

Article

Reconstruction of Practical Training Teaching System for Nursing Majors under the Integration of "Jobs, Courses, Competitions, Certificates"

Yunxin Chen^{1,*}
¹ Hainan Vocational University of Science and Technology, Haikou, China

* Correspondence: Yunxin Chen, Hainan Vocational University of Science and Technology, Haikou, China

Abstract: The "Jobs, Courses, Competitions, Certificates" integration transformation in vocational education serves as a core measure for the high-quality development of vocational education in the modern era, providing a new orientation for the restructuring of practical training teaching within the nursing major. Currently, universities face significant challenges in nursing practical training, including low job compatibility, lagging course content, a disconnection between skills competitions and regular teaching, and a separation between certificate assessment and talent cultivation. Consequently, this leads to a notable mismatch between students' practical abilities and clinical job requirements, ultimately resulting in the insufficient effectiveness of talent cultivation programs. This paper takes the deep integration of "Jobs, Courses, Competitions, Certificates" as its primary starting point. It clarifies the internal logic connecting job requirements, course teaching, skills competitions, and vocational certificates. Furthermore, it analyzes the prominent problems in the current practical training teaching of nursing and reconstructs the practical training teaching system for the nursing major across four critical dimensions: teaching content, teaching mode, training carrier, and evaluation mechanism, thereby proposing a systematic implementation path. The ultimate aim is to break through the traditional educational barriers of "learning, practicing, competing, assessing, and job." This comprehensive approach significantly improves the clinical practical ability and job compatibility of nursing students, providing robust theoretical and practical references for the cultivation of applied nursing talents and the ongoing transformation of practical training teaching methodologies.

Keywords: vocational education; nursing major; practical training; teaching system; curriculum integration

Received: 22 December 2025

Revised: 11 February 2026

Accepted: 24 February 2026

Published: 28 February 2026



Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

With the advancement of the Healthy China strategy and the ongoing development of the medical and health industry, clinical nursing roles are now subject to increasingly stringent requirements regarding practical skills, professional competencies, and certification standards for nursing professionals. The outlined implementation plan for vocational education emphasizes the necessity of integrating job standards, course content, competition frameworks, and vocational certification assessments into a cohesive educational model. This approach aims to address the persistent challenges in aligning vocational education with the demands of the healthcare industry. Nursing, as a health service-oriented discipline with a strong emphasis on practical application, relies heavily on practical training as a critical bridge between academic instruction and clinical practice. This connection directly influences the quality of talent development and the alignment of graduates with job market needs. By fostering a more integrated and comprehensive approach, the goal is to ensure that nursing education produces professionals who are well-prepared to meet the evolving demands of the healthcare sector [1].

Traditional approaches to nursing practical training have often been constrained by rigid course outlines, fixed teaching content, and limited training methodologies. These methods have led to several challenges, including an overemphasis on theoretical knowledge at the expense of practical skills and a focus on training without adequately preparing students for real-world adaptation. Furthermore, there exists a disconnect between the content of academic courses and the competencies required in clinical roles. Skills competitions, which could serve as a valuable tool for enhancing practical abilities, are typically limited to a select group of high-performing students and are not widely incorporated into regular classroom instruction. Additionally, the processes for professional qualification examinations, vocational certificate assessments, and routine practical training are often conducted independently, resulting in a fragmented system where courses, competitions, certifications, and job requirements are not cohesively aligned. In light of the dual advancements in medical science and vocational education, the traditional training framework is increasingly inadequate for cultivating high-quality, skilled nursing professionals. To address these issues, it is essential to reconstruct the practical training system based on the integrated concept of aligning job requirements, course content, competition-driven learning, and certification standards. This approach seeks to establish a framework where job roles inform course design, competitions motivate learning, and certifications enhance professional quality [1, 2]. Such a system is critical for advancing the quality of practical training, improving the employability of nursing graduates, and meeting the growing demands of the healthcare industry [1, 3].

