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Incorporating electronic documentation into beginning nursing courses facilitates safe nursing practice☆,☆☆

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ABSTRACT

Advances in technology require nursing students to be prepared to practice in a technology-rich environment. The purpose of this project was to incorporate electronic documentation activities to facilitate student's skill performance. Although students initially increased their electronic documentation competency, this was not maintained. Electronic documentation activities are needed to facilitate nursing student's computer literacy skills. Therefore, nurse educators must examine best practice approaches to facilitate student's readiness to practice in today's technology-rich environment.

Introduction

Advances in technology have completely transformed health care and require nursing students to be prepared to practice in technology-rich care environments. As patient care documentation transitions from paper-based to electronic-based information management systems across settings, students must be prepared to use these systems that ensure safe patient care. The purpose of this project was to develop and implement an active learning environment that incorporated simulated electronic documentation to facilitate students' skill performance of electronic documentation.

Literature Review

The era of paper-based systems for documenting patient care is drawing to an end. Federal legislation, such as the 2009 Health Information Technology for Economic and Clinical Health Act, mandated the use of electronic health record for health care systems for all documentation practice (McGonigle & Mastrian, 2015). Nurses are expected to "use information and technology to communicate, manage knowledge, mitigate error, and support decision making" (Quality and Safety Education for Nurses [QSEN], n.d.). The transformation of the electronic health record requires specific competencies that need to be mastered by all health care providers, including student nurses. The need for these competencies is recognized by many national nursing organizations. The National Council of State Boards of Nursing (NCSBN) National Council Licensure Examination for Registered Nurses test plan includes information technology as one area of significance in the Safe and Effective Care Environment test item category (NCSBN, 2013). Similarly, the American Association of College of Nursing Essential IV: Information Management and Application of Patient Care Technology describes the need for baccalaureate nurses to be able to use information management systems to support safe patient care (American Association of Colleges of Nursing, 2008). In addition, the QSEN project identifies informatics competencies as one of six competencies required of undergraduate students in order to provide quality, safe care (QSEN, n.d.). The Technology Informatics Guiding Education Reform initiative, a collaboration between nurses, educators, and policy makers, also recognizes the importance for practicing nurses to develop computer literacy skills such as use of electronic documentation. Therefore, nurse educators must be prepared to provide this education (McGonigle & Mastrian, 2015).

Similar to other nursing skills, students must have the opportunity to practice and develop the informatics and electronic documentation skills that they will use in practice. To prepare students for clinical documentation using electronic information systems, a variety of methods have been and are being used. While traditional didactic methods may be used to provide students an understanding of the

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basics of documentation systems and their legal ramifications, educators are being challenged to incorporate more active learning strategies that enhance learning outcomes (Benner, Sutphen, Leonard, & Day, 2010). This is especially challenging for nurse educators as many faculty remain novices in using technology skills (Miller et al., 2014).

Many nursing programs do not have access to an actual electronic medical record system that can be used for educational purposes; therefore, many nurse educators have incorporated use of academic health records into curricula to provide students the hands-on experience of using an electronic clinical documentation system. These academic systems emulate actual systems and allow students to experience the functionalities of an actual system within a safe, secure academic environment. These systems vary in features and costs, but may include case studies, companion software activities, and options to build patient cases for students to practice documentation activities. Practicing with these systems, students are able to develop the skills for appropriate legal documentation of patient care (Gardner & Jones, 2012). These programs are often used in conjunction with simulation activities that allow students to practice patient care and then practice the documentation of that care (Jeffries, 2014).

Costs, limited funding, and faculty issues, however, have been major barriers in nursing education to the use of commercial academic health records (Gardner & Jones, 2012). Many faculty may be resistant to trying new technologies (Titzer & Swenty, 2014). Faculty and student time required to learn the software systems, as well as lack of modifiability of the commercial product, have also been identified as barriers (Hanson, 2013). The incorporation of an electronic documentation system into the existing learning management system may provide an option for nurse educators. This option would allow students the opportunity to practice electronic documentation without having to learn another computer program. By incorporating these learning opportunities early into the nursing curriculum, nursing faculty can identify and work with struggling students and facilitate a smoother transition into the clinical practice arena and promote patient safety.

