

Empowering Rural Preschool Education Talent Supply through Industry-Education Integration: The Logic and Strategies for Vocational Education Program Development

Haiqing Yang*

Shandong Vocational College of Science and Technology, Weifang 261053, Shandong, China

*Author to whom correspondence should be addressed.

Copyright: © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: This paper focuses on the development of higher vocational education programs in the context of industry-education integration to empower rural preschool education talent supply. It first analyzes the internal logic of industry-education integration in enhancing rural preschool education talent supply and advancing vocational education programs, including policy orientation, talent cultivation demands, and industrial development. The paper then identifies existing issues in current vocational education programs regarding curriculum design, practical teaching, and faculty development. Finally, it proposes targeted solutions such as improving curriculum systems, strengthening practical teaching bases, and enhancing faculty development. These measures aim to effectively improve the quality of rural preschool education talent supply through industry-education integration, thereby promoting the healthy development of higher vocational preschool education programs.

Keywords: Industry-education integration; Rural preschool education; Talent supply; Higher vocational education program development; Countermeasures

Online publication: December 31, 2025

1. Introduction

Rural preschool education holds an indispensable position within China's education system. It serves not only as a critical phase for the intellectual development, personality shaping, and habit formation of rural children, but also as a foundational project to elevate the overall quality of rural education and narrow the urban-rural education gap^[1]. However, the current rural preschool education sector faces multiple challenges, including severe shortages of teaching staff, uneven professional competence among educators, and inadequate educational resources. These issues act like invisible shackles, significantly hindering the healthy development

of rural preschool education and making it difficult for rural children to access educational resources of equal quality to their urban peers. Against this backdrop, preschool education programs in higher vocational education have become particularly crucial. As a core training base for cultivating high-quality preschool educators, they bear the significant responsibility of providing fresh talent and support for rural preschool education ^[2]. Industry-education integration, as an innovative talent cultivation model, effectively promotes the connotative development of preschool education programs in vocational colleges by closely aligning industry demands with educational practices ^[3]. This approach enhances professional development standards and cultivates versatile preschool educators who possess both solid theoretical foundations and rich practical experience. This in-depth analysis of preschool education programs in vocational colleges, within the broader context of industry-education integration, empowering rural preschool education talent supply, reveals their inherent logic, challenges, and response strategies. Such exploration not only drives the optimization of vocational education structures and quality enhancement of talent cultivation, but also holds significant practical value and far-reaching strategic implications for overcoming developmental bottlenecks in rural preschool education, promoting educational equity, and achieving the rural revitalization strategy objectives ^[4-5].

2. The logical relationship between the integration of industry and education, the talent supply of rural preschool education, and the construction of higher vocational majors

2.1. Policy orientation logic

In recent years, the Chinese government has introduced a series of targeted policies to promote high-quality development of vocational education and comprehensively enhance talent cultivation quality, actively encouraging the deep integration of industry and education. Particularly in the critical field of rural preschool education, policies explicitly emphasize strengthening the construction of preschool teaching staff and improving the accessibility and quality of rural preschool education through various measures. The industry-education integration model effectively enables preschool education programs in higher vocational education to closely align with the practical needs of rural preschool education. By strictly adhering to national policy requirements, this approach cultivates outstanding professionals who possess both professional competence and meet the actual needs of rural preschool education development, thereby ensuring the smooth realization of national policy objectives.

2.2. Talent development needs

Rural preschool education has unique requirements for educators. These demands include not only solid professional knowledge and skills but also a deep understanding of rural cultural contexts and the ability to adapt to rural educational environments. Through industry-education integration, vocational colleges can collaborate closely with rural kindergartens and other stakeholders. This partnership enables more accurate identification of practical needs in rural preschool education, allowing the development of tailored talent cultivation programs. Additionally, vocational colleges can adjust curriculum design and teaching content based on rural preschool education requirements, ensuring graduates better meet job demands in this field. This model not only enhances the relevance of talent development but also improves educational quality, playing a vital role in advancing rural preschool education.

2.3. Industrial development logic

With the steady growth of rural economies and the increasing accessibility of preschool education in rural areas, the rural preschool education sector has experienced vigorous development. In this process, the integration of industry and education has become particularly crucial, effectively promoting in-depth collaboration and coordinated development between vocational colleges and the rural preschool education industry. Specifically, vocational colleges provide robust talent support by cultivating and delivering high-quality professionals to the rural preschool education sector. Meanwhile, the rural preschool education sector offers valuable internship and employment opportunities for vocational college students through its rich practical platforms and industrial resources, further enhancing the quality and relevance of talent cultivation. This two-way interactive cooperation model not only achieves mutual benefits between vocational colleges and the rural preschool education sector but, more importantly, it significantly promotes the sustainable development of the rural preschool education industry, laying a solid foundation for the long-term advancement of rural education.