2. Core Connotation of Integration of "Jobs, Courses, Competitions, Certificates" and Existing Problems in Practical Training Teaching

2.1. Core Connotation of Integration of "Jobs, Courses, Competitions, Certificates"

The integration of "Jobs, Courses, Competitions, Certificates" within the nursing major represents a comprehensive approach to aligning practical training with professional standards and requirements. This model emphasizes the seamless incorporation of core job competencies, skill competition benchmarks, and vocational certification criteria into the educational framework, with a primary focus on developing clinical nursing capabilities. "Jobs" encompass the essential professional standards required in various domains such as internal medicine, surgical care, acute care, and geriatric nursing. These standards serve as the foundational guide for structuring practical training. "Courses" refer to the specialized training modules within the nursing curriculum, which act as the primary medium for cultivating professional skills and knowledge [4]. "Competitions" involve the application of detailed guidelines, evaluation criteria, and operational protocols derived from nursing skill contests at different levels, which play a pivotal role in refining the precision and effectiveness of practical training. Lastly, "Certificates" pertain to the assessment frameworks for professional qualifications, such as nursing licensure exams and elderly care certifications, which provide authoritative validation of the quality of talent development. These four components are intricately interconnected, creating a cohesive educational model that integrates job-oriented training, curriculum delivery, competition-driven skill enhancement, and certification-based quality assurance. This closed-loop system not only ensures that students acquire the necessary competencies but also aligns their training with industry standards, thereby enhancing their employability and professional readiness. By fostering a dynamic and integrated approach, this model addresses the evolving demands of the healthcare sector while promoting a high standard of nursing education.

2.2. Current Prominent Problems in Practical Training Teaching of Nursing

The disconnection between course content and job requirements remains a significant issue in the practical training of nursing students. Current training programs often adhere to traditional teaching systems, which prioritize the standardized training of basic skills. However, these programs frequently fail to address critical areas such as managing clinical emergencies, effective interpersonal communication, and responding

to unexpected challenges in real-world scenarios. As a result, while students may meet the established training standards, they often lack the clinical applicability required for immediate integration into professional roles. This gap necessitates a prolonged adaptation period once they enter the workforce, which can hinder their ability to perform effectively in high-pressure environments. To bridge this gap, it is essential to modernize the curriculum by incorporating practical, scenario-based training that aligns closely with the dynamic demands of clinical settings [5, 6].

The separation of skill competitions from regular teaching practices presents another challenge in nursing education. These competitions are typically conducted through intensive, short-term training sessions that focus exclusively on a small group of participants. The standards and precise operational norms emphasized in these competitions are rarely integrated into the broader practical training curriculum [7]. Consequently, the majority of students are unable to benefit from the advanced training methodologies and standards showcased in these events. This disconnect undermines the potential educational value of competitions, which could otherwise serve as a platform for enhancing teaching quality and fostering a culture of learning through competitive practice. To address this issue, it is crucial to embed competition-level standards and practices into the regular training framework, ensuring that all students have equitable access to these advanced learning opportunities.

The lack of integration between certificate assessments and practical training is another prominent issue. Preparations for obtaining nurse qualification certificates and 1+X care certificates are often conducted through last-minute, intensive training sessions. This approach fails to systematically incorporate the key points and operational norms of certificate assessments into the daily training process. As a result, students are unable to achieve a synchronized improvement in both their practical training quality and their success rates in certification exams. This disjointed approach not only places additional stress on students but also limits their ability to internalize and apply the necessary skills effectively. A more cohesive strategy is needed, where certification requirements are seamlessly integrated into the regular training curriculum, enabling students to develop their competencies in a structured and progressive manner.

The evaluation system for practical training in nursing education is often criticized for being overly simplistic and rigid. Traditional assessment methods primarily focus on the standardization of operational processes, without adequately considering job-specific requirements, competition scoring criteria, or certificate assessment standards. This narrow approach fails to provide a comprehensive evaluation of students' practical abilities, particularly in the context of their future professional roles. Furthermore, the absence of a process-based and professional evaluation framework limits the ability to measure students' competencies holistically. To address these shortcomings, it is imperative to develop a more dynamic and multifaceted evaluation system. Such a system should incorporate diverse assessment criteria, including real-world applicability, adaptability, and professional proficiency, to ensure a more accurate and meaningful measurement of students' practical skills.

3. Reconstruction Path of the Practical Training Teaching System for Nursing Skills Based on the Integration of Job, Course, Competition, and Certificate

The practical training teaching system for nursing skills is reconstructed by integrating job requirements, course content, skill competitions, and professional certification into a cohesive framework. This approach addresses existing challenges in nursing education by focusing on four key dimensions: course content, teaching methodology, practical training platforms, and evaluation mechanisms. The integration ensures that the curriculum aligns closely with real-world job demands, enabling students to acquire skills that are directly applicable in professional settings [8, 9]. Teaching methodologies are adapted to foster active learning, critical thinking, and hands-on practice, ensuring that theoretical knowledge is effectively translated into practical competencies. Practical training platforms are enhanced to simulate real-world scenarios,

providing students with opportunities to practice and refine their skills in controlled environments. Additionally, the evaluation mechanisms are restructured to assess not only theoretical understanding but also practical proficiency, ensuring a comprehensive assessment of student capabilities. This systematic and closed-loop approach ensures that nursing students are well-prepared to meet the demands of their profession while achieving a seamless integration of academic learning and professional development.