Project Description

The specific aim of this project was to develop an electronic documentation system for use in the nursing assessment and nursing skills courses. The project was conducted in a publicly funded college of nursing in the midwest. Students in the college are admitted to the nursing sequence as sophomores and begin their program of study with a course in health assessment that is followed by a fundamentals course in the subsequent semester. To facilitate the development of the student's skill performance of electronic documentation, active learning assignments and electronic documentation assignments were incorporated into these first two courses. The electronic documentation assignments were developed to mimic the real-life documentation system used in most facilities in the region. To avoid faculty and students needing to learn a new software program, the quiz component of the learning management system was used to develop the documentation assignments.

The evaluation of the educational project was approved by the university's affiliated institutional review board. To allow for subject anonymity, a waiver of informed consent was approved because the informed consent would be the only record linking the subjects to the educational experiences. Confidentiality of participant responses was maintained throughout the educational activity.

Participants

A convenience sample of 93 sophomore Bachelor of Science in Nursing students (second year in college, first year in nursing) enrolled in the beginning nursing course, health assessment, was used. The comparison group consisted of a convenience sample of 85 junior Bachelor of Science in Nursing students (third year in college, second year in nursing) enrolled in a pediatric nursing course. All students completed the electronic documentation assignments as part of their course requirements. These assignments were pass/fail with students receiving a passing grade for completing the assignment. The documentation assignment score was not applied to the individual student's grade.

Instruments to Evaluate Learning

Time 1 Physical Assessment Assignment

The Time 1 physical assessment assignment was a 50-item electronic documentation assignment that I developed based on an existing course activity that was developed by the physical assessment course instructor. The physical assessment assignment required students to complete a focused physical assessment on a simulated mannequin and then electronically document their assessment findings. The assessment included both normal and abnormal assessment findings. The electronic documentation of the physical assessment was completed immediately following the completion of the physical assessment. Students were allocated 15 minutes to complete the focused physical assessment and 15 minutes to electronic document their assessment findings.

Time 2 Assessment Assignments

The Time 2 wound assessment assignment was a 16-item electronic documentation assignment that I developed. For the wound assessment assignment, students electronically documented the wound assessment and dressing change based on care given to a human patient simulator. Students were required to document who completed the dressing change, the type of wound, location, measurements, dressings used, drainage, and patient's response to the dressing change.

The Time 2 urinary assessment assignment was a 19-item electronic documentation assignment that I developed. The urinary assessment assignment focused on documentation requirements for Foley catheter insertion based on care given to a human patient simulator. Documentation focused on when and who completed the Foley insertion, type and size of catheter and balloon, urine return with insertion, securement of the catheter, and patient's response to the catheter insertion (see Fig. 1). Both Time 2 assignments were completed immediately following the performance of the assessment and skill.

Time 3 Wound Assessment Assignment

The Time 3 wound assessment assignment was a 55-item electronic documentation assignment that I developed. The wound assessment assignment required students to document their assessment of five different wounds. The wounds consisted of a chest incision, an abdominal incision with a drain, and three laparotomy incisions. Each wound assessment consisted of 11 items each and focused on the assessment of the type of wound, location, wound bed, type of dressing, and drainage. The Time 3 wound assessment assignment was completed in the computer laboratory immediately following the wound assessments. Students spent between 20 and 30 minutes to complete the wound assessments and electronic documentation of the wounds.

Surveys—Initial and Follow-up

The initial survey was an 8-item survey that included four Likert-scale questions. The questions asked how easy the assignments were to complete, how helpful were they to their learning, how important electronic documentation is to their nursing education, and how important is being proficient at electronic documentation to their nursing career. Students were also asked to include comments

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