

# Evolution of a Graduate-Level Informatics Course for the Noninformatics Specialist Nurse

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## ABSTRACT

The design evolution of a novice-level informatics course for nurses in a nurse practitioner, educator, and leadership track graduate nursing program is described in this article. The support of nurse empowerment to recognize a personal role and develop skill competency in information management is the desired course outcome. The course evolution incorporates activities that encourage students to make connections between the concepts of informatics and the practice environment.

**Keywords:** course design, informatics, information management, information needs, novice informatics

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Since the publication of the revised *The Essentials of Master's Education in Nursing*, which devoted an entire section to informatics and health care technology knowledge and skills, the inclusion of an informatics course in graduate curriculums has proliferated.<sup>1</sup> Students who may have neither previous informatics experience nor informatics interest are now required to complete the informatics course. Some graduate students experience apprehension about informatics course expectations, and some faculty may express reluctance to teach an informatics course.

The purpose of this article is to describe how a newly developed novice-level graduate informatics course evolved to pique students' curiosity regarding informatics and meet the information management needs of students who are pursuing a nurse practitioner (NP)—, educator—, or leadership—focused graduate education.

## BACKGROUND

Clarity regarding specific goals of the informatics course is an initial and crucial step in preparing students and faculty for the integration of this type of course into the graduate curriculum. Confusion oftentimes exists that informatics is synonymous with

computer class. Informatics has been defined more accurately as focused on information instead of technology.<sup>2,3</sup> The management of information is certainly not a new concept in nursing. The challenge for graduate faculty is to design an informatics course that prepares the professional nurse to perform the critical skill of information management while relegating technology to its position of merely being a tool for nurses to use. Technology is not the driver of nursing practice.

Courses for the informatics specialist role have been designed in many colleges of nursing, but these courses may exceed the learning needs and interest of the informatics novice. The 4 levels of informatics competency for nurses have been described as novice, advanced, specialist, and innovator<sup>2</sup> (Table 1). The curriculum for the informatics specialist role has been well described, but there is a paucity of literature that describes how essential informatics concepts are integrated into the curriculum for the novice. Although some level of informatics knowledge is an expectation for all nurses, there is a lack of consistency regarding the associated informatics competencies required for each level.<sup>2</sup>

Some graduate programs meet the American Association of Colleges of Nursing (AACN) informatics

**Table 1. Novice-Level Informatics Competencies**

- The nurse will have the ability to
- Access electronic resources and technology
  - Use information systems in an ethical manner
  - Use evidence-based practice knowledge to support care delivery
  - Use computer-based patient records

*Data from the American Nurses Association.<sup>2</sup>*

standards by embedding informatics components into a current course. The development of informatics as a core curriculum course is another method to meet AACN expectations. A clearly understood connection from informatics to the student's area of practice is an imperative component of the novice informatics course regardless of design. Recognition that information management is a competency for all nursing roles and not simply a skill to be performed by the informatics specialist is significant to encourage student engagement in the course.

As with any course, it is important that updates occur based on evaluation and evolving content expectations. Course evaluations are based on clear connections among all components of the learning experience, including course objectives, teaching strategies, evaluation strategies, and student outcomes.<sup>4</sup> Student learning needs have become more apparent to faculty with each semester of teaching the informatics course. Course revisions have been made based on student performance, feedback, and the evolving health care environment.

### INITIAL COURSE DESIGN AND EVALUATION

In keeping with AACN standards, a 3-credit hour asynchronous online core curriculum informatics course was developed in a Midwestern university. AACN's *The Essentials of Master's Education in Nursing* was used as the developmental framework to ensure the informatics course design met the following necessary objectives: (1) analyze current and emerging technologies; (2) evaluate outcome data; (3) incorporate ethical principles for technology use; (4) develop strategies to document patient care and measure outcomes; and (5) use technology to educate patients, guide practice, and support lifelong learning.<sup>1</sup>

In addition, the course was designed to facilitate student recognition and articulation of information needs in a manner that showed excellence in information management regardless of nursing track specialty. The student course evaluation strategy used was based on the completion of 11 group activities and peer discussions conducted through a Web-based delivery system. In addition, each student completed 2 assigned scholarly papers that showed personal use of informatics concepts and critical thinking. Each assignment was designed to meet a course objective and provide an informatics fundamental learning experience that students could link to their practice settings.

The primary intent of the informatics course was that the patient, as the central focus of an interprofessional team, would benefit from each health care provider having clearly identified and implemented informatics skills. These commonly shared informatics skills support the assertion that the management of information will have a positive impact on health care quality and effectiveness.<sup>5</sup> Clearly defined information needs recognized by the nurse were a faculty assumption in the informatics course. There was also an assumption of empowerment by the nurse to articulate the need for or revision of critical information not currently available for patient care.

Student failure to recognize a personal role in information need determination and articulation became apparent through teaching the course. The practice gap was recognized through submitted scholarly papers, course discussions, and survey responses. Although the ability to find pertinent data from within the volumes of data presented from all sources was discussed as a key information management role for nurses, the skill was not evident.<sup>6</sup> Based on the evaluation of student online discussions, faculty identified the need for student experiential practice to explore current practice situations in relation to the identification of information needs and data use. Experiential learning is supported as a way to integrate course knowledge and skills into the practice environment.<sup>7</sup>

Nurses use data transformed into information to make clinical practice intervention decisions.<sup>2</sup> It is essential that nurses have opportunities to develop

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