Using VR to Teach Empathic Communication, Aging, and Disability Awareness

#### Denise Gammonley, PhD, LCSW, FGSA

UNIVERSITY OF CENTRAL FLORIDA



**Research Team:** 

Melody Bowdon, PhD, *College of Undergraduate Studies* Will Dorner, *Faculty Center for Teaching and Learning* Reshawna Chapple, PhD, LCSW, *School of Social Work* Kirsten Gagnier, MSW Candidate, *School of Social Work* 

#### Supported by:



UNIVERSITY OF CENTRAL FLORIDA



What makes VR potentially a unique and valuable learning activity for students?

- It's not a role play—limitations of role plays.
- It requires individualized engagement.
- It is an immersive, interactive, realistic experience.
- Relatively low cost compared to other simulation experiences (e.g. standardized patients).
  - Oculus Rift <u>https://www.oculus.com/rift/#oui-csl-rift-games=star-trek</u>
- It's fun!

#### The Importance of Empathy in Delivering Care to Older Adults

#### • Outcomes associated with empathy.

- Pt. and family satisfaction in critical care (Schram et al., 2016)
- Better coping with pain (Howick et al., 2018)
- Informal caregivers have reported less stress (Lee et al., 2001)
- Some evidence for negative association between empathy and burnout among health care providers (Wilkinson, et al., 2017)
- Student Learning Outcomes
  - Immersive and experiential learning experiences with guided reflection support acquisition of empathy in nursing students (Levitt-Jones et al., 2019).
  - Simulation experiences (role-play) improved empathy for stroke patients among medical students (Koblar et al., 2018)/

# Measuring Empathy

- Empathy-varying definitions and measurement challenges. Batson (2011) a process in which "one person can come to know the internal state of another and can be motivated to respond with sensitive care" (p. 11).
- Empathy Assessment Index (Segal et al., 2017)
  - Affective Response mirroring
    - "When I see someone being publicly embarrassed, I cringe a little."
  - Affective Mentalizing imagining an event from hearing a story
    - "When I see a person experiencing a strong emotion, I can describe what the person is feeling to someone else."
  - Emotion Regulation
  - Perspective Taking

# What is meant by an "immersive" experience?

The subjective impression that one is participating in a comprehensive, realistic experience (immersive presence).

Empowering the participant in an experience to initiate actions impossible in the real world that have novel, intriguing consequences.

Actions, symbols, sensory experiences.

https://youtu.be/WX816Mj6RP4

(Dede, C. et al., (2009). Immersive interfaces for engagement and learning. *Science*, 323, 66. DOI: 10.1126/science.1167311

### Embodied Labs Framework

**Prepare** to embody your patient by taking a pre-assessment and discover your existing knowledge by answering questions from the Embodied Labs facilitation guide

**Embody** your resident by using a VR-ready laptop to log on to Embodied Labs' application and by putting on a VR headset.

**Reflect** on how the VR experiences changed your views, mindset, and knowledge about living with a particular disease, pathology, or condition

#### https://embodiedlabs.com/

Narrative case studies **with crucial differences:** *Perspective taking, Engagement, Reflection* 

#### **Gero Modules**

- Macular degeneration and hearing loss (Alfred)
- Alzheimer's disease (Beatriz)
- End of Life (Clay)



Some instructional questions...

- Is VR of interest to BSW students as part of teaching empathic communication skills?
  - Vocabulary of affective responses.

• Will viewing a VR scenario about aging and disability influence students affective mentalizing, affective response, or encourage them to think differently about aging and disability?

# Participants (N=43)

- 34.9% had used VR before
- 88% women

#### Ages 18-57 (Average age 23)

| Black or African-American | 37.2% |
|---------------------------|-------|
| Spanish/Hispanic/Latinx   | 20.9% |
| White                     | 37.2% |
| Other                     | 4.7%  |

- 39.5% had served as an informal caregiver
- 44.2% had worked previously or currently as a formal caregiver

# Findings

- No pre-post changes in AR or AM
- AM M=24 at pre and post, T(42)=1.016, p = .315
- AR M = 18 (pre), (17 post), T(42)=.649, p = .520
  Possible Scores range from 6-36
- Students perceived benefit from the VR experience for learning about disability
- "This VR experience helps me think differently about