3.1. Connect with Job Standards and Reconstruct Modularized Practical Training Course Content

To align with the clinical nursing position capability framework, the traditional approach of dividing practical training chapters by discipline is replaced with a modularized system tailored to specific job roles. This approach is informed by comprehensive research into the requirements of frontline nursing positions across various hospital departments, including internal medicine, surgery, emergency care, and geriatrics. The essential practical skills, professional attributes, and situational response capabilities required for these roles are systematically categorized into four core modules: the basic nursing module, the specialized nursing module, the emergency response module, and the humanistic service module. Each module is designed to integrate multiple objectives, ensuring that training sessions simultaneously address the requirements of nurse qualification examinations, 1+X certificate assessments, and skill competition standards. For instance, foundational skills such as intravenous infusion and vital sign monitoring are aligned with the operational benchmarks of certification assessments. Similarly, training in critical procedures like cardiopulmonary resuscitation and defibrillation adheres to the precise standards expected in competitive skill evaluations. Furthermore, modules focusing on chronic disease management incorporate elements that enhance humanistic communication and health education capabilities, ensuring that trainees are equipped to meet the demands of clinical roles. This integrated approach ensures that each training session is relevant to real-world job requirements, competitive standards, and certification criteria. By embedding these elements into the curriculum, the training program achieves a seamless blend of theoretical knowledge and practical application, fostering a comprehensive skill set that is directly applicable to professional nursing environments. This modularized system not only enhances the relevance of training but also ensures that learners are well-prepared for the multifaceted demands of their future roles.

3.2. Innovate Teaching Mode and Achieve Integration of Competition-Based Teaching and Certificate-Based Teaching

To enhance the effectiveness of practical training in nursing education, it is essential to transition from a singular, demonstration-focused approach to a more comprehensive and integrated teaching model [6, 10]. This model combines classroom instruction, competition-based learning, and certificate-oriented preparation. Firstly, competition standards should be systematically incorporated into regular classroom activities. By embedding the scoring criteria, operational precision requirements, time management norms, and professional etiquette standards of nursing skill competitions into daily training, all students can benefit from a standardized, high-level educational experience. This approach eliminates the exclusivity of competition-focused training and ensures that all learners gain from the pedagogical advantages of competition-based methodologies. Secondly, certificate examination requirements should be seamlessly integrated into the curriculum. Key assessment points and operational guidelines for certification should be broken down and addressed in each practical training session. This includes reviewing certification criteria before class, conducting targeted training during class, and reinforcing these skills through post-class activities. Such an approach ensures that routine training sessions double as preparation for certification, thereby enhancing students' readiness for professional qualification. Lastly, the introduction of real-world clinical scenarios into simulation training is crucial. By incorporating common and challenging situations encountered in clinical settings, students can engage in immersive

training that sharpens their emergency response capabilities and clinical reasoning skills. This method bridges the gap between academic training and real-world clinical demands, equipping students with the practical competencies required for their future roles. Through these strategies, the integration of competition-based and certificate-based teaching can be achieved, fostering a more holistic and effective educational framework for nursing students.

3.3. Build Multiple Practical Training Carriers and Improve the Educational Platform for Job, Course, Competition, and Certificate

The development of a comprehensive educational platform that integrates job training, coursework, competitions, and certification is essential for fostering practical skills and professional readiness among students. Utilizing the framework of school-college cooperation and industry-academia integration, a four-in-one educational model has been established. This model incorporates standardized on-campus training bases, clinical position practice bases, skill competition training platforms, and certificate assessment training platforms. On-campus training facilities are designed to replicate real clinical ward environments, ensuring that students are exposed to realistic job scenarios. These facilities are regularly updated to align with current industry standards, providing students with an authentic and immersive learning experience. Through partnerships with hospitals, students participate in phased internships, allowing them to engage directly with professional workflows and gain hands-on experience in clinical settings. Additionally, skill competitions are organized at both class and school levels, offering students opportunities to refine their abilities and apply theoretical knowledge in practical contexts. These competitions serve as a platform for continuous skill enhancement and confidence building. To further support professional development, specialized training for certification is conducted using on-campus examination resources. This ensures a seamless integration of training, competition, certification, and practical application, creating a cohesive learning pathway. Complementing these efforts, an online training resource library has been established. This digital repository includes instructional videos, certification guidelines, and practical case studies, enabling students to engage in self-directed learning and skill reinforcement outside of formal training sessions. By combining on-campus and off-campus resources, this integrated educational approach effectively prepares students for the demands of their future careers.

