Title:

360 Degree Virtual Reality Increase Student's Confidence in Clinical Skills in Simulation

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ACCEPTED

Session Title:

Clinical Poster Session 2 (Monday/Tuesday, 18 & 19 November)

Slot:

CLIN PST2: Monday, 18 November 2019: 8:00 AM-8:45 AM

Abstract Describes:

Completed Work/Project

Applicable Category:

Clinical

Keywords:

Simulation, Technology and Virtual Reality

References:

James, B.R., Christman, R.M., Shrode, C.A., Racovita-Szilagyi, L., McArthur, C.T. Wrate, S.K., Showalter, C., Schwarzer, L.A., M.A. Liedke, Moniyung, C.A., & Buchholz, J.M., (May, 2018). Studentâ??s Understand their Care Role and have the Ability to Provide Care Following A Multi Patient Collaborative Practice Simulation. Podium presentation at Our Research Data Makes a Difference: Transforming the Church and Community, Adventist Human Subjects Research Association, 6th Annual Meeting, Andrews University, Berrien Springs, MI, May 18, 2018

James, B.R. McArthur, C.T., Christman, R.M., Wrate, S.K., Shrode, C.A., Wolf, J.N., & Racovita-Szilagyi, L. (Nov, 2017). Multi Patient Collaborative Practice Simulation: Are

Students Ready to Transition to their New Roles? Poster presentation at Transitions, Transformations and Outcomes: The Challenges of Achieving Excellence in Nursing Education at SREB Council on Collegiate Education for Nursing 2017 Annual Meeting. Atlanta, Georgia, November 12 - 14, 2017.

Moniyung, C., James, B.R., C.T. McArthur & Christman, R.M. (Nov, 2017). New Graduate Nursesâ Perceptions on the Practical Application of Participating in a Multipatient Interprofessional Collaborative Practice simulation. Poster presentation at Transitions, Transformations and Outcomes: The Challenges of Achieving Excellence in Nursing Education at SREB Council on Collegiate Education for Nursing 2017 Annual Meeting. Atlanta, Georgia, November 12 - 14, 2017.

Wrate, S.K., Christman, R.M., Buchholz, J., James, B.R., Wolf, J., McArthur, C.T., Racovita Szilagyi, L., Allen, K.C., & Shrode, C.A., (Oct, 2017). Multi Patient Interprofessional Collaborative Practice Simulation: Beneficial for Improved Practice. Podium presentation at 44th Biennial Convention, Sigma Theta Tau International, Indianapolis, IN, Oct. 31, 2017

Abstract Summary:

This presentation highlights the benefits and attributes of 360-degree virtual reality in simulation. Nursing students experienced traditional simulation (control group) or the 360-degree virtual reality simulation (intervention group). The majority of the students felt their simulation increased their confidence in the clinical skill.

Content Outline:

Background of the problem - Clinical space

Literature Review

Methodology

Design

Sample

Procedure

Data Collection

Data Analysis

Results

Implications

Topic Selection:

Clinical Poster Session 2 (Monday/Tuesday, 18 & 19 November) (26148)

Abstract Text:

Background

Clinical space for nursing students is in high demand. This reality creates a challenge for nursing faculty who seek to provide optimal clinical experiences for students. Access to the technology of 3D simulation –by use of a 360o camera - provides a viable realistic, scenario-based simulation that may be viewed by individual students with the use of Virtual goggles. In this way, the clinical experience is brought directly to the nursing student when a real or standardized patient is not available. Clinical sites and preceptors are becoming more difficult to secure, yet each student needs repeated exposure to a wide variety of clinical situations in which timely clinical decision making is critical. Alternative teaching approaches that provide optimal clinical experiences for students are needed.

The TN Board of Nursing now allows 50% of clinical experience to be obtained via simulation. Virtual reality simulations introduced through this study will enhance the learning experience of nursing students, while reducing the pressure of finding clinical placement. Nursing students will achieve an enhancement of various skills vital to safe practices among healthcare.

The purpose of this study was to explore if there was a difference between learning outcomes of nursing students who learn by traditional methods or who utilize virtual reality simulation via 360-degree camera technology?

Methods

The Schools of Nursing (SON) and Journalism and Communication (SJC) participated in an interprofessional collaboration on the development and staging of realistic scenarios, and/or using scripted, standardized patients where nursing interventions were required. Scenarios ranged from simple to complex, appropriate for the level of the student. Filming, accomplished through utilization of a 360-degree camera, and video editing was accomplished by the research assistants and/or the SJC. Scenarios were disseminated via links. Students experienced the simulation through virtual reality virtual goggles. A brief training video was developed and shown to each student to guide them through the mechanics of viewing the virtual reality 360o scenario.

This study used a mixed method design with both quantitative and qualitative survey questions. A convenience sample (N = 42) of nursing students were utilized for this study. One group received the 360-degree virtual reality simulation with the link to the scenario and viewed it using virtual goggles. The other group was the control group who experienced the traditional simulation. Both groups signed the informed consent form and then they experienced their specific simulation and at the completion of the simulation they were invited to participate in the electronic survey utilizing Google Forms. The online survey link was made available to the students via a QR code that they participate in on their smart phone or laptop there in the simulation room. Students consented to participate in the study before they experienced either form of simulation. For the 360 VR simulation the training video was shown to each participant and questions were answered by the research assistant prior to viewing the scenario. A second (control) group was taught the same skill(s) or observed the same scenario(s) in a more traditional way.

Descriptive statistics were conducted on the quantitative data to identify differences between the two groups. For the qualitative data, thematic analysis was conducted to identify the themes that emerged.

Results

OF the 20 360 VR degree participants, well over three quarters (80%) strongly agreed or agreed that this VR simulation increased their confidence in the clinical skill. When the traditional simulation students were asked if their simulation increased their confidence in the clinical skill a well over half (61%) strongly agreed or agreed.

Implications

As nurse educators it is our opportunity to provide our students with cutting edge innovative experiences. It is also our responsibility to provide our students with a wide variety of clinical experiences in clinical agencies. This 360-degree VR simulation can provide students with the much needed hands-on clinical experiences in our classrooms. This provides students the critical skills in a convenient location utilizing their personal technology device.