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Exploration of Vocational Education Faculty Team Construction: A Case Study of a Secondary School for Professional Teaching in a Private Vocational College

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Abstract: Higher vocational education is a crucial force supporting regional industrial upgrading, and the quality of the faculty directly determines the effectiveness of talent cultivation. Taking a secondary school of a private vocational college in Chongqing as a sample, this paper conducts a statistical analysis of the faculty team's gender, age, educational background, professional titles, years of work experience, sources of teachers, and reasons for turnover. For vocational education, problems exist such as imbalanced faculty allocation, lack of double-qualified teachers, talent loss due to turnover, practical teaching constrained by equipment updates and weak industry-education collaboration, and unbalanced compensation and incentive mechanisms. Guided by the "Emphasis on Gold-Standard Faculty" within the "Five Golds and Five Emphases" framework, this paper proposes five pathways for the growth of double-qualified teachers: rolling skill updates aligned with "Gold Specialties/Gold Bases", immersive enterprise practice feeding back into "Gold Courses/Gold Textbooks", action-oriented teaching to create "Gold Lessons", applied research serving "Gold Bases", and an endogenous growth ecosystem to build "Double-Qualified Teacher Growth Communities". The study suggests that only by taking industry-education integration as the link, institutional incentives as the guarantee, and teachers' intrinsic motivation as the foundation can we cultivate a high-quality double-qualified faculty team that supports the high-quality development of vocational education.

Keywords: Higher Vocational Education; Private Vocational College; Double-Qualified Teachers; Five Golds and Five Emphases; Faculty Team Structure; Industry-Education Integration

1. Overview of Vocational Education Development

1.1 National Overview of Vocational Education Development

As of September 2025, China has established the world's largest vocational education system. According to data from a press conference held by the Ministry of Education in September 2025, there are 9,302 secondary vocational schools, 1,562 higher vocational (junior college) institutions, and 87 vocational undergraduate schools nationwide, with a total enrollment of 34 million students [1]. Among these, vocational undergraduate education has been developing particularly rapidly: in 2025 alone, 36 new vocational undergraduate schools were added, and another 52 general universities launched vocational undergraduate programs, with the enrollment of vocational undergraduate students in 2025 reaching seven times that of 2022. In terms of specialty offerings, vocational education closely aligns with national strategic needs, continuously and dynamically adjusting the specialty layout to ensure that specialty offerings resonate with industrial demands. Regarding enrollment and tracking policies, the traditional compulsory "general-vocational tracking" is gradually shifting toward a new path of "general-vocational integration". Local governments are exploring ways such as establishing comprehensive high schools and allowing mutual transfer of student status to transform simple "tracking" into diversified "integration", aiming to break down barriers between "academic" and "skills" tracks and provide students with more flexible options [1].

1.2 Highlights of Vocational Education Development in Chongqing

Chongqing is a major hub of vocational education in China and has successfully built a modern vocational education system closely coupled with industrial development. As of

October 2025, the city had 125 secondary vocational schools, 46 higher vocational (junior college) institutions, and 3 vocational undergraduate schools, with a total enrollment of 1.045 million students [2]. The matching rate between specialty offerings and local key industries reached 88%, and vocational education contributed more than 70% of new labor forces to the city's key industries. Driven by the strategic development of the "33618" modern manufacturing cluster system, vocational colleges in the city have launched a number of supporting specialties such as intelligent connected vehicle technology, big data engineering technology, and mechanical design, manufacturing and automation. Through the coordinated reform of key teaching elements including specialties, courses, textbooks, teachers, and practical training, these institutions have strongly supported the actual demand for high-skilled talents in key industries.