3.4. Reconstruct a Diversified Evaluation System and Establish a Closed-Loop Assessment Mechanism

A diversified evaluation system has been developed to comprehensively assess students' abilities and performance across multiple dimensions, moving beyond the traditional single-mode assessment focused solely on operational skills. This system integrates four key components: position ability, course training, competition performance, and certificate level. The total training score is distributed across these components, with course routine training assessments contributing 50%. This aspect evaluates students' daily classroom practical performance, ensuring consistent engagement and skill application. Position adaptability literacy assessments account for 20%, focusing on critical competencies such as clinical thinking, humanistic services, and teamwork, which are essential for professional roles. Competition ability assessments contribute 15%, reflecting students' performance in internal skills competitions and training events, which serve as practical benchmarks for their capabilities [8, 11]. Lastly, certificate compliance assessments make up 15%, combining simulated certification outcomes with an evaluation of examination proficiency to provide a holistic measure of readiness and expertise. To ensure a robust and fair evaluation process, a multi-party assessment approach is employed. This includes evaluations by teachers, peer group assessments, and self-evaluations by students. Detailed scoring standards for competitions, rules for certificate-related deductions, and specific occupational requirements are incorporated into the evaluation criteria. This comprehensive approach not only drives students to improve their practical skills and professional qualities but

also fosters a culture of continuous learning and self-improvement. By aligning assessments with learning objectives and professional standards, this system ensures that students are better prepared to meet the demands of their future roles, promoting both individual growth and overall quality enhancement in education and training.

4. System Implementation Guarantee Strategies

4.1. Strengthen the Construction of Dual-Qualified Teachers

To ensure the effective implementation of training programs, it is essential to establish a multidisciplinary teaching team composed of training instructors, clinical head nurses, and competition guidance teachers [12–14]. This team should collaborate to conduct regular specialized research and teaching activities that integrate job responsibilities, curriculum content, competition preparation, and certification requirements. These activities should include clinical training sessions, competition-focused workshops, and certification assessments, all designed to align educational practices with current industry standards and professional benchmarks. By doing so, the teaching team can enhance their ability to meet the evolving demands of their roles, such as aligning training with job-specific standards, providing effective guidance for skills competitions, and facilitating the certification process. Furthermore, continuous professional development initiatives should be implemented to ensure that teaching methodologies remain updated and relevant. This approach not only strengthens the overall teaching capacity but also ensures that students receive training that is directly applicable to real-world professional environments, thereby bridging the gap between academic learning and practical application.

4.2. Establish a Dynamic Content Update Mechanism

To ensure the continuous alignment of training programs with evolving industry requirements, it is essential to establish a mechanism for dynamic content updates. This involves fostering collaboration with medical institutions and professional industry associations to monitor and integrate advancements in clinical nursing standards, updates in skill competition frameworks, and revisions to vocational certificate examination outlines [15]. By systematically reviewing and adapting the curriculum and teaching methodologies, training programs can maintain their relevance and effectiveness. Such an approach enhances the timeliness and precision of educational content, ensuring that trainees acquire the necessary competencies to meet current professional demands. Furthermore, this iterative process helps bridge the gap between talent cultivation and the practical needs of the healthcare sector, promoting a workforce that is both highly skilled and adaptable to industry changes. The emphasis on continuous improvement underscores the importance of responsiveness in educational strategies.

4.3. Improve the School-Enterprise Collaborative Education Mechanism

To enhance the effectiveness of collaborative education between schools and enterprises, it is essential to deepen the integration of academic institutions with industry practices. This can be achieved by actively involving clinical frontline nurses and industry professionals in the development and implementation of training programs. Their participation should encompass the design of course content, provision of teaching guidance, and evaluation of student performance. By embedding the practical requirements of clinical roles into the educational framework, the training process can shift from a traditional, isolated campus-based approach to a dynamic, cooperative model that leverages the strengths of both academic and industry stakeholders [13]. This collaborative approach not only ensures that students acquire skills directly aligned with workplace demands but also significantly enhances their adaptability to professional roles and boosts their competitiveness in the job market. Such integration fosters a seamless transition from education to employment, benefiting both students and the healthcare industry.

