



The Effectiveness of Virtual Clinical Simulation on the Transferability of Clinical Nursing Skills to Practice

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NON-DISCLOSURE

- ▶ AUTHOR:

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- ▶ LEARNING OBJECTIVES

- ▶ Identify the purpose of the qualitative interview study
- ▶ Describe future implications for the use of virtual simulations in nursing education
- ▶ Determine further research studies to support virtual simulations in nursing education

- ▶ NON-DISCLOSURE

- ▶ *The presenter indicates that there is no real or perceived vested interest that relates to this presentation.*
- ▶ *There was no sponsorship or commercial support given to this author.*



Abstract

- ▶ Analyze the use, implementation, and integration of virtual clinical simulations (VCS) as emerging technology in nursing education and practice.
- ▶ Purpose of this qualitative interview study was to determine the impact of the use of a VCS program called Shadow Health on critical thinking, clinical reasoning skills, and psychomotor skills, and the transferability of those skills learned in an online Health Assessment course to real-world application



Introduction

- ▶ Nursing education programs lack sufficient clinical practice teaching sites to adequately educate and prepare nurse clinicians .
- ▶ The NCSBN found that up to 50% of clinical simulation could be substituted for traditional hands-on learning experiences
- ▶ The expense of initiating and sustaining faculty training in clinical laboratory simulations and lack of resources prohibit some nursing programs from adopting such efforts
- ▶ Use of virtual simulations successfully used in other disciplines however, new to nursing education



Research Questions

- **Q1.** How did the participants' critical thinking and critical reasoning skills change after using the VCS in the Health Assessment course?
- **Q2.** How did the participants apply the assessment techniques learned using a VCS to real-life nursing experiences?



Methods

- ▶ Duncan and Ravert's (2010) interview guide based on Lasater's (2007) Clinical Judgment Rubric
 - ▶ Semi-structured interviews took place remotely using the ZOOM meeting room for approximately 30-40 minutes per participant
 - ▶ Audio-recordings were transcribed and sent for member checking
 - ▶ Open-coding procedures were implemented
 - ▶ The codes and categories obtained were imported into the ATLAS.ti. program



Participants

- Criteria
 - Completed the Health Assessment course within one year
 - Must be working as a RN
 - Students were not the researchers students



Results

► Themes:

- *Increased confidence of assessment skills*
- *Improved recognition of patient condition or status*
- *Improved communication*
- *Adaptation of assessment techniques*



Discussion

- ▶ The results demonstrated that all but one of the participants agreed that their critical-thinking and clinical-reasoning skills improved as a result of using Shadow Health as a learning tool.
- ▶ The results were consistent with other research studies, simulation and virtual simulation have shown to improve critical-thinking and clinical-reasoning skills.

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Limitations

- One small RN-BSN program in northeastern U.S.
- Using ZOOM meeting room
- Time lapse between course completion and interviews



Conclusions

- ▶ The IOM, the TIGER Initiative, and QSEN competencies support and recommend the use of technology in nursing education.
- ▶ Ethically, nursing educators need to implement innovative teaching strategies to provide adequate clinical education experiences.
- ▶ Faced with limited clinical experiences and barriers of implementing simulation laboratories, VCS are emerging as alternative and supplemental clinical experiences.
- ▶ This study adds to existing research literature and to validate using VCS as an effective teaching strategy.



Implications

- Utilize VCS in nursing education programs
- Utilize VCS for professional development; competencies and introduction of new skills
- Implement VCE for Interprofessional Education (IPE)
- Utilize VCS to prepare telehealth nursing practitioners



Further Research

- Greater scales using multi-site universities/colleges with increased sample populations
- Investigate preparation protocols for students using virtual environments and the influence of preparation on student learning outcomes need
- Comparative studies between F2F vs Virtual assessments of student learning outcomes



References

- American Association of Colleges of Nursing. (2012). *The essentials of baccalaureate education for professional nursing practice*. Retrieved from www.aacn.nche.org
- DeGagne, J. C., Oh, J., Kang, J., Vorderstrasse, A. A., & Johnson, C. M. (2013). Virtual worlds in nursing education: A synthesis of the literature. *Journal of Nursing Education, 52*(7), 391-401. doi:10.3928/01484834-20130610-03
- Fogg, L., Carlson-Sabelli, L., Carlson, K., & Giddens, J. (2013). The perceived benefits of a virtual community: Effects of learning style, race, ethnicity, and frequency of use on nursing students. *Nursing Education Perspectives, 34*(6), 390-394. Retrieved from www.nln.org
- Hayden, J. K., Smiley, R. A., Alexander, M., Kardong-Edgre, S., & Jeffries, P. R. (2014). The NCSBN National simulation study: A longitudinal, randomized, controlled study replacing clinical hours with simulation in prelicensure nursing education. *Journal of Nursing Regulation, 5*(2), S2-S64. Retrieved from www.ncsbn.org
- Klaassen, J., Schmer, C., & Skarbek, A. (2013). Live health assessment in a virtual class: Eliminating educational burdens for rural distance learners. *Online Journal of Rural Nursing & Health Care, 13*(2), 6-22. Retrieved from www.rno.org
- Lapkin, S., & Levett-Jones, T. (2011). A cost-utility analysis of medium vs. high-fidelity human patient simulation manikins in nursing education. *Journal of Clinical Nursing, 20*(23/24), 3543-3552. doi:10.1111/j.1365-2702.2011.03843.x
- Morie, J., Haynes, E., Chance, E., & Purohit, D. (2012). Virtual worlds and avatars as the new frontier of telehealth care. *Studies in Health Technology And Informatics, 181*, 27-31. doi:10.3233/978-1-61499-121-2-27
- Niederhauser, V., Schoessler, M., Gubrud-Howe, P., Magnussen, L., & Codier, E. (2012). Creating innovative models of clinical nursing education. *Journal of Nursing Education, 51*(11), 603-608. doi:10.3928/01484834-20121011-02
- Smith, P. C., & Hamilton, B. K. (2015). The effects of virtual reality simulation as a teaching strategy for skills preparation in nursing students. *Clinical Simulation in Nursing, 11*(1), 52-58. doi:10.1016/j.ecns.2014.10.00