

Research on the Competence Development of Higher Vocational Nursing Teachers in the Information Age

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Abstract: Driven by the tide of the information age, the field of education is undergoing profound changes. As a key position for cultivating practical nursing talents, higher vocational nursing education is also facing unprecedented opportunities and challenges. Higher vocational nursing teachers, as the core implementers of teaching activities, their competence development is directly related to the quality of nursing talent cultivation and the future direction of nursing education. From a broad perspective, this paper deeply analyzes the impact of the information age on higher vocational nursing education, clarifies the core competence elements that higher vocational nursing teachers should possess in this context, and explores effective paths to promote teachers' competence development, aiming to provide useful references for the sustainable development of higher vocational nursing education.

Keywords: Information age; Higher vocational nursing teachers; Competence development; Path exploration

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1. Introduction

As information technology leads humanity into the information age, higher vocational nursing education, as a key type of higher education, undertakes the important task of cultivating high-quality talents for the medical and health industry. The state also attaches great importance to the development of educational informatization and has issued a series of policy documents to promote the improvement of teachers' information literacy. In January 2018, The Opinions of the CPC Central Committee and the State Council on Comprehensively Deepening the Reform of Teacher Team Construction in the New Era clearly required that "teachers should proactively adapt to the transformation of new technologies such as informatization and artificial intelligence, and carry out education and teaching in an active and effective manner"^[1]. In July 2025, the General Office of the Ministry of Education issued The Notice on Organizing and Implementing the Action of Empowering Teacher Development through Digitalization, which is committed to comprehensively improving teachers' digital literacy and promoting the development of high-quality resources and service supply for teacher education. These policies highlight the importance and necessity of improving teachers' information literacy in the information age^[2]. The traditional teaching model of higher vocational nursing education can no longer meet the needs of the times and the development of social industries, and there is an urgent need for reform and innovation. Higher vocational nursing

teachers, as the implementers and guides of teaching activities, whether their quality meets the needs of the information age has become the key to reform and innovation. Therefore, it is of great significance to explore the requirements for the professional competence development of higher vocational nursing teachers in the information age.

2. The Impact of the Information Age on Higher Vocational Nursing Education

2.1. Transformation of Teaching Philosophy

In traditional higher vocational nursing education, the teaching philosophy is teacher-centered. Knowledge imparting emphasizes one-way education and cramming-style teaching, leaving students in a passive position of receiving knowledge^[3]. However, in the information age, a vast amount of information resources have broken through the “walls” of traditional classroom teaching, and students now have more diverse and convenient access to knowledge. This requires higher vocational nursing education to transform its teaching philosophy—shifting from a teacher-centered approach to a student-centered one, with greater emphasis on students’ dominant position and individual needs. Teachers are no longer merely educators; instead, they act as guides, organizers, and collaborators in students’ learning process. They should use information-based tools to build platforms for students’ independent learning, stimulate students’ interest and initiative in learning, and cultivate their ability to learn independently and innovate.

2.2. Update of Teaching Content

In the era of internet and big data, new knowledge, theories, technologies, and equipment in the nursing discipline emerge in an endless stream. The medical and health industry has put forward new and higher requirements for nursing talents: they must not only have solid professional basic theories and operational skills but also possess good communication skills, teamwork abilities, a sense of humanistic care, and the ability to respond to emergencies. Therefore, the teaching content of higher vocational nursing education must adapt to the demands of the times and society, and be continuously updated and adjusted. On one hand, it is necessary to organically integrate information technology with nursing professional knowledge, and add courses related to interdisciplinary integration of information technology and nursing—such as Nursing Informatics, Application of Medical Databases, and Telehealth Nursing. This enables students to skillfully use information technology to solve practical nursing problems. On the other hand, attention should be paid to the practicality and forward-looking nature of teaching content. New ideas, new technologies in the nursing field, as well as the most advanced nursing theories, technologies, and concepts at home and abroad should be introduced in a timely manner. By combining these with specific clinical cases, students can keep abreast of the latest developments in the nursing discipline, thereby enhancing their clinical practical abilities and employability competitiveness.

