



# Application and Effect Evaluation of Nursing Examination System in Nursing Teaching

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**Abstract.** This paper discusses the application and effect of nursing practice qualification examination counseling and learning management system (hereinafter referred to as human health and nursing examination system) developed by the people's Health Publishing House in nursing teaching. Using the methods of convenient sampling and objective sampling, taking nursing students and teachers, the human health examination system was applied in the teaching of internal medicine nursing course and the guidance of nurse practice qualification examination (nursing examination). After the course teaching and nursing examination counseling, the students' scores were evaluated, questionnaires were issued to investigate the teaching effect, and the students' scores of internal medicine nursing examination at the end of the semester were compared.

**Keywords:** Nursing examination system · Nursing teaching · impact assessment

## 1 Introduction

In recent years, with the continuous development of information technology, the field of higher vocational nursing education has been actively exploring the combination of online and offline hybrid learning. Since 2017, the national soil protection qualification examination (hereinafter referred to as the “soil protection examination”) has fully implemented the man-machine dialogue examination mode. The man-machine dialogue test manages the test network. Candidates read the test questions on the computer screen and answer through the mouse and keyboard. Our school is a health vocational college with more than 2000 nursing students [1]. In mixed teaching under the new situation, our school purchased the nurse qualification examination counseling and learning management system (hereinafter referred to as the human health care examination system) developed by the people's Health Publishing House in 2015, and applied it to nursing teaching and nursing examination counseling in September 2017. It carried out mixed teaching combining online and offline learning and classroom counseling, which improved the teaching effect.

## **2 Related Work**

### **2.1 Nursing**

Nursing is an old but young specialty. In fact, with human beings, nursing activities appeared, but it was not until the middle of the 19th century that Nightingale initiated the scientific nursing specialty, which marked the beginning of nursing specialization and the birth of modern nursing. Nursing is a comprehensive applied science based on Natural Science and social science, which studies the nursing theory, knowledge, technology and development law in the process of prevention and health care, treatment of diseases and rehabilitation. As a specialty providing health care services, nursing has moved from hospital to family, community and society. Facing all individuals with health needs, the scope of nursing has also extended from disease nursing to the whole process from health to disease. Nursing has gradually developed into an independent discipline different from clinical medicine, which more reflects its unique scientificity, sociality and service. In 2011, the Department of degree Education issued a new discipline directory, which divided nursing from a secondary clinical medicine discipline into a primary discipline. This paper refers to the undergraduate nursing specialty set up in comprehensive colleges or medical colleges.

### **2.2 Undergraduate Nursing Education**

The modern Chinese dictionary explains “undergraduate course” as “the basic part of a university or college, and students can obtain a bachelor’s degree after graduation”. “Undergraduate” is the abbreviation of “undergraduate education”, which refers to the level and specification of talent training. It is generally the implementation of general education. According to the international standard classification of Education (2011), undergraduate education belongs to the sixth level of education, which is divided into academic and professional. For the nursing discipline, among the more than 300 nursing colleges / departments offering undergraduate nursing education in China, except for a few nursing colleges / departments with strong research ability and comprehensive school running ability, they should focus on cultivating academic undergraduate nursing talents, The undergraduate nursing education in other colleges should be oriented to cultivate professional nursing talents [2]. Applied higher education should be defined as a professional and technical talent training activity at the undergraduate level, subordinate to the vocational education system.

## **3 Application of Nursing Examination System in Nursing Teaching**

### **3.1 Human Health Care Examination System**

Human health intelligence network is the core platform of digital content service of people’s Health Publishing House and the official website of human health medical health big data intelligent service platform. Relying on the experts and publishing resources accumulated by the human health society for more than 60 years, and through the establishment of a strong lecturer group and course guidance team, the people’s Health Publishing House has developed the guidance and learning management system for nurse qualification examination, referred to as the human health examination system for short.

Our school purchased the human health and nursing examination system in 2015 and opened it to all teachers and students of the nursing college through the campus LAN. The system has two populations: teachers and students have their own accounts. Teachers and students share more than 7000 test questions (all A1, A2, A3 and A4 questions) and more than 200 teaching videos (updated regularly), covering 21 chapters of nursing related contents, such as basic nursing knowledge and skills, nursing of respiratory diseases, nursing of circulatory diseases, etc. [3]. The student platform has three sections: my course, my test questions and my wrong questions. My course section includes three courses: intensive lecture class, tandem lecture class and finishing class. Students can choose the learning content according to their own learning progress or teachers' requirements. The teacher platform includes 8 items, namely institutional information, resource management, learning management, examination management, institutional wrong question bank, class management, self-organizing resources and system management. The institutional information, institutional error database and system management are operated by the system administrator in the background. Teachers are responsible for resource management, learning management, examination management, class management and self-organizing resources.

### **3.2 Application of Human Health and Nursing Examination System in Nursing Teaching**

The author is a full-time teacher in the teaching and Research Department of internal medicine nursing. Taking the teaching of internal medicine nursing as an example, this paper expounds the application of human health and nursing examination system in nursing teaching in our school. Nursing in the Department of internal medicine of our university was opened in the second academic year. In September 2017 (2016 students), the internal medicine nursing course introduced Renren health care examination system on the basis of previous conventional teaching, which is mainly used in three links: classroom quiz, after-school homework and stage assessment. Taking the content of "bronchial asthma" as an example, before class, teachers enter the human health care examination system to export bronchial asthma related test questions, and then prepare lessons with reference to the exercises in the human health care examination system according to the curriculum standards and in combination with the nursing examination outline. Teachers need to make use of self-organizing resources to form papers and conduct classroom tests in order to understand the mastery of students' key and difficult points. After class, assign homework through the learning management section and enter the system at any time to check the completion of students' homework, including completion proportion, time and score. The homework score accounts. In addition, our school arranges a stage assessment after the teaching of each system of internal medicine nursing, and the score accounts. In order to ensure the fairness and fairness of stage assessment, all teachers in the course group use the human health care examination system to form papers, authorize and assess according to the course standards.