In terms of policies, Chongqing actively promotes the integration of vocational education and general education. Its Implementation Measures of the Vocational Education Law clearly propose the establishment of a unified enrollment platform for secondary vocational schools and general high schools, and allow eligible students to transfer their student status between the two tracks, thereby building a "bridge" for talent development [2]. In addition, Chongqing took the lead in exploring the construction of municipal industry-education joint communities. As of October 2025, the city had accredited a total of 36 municipal industry-education joint communities at various levels and registered 52 cross-regional industry-education integration consortia [3]. According to the Action Plan for Leading Vocational Education Quality Improvement (2025–2027) issued in March 2025, Chongqing aims to raise the matching rate between specialty offerings and key industries to 90%, and increase the proportion of double-qualified teachers to 65% [4].

1.3 Faculty Challenges Facing Higher Vocational Education

The primary challenge currently confronting higher vocational education is the structural and competency-related issues of the faculty, especially the notable shortcomings in the development of double-qualified teachers. Although the proportion of double-qualified teachers among full-time professional teachers in vocational schools nationwide has exceeded 55% [5], playing an important role within a total of approximately 1.41 million vocational education teachers, the overall quality of the faculty still cannot fully meet the needs of industrial upgrading. Survey data from the Vocational Education Centre of the Ministry of Education show that 54.2% of full-time secondary vocational teachers and 48.4% of full-time higher vocational teachers have no prior work experience in enterprises. The specific difficulties are manifested in the following aspects: First, insufficient practical ability—a considerable proportion of vocational school teachers lack frontline enterprise work experience before employment, leading to a disconnect between teaching and actual production; Second, deficiencies in teaching skills—some teachers recruited from industry and enterprise technical positions have not received specialized teacher education, affecting teaching quality and student development [1]. Third, imbalanced team structure—problems include understaffing, difficulty in attracting high-level talent, and non-standard management of part-time teachers [6]; Fourth, incomplete development mechanisms—evaluation mechanisms are biased toward academic orientation, and the mechanisms for industry-education integration and science-education collaboration are not yet sound, making it difficult for teachers to engage deeply with frontline industry to carry out technological research and development and transform results [7].

2. Problem Statement

Given the development of higher vocational education in China and Chongqing, particularly the construction of faculty teams, the current contradictions have become prominent and are greatly affecting the development of vocational education. Therefore, this paper takes a secondary school of a private vocational college as an example to analyze the composition of the faculty team, using this case to shed light on broader issues. It analyzes existing problems and attempts to identify solutions.

Combining the current actual situation and the guiding ideology of "Emphasizing Gold-Standard Faculty" within the "Five Golds and Five Emphases" framework, this paper conducts targeted research while also

considering the author's own transition from engineering and technical personnel to vocational teacher. The main research contents are:

1. Research on the faculty structure of a secondary school in a private vocational college: including teachers' age structure, educational background structure, professional title structure, specialty structure, as well as aspects of stability, mobility, and development.
2. Research on practical teaching ability: including teachers' ability to design, implement, and manage practical teaching, and how to improve teachers' practical teaching level and hands-on ability [8].
3. The path of growth and transformation for double-qualified teachers: analyzing and discussing multiple aspects such as professional skills training, accumulation of practical experience, transformation of teaching concepts and methods, enhancement of research and innovation ability, expansion of international vision and cross-cultural communication skills, as well as self-improvement and lifelong learning.

3. Research Data Analysis

Taking a secondary school of a private vocational college in Chongqing as a sample, this paper conducts statistical analysis of the faculty team's gender, age, educational background, professional titles, years of work experience, sources of teachers, and reasons for turnover. The results are as follows.

3.1 Gender Composition and Age Distribution of Teachers

Table 1 presents the gender statistics of the faculty team in this secondary school, and Figures 1–3 show the age distribution.