5. Conclusion

The integration of position, course, competition, and certificate constitutes a central direction for optimizing practical teaching in nursing education in the new era. This integrated approach can effectively address several persistent problems in traditional practical teaching, including insufficient alignment with actual job requirements, weak coordination between skills competitions and routine teaching, and the disconnection between certificate preparation and curriculum implementation. On the basis of this concept, the present study reconstructs the nursing practical teaching system from four interrelated dimensions: course content, teaching mode, training carrier, and evaluation mechanism. Through this reconstruction, position requirements, course instruction, skills competitions, and vocational certificates are incorporated into a unified framework, thereby forming a comprehensive, multidimensional, and closed-loop practical education model.

The value of this system lies not only in structural integration, but also in its capacity to improve the overall quality of talent cultivation. By embedding occupational standards into teaching objectives, linking competition tasks with practical learning activities, and coordinating certificate requirements with training processes, the system strengthens the relevance, continuity, and applicability of nursing education. As a result, students are better able to develop practical nursing skills, clinical critical thinking, standardized operational competence, certificate acquisition ability, and adaptability to specific professional positions. These outcomes are closely aligned with the demand for high-quality, skilled nursing personnel in the contemporary health sector.

At the same time, the findings indicate that the effectiveness of this integrated model depends on sustained implementation and continuous refinement. In future practice, it remains necessary to deepen collaboration between educational institutions and healthcare organizations, dynamically optimize teaching content in response to changes in clinical practice, strengthen the development of dual-capacity teaching teams, and further improve the coordination mechanism among workplace learning, curriculum teaching, competition guidance, and certificate training. In addition, greater attention should be given to the standardization of training procedures, the authenticity of practical scenarios, and the scientific design of evaluation indicators. Through ongoing improvement in these areas, nursing practical teaching can move toward greater standardization, higher quality, and stronger professional orientation, thereby providing the healthcare industry with more competent nursing professionals who possess both sound professional ethics and solid practical abilities, and who are capable of adapting effectively to diverse demands.

References

1. L. Peng, Q. Huang, Y. Zhao, and Y. Y. Yu, "On course teaching of basic medicine and nursing in connection of middle and higher vocational nursing," *Journal of Southwest China Normal University (Natural Science Edition)*, vol. 46, no. 3, pp. 194–200, 2021.
2. L. Zysberg and D. M. Berry, "Gender and students' vocational choices in entering the field of nursing," *Nursing Outlook*, vol. 53, no. 4, pp. 193–198, 2005.
3. I. Kapborg, "Nursing education in Sweden: development from vocational training to higher level education," *Journal of Advanced Nursing*, vol. 27, no. 2, pp. 372–378, 1998.
4. H. Park and H. Cho, "Effects of nursing education using films on perception of nursing, satisfaction with major, and professional nursing values," *Journal of Nursing Research*, vol. 29, no. 3, p. e150, 2021.
5. N. U. Alhasan and A. Tyabo, "Revitalizing technical and vocational education (TVET) for youth empowerment and sustainable development," *Journal of Educational and Social Research*, vol. 3, no. 4, p. 149, 2013.
6. P. Lahtinen, H. Leino-Kilpi, and L. Salminen, "Nursing education in the European higher education area—Variations in implementation," *Nurse Education Today*, vol. 34, no. 6, pp. 1040–1047, 2014.
7. M. Pilz and J. Regel, "Vocational education and training in India: Prospects and challenges from an outside perspective," *Margin: The Journal of Applied Economic Research*, vol. 15, no. 1, pp. 101–121, 2021.
8. S. Billett, *Vocational education: Purposes, traditions and prospects*. Springer Science & Business Media, 2011.
9. A. Wolf, *Review of vocational education*. London: DfE, 2011.
10. F. Dahalan, N. Alias, and M. S. N. Shaharom, "Gamification and game based learning for vocational education and training: A systematic literature review," *Education and Information Technologies*, vol. 29, no. 2, pp. 1279–1317, 2024.

11. R. Holden and E. Smith, "Practitioner researchers in vocational education and training," *International Journal of Training Research*, vol. 7, no. 2, pp. 134–144, 2009.
12. K. Levesque and D. D. Nelson, *Vocational education in the United States: Toward the year 2000*. US Department of Education, Office of Educational Research and Improvement, 2000.
13. G. Hoachlander, "Toward a new framework of industry programs for vocational education: Emerging trends in curriculum and instruction," 1998.
14. G. Psacharopoulos, "Vocational education and training today: challenges and responses," *Journal of Vocational Education and Training*, vol. 49, no. 3, pp. 385–393, 1997.
15. M. Brockmann, L. Clarke, P. Méhaut, and C. Winch, "Competence-based vocational education and training (VET): The cases of England and France in a European perspective," *Vocations and Learning*, vol. 1, no. 3, pp. 227–244, 2008.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of Publisher and/or the editor(s). Publisher and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.