2.3. Innovation of Teaching Modes

The traditional teaching modes of higher vocational nursing education mainly include classroom lectures, supplemented by laboratory training and clinical internships. These modes are relatively single, failing to fully arouse students’ enthusiasm and initiative in learning, and unable to meet their personalized learning needs. The information age provides abundant means and platforms for the reform of higher vocational nursing teaching modes, with emerging new teaching modes such as multimedia teaching, online teaching, virtual simulation experimental teaching, flipped classroom, and blended teaching. Multimedia teaching integrates text, images, audio, video and other information, making teaching content vivid, intuitive and easy to understand, which helps improve classroom teaching efficiency^[4]; Online teaching platforms break the constraints of time and space, providing students with rich teaching resources and interactive communication venues. Students can independently decide their learning time and progress to conduct personalized learning; Virtual simulation teaching simulates clinical scenarios, allowing students to practice repeatedly in a safe and controllable environment, thereby improving their clinical operation skills and emergency response capabilities; Flipped classroom and blended teaching organically integrate in-class teaching with online teaching, giving full play to teachers’ guiding role and students’

dominant role, and promoting the improvement of teaching quality^[5].

3. Core Competence Elements Required for Higher Vocational Nursing Teachers in the Information Age

3.1. Information-Based Teaching Competence

Information-based teaching competence is one of the essential basic competencies for higher vocational nursing teachers in an information-driven environment. It mainly includes the teachers' ability to implement information technology in teaching, which means teachers should be familiar with and proficient in using common information-based teaching software and resources—such as courseware development software, online teaching systems, simulation teaching software, and video editing software—and master the operation of common information-based teaching equipment, including projectors, electronic whiteboards, and multimedia classroom systems. Another key part is the teachers' ability to design information technology-integrated teaching: they need to organically combine information technology with nursing professional teaching content and methods, and design information-driven teaching implementation plans. Specifically, during the teaching design process, teachers should comprehensively consider students' cognitive rules and individual needs, formulate proper teaching plans, select suitable teaching resources and methods, and create a positive teaching atmosphere, so as to enable students to learn happily, enthusiastically and proactively.

3.2. Professional Development Competence

Against the backdrop of informatization, knowledge in the nursing discipline is updated at an increasingly rapid pace, with a growing number of new nursing theories, technologies, and methods emerging constantly. This requires higher vocational nursing teachers to possess strong professional development competence: they must update their professional knowledge and skills in line with the times, keenly track the latest developments and changes in the nursing field, and meet the needs of social development and teaching work. First, teachers should have independent learning ability. They need to master the use of information technologies (such as academic databases, professional websites, and MOOCs) to independently learn the cutting-edge knowledge and technologies in the nursing field, thereby broadening their horizons and enriching their insights. Second, teachers should have research competence. They need to leverage information tools to conduct nursing teaching research and clinical nursing research. In terms of nursing teaching research: explore the application effects of information-based nursing teaching modes and methods, summarize experiences in a timely manner to form research outcomes, and provide insights and references for promoting the reform of higher vocational nursing education and improving teaching quality. In terms of clinical nursing research: focus on frontier issues in clinical nursing practice, use information technologies to collect, organize, and analyze data and information, and conduct scientific research. This provides high-quality services and technical support for advancing the development of the nursing discipline and clinical nursing practice^[6].

3.3. Humanistic Literacy and Communication Competence

Nursing is a “people-oriented” profession. In addition to solid professional knowledge and skills, nurses should also possess good humanistic literacy and communication skills: they need to care for and respect patients, communicate and interact effectively with patients and their families, and provide high-quality nursing services. In the information age, while information technology has facilitated nursing work, it has also reduced emotional communication between people^[7]. Therefore, higher vocational nursing teachers should have a certain level of humanistic literacy and communication competence, and attach importance to cultivating students' humanistic spirit and communication skills in teaching^[8]. First, teachers should have good professional ethics and humanistic feelings. Through words and deeds, they should guide students to establish correct professional values and outlooks on life, and cultivate students' sense of responsibility, mission, and awareness of caring for others.

Second, teachers should have excellent communication competence and learn to communicate and interact effectively with students, colleagues, and clinical medical staff. When communicating with students: respect students' individual differences, listen to their opinions and suggestions, pay attention to their learning and life situations, and provide timely assistance and guidance. When communicating with colleagues: show mutual understanding and support, jointly discuss teaching issues, and share teaching experiences. When communicating with clinical medical staff: understand the needs of clinical nursing practice, strengthen school-enterprise cooperation, and provide more clinical internship and practice platforms for students.

