

Exploring the Current Situation and Strategies of Joint Postgraduate Training in Vocational Universities

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Abstract: This article takes the joint training model as the research object and focuses on the joint postgraduate training in vocational universities. Based on a brief overview of the connotation and significance of joint postgraduate training in vocational universities, a systematic summary of the current situation of such training is conducted through practical research. While elaborating on the implementation and characteristics of joint postgraduate training in vocational universities, the article emphasizes a systematic collection and analysis of existing problems. Finally, guided by these problems and considering the characteristics and issues of joint postgraduate training in vocational universities, several improvement strategies are proposed. It is emphasized that vocational universities need to actively optimize their management models, establish restraint mechanisms, and implement dynamic adjustments to achieve scientific management of joint postgraduate training. This approach aims to promote academic innovation and improve training quality simultaneously.

Keywords: Vocational universities; Joint postgraduate training; Current situation; Strategies

Online publication: Oct 21, 2025

1. Overview of joint postgraduate training in vocational universities

Joint training refers to an educational model that combines the strengths of two or more parties. In this special training model, students can enjoy more comprehensive and all-around education with the full support of multiple parties, based on the synergistic effect of their collaboration. This not only broadens students' knowledge and horizons but also effectively meets society's practical needs for cultivating compound talents. Joint postgraduate training in vocational universities involves establishing cooperative educational relationships with other universities, enterprises, and scientific research institutions. Based on the shared construction and utilization of educational resources, various parties pool their resources and advantages to jointly focus on the training of postgraduate talents ^[1]. Close collaborative relationships are built in teaching, practical activities,

scientific research, and other aspects of postgraduate education, thereby improving the quality and effectiveness of postgraduate talent training.

The implementation of the joint postgraduate training model in vocational universities has had a significant positive impact in multiple aspects. On the one hand, this training model can provide students with broader learning platforms and practical opportunities, fully satisfying their diversified growth and development needs while enabling them to achieve comprehensive development supported by favorable external conditions ^[2]. On the other hand, this model has a strong social resource aggregation effect, bringing together powerful universities, enterprises, and scientific research institutions in the region to jointly develop postgraduate teaching plans, course content, and training programs. This significantly bridges the gap between education, industry, and scientific research, greatly enhancing the cutting-edge, practical, and professional aspects of postgraduate education content.

2. Analysis of the current situation of joint training of postgraduates in vocational colleges

In recent years, with the increasing enrollment scale of professional master's degree students, the shortage of efficient teachers and scientific research resources has gradually become apparent. Coupled with the need for "compound", "innovative" and "applied" talents in today's social development, changing the talent training model has become the key to the future development of universities. Vigorously promoting joint training of professional degree graduate students with industry enterprises and scientific research institutes has become inevitable ^[3]. Nowadays, with the widespread implementation of the integration of industry and education in various colleges and universities in China, the joint training of graduate students in vocational colleges has received widespread attention from all sectors of society, and has become an important way for vocational colleges to improve the quality of education and the level of graduate talent training. In recent years, through the joint efforts of all sectors of society, vocational colleges have achieved certain results in the joint training of graduate students, but at the same time, they also face some problems due to various practical factors.

2.1. Implementation of joint training

Firstly, the cooperation mode is increasingly diversified. The joint training cooperation mode between vocational colleges and enterprises, scientific research departments and more, has shown diversified development characteristics, which can promote vocational colleges to conduct a deep analysis of their actual needs for graduate training, and achieve precise complementarity with the superior resources of each partner. This not only simplifies the joint training process but also saves time and resources required for joint training of graduate students.

For example, the school-school joint training mode can effectively break through the barriers between vocational colleges, improve the quality of graduate teaching based on academic exchanges, teacher exchanges, curriculum sharing, and project collaboration. The school-enterprise cooperation mode can provide resources and environmental advantages including employment opportunities, project knowledge, practical platforms, and scientific research for the cultivation of graduate students in vocational colleges with strong support from enterprises. In addition, the joint training mode for graduate students in vocational colleges also includes school-research cooperation, international cooperation, and school-local cooperation.

The implementation of these diversified cooperation modes has injected new vitality into the development of graduate training, making the joint training of graduate students in vocational colleges more targeted,

purposeful, and effective. Taking Fujian Sanming University as an example, the university signed an inter-school cooperation agreement with Fujian Normal University in 2009 to carry out joint training of graduate students, and subsequently signed joint graduate training agreements with Xiamen University, Fuzhou University, Fujian Agriculture and Forestry University, Fujian Engineering College, and Russian Krasnodar State University of Culture and Arts ^[4]. In addition, Xi'an University of Technology and Chongqing University have also launched the "1135" and "3 + 1 + 2" joint graduate training modes, respectively, intending to improve the quality of graduate training by constructing a diversified and flexible training mechanism ^[5].