Table 1. Gender Statistics of the Faculty Team

Gender	Male	Female	Total
Count	11	22	33
Percentage	33.33%	66.67%	100.00%

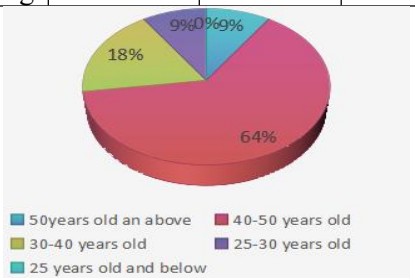

Figure 1. Age Distribution of Male Teachers

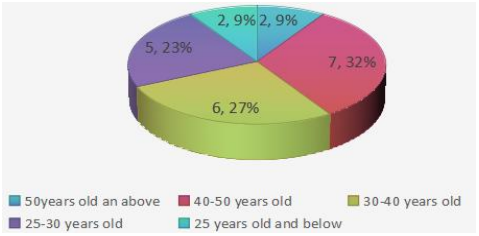

Figure 2. Age Distribution of Female Teachers

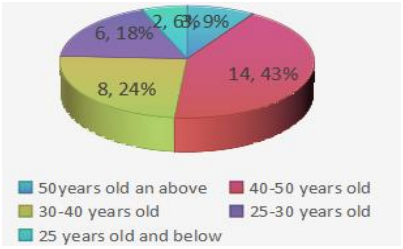

Figure 3. Age Distribution of the Entire Faculty Team

Purely from a gender perspective, the ratio is somewhat imbalanced, but the overall age structure is reasonably tiered. The main reasons are as follows:

(1) There are 7 counselors in the team, all female. Female counselors, due to their patience, attentiveness, and communication advantages, are more keenly able to attend to students' ideological dynamics and daily needs, resolving conflicts and guiding growth in a timely manner. Higher vocational colleges emphasize career guidance and formative education; counselors need to frequently handle detailed tasks such as psychological counseling and job recommendations. Women's natural empathy and affinity make it easier for them to win students' trust and become the mainstay of the management team. In contrast, male counselors are somewhat inferior in terms of meticulousness and patience, and tend to be more impatient and arbitrary when dealing with relatively underperforming and active students. This is one reason why two male counselors have left the school.

(2) Regardless of gender, the age configuration of the faculty is reasonable, showing a tiered structure that facilitates team development and rapid growth.

(3) The high proportion of female teachers in professional education can be attributed to women's innate patience and meticulousness. Moreover, teaching positions offer stable work and regular holidays, which better align with women's need to balance family responsibilities. The low proportion of male teachers is due to limited salary attractiveness, and because

traditional concepts lead men to prefer frontline enterprise positions that offer higher pay and better career advancement.

3.2 Statistics on Work Experience, Professional Titles, and Educational Background

Figures 4–6 show the distribution of work experience, educational background, and professional titles of the faculty team in this secondary school.

In terms of professional titles, education, and work experience, the overall quality of the faculty team in this secondary school is high, and the distribution of titles, experience, and education is consistent. The main reasons are as follows:

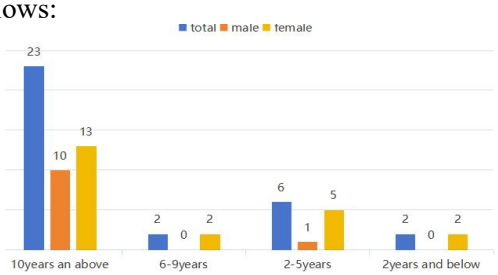

Figure 4. Distribution of Years of Work Experience Since Joining the School

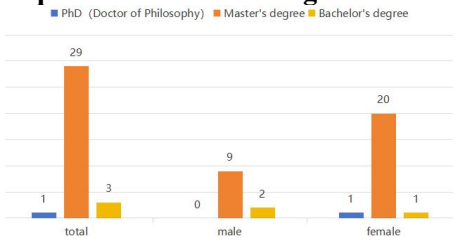

Figure 5. Distribution of Educational Background of Teachers

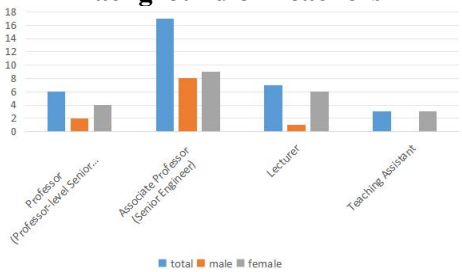

Figure 6. Distribution of Professional Titles of Teachers

1. Master's degree as the majority: Master's degree holders account for about 87% – balancing theoretical teaching and practical ability. Higher vocational education emphasizes "integration of theory and practice". A master's degree provides systematic professional knowledge while placing more emphasis on practical application than a doctorate, and the personnel cost is controllable, thus better meeting the needs of practical training teaching.