## 4 Effect Evaluation

### 4.1 Included Objects and Data Collection Methods

- (1) 375 students from 7 classes of 2015 nursing major in our university were selected as 2015 teaching group; 478 students from 9 classes of nursing major in 2016 were selected as the teaching group of 2016. The two groups of students were full-time higher vocational nursing students in our university, and there was no significant difference in enrollment age, gender, humanistic achievement and curriculum ( $P > 0.05$ ). The 2015 teaching group received routine teaching, and the 2016 teaching group introduced Renren health care examination system on the basis of routine teaching.
- (2) 1016 students in 2013 who participated in the nursing examination in the year of graduation were selected as the 2013 nursing examination group; Grade 2014 535 persons, set as grade 2014 nursing examination group; There are 319 people in 2015, and they are set as the 2015 nursing examination group. The three groups were full-time higher vocational nursing students, and there was no significant difference in humanistic age, gender, humanistic achievement and curriculum ( $P > 0.05$ ). The 2013 and 2014 nursing examination groups received routine nursing examination counseling, and the 2015 nursing examination group introduced the human health examination system on the basis of routine counseling.
- (3) A total of 31 full-time and part-time teachers who taught in the nursing college from September 2017 to July 2018 were selected. Admission criteria: have used the personal health care examination system in at least one nursing course teaching or nursing examination counseling and competition counseling, and voluntarily participate in this study. Through a questionnaire survey, understand the evaluation of 2016 teaching group students and teachers on the human health and nursing examination system, and compare the scores of medical nursing examination and the passing rate of nursing examination of students in each group.

### 4.2 Evaluation Indicators

- (1) questionnaire survey results. After consulting the literature and group discussion, the questionnaire was designed by ourselves. The student questionnaire included 8 items conducive to the learning of nursing theoretical knowledge and stimulating learning interest. The questionnaire is filled in by anonymous and distributed and recovered through the Internet. 478 student questionnaires were distributed and 436 were recovered. The 31 teachers' questionnaires were distributed and 31 were recovered [4]. The recovery rate and effectiveness rate were 100.00.
- (2) Results of internal medicine nursing course. The course scores of internal medicine nursing in each teaching group were compared.
- (3) Nursing test results. The passing rate of nursing examination in each nursing examination group was compared.

### 4.3 Evaluation of Teaching Effect of Human Health and Nursing Examination System

- (1) Student evaluation. The human health care examination system and believe that the human health care is conducive to the learning of nursing theoretical knowledge,

improve learning efficiency, review and expand knowledge after class, and help to cultivate autonomous learning ability, as shown in Table 1.

**Table 1.** Students' evaluation of human health care examination system

entry	yes	commonly	no
It is conducive to the learning of nursing theoretical knowledge	411(94.27)	22(5.05)	3(0.68)
Can stimulate interest in learning	216(49.54)	125(28.67)	95(21.79)
It helps to improve learning efficiency	388 (88.999)	21(4.82)	27(6.19)
It helps to review after class	423(97.02)	8(1.83)	5(1.15)

(2) Impact on the passing rate of nursing examination. The passing rate of nursing examination in our school has increased year by year in recent three years. The human health examination system was introduced in 2018, and the passing rate of nursing examination is as high as 99.37, as shown in Table 2.

**Table 2.** Comparison of passing of nursing examination in our school in recent 3 years

Nursing examination time	Number of examinees	Number of people passed	Passing rate
2016	1 016	980	96.46
2017	535	524	97.94
2018	319	317	99.37

Blended learning emphasizes the application of appropriate technologies and methods at the right time to optimize the learning effect. Schools often adopt different forms of information-based auxiliary learning means according to their own actual situation. The human health and nursing examination system has powerful functions and fits the man-machine dialogue examination mode of nursing examination. For higher vocational nursing specialty, nursing course teaching needs to be accurately connected with nurse practice qualification examination. Using the human health examination system for course teaching and nursing examination guidance, and can realize the integration of course and certificate. Since the application of the system, the examination results of medical nursing courses of 2016 students have significantly improved, and the passing rate of nursing examination in 2018 has significantly increased, which are strong evidence for the integration of courses and certificates.

## 5 Conclusion

The nursing examination system visualizes the empty theoretical knowledge and test questions. Each test question is equipped with answer analysis. Teachers conduct classroom assessment and stage assessment through the system, which ensures the timeliness and effectiveness of assessment, greatly improves the effect of process assessment, effectively combines online and offline, and realizes hybrid teaching. Nursing specialty is a highly practical discipline. In addition to mastering theoretical knowledge, students should also cultivate clinical thinking, critical thinking and interpersonal communication skills practice. It is not test questions alone. The human health and nursing examination system is only a teaching auxiliary platform. In the actual teaching, it also needs to complement with practical teaching, so as to finally realize the purpose.

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