3. Problems existing in the construction of preschool education major in higher vocational colleges in the background of industry-education integration

3.1. Curriculum design out of sync with rural preschool education needs

Many vocational colleges currently face significant shortcomings in their preschool education programs. These institutions overemphasize theoretical instruction while neglecting the practical demands and challenges unique to rural preschool education. Specifically, course content fails to adequately incorporate local cultural characteristics and regional features, resulting in a disconnection between academic materials and real-world rural contexts. Furthermore, practical training components lack alignment with actual kindergarten environments and operational workflows, with insufficient targeted practice opportunities and scenario-based simulations. This curriculum misalignment directly hinders graduates' ability to adapt to rural preschool roles, preventing them from effectively applying acquired knowledge and skills. Consequently, these systemic gaps impede the improvement and development of preschool education quality in rural areas.

3.2. Significant shortcomings exist in the development of practical teaching bases

While some higher vocational colleges have established such bases, their operations often fail to align closely with the actual needs and characteristics of rural preschool education. This mismatch results in teaching content that does not meet real-world demands, compromising the relevance and effectiveness of practical training. Specifically, these bases lack specialized design and arrangements tailored to rural preschool environments, making it difficult for students to acquire applicable teaching methods and skills through hands-on practice. Moreover, the current shortage of practical teaching bases falls far short of meeting students' needs for comprehensive practical training. This quantitative deficiency directly limits students' opportunities to engage in practical activities, thereby hindering the comprehensive development of their practical abilities. Consequently, graduates struggle to quickly adapt to the actual working environment of rural preschool education.

3.3. Faculty shortage of rural preschool education experience

Currently, some teachers in preschool education programs at vocational colleges lack practical frontline experience in rural preschool education. This results in insufficient understanding of the specific realities, challenges, and actual needs of rural preschool education. The lack of practical experience makes it difficult

for them to effectively integrate real-world cases and concrete issues from rural preschool education into their teaching content. This not only disconnects the curriculum from the actual needs of rural preschool education but also hinders the improvement of teaching quality and the effectiveness of talent cultivation. Consequently, it becomes challenging to develop truly competent professionals who can meet the demands of rural preschool education.

3.4. The lack of deep collaboration between schools and enterprises has become a pressing issue

Currently, partnerships between vocational colleges and rural kindergartens often remain superficial, with no established mechanisms for meaningful cooperation. Specifically, there is insufficient communication and collaboration when jointly developing talent cultivation plans. During curriculum development, neither party fully leverages its respective strengths, and the teaching evaluation process lacks effective peer review mechanisms. This loose collaboration significantly undermines the effectiveness of industry-education integration, fails to establish sustainable collaborative education models, and ultimately hinders the improvement of talent cultivation quality.

4. Strategies for the construction of higher vocational majors to empower the supply of rural preschool education talents through the integration of production and education

4.1. Enhancing the curriculum framework

To amplify the distinctive appeal of rural education, educators will enrich the curriculum with content related to rural culture and lifestyle. This includes introducing specialized courses such as rural folk arts and nature education, enabling students to better appreciate the unique charm of rural culture while developing adaptability to preschool environments in rural areas. Educators will also prioritize hands-on learning by increasing practical course hours and diversifying activities. These programs will be designed around real-world scenarios in rural kindergartens, allowing students to hone professional skills and problem-solving abilities in authentic settings. Furthermore, educators will continuously update curriculum design and teaching content based on evolving needs and industry trends in rural preschool education, ensuring both scientific rigor and practical relevance to better serve the development of rural early childhood education.

4.2. Comprehensive strengthening of the practical teaching base development

Vocational colleges should actively establish long-term partnerships with rural kindergartens to create high-quality practical teaching bases. These bases must not only provide authentic rural preschool education environments but also enable students to gain a comprehensive understanding of the current challenges and opportunities in rural early childhood education through immersive practice. Concurrently, enhanced management of practical teaching should be implemented through standardized protocols that clarify operational requirements across all stages. Additionally, strengthened guidance and supervision mechanisms are essential to ensure teaching quality. Beyond maintaining traditional internship models, innovative approaches like rural preschool education research and volunteer programs should be developed to diversify practical learning channels. This multifaceted strategy will holistically develop students' hands-on skills and social responsibility, laying a solid foundation for their future career development.