4. Paths to Promote the Competence Development of Higher Vocational Nursing Teachers in the Information Age

4.1. Strengthen Information Technology Training for Teachers

Information technology training for teachers is a direct and effective measure to improve the information-based teaching competence of higher vocational nursing teachers. Schools should formulate a comprehensive information technology training plan for teachers, and carry out hierarchical and diversified information technology training based on teachers' different levels of information technology proficiency and needs. The information-based teaching training should cover aspects such as information-based teaching concepts, the application of information-based teaching tools, the design and implementation of information-based teaching, and information-based teaching evaluation. Moreover, combined with the characteristics of the nursing major, training content related to information-based teaching in nursing should be added, such as nursing informatics and the application of nursing teaching based on virtual simulation. Diversified training methods should be adopted for information-based teaching training, such as a combination of centralized training, online training, special lectures, case analysis, and practical operation, to enhance the pertinence and effectiveness of the training. Studies have emphasized that effective training should adopt a diversified model of "online-offline integration and integration of theory and practice"^[9]. Schools should invite information technology experts, excellent information-based teaching teachers, and clinical nursing experts to give lectures and provide guidance to teachers. These experts can share experiences in information-based teaching and cases of information technology application in clinical nursing practice, helping teachers learn and better apply information technology in teaching. A complete in-school training assessment mechanism should be established, and the results of teachers' training assessment should be linked to professional title evaluation and appointment, as well as selection for excellent teacher awards. This will encourage teachers to actively participate in information technology training activities and enhance their enthusiasm and initiative in attending such training^[10].

4.2. Build Platforms for Teachers' Professional Development

Building platforms for teachers' professional development is a key guarantee for promoting the professional development of higher vocational nursing teachers. Schools can construct platforms such as a Teacher Teaching Development Center, nursing professional teaching and research sections, and research teams to provide platforms and conditions for promoting teachers' professional development. The Teacher Teaching Development Center can provide teachers with services such as teaching consultation, training, seminars, and application guidance for teaching reform projects. It helps teachers solve practical problems encountered in teaching, improves their teaching competence, and promotes the improvement of teaching quality. Nursing professional teaching and research sections can organize teachers to carry out activities such as collective lesson preparation, teaching seminars, curriculum development, teaching material development, research on teaching and research papers, and compilation of school-based teaching materials. These activities promote communication and cooperation among teachers, and jointly improve their professional teaching competence. Research teams can engage teachers in nursing teaching research projects and clinical nursing research projects. They provide support and assistance for teachers' teaching and research work, and help teachers improve their research capabilities and innovative abilities^[11].

At the same time, schools should strengthen horizontal connections and learning with sister schools, medical institutions, and information technology enterprises. They can organize teachers to go out for study, further education, and inspections, enabling teachers to understand and master the latest developments in nursing education and information technology at home and abroad. This broadens teachers' horizons and promotes the improvement of their professional level. In addition, schools can encourage teachers to actively participate in activities of industry associations and academic societies, and take the initiative to carry out academic exchanges and cooperative research. This helps teachers gain recognition in the field and exert greater influence^[12].

4.3. Create a Favorable Humanistic Education Atmosphere

The humanistic education atmosphere is a crucial factor in cultivating the humanistic literacy and communication competence of higher vocational nursing teachers. Schools should strengthen the construction of campus culture, promote the humanistic spirit, and integrate the concept of humanistic education into the entire process of school education and teaching^[13]. In terms of curriculum design, schools should increase humanistic courses and explore the humanistic connotations in nursing professional courses during teaching, integrating humanistic education with professional teaching. This guides teachers to cultivate students' humanistic spirit and professional ethics while imparting professional knowledge. Schools should also carry out diverse and multi-form humanistic theme activities, such as humanistic lectures, cultural and art festivals, and voluntary service activities. These activities help create a humanistic education atmosphere on campus, allowing teachers and students to be influenced and educated, thereby promoting the improvement of their own humanistic literacy and communication competence^[14]. Additionally, schools should strengthen emotional communication between teachers and students, as well as among colleagues, and properly handle interpersonal relationships. This enables teachers to experience humanistic care in a harmonious and warm working environment, encouraging them to take teaching work seriously with dedication and continuously enhance their humanistic literacy and communication competence.

5. Conclusion

To sum up, the information age puts forward higher requirements for the competence development of higher vocational nursing teachers. Higher vocational nursing teachers must adapt to the trend of the times: by improving their information-based teaching competence, professional development competence, as well as humanistic literacy and communication competence, they can make their own abilities and literacy more in line with the development needs of higher vocational students and promote the sustainable development of higher vocational nursing education. Meanwhile, schools need to provide strong guarantees and support for teachers' competence development by increasing investment in teachers' information technology training, building platforms for teachers' professional development, and creating a humanistic education environment. Only in this way can more high-quality, skilled nursing talents who meet the requirements of the information age be cultivated, promoting the sustained and healthy development of higher vocational nursing education and making greater contributions to the progress of China's medical and health undertakings.

Disclosure statement

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