Secondly, social recognition has gradually increased. With the gradual emergence of the effectiveness of the joint training mode for graduate students in vocational colleges across the country, this mode has been widely recognized and followed by all sectors of society ^[6]. The graduate students trained through this joint program have performed well in innovative thinking, practical ability, and academic ability. The outstanding students have even made their mark in various large-scale academic competitions and scientific research innovation competitions. These significant achievements have not only greatly improved the social image of vocational colleges but also earned widespread social praise for the joint training mode of graduate students.

2.2. Existing problems and drawbacks

Firstly, there is a lack of scientific management in joint postgraduate training. Constrained by traditional postgraduate management philosophies and influenced by a singular and closed-off teaching management ideology, some vocational undergraduate colleges still prefer an academic postgraduate training model. Daily teaching work tends to be more academic, leading to a theoretical bias in postgraduates' professional knowledge structure rather than practical application. This fails to fully recognize the openness and complexity of the joint training model ^[7]. Additionally, due to the relatively short implementation time of the joint postgraduate training model, some school administrators lack relevant experience and accomplishments in joint postgraduate training, making it difficult for them to adequately handle this complex, multi-departmental work. These situations lead to frequent management issues in the joint postgraduate training process at vocational undergraduate colleges, negatively impacting the effectiveness of joint training. For example, in course management, the failure to fully integrate postgraduates' actual development needs and the current status of industry development has led to a disconnect between coursework and practical application. In teacher management, the lack of an effective postgraduate teacher training and selection mechanism has resulted in an unreasonable teacher structure and uneven teaching quality. In student management, insufficient attention has been paid to students' individualized development needs, leading to low participation in various joint training activities organized by the school.

Secondly, there are limitations on postgraduates' academic autonomy. The joint postgraduate training model at vocational undergraduate colleges is inherently a multi-party collaborative project. Each organization has its unique interests, academic requirements, and management norms. This multi-stakeholder environment inherently restricts postgraduates' academic freedom. Not only must they prioritize the current project needs of partners based on profit-driven considerations, but they must also consider how to coordinate the expectations and requirements of different partners due to their strong reliance on various resources and conditions in the joint training model. In this situation, postgraduates need to set aside their personal academic pursuits and interests. Taking into account the conditions and interests of various partners, they must determine the best research topics and methods ^[8]. For instance, considering businesses' pursuit of maximizing economic benefits, postgraduates may need to temporarily abandon high-risk and long-term topics, shifting to more applied, short-term effective research topics. Limitations on academic autonomy not only restrict the depth and breadth of

students' research, preventing them from exploring certain related fields, but also undermine postgraduates' innovative development capabilities to some extent.

3. Strategies for improving joint postgraduate training in vocational universities

3.1. Optimizing management models to achieve scientific management

Joint postgraduate training in vocational universities involves a wide range of areas, complex links, and multiple responsible entities. Improving the quality of joint postgraduate training must be based on the orderly implementation of various tasks. To achieve this goal, a comprehensive management system must be established, including a sound management system and effective human resource management. This will enable full-process monitoring and total quality management of joint postgraduate training in vocational universities. Specifically, the following steps can be taken.

Firstly, actively update management concepts. Managers of vocational universities need to abandon traditional and closed management ideas and establish a more collaborative and open management mindset. While fully recognizing the complexity and particularity of the joint training model, they should re-examine the social value of joint postgraduate training from a macro perspective, thereby actively seeking educational cooperation with enterprises, scientific research institutions, and local government departments. To achieve this, managers of vocational universities need to deeply study and widely read professional books and documents on modern management concepts, educational innovation ideas, and industrial collaborative development, etc. This will help broaden their horizons and absorb more advanced management ideas and experiences. They should also organize teachers involved in joint postgraduate training to actively participate in various forms of management training, academic exchanges, seminars, and other activities, and conduct in-depth discussions on joint training with professionals in the education field at home and abroad. This will facilitate timely understanding of the latest developments and trends. Additionally, school teachers need to be organized to deeply study various policy documents, such as "Several Opinions on Deepening the Integration of Industry and Education" and "National Vocational Education Reform Implementation Plan," so that vocational universities can timely grasp policy benefits and strive for more educational resources and support for joint postgraduate training projects ^[9].