4.3. Strengthening faculty development

Vocational colleges should prioritize recruiting educators with extensive rural preschool education experience to enhance teaching quality. These professionals can bring real-world case studies and practical insights from rural classrooms, tailoring instruction to local needs while improving teaching relevance. Regular professional development programs should be organized to keep teachers updated on evolving trends and practical demands, enabling continuous skill enhancement. Additionally, encouraging teachers to undertake field placements in rural kindergartens allows them to gain hands-on experience, which significantly boosts teaching effectiveness. Establishing dual-qualified faculty teams through partnerships with rural kindergartens is crucial. By inviting experienced rural educators to serve as part-time instructors, schools can create a dynamic blend of full-time and part-time professionals, ultimately elevating overall teaching standards and educational quality.

4.4. Deepening school-enterprise collaboration

Establishing a robust collaborative education system. Vocational colleges and rural kindergartens should develop a comprehensive partnership framework to jointly design talent development programs, co-create curriculum systems tailored to rural needs, co-author textbooks aligned with local realities, and implement scientific teaching evaluations. This integrated approach ensures seamless alignment between educational programs and the practical demands of rural preschool education, cultivating high-quality professionals who meet developmental needs. Strengthening industry-academia-research collaboration. Vocational colleges and rural kindergartens should deepen collaboration through joint research initiatives and practical explorations in rural preschool education. This integrated model effectively addresses practical challenges in rural preschool education, driving sustainable development. Establishing a fair benefit-sharing mechanism. Creating a fair benefit-sharing mechanism will fully motivate rural kindergartens to actively participate in industry-education integration. Vocational colleges can deliver tangible benefits through professional teacher training and robust educational research support, achieving mutual benefits and fostering long-term, stable cooperation between both parties.

5. Conclusion

The integration of industry and education holds profound significance for enhancing the supply of professional talents in rural preschool education, supported by a rigorous internal logic. This strategy focuses on comprehensively upgrading the capabilities of preschool education programs in vocational colleges through carefully designed measures. Specifically, first, curriculum design must be continuously optimized to align with the practical needs of rural preschool education, thereby improving teaching relevance and applicability. Second, substantial efforts should be made to strengthen practical training bases, providing students with more hands-on opportunities to enhance their professional skills and comprehensive qualities through practical exercises. Strengthening faculty development is equally crucial. Vocational colleges should actively recruit and cultivate outstanding educators with both solid teaching expertise and rich practical experience, as they are key to ensuring steady improvement in educational quality. Meanwhile, vocational colleges should strengthen close collaboration with enterprises to establish robust industry-academia-research cooperation mechanisms, offering students more internships and employment opportunities to achieve organic integration of theory and practice. Through implementing these comprehensive measures, the overall level of preschool education programs in vocational colleges can be effectively elevated, cultivating more excellent educational talents with

solid theoretical foundations and rich practical experience. This will supply more high-quality professionals to rural preschool education, significantly advancing the sustainable development of rural education. Looking ahead, vocational colleges must continue to innovate and explore new models of industry-education integration. By optimizing program development and achieving breakthroughs in curriculum design, practical teaching, faculty training, and school-enterprise collaboration, they can better support rural education development. This approach will optimize resource allocation and provide robust support for implementing the rural revitalization strategy.

Funding

This is a research outcome of the 2024 Annual Research Project of the Teaching Steering Committee for Education Majors in Vocational Colleges of the Ministry of Education (Project Approval No.: JZW2024-JYB-23).

Disclosure statement

The author declares no conflict of interest.

References

- [1] Lei LC, Xiang P, 2024, Strategies for Vocational Education to Support High-Quality Development of Rural Preschool Education in the Context of Rural Revitalization. *Xinjiang Vocational Education Research*, 15(3): 18–23. <https://doi.org/10.16455/j.cnki.65-1281/g4.2024.03.007>
- [2] He FQ, Wang SG, Wu ZL, 2019, The Development Challenges of Preschool Education Professionals in Rural Areas Under the Rural Revitalization Strategy. *Modern Communication*, 2019(6): 10–11.
- [3] Tang GL, 2023, Research on the Training Model of English Preschool Education Professionals for Rural Areas—A Review of “Research on the Development of Preschool Education in Rural China”. *China Agricultural Meteorology*, 44(4): 342.
- [4] Tao M, 2024, Leveraging the Strengths of Vocational Education in Early Childhood Care to Boost Rural Preschool Education. *Good Parent*, 2024(83): 3–5.
- [5] Du L, 2021, City-School Integration: Pioneering Innovative Models for Vocational Undergraduate Education. *Shandong Education*, 2021(22): 15–17.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.