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Challenges and Countermeasures in the Construction of Nursing Practice Teaching Bases in University-Affiliated Hospitals under the "1 + X" Certificate System

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Abstract: The "1 + X" certificate system is an important direction for vocational education reform in China, aiming to promote the deep integration of academic education and vocational skills training, and enhance learners' job adaptability and employment competitiveness. University-affiliated hospitals, as the core carriers of practical teaching in nursing, play a crucial role in integrating education and training in implementing the "1 + X" certificate system. This article analyzes the core challenges currently facing the construction of nursing practical teaching bases in university-affiliated hospitals from three dimensions: system integration, resource allocation, and faculty development. Based on the development of the nursing industry and the requirements of education and training, it proposes targeted countermeasures, providing a reference for improving the nursing practical education and training system and enhancing the quality of nursing talent training.

Keywords: 1 + X certificate system; University-affiliated hospitals; Nursing practice teaching; Base construction

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1. Introduction

In 2019, the State Council issued the "Implementation Plan for the Reform of National Vocational Education," which explicitly proposed launching a pilot program for the "1 + X" certificate system in vocational colleges and applied undergraduate universities. This encourages students to obtain multiple vocational skill level certificates while earning academic degrees, thus constructing a talent cultivation system that integrates education and training and combines academic and certification education. Under the "1 + X" certificate system, university-affiliated hospitals need to simultaneously undertake practical teaching for nursing degrees and vocational skill level training in multiple areas such as elderly care and maternal and

infant care. This places entirely new demands on the operating mode, resource allocation, and management system of existing practical teaching bases. Currently, most university-affiliated hospitals' practical teaching bases still use the traditional framework of academic education and have not yet completed a systematic transformation to adapt to the "1 + X" system. They face multi-dimensional practical difficulties during the construction process, urgently requiring a systematic review of the problems and exploration of solutions [1].

2. The concept of the "1 + X" certificate system

The "1 + X" certificate system is an innovative system in the field of vocational education. "1" refers to the academic certificate, which reflects the quality of talent training in schools, and "X" refers to several vocational skill level certificates, which reflect the vocational skill level of graduates. It aims to deepen the reform of vocational education, enhance students' employability, and achieve the integration of education and training.

3. The dilemmas in the construction of nursing practice teaching bases in university-affiliated hospitals under the "1 + X" certificate system

3.1. Institutional integration level: Barriers to the connection between formal education and skills training

Currently, most university-affiliated hospitals have not yet broken down the institutional barriers between academic education and skills training in their practical teaching. On the one hand, the practical teaching management system of university-affiliated hospitals was originally designed around the training requirements of academic education. The practical content, class hours, and assessment standards are all tied to the academic teaching syllabus. Vocational skills training is often regarded as an "extra task" and is not included in the regular practical teaching plan. Most training tasks are only arranged temporarily during the concentrated period before the graduation internship, failing to integrate with the content and progress of daily clinical practice teaching. On the other hand, there is a mismatch between the skill level standards corresponding to the "1 + X" certificate and the practical teaching syllabus of nursing academic education. This results in a mismatch between the students' academic learning content and the certificate assessment requirements, requiring students to spend extra time repeating the learning, which increases the burden on students and reduces the efficiency of education and training [2].

3.2. Resource allocation level: The contradiction between the demand for standardized training and the supply of existing resources

First, clinical space resources are scarce. Affiliated hospitals undertake a large number of daily medical service tasks, and the core function of clinical wards is to meet the diagnosis and treatment needs of patients. The space available for practical teaching and skills training is limited, making it difficult to set up a dedicated area for skills training. Second, the suitability of training equipment is insufficient. The "1 + X" certificate assessment requires the use of training equipment that meets the latest industry standards, but most affiliated hospitals' existing training equipment only meets the needs of basic nursing operation training. The equipment is outdated, the models are obsolete, and they do not meet the equipment standards of the "1 + X" certificate assessment. Updating equipment also faces problems such as long funding approval processes and insufficient funding sources. Finally, the development of practical training projects is insufficient. The skills

requirements of the "1 + X" certificate are more inclined towards on-the-job practical operation and emphasize the ability to solve real clinical problems. However, most practical training projects in affiliated hospitals are still mainly based on basic operation training and lack comprehensive project designs that meet the needs of the job, which cannot meet the requirements of skills-level training for comprehensive ability training.

3.3. Faculty level: Disconnect between dual-teacher competency matching and training system

On the one hand, there is an imbalance in the existing faculty structure. Teachers in affiliated hospitals responsible for practical teaching fall into two categories: one is nursing faculty dispatched by universities, who possess solid theoretical teaching abilities but have long been detached from frontline clinical positions, are unfamiliar with the latest clinical nursing techniques and procedures, and do not grasp the assessment standards and training requirements for the "1 + X" certificate; the other is clinical nurses from affiliated hospitals, who have rich clinical experience but lack systematic teaching skills training, are unfamiliar with the methods and principles of vocational skills training, and find it difficult to systematically impart clinical skills to students according to training requirements. On the other hand, there is a lack of a faculty training system tailored to the needs of the "1 + X" certificate. Currently, most universities and affiliated hospitals still focus on traditional practical teaching training for instructors, rarely organizing instructors to participate in specialized training on the "1 + X" certificate standards, and have not established corresponding incentive mechanisms. Clinical nurses are not highly motivated to participate in training, resulting in a severe shortage of qualified dual-qualified teachers [3].