Secondly, establish and improve the management system. Managers of vocational universities need to actively improve the teaching management system for joint postgraduate training from the perspective of improving the quality of joint postgraduate training and ensuring the orderly progress of joint training work. In terms of curriculum management, a cross-school course mutual recognition mechanism should be established, and the syllabus and curriculum standards for postgraduate training in different vocational universities should be unified. This will provide a more systematic, standardized, and convenient learning experience for postgraduates. In terms of teacher management, a joint training mentor database should be established to integrate excellent mentor resources from vocational universities, enterprises, scientific research institutions, and local government units. Through the implementation of the joint mentor guidance system and the mentor mutual recruitment system, high-level, professional, and multi-angle academic guidance can be provided for postgraduates. At the same time, personnel training management should be done well, and regular training should be provided for relevant responsible persons of joint postgraduate training in vocational universities through various forms such as centralized teaching, field visits, special discussions, and online learning. This will enable timely updates to talent cultivation concepts and teaching methods ^[10].

In terms of student management, it is necessary to fully focus on the individual development needs of postgraduates based on unified postgraduate management standards and develop personalized training programs and flexible management mechanisms for students. To this end, undergraduate institutions can establish a dynamic tracking and evaluation system for joint postgraduate training, which facilitates teachers and students to regularly evaluate postgraduates' learning progress, comprehensive literacy, scientific research ability and more, further adjust the training plan in a timely manner based on the evaluation results.

3.2. Establishing a constraint mechanism to promote academic innovation

While ensuring the orderly implementation of joint training for graduate students in vocational colleges, it is necessary to address the issue of academic restrictions on graduate students to a certain extent, so that they can enjoy more academic autonomy and higher academic freedom in the joint training model. Vocational colleges need to establish a joint education constraint mechanism with partners to create a better academic atmosphere and promote academic innovation. This can be achieved by focusing on the following points.

Firstly, clarifying the rights and responsibilities of all parties, regulating their behavior, and maintaining academic freedom. Before formally implementing the joint training program for graduate students, vocational colleges need to sign a detailed cooperation agreement with their partners, clarifying the role and responsibility scope of both parties in the joint training ^[11]. For example, as a cooperating enterprise, it is only responsible for providing graduate students with practical learning platforms, industry forefront information, project support and should not excessively interfere with the academic research content and direction of graduate students. Secondly, establishing an academic committee. Members from vocational colleges, enterprises, scientific research institutions, and other cooperative units should be selected to form a joint training academic committee for graduate students, which is specifically responsible for guiding and reviewing the topic selection of graduate students. Relying on these academic experts and industry experts with rich academic research experience, broad horizons, and long-term professional knowledge and skill accumulation, the committee will review the innovativeness, practicality, and feasibility of graduate students' topics and provide targeted and constructive guidance ^[12]. This will help graduate students effectively solve practical problems encountered in the research process and make their academic research more innovative.

3.3. Implementing dynamic adjustments to ensure training quality

To effectively respond to the constantly changing demand for graduate-level talents during social transformation and development, and to enable vocational colleges to be fully prepared to face various challenges and problems caused by policy adjustments, changes in partners, and other situations during the implementation of the joint training model. Vocational colleges need to implement dynamic adjustment strategies for training based on continuous summaries of past joint training effectiveness. This will reduce the impact of various uncertainties on the joint training of graduate students and ensure the orderly progress of related training work ^[13].

Firstly, a dynamic adjustment mechanism for joint training should be established and improved. Vocational undergraduate colleges need to fully leverage their role as the main body of joint postgraduate training. While reasonably arranging various teaching and cooperation tasks, they should closely monitor industry trends and socio-economic developments, fully understand changes in social talent demand, and timely optimize and adjust joint postgraduate training programs. This includes introducing more cutting-edge teaching content, updating teaching methods, and cultivating models to ensure that postgraduates can always maintain a high degree of consistency with industry needs in terms of knowledge, skills, and accomplishments. Secondly, a performance

evaluation and monitoring mechanism for joint training outcomes should be implemented. Under the leadership of vocational undergraduate colleges, a professional evaluation team should be formed by selecting education experts, industry experts, business representatives, and postgraduate representatives from cooperative organizations such as enterprises, scientific research institutions, and governments. Through various evaluation methods such as data collection, indicator comparison, and result analysis, a comprehensive evaluation and monitoring of the implementation process, social impact, academic achievements, and employment status of joint postgraduate training should be conducted. This ensures that all aspects of joint training are in place and meet quality standards, allowing various issues and deficiencies that arise during the joint training process to be promptly identified and addressed.