2. High proportion of senior professional titles: This stems from the recognition of double-qualified teachers and promotion incentives. Teachers with senior engineer or professor-level senior engineer titles account for more than 60%. With the support of double-qualified ability – transitioning from enterprise to school, from engineer to teacher – and because the school has introduced incentive policies such as allowances to improve education evaluation ratings, teachers are motivated to actively apply for senior professional titles, creating a virtuous cycle and fostering continuous endogenous growth for both.

3. Work experience of 5–15 years accounts for over 70%: mature experience and high stability. Teachers at this stage have accumulated sufficient teaching or engineering experience to independently complete practical training guidance and project development, while being in a career advancement phase with low willingness to leave, meeting the private college's demand for high-quality and stable faculty.

4. Low attractiveness for doctoral degree holders: misalignment of positioning and limited development. Currently there is only one part-time doctoral degree holder. Doctoral training is oriented toward academic research, whereas the core of higher vocational education is skill application. Private vocational colleges lack research platforms, master's/doctoral programs, and competitive salaries, making it difficult for doctoral degree holders to leverage their research strengths, resulting in very few joining the institution. Moreover, a doctoral degree holder trained by this school has already left, and the aforementioned situation is one of the reasons.

3.3 Analysis of Teachers' Sources and Specialty Alignment

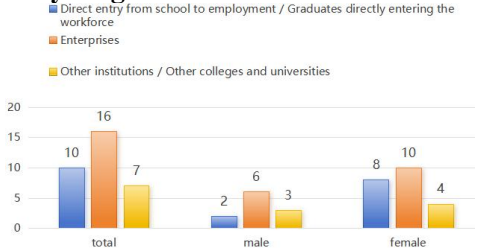

Figure 7. Distribution of Teachers' Sources (Enterprise, Other Institutions, Direct Graduation, etc.)

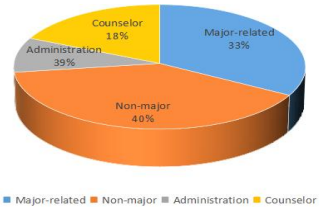

Figure 8. Distribution of Teachers' Current Professional Directions

The analysis consists of two parts: 1) the matching between teachers' original specialties and their current teaching/research directions; 2) the matching between teachers' sources and the school's needs. The main results are shown in Figures 7 and 8.

1. Teachers coming from enterprises account for about 48.5% of the faculty team – a positive sign for vocational education. Teachers with engineering experience and practical abilities entering higher vocational teaching become double-qualified teachers, which more effectively improves students' hands-on skills and ability to transform theory into practice.

2. Seven counselors engaged in student work and three administrative staff are not counted in the specialty-matching ratio, objectively affecting the proportion.

3. Among those who moved from enterprises to the school, those whose current teaching direction is exactly the same as their original specialty (i.e., teaching direction matches original specialty) account for about 38.5%, and another 10% are undergoing professional transformation. In particular, higher vocational education closely follows industry development; specialty construction and new specialty establishment require timeliness and promptness, which in turn forces the faculty team to continue learning and moving forward.

4. Teachers who joined the school from other institutions account for about 21.2%, which also has a positive and motivating effect on faculty development. They bring experiences and lessons from other institutions, help identify deficiencies within the school, improve teaching quality, and promote the sound development of higher vocational education.

5. Those who entered the school directly after graduation account for about 30.3%. This group lacks practical experience to some extent, and directly participating in teaching with insufficient personal experience may affect teaching quality. Currently, most of the directly-graduated teachers in this secondary school are engaged in student counseling, which has limited impact on teaching quality.

