy growth and future development of students.

CONCLUSIONS

With the proposal of the national strategy of "Made in China 2025", the status of vocational education has become more and more important in the system of education for all, and slogans such as "Vocational education develops the country" and "Skills develop the country" have gradually come into everyone's view and become known by the society. Slogans such as "Vocational Education for a Better Country" and "Skills for a Better Country" have gradually come into everyone's view and become well known to the society. In addition, the continuous development and improvement of the education system in recent years, the reform of the secondary examination and promotion system, the continuous optimisation of the vocational education curriculum system, and the coherent articulation of secondary and higher vocational education and applied undergraduate education have led to higher and higher demands from the society on the running strength, teacher level and teaching effect of secondary vocational colleges and universities. As far as secondary vocational education is concerned, the construction of "competent people" can be regarded as the top priority of teaching work, therefore, the educational and teaching ability and practical training ability of "double-teacher-type" teachers determines, to a certain extent, the quality of secondary vocational education.

This paper takes Zhejiang Transportation Technician College as an example, based on the perspective of human resource management development and "dual-teacher" teacher team construction in vocational schools, from the school background, teacher structure, school-enterprise co-operation, practical training resources and other status quo mapping, through questionnaires, on-site interviews, access to literature analysis and other research methods, in-depth analysis of vocational schools in the "dual-teacher" teacher team construction faced the dilemma. "On the one hand, the total number of teachers is relatively insufficient and unevenly distributed, which makes it difficult to meet the growing demand for teaching; on the other hand, the source of teachers is relatively single, and most of

the teachers lack direct practical experience in the industry, which leads to a certain degree of disconnection between the teaching content and the market demand. In addition, although the professional quality of some teachers is high, their practical skills are still insufficient, which makes it difficult to comprehensively guide students to master the cutting-edge technology of the industry; at the same time, the structural system of the teaching team is unreasonable, the proportion of senior title teachers is low, and the growth path of young teachers is not clear enough, which affects the stability and sustainability of the teaching team. For these dilemmas, this paper provides in-depth analysis and response from multiple dimensions. On the policy level, the government, industry, schools and other resources should be integrated, and more targeted policies and measures should be introduced to increase the support for the cultivation of "dual-teacher" teachers; in terms of funding and resources, sufficient input should be ensured for teacher training, practice base construction and other key links; at the same time, the teacher evaluation and incentive mechanism should be improved to stimulate the enthusiasm of teachers for self-improvement and transformation. Meanwhile, the evaluation and incentive mechanism of teachers should be improved to stimulate teachers' enthusiasm for self-improvement and transformation. In addition, deepening school-enterprise co-operation and establishing a closer and more efficient mode of co-operation is also an important way to improve teachers' practical ability and promote the deep integration of industry-university-research. Through the multi-pronged efforts of the government, industry authorities, society and vocational colleges and universities, we can form a synergy to enhance the capacity of vocational colleges and universities' "dual-teacher" teachers, thereby improving the quality of schooling, and delivering professional and skillful talents with both moral and technical qualities for the development of the regional economy and the transformation of the social structure.

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APPENDIXES

INTERVIEW OUTLINE

I. Purpose of the interviews: to explore the factors affecting the construction of a "dual-teacher" teaching force in secondary vocational schools

II. Mode of interview: face-to-face interviews, telephone interviews

III. Interview subjects: part of the teaching staff of Zhejiang Transportation Technician College

IV. Outline of questions:

(i) Interview opening statement:

Greetings, Honourable Teacher! Thank you very much for accepting this interview on the status of "dual-teacher" teacher competence.

The information you provide will be used for academic research only, and any personal information you provide will be kept strictly confidential, thank you for your co-operation.

(ii) Interview dialogue:

1. What is your gender?

2. Your age?

3. Your academic qualifications?

4. Your job title?

5. How long have you been teaching in vocational education?

6. Did you receive professional skills training and teaching skills training before entering the school to teach officially?

7. How many times have you attended training in the last three years?

8. What is the main type of subject you teach?

9. Do you have other professional and technical titles/professional skills level certificates?

10. Do you have experience of practical work at the grassroots level, in enterprises, etc.?

11. What do you think is the most appropriate way to train "dual-teacher" teachers?
12. What do you think are the feasible ways to train "dual-teacher" teachers through the transformation of in-service teachers?
13. What qualities and competencies do you think should be emphasised more in "dual-teacher" teachers?
14. What is the average number of weekly credit hours you teach?
15. How would you rate your level of teaching?
16. What do you think you are lacking? 17. Do you think there should be a separate assessment for "dual-teacher" teachers?
18. Has your school implemented the separation of evaluation and recruitment of teachers' professional and technical positions?
19. Are you satisfied with the university's current approach to title evaluation?
20. What do you think about the future of "dual-teacher" teacher training?
21. Do you have any comments or suggestions to add regarding the construction of a "dual-teacher" teaching force?

(iii) Concluding remarks of the interview:

Thank you again for your co-operation and I wish you all the best in your work and life!

V. Interview steps:

- (i) Selection of interview sites
- (ii) Selection of interviewees
- (iii) Starting the interview and recording it
- (iv) Reflection and evaluation of interviews

VI. Problems that may be encountered:

- (i) Interviewee's refusal to reply
- (ii) Highly disruptive interview locations
- (iii) Impatience of interviewees during interviews
- (iv) Interruptions by third parties during the interviews
- (v) Interviewee's perfunctory responses

VII. Envisioning solutions:

- (i) Selecting appropriate interviewees and informing them of the purpose and context of the interviews
- (ii) Selection of appropriate time and place for interviews
- (iii) Consider conducting interviews on a one-to-many basis
- (d) If the subject gives perfunctory answers, end the interview as soon as possible and void the interview

VIII. Equipment to carry before the interview:

- (i) Book, pen and personal documents.
- (ii) Sound recorders.
- (iii) Outline of the interview.