4. Conclusion

In summary, the joint postgraduate training model at vocational undergraduate colleges, as a new talent training model, fully aligns with the current practical demand for high-quality talent driven by rapid social development. While effectively integrating resources from various sectors of society, it greatly compensates for the shortcomings of vocational undergraduate colleges in terms of postgraduate training pathways and conditions, significantly promoting postgraduates' innovative development capabilities, practical abilities, and academic abilities. In future work, vocational undergraduate colleges need to continuously review and summarize the effectiveness and issues of past joint postgraduate training and continue to focus on optimizing talent training cooperation mechanisms. Based on continuously deepening the integration of industry and education and improving the level of teachers, the perfection of the joint postgraduate training model at vocational undergraduate colleges will be further enhanced. This aims to cultivate a group of high-quality, high-level postgraduate talents with innovative spirit, scientific research ability, and practical ability for national economic development and modern social construction.

Funding

SZPU Quality Engineering Project University-level Teaching and Research Project (2025-29), Exploration and Practice of Professional Degree Cultivation and Joint Graduate Training in Vocational Undergraduate Colleges; The Young Backbone Teacher Plan of Beijing Information Science and Technology University (Project No.: YBT202448); Industry-University Cooperation Education Project of the Ministry of Education, Research on the Application of Model-Based Viewpoint Selection in UAV 3D Modeling Course Teaching (Project No.: 1007-7025210681J1); Research on the Path of Promoting the Reform of Scientific Research Evaluation in Vocational Undergraduate University (Project No.: GDKG2025ZC1)

Disclosure statement

The authors declare no conflict of interest.

References

- [1] He Q, 2023, Analysis of Joint Training Mode for Graduate Students in China in the New Era. *Industrial and Technological Forum*, 22(10): 69–70.

- [2] Wang H, Gao Z, Guo J, 2023, Exploration of Teaching Methods and Ability Cultivation in Joint Training of Master's Degree Students. *Education Teaching Forum*, 2023(17): 149–152.
- [3] Kou W, Wang X, Zhu L, 2025, Exploration of Joint Training Mode for Professional Degree Master's Students in Environmental Engineering. *Journal of Capital Normal University (Natural Science Edition)*, 46(02): 86–90.
- [4] Wei L, Zhang J, 2023, New Exploration of Joint Training Mode for Professional Degree Master's Students in Fujian Old Revolutionary Base Area Universities. *Journal of Sanming University*, 40(04): 103–109.
- [5] Zhang X, Chu Z, Shi W, 2024, Enhancement and Effects of Joint Training for Professional Degree Master's Students in Local Applied Undergraduate Colleges. *Journal of Liaoning University of Technology (Social Science Edition)*, 26(03): 93–96.
- [6] Zheng Z, Cao Y, Lin S, et al., 2025. Interdisciplinary and Collaborative Integration: Exploration of Training Mode for Mechanical Professional Degree Master's Students in the Context of New Engineering. *Journal of Liaoning Institute of Science and Technology*, 26(05): 55–59.
- [7] Li Q, Zhang L, Han T, et al., 2025, Research on the Integration of Production and Education Joint Training Mechanism for Agricultural Science and Seed Industry Major Graduate Students: Taking Henan Institute of Science and Technology as an Example. *Modern Horticulture*, 48(09): 196–198.
- [8] Sun J, Li S, Mei J, et al., 2025, Reflections on Joint Training of Pharmaceutical Professional Degree Master's Students by School-Enterprise Cooperation. *Education Teaching Forum*, 2025(11): 177–180.
- [9] Dai Y, Li G, Jiang H, et al., 2025, Thoughts on Ideological and Political Education of Jointly Trained Graduate Students in Agricultural Research Institutes: Taking Jiangsu Academy of Agricultural Sciences as an Example. *Agricultural Science and Technology Management*, 44(01): 95–97.
- [10] Jin A, Jiang L, Zhao Y, et al., 2025, Construction of a Production–Education Integration Graduate Joint Training Base in the Field of Mining Engineering. *Research on Higher Engineering Education*, 2025(02): 157–162 + 168.
- [11] Wei X, Li B, Long X, 2025, Research on the Collaborative Creation Mechanism of Local University Graduate Joint Training Bases Based on Stakeholders. *Journal of Hengyang Normal University*, 46(01): 129–134.
- [12] Wang Y, Meng L, Cao H, 2025, Research on the Joint Training Mode of Electronic Information Major Master's Degree Students. *Science and Education*, 2025(01): 69–72.
- [13] Chen L, Wu M, Lin Y, 2025, SWOT Analysis and Countermeasures of Joint Training of Graduate Students in Colleges and Universities in the New Era. *Chinese Higher Medical Education*, 2025(01): 143–144 + 147.

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