

# A COMMUNITY HEALTH NURSING EXPERIENCE: THE VR DIFFERENCE



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**Center for Health Disparities  
Innovations and Studies**

DR. JENNI L. HOFFMAN, DNP, RN, FNP-C, CLNC, FAANP

ASSOCIATE PROFESSOR OF NURSING, EASTERN MICHIGAN UNIVERSITY

DR. TSU-YIN WU, PHD, RN, FAAN

PROFESSOR OF NURSING, DIRECTOR OF PHD NURSING PROGRAM, DIRECTOR OF CENTER FOR HEALTH  
DISPARITIES, INNOVATIONS & STUDIES, EASTERN MICHIGAN UNIVERSITY

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## OBJECTIVES

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- Discuss a community-based participatory approach for developing a virtual reality simulation
- Describe the steps to create a virtual reality simulation
- Explain how beta-testing can be used to evaluate a virtual reality simulation and how the results from beta-testing can be used for refinement of the product

\* Support for the effort was provided by the Michigan Department of Health and Human Services, Office of Nursing Safety and Workforce Planning.

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## PURPOSE OF THE VIRTUAL REALITY SIMULATION

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- The virtual reality (VR) simulation addressed social determinants of health (SDOH) components with interactive strategies to improve nursing students' understanding of the impact of SDOH on underserved populations, and identification of strategies to deliver culturally-competent nursing care.

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## PURPOSE OF THE PILOT STUDY

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- The purpose of this study was to apply the community-based participatory approach to design and develop VR simulation for a community health nursing course, and describe the results of beta-testing to evaluate and improve the overall product/experience.

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## PRIOR TO CREATION OF VR CUSTOM CASE

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- Community health nursing faculty drafted the scenario and case specification form
- Feedback received from community advisory board (CAB) members was incorporated into revision of case specification form

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## PRIOR TO CREATION OF VR CUSTOM CASE

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- Project team created prebrief and debrief forms, and a pre- and posttest for students
  - Prebrief & Debrief forms
  - Pretest
    - Prebrief valuation, knowledge and skills, and confidence
  - Posttest
    - Debrief valuation, knowledge and skills, confidence, and usability
    - Whether VR simulation could replace, enhance, or do nothing with one of their clinicals with explanation
- Project team created a content validity index (CVI) for content experts

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## CREATION OF VR CUSTOM CASE



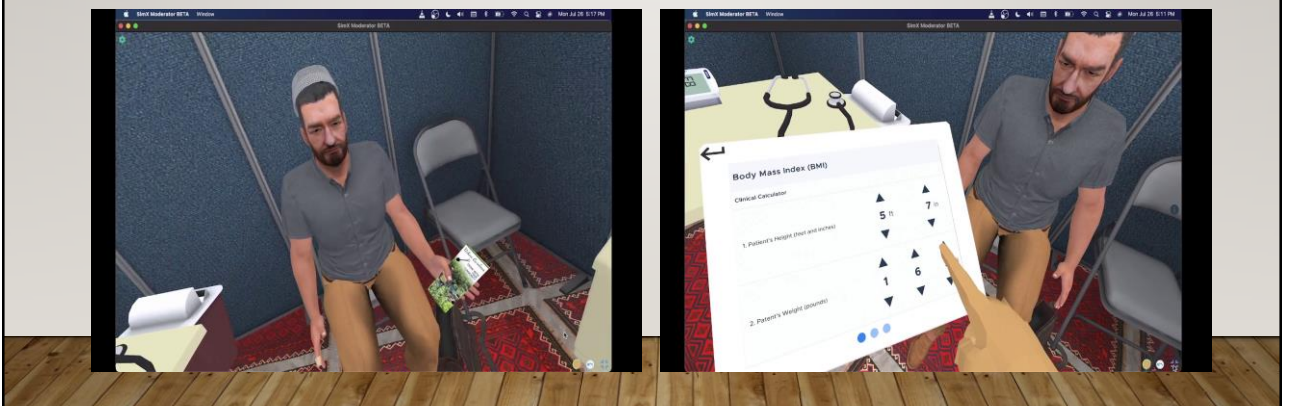
- Community health nursing faculty worked with SIMX to create custom VR case and purchased headsets



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## CREATION OF VR CUSTOM CASE

- Community health nursing faculty worked with SIMX to create custom VR case and purchased headsets



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## FOLLOWING CREATION OF VR CUSTOM CASE

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- Beta-testing with nursing students (n=3)
  - Pre- and posttest
    - Impact on knowledge and skills, and confidence by posttest
      - Knowledge and skills pretest Mean=81.34; posttest Mean=93.99
      - Confidence pretest Mean=32.33; posttest Mean=37.36
    - Students indicated VR could enhance or replace clinical
      - Examples of feedback and how incorporated

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## FOLLOWING CREATION OF VR CUSTOM CASE

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- Beta-testing with CAB members (n=5)
  - Meeting to discuss feedback
    - Examples of feedback and how incorporated
- Beta-testing with content experts (n=7)
  - Meeting to discuss feedback
    - Examples of feedback and how incorporated
  - Scale-level-CVI=0.89

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## CONCLUSION

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- The results of this study provide information for nursing faculty who are interested in creating a VR experience, and show that students' education can be improved by incorporating VR.

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## QUESTIONS?

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## REFERENCES

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- SimX. (2020). *Features*. <https://www.simxvr.com/features/>
- Wu, T-Y. (Principal Investigator). (2021). *Immersive Community Culture and Care Experiences for Undergraduate Nursing Students: The 360-degree Difference (Academic-Community Nursing Clinical Education Partnership - 2021)* [Grant]. Michigan Department of Health and Human Services.