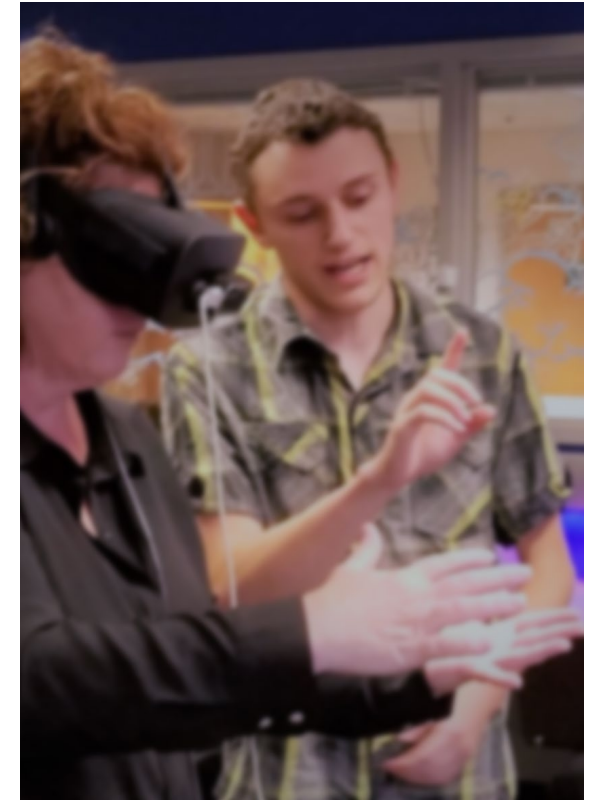Karen R. Breitkreuz EdD, MSN, RN, CNE
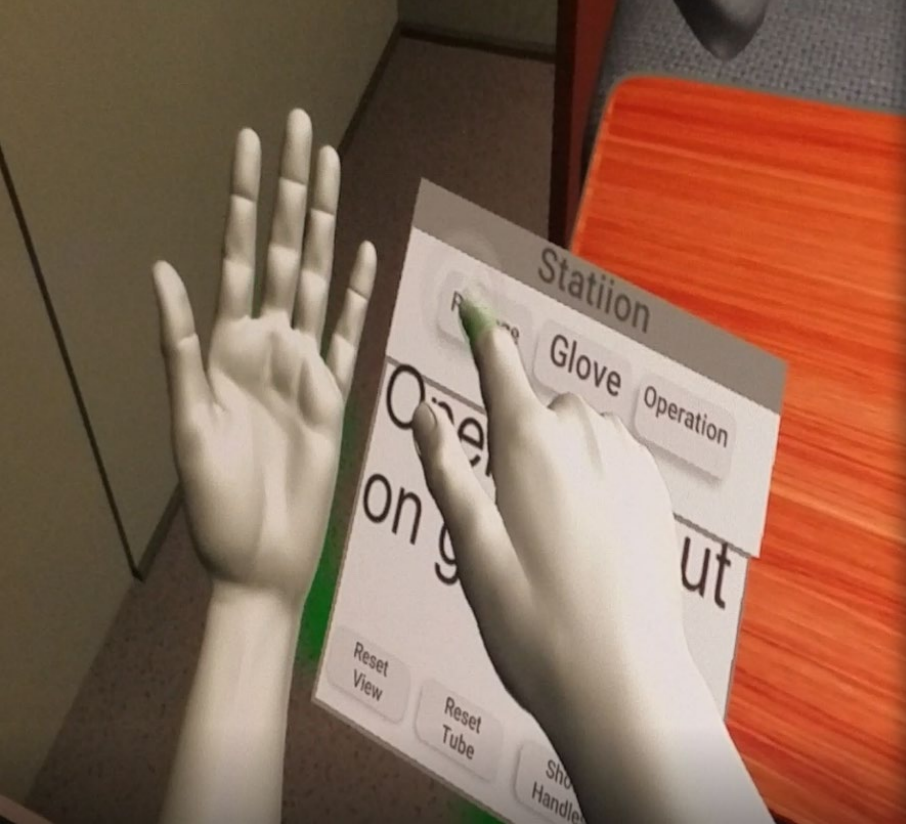
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An International Mixed Methods Study on the Usability of a 2nd Generation VR Sterile Catheter Insertion Game

Background

- VR Game created by university students for enhancing Sterile Urinary Catheter Insertion Practice for UG nursing students

- Learning and retention of psychomotor skills in health care is essential to safe clinical practice.

- Maintaining sterility during operating room procedures and many invasive bedside procedures is critical.

Germs

- Nursing and medical students fail to retain long-term skill competency of these skills if they are not used or practiced regularly

- Researchers are beginning to examine the impact and outcomes of serious VR games.

Methods

Surveys

1. SUS / System Usability Scale
2. URS / User Reaction Scale
3. Open Ended Questions

Sample

1. 300 Nursing Students/9 US Schools
2. 47 Nursing/HC Professionals/ 8 US/1 Australian University

Results

SUS COMBINED = 55
Moderate Usability

Students

SUS – 57

Characteristics associated with usability

- Positive association between male gender and usability <.0001
- Gaming during one's free time associated with usability .0391

Faculty/HCP

SUS 47

Characteristics associated with usability

- Snapchat p = .0030
- Graduation decade (1970s to 2010s) positively associated with usability p = .0045
  - Age was associated with usability (younger = higher usability score)

User Reaction Scale

Student's Highest Ratings

Question	Str Agree/ Agree %	Mean
Practicing Fun	85%	3.9
Elements of challenge in game	79%	3.9
Felt engaged in my own learning	79%	3.5
Headgear didn't bother me	77%	4.0
Motivated me to keep practicing	70%	3.3

Faculty/HCP Highest Ratings

Question	Str Agree/ Agree %	Mean
Headgear didn't bother me	84.1%	4.3
Elements of challenge in game	79.5%	4.0
Practicing Fun	77.3%	3.9
Lost Track of Time	68.2%	3.6
Felt engaged in my own learning	65.9%	3.7

Scale: 1 -Strongly Disagree, 2 -Disagree, 3 - Neither agree nor disagree, 4 - Agree, and 5 - Strongly agree.