4. Countermeasures for the construction of nursing practice teaching bases in university-affiliated hospitals under the "1 + X" certificate system

4.1. Promote the integration of systems and build a smoothly connected education and training management mechanism

To address the issue of poor integration between formal education and skills training, it is necessary to break down barriers at the institutional level and build a training management system that is compatible with the "1 + X" certificate system.

First, a systematic restructuring of talent training programs is being promoted. Universities and affiliated hospitals are jointly forming teams to develop integrated academic and practical training programs. These teams are working with the skill level standards of the "1 + X" certificates to review the practical teaching content for nursing majors. The specialized skill modules required by the certificate standards are being integrated into the existing practical teaching syllabus, and the allocation of practical hours is being adjusted. For example, the skill module for caring for disabled elderly required by the "1 + X" certificate in geriatric nursing is being integrated into internal medicine nursing practice and geriatric nursing practice. This ensures the simultaneous advancement of academic practical teaching and skills training content, avoiding redundant teaching. Second, a collaborative management mechanism is being established. Universities... The Academic Affairs Office, the School of Nursing, and the Medical Affairs Department and Nursing Department of the affiliated hospital jointly established the "1 + X" Practical Teaching Management Office. They jointly formulated an annual plan for practical training, coordinated the time and venue arrangements for academic teaching and skills training, incorporated skills training tasks into the daily teaching management system of the affiliated hospital, clarified the rights and responsibilities of all parties, and avoided treating skills training

as an extra task. Finally, a credit recognition system was established, converting students' learning outcomes and assessment scores from "1 + X" skills training into practical credits for academic education, achieving mutual recognition of academic achievements, reducing students' academic burden, and increasing students' enthusiasm for participating in certificate assessments.

4.2. Optimize resource allocation and create a standardized training and education sharing platform

To address the contradiction between the demand for standardized training and the existing supply of resources, it is necessary to integrate resources from multiple parties to build a standardized practice base that meets the requirements of "1 + X" training.

First, we will revitalize existing clinical resources by adopting a "fixed venue + flexible sharing" model to address the shortage of space. Fixed areas will be designated within the existing clinical skills center of the affiliated hospital, with specialized training zones set up according to different "1 + X" certificate directions. For training programs requiring real-world clinical scenarios, we will coordinate with clinical departments to open up unused treatment spaces for training without disrupting daily clinical practice. Simultaneously, we will utilize weekends and evenings during off-peak hours to improve venue utilization. Second, we will broaden funding sources and update suitable training equipment. In addition to regular institutional construction funds, we will actively apply for special funds for the "1 + X" certificate pilot program and connect with local governments. Health departments and medical and health industry enterprises should strive for horizontal funding support to gradually update training equipment according to the "1 + X" certificate assessment standards. At the same time, they can establish cooperation with equipment suppliers and solve the problem of insufficient funding for equipment updates through leasing, donations, and other means. Finally, they should develop comprehensive training projects that meet job requirements. These projects should be jointly developed by clinical experts from affiliated hospitals, university teachers, and evaluation organizations, and designed with comprehensive training cases around real clinical job tasks. For example, for maternal and infant care certificates, a comprehensive training project should be designed that includes the entire process of prenatal care, childbirth assistance, neonatal care, and postpartum rehabilitation to improve students' job adaptability.

4.3. Improve training and incentive mechanisms to build a qualified dual-qualified teaching staff

To address the issues of insufficient dual-qualification (both academic and vocational) skills and the disconnect between these skills and the training system, it is necessary to improve teacher training and incentive mechanisms to build a well-structured dual-qualified teacher workforce.

First, establish a tiered and categorized teacher training system, regularly organize existing teaching staff to participate in specialized training on the "1 + X" certificate standards, and select key teachers to participate in teacher certification training organized by evaluation organizations to obtain corresponding training qualifications. For theoretical teachers dispatched by universities, establish a regular clinical rotation system, requiring theoretical teachers to participate in front-line work in corresponding clinical positions in affiliated hospitals for no less than 3 months each year to update their clinical skills and knowledge and master the latest operating procedures. For clinical teaching nurses, conduct systematic teaching ability training, offering relevant courses such as pedagogy, educational psychology, and skills training methods to improve

the teaching ability of clinical teaching nurses. Secondly, establish a dual-qualified teacher certification and incentive mechanism, incorporate the workload of participating in "1 + X" training into the performance evaluation of medical staff in affiliated hospitals, link it to professional title evaluation and commendation, and provide additional class hour subsidies for those participating in "1 + X" training to enhance the enthusiasm of clinical nurses to participate in training. Finally, establish a school-enterprise teacher sharing mechanism, invite skill experts from industry enterprises to participate in practical training, make up for the existing teacher capacity gap, for example, introduce senior care experts from elderly care institutions to participate in the practical training of the "1 + X" certificate for elderly care, and enrich the capacity structure of the teaching staff.

5. Conclusion

The "1 + X" certificate system provides an important direction for the reform of nursing talent training in universities, but also presents new challenges to the construction of nursing practice teaching bases in university-affiliated hospitals. Currently, university-affiliated hospitals face practical dilemmas in three dimensions: system integration, resource allocation, and faculty development, in the process of adapting and transforming their bases. They need to systematically promote reform at three levels: system restructuring, resource integration, and faculty development. This will achieve a deep integration of academic education and skills training, fully leverage the clinical resource advantages of university-affiliated hospitals, improve the quality of nursing practice training, cultivate more high-quality, skilled nursing talents who meet the needs of the medical and health industry, and provide talent support for the construction of a healthy China.

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The authors declare no conflict of interest.

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