Three-Dimensional Computerized Simulation: Evaluation of an Innovative Pedagogy to Prepare Graduate Nursing Students for Advanced Clinical Practice

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INTRODUCTION

Clinical skills and patient assessment determine trajectory of patient’s health care. Literature reveals that many graduate nursing students are entering into clinical situations unprepared in patient assessment, diagnostic reasoning, clinical decision making, and team participation. Traditionally, these skills were practiced with direct patient care experiences during clinical time or job experiences. Decreased availability of clinical sites, fewer clinical mentors, and increasing patient acuity encourages the need for innovative pedagogy. Computerized simulation is one pedagogy for students to practice skills before entering into the clinical arena. Computerized learning methods are interactive, stimulating for the learner, and cost effective. Purpose of this study was to examine the use of computerized simulation as a teaching strategy for graduate nursing students. Selection criteria for TCDS program: designed for advanced practice, user friendly, cost effective, ability to provide feedback, and correlated with the universities nursing curriculum. Evaluation: pre/post survey included 10 questions using a five point Likert scale. First class day of semester, before introduction to TCDS, students had the opportunity to complete the survey. Last class day, after using TCDS for fourteen weeks, the same survey was administered. Formative evaluation was also conducted with students and categorized into themes. Surveys were evaluated using Bowker’s Test for Symmetry of Disagreement.

OBJECTIVES

• Discuss the need for innovative pedagogy to better prepare nursing students for advanced clinical practice.
• Define three-dimensional computerized simulation, association with advanced nursing clinical assessment skills, and impact to clinical practice.
• Identify methods to inform collaboration with academia and healthcare facilities.

DESIGN/METHODS

Sample consisted of graduate nursing students taking Advanced Health Assessment class at a Midwestern University over three semesters (2014-2016). Sixty three graduate nursing students participated in this study. Integrative review of the literature was conducted on the use of computerized simulation as a teaching strategy for graduate nursing students. Selection criteria for TCDS program: designed for advanced practice, user friendly, cost effective, ability to provide feedback, and correlated with the universities nursing curriculum. Evaluation: pre/post survey included 10 questions using a five point Likert scale. First class day of semester, before introduction to TCDS, students had the opportunity to complete the survey. Last class day, after using TCDS for fourteen weeks, the same survey was administered. Formative evaluation was also conducted with students and categorized into themes. Surveys were evaluated using Bowker’s Test for Symmetry of Disagreement.

RESULTS

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CONCLUSIONS

Literature supports the need for testing innovative pedagogy to prepare students for clinical practice. Studies have demonstrated that computerized simulation may be beneficial in student’s perceived self-efficacy in a variety of skills, knowledge of leadership styles, and assessment and management of patients. Statistical findings from this study are highly significant and formative evaluation overall was positive. TCDS is one pedagogy that positively influences graduate nursing students preparation for clinical practice. Ongoing evaluation of TCDS and other innovative pedagogies is recommended.