3.4 Teacher Turnover Rate and Reasons for Turnover

The teacher turnover situation in this secondary school in recent years is shown in Figure 9.

Overall, the turnover rate is not high, ranging from about 4% to 8% per year. The main reasons for turnover are as follows.

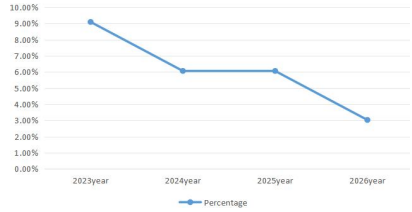

Figure 9. Change in Turnover Rate over the Past Four Years

(1) Normal retirement: 2 persons, accounting for 16.7% of departing teachers.-

(2) Low platform of the vocational school: one doctoral degree holder left (6.3% of departures) due to scarce research equipment, low-level projects, and lack of academic exchanges, making it difficult to support knowledge updating and result transformation. Disconnected from the high-end R&D needed for "33618" industrial upgrading, personal development was constrained, so they chose a higher platform that matches their academic ability.-Low income and insufficient incentive mechanisms: about 4 people left (33.4%).

(3) Low income directly weakens career attractiveness, while insufficient incentives make it hard to stimulate innovation in teaching and research. The recent departure of about 4 teachers, though limited in number, reflects an imbalance between compensation and contribution. If this structural shortcoming is ignored, it will lead to continued loss of core talent, affecting specialty development and the depth of industry-education integration, ultimately constraining the ability of higher vocational education to serve local industries.-

(4) Personal family reasons: 2 persons left. Currently, higher vocational education development faces bottlenecks, with high competitive pressure, making it difficult to effectively balance work and family, and lacking clear career incentives.-

(5) Return to enterprise: 1 person originally transferred from an enterprise to higher vocational education but eventually returned to an enterprise due to a gap in expectations. Higher vocational education emphasizes

theoretical teaching and project applications, with a relatively slow pace; enterprises pursue efficiency, results, and rapid iteration. The teacher found it hard to adapt to the evaluation system and work mode of the college, while the enterprise could not match their new expectations after adaptation. The dual cognitive mismatch made returning to the enterprise an inevitable choice.

4. Analysis of Major Problems in the Faculty Team of Higher Education Institutions

Overall, the faculty teams in higher vocational education face the following typical problems:

First, imbalanced faculty structure, including an unreasonable gender ratio. Some institutions suffer from the common problem of "low proportion of senior professional titles and high educational backgrounds". In this case, only one doctoral degree holder was present and has already left, and male teachers account for only 33.3%. The reasons are a low platform, weak salary attractiveness, and men's preference for frontline enterprise roles [9].

Second, the proportion of double-qualified teachers has actually reached the required level, but there are deviations in certification and transformation. While the double-qualified ratio is not low, among teachers from enterprises, only 38.5% are in fully matching specialties, and another 10% are undergoing transformation. Direct-graduation teachers (30.3%) mostly work as counselors and have weak practical ability. If the certification standard only looks at certificates, it tends to ignore real workplace competency.

Third, practical teaching ability is constrained by equipment updates and industry-education collaboration, rather than by a complete lack of experience. Nearly half of the teachers have enterprise experience and possess a practical foundation. However, some teachers are still in a transition period with insufficient experience, and the school's research equipment is scarce while school-enterprise cooperation is loose, making it hard to support teaching of cutting-edge technologies. The reason "low platform" cited in turnover analysis confirms this problem [10].

Fourth, imbalanced incentive and evaluation mechanisms – emphasizing theory over practice, with low salary competitiveness. Performance evaluation tends to favor theoretical teaching and project applications, while enterprise practice and technological R&D achievements are poorly recognized. Low salaries and insufficient rewards have already led to four departures. Meanwhile, doctoral degree holders and enterprise core talent are lost due to platform limitations and cognitive gaps, and the part-time teacher appointment mechanism is rigid, making it difficult to recruit and retain industry talent.

5. Five Pathways for Double-Qualified Teacher Growth Based on the "Five Golds and Five Emphases"

(1) Rolling skill updates: aligning with "gold specialties" and "gold bases" to keep pace with industry

The construction of "Gold Specialties" requires teachers to accurately grasp industry technology trends, while "Gold Bases" need authentic production scenarios for support. Teachers should participate annually in short-term intensive courses at leading enterprises or online hands-on workshops, proactively engage in revising vocational skill level standards, and bring new technologies and processes back to the classroom. Schools should establish a "credit bank" that links training outcomes with promotion criteria, avoiding the situation where "certificates are obtained but skills become outdated". This pathway embodies both planning and experience-sharing, ensuring that specialty development keeps pace with industrial upgrading [11].

(2) Immersive enterprise practice: industry-education integration feeding back into "gold courses" and "gold textbooks"

Implement an "Annual Enterprise Practice Month" system, where teachers enter core enterprise positions with teaching challenges, participate in product development or process improvement, and form a closed loop of "practice – refinement – teaching cases". For example, a teacher in water supply and drainage engineering went to practice at a drone surveying and mapping enterprise, endured the pain of cross-disciplinary transition, and transformed pipeline inspection cases into a teaching module for urban drainage networks, while developing loose-leaf textbooks accordingly. At least six months of full-time practice every three years is required, with practice outcomes (technical reports, operation videos) serving as mandatory indicators for double-qualified teacher re-certification. This embodies both the grounding of theory and the

enrichment of Gold Courses and Gold Textbooks with enterprise experience [12].

(3) Action-oriented teaching: creating "gold lessons" – shifting from knowledge transmission to learning by doing

The core of "Gold Lessons" is the integration of theory and practice with task-driven instruction. Double-qualified teachers need to systematically master teaching methods such as project-based and situational teaching, decomposing real enterprise tasks into teaching projects – for example, converting equipment maintenance into phases such as information inquiry, fault diagnosis, plan development, and implementation delivery. Teaching evaluation should shift from final written exams to process-oriented skills assessment, increasing the proportion of hands-on tasks and timed fault diagnosis. Teachers should become "learning designers", developing workbook-style textbooks and embedding enterprise standards directly into the classroom. This step is a concrete manifestation of "explaining ideas and plans" at the classroom level [13].

(4) Applied research: serving "gold bases" to integrate research, production, and teaching

"Gold Bases" are not only training venues but also platforms for technological R&D and result transformation. Higher vocational teachers should focus on applied technology research, participating in enterprise technical improvements, horizontal projects, or patent applications. For example, leading students to complete energy consumption optimization of an automated production line not only creates value for the enterprise but also breaks down the optimization steps into training tasks. Schools should set up applied technology research funds, reward result transformation projects with extra points in title evaluation, and promote the cycle of "research promoting teaching, teaching supporting production". This pathway follows policy guidance and strengthens the ability of research to serve industry.

Endogenous Growth Ecosystem: Sharing Experience and Building a "Double-Qualified Teacher Growth Community"

The sustainable development of double-qualified teachers relies on intrinsic drive and organizational climate [14]. Teachers should cultivate regular learning habits: subscribing to professional journals, following technical communities, participating in open-source projects, maintaining a personal growth portfolio, and engaging in regular reflection. Schools should create an atmosphere of emulation and surpassing through platforms such as "Double-Qualified Teacher Growth Studios", teaching competitions, and skills contests, and regularly organize "Five Emphases"-style experience-sharing sessions where outstanding teachers share practical experiences and lessons learned, transforming individual wisdom into organizational knowledge. Ultimately, an ecosystem loop of "industry feeding back into teaching, teaching supporting R&D, and R&D serving industry" will be formed, laying a solid foundation for "Gold-Standard Faculty".

Acknowledgments

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