AHRQ (2017) identified communication breakdown among patients, providers of care, and healthcare staff as one of the top four threats to patient safety. The care provided to patients has grown more complex, leading to a need for novel solutions from nursing educators to prepare students for practice. Understanding how interprofessional healthcare students are immersed in technology use and how students experience being in the psychological presence of learning through VR 360 use will inform educators regarding opportunities to improve teaching and learning in an interactive and meaningful manner.

By arranging learning in interprofessional teams where nursing students can learn about, from and with each other, nurse educators and interprofessional colleagues can begin to make a meaningful impact on learners' preparation (WHO, 2010). It is important to contribute to the body of knowledge on best practices for real to life scenarios in an environment that does not include risk to real patients. Educating interprofessional students in a team approach can enhance exposure to the interprofessional competencies such as enhanced communication and the value of teams and teamwork (IPEC, 2016; Gaba, 2006). One clear example of applying communication and teamwork competencies is through debriefing (Ruterford-Hemming et al, 2016). Debriefing brings various professional viewpoints into the learning and can be used to develop appreciation and experiences in teamwork.

Virtual Reality (VR) is the digital creation of scenarios that are interactive visually and aurally, as well as immersive (Jerald, 2015). By adding 360 degrees of video into a virtual reality world, it is possible to immerse the learner in every aspect of their environment with the simple turn of the head toward a new direction. During an educational experience, coupling the virtual reality 360-degree video experience with an embodiment as a patient places the participant learner in the situation of patient during the scenario. The body interacts with the world and the brain in turn believes that the interactions are a true cognitive experience (Wilson, 2002). In addition to the value of patient embodiment experiences, the development and delivery of virtual reality 360-degree video becomes more cost efficient as more are available, as the equipment costs decrease, and as the faculty resource costs decline.

Simulated scenarios using VR 360 video could lead to more informed patient care by healthcare students and interprofessional teams by arranging interprofessional healthcare students in an embodied virtual reality 360 learning experience where students are immersed in the role of the patient, allows for a more consistent multi user experience.

In a pilot study, a group of healthcare students arranged in interprofessional teams encountered a VR 360 video experience. Students experienced the same embodied experience of Alfred © for a seven minute, set of six live action VR 360-degree video scenario of a patient with multiple health concerns (Washington & Shaw, 2016). All of the interprofessional participant learners heard, saw and experienced the same conditions. Transitioning simulation to a virtual reality 360 video experience from a common simulation experience like using manikins or standardized actors as patients, holds promise for learning improvement, student success and student satisfaction.

If embodying interprofessional healthcare students in virtual reality is as or more effective than traditional simulation methods, then it will have positive implications on improving nursing simulation education and practice. Multiple students will be able to experience a given scenario in a synchronous, or possibly asynchronous environment, while maintaining consistency in the simulation learning opportunity.
The pilot research involved arranging interprofessional health care students in an embodied patient scenario via virtual reality 360 video. The findings will guide the development of future research for health related virtual reality 360 video experiences. Further research is needed involving virtual reality 360 video efficiencies and effectiveness for interprofessional simulations learning. This pilot research explored a novel approach for interprofessional students to experience a patient experience through the virtual reality 360 Alfred © embodiment experiences and results will be shared.

Title:
Using Virtual Reality 360 Video for Interprofessional Simulation Education

Keywords:
Interprofessional, Simulation and Virtual Reality 360 video

References:


Abstract Summary:
Interprofessional healthcare students have the experience of simulation learning enhanced by virtual reality 360 degree video (VR 360) and a patient embodiment experience through Alfred©, a virtual reality simulated patient with multiple health conditions.

**Content Outline:**

I. Introduction

A. Update on virtual reality and virtual reality 360 to enhance interprofessional simulation education.

B. Virtual reality patient embodiment opportunities for interprofessional student learning.

II. Body

A. Main Point #1: Simulation improvement opportunity.

1. Supporting point #1: Multi user consistency.
   a) All participants will have same embodiment experience.
   b) All participants see, hear and experience the same conditions.

2. Supporting point #2: Increased realism of the experience.
   a) An embodiment of a virtual patient experience.
   b) A realistic environment for the learning experience.

B. Main Point #2: Interprofessional communication and team building.

   1. Supporting point #1: Debriefing.
      a) Brings various professional viewpoints into the learning.
      b) Develops appreciation for and experience in teamwork.

   2. Supporting point # 2: Educating students in an interprofessional team on interprofessional competencies important to future practice.

      a) Enhanced communication
      b) Enhanced value of teams and teamwork.

C. Main Point #3: Virtual Reality 360 video.

   1. Supporting point #1: Cost efficiency.
      a) Availability.
b) Equipment cost decreased.

c) Faculty and simulation space resources costs decreased.

2. Supporting point #2: Effectiveness.

a) As or more effective than traditional simulation.

b) Can be as effective at computer stations as in a simulation lab.

III. Conclusion

A. Need research on virtual reality 360 efficiency and effectiveness for interprofessional healthcare simulation experiences.

B. Superior model to traditional simulation for interprofessional students to experience selected patient experiences through the virtual reality 360 such as the Alfred © embodiment experience.

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Author Summary: Dr. Sherleena Buchman is an assistant professor of Nursing at Ohio University located in Athens, Ohio. Sherleena’s research focuses on educational technologies such as simulation with a focus on interprofessional education. Her research has been directed towards developing interprofessional competencies via simulation to improve patient safety in the medical setting. Currently Sherleena is a Co-Principal Investigator on a project from Ohio’s Medicaid Technical Assistance and Policy Program (MEDTAPP) Healthcare Access Initiative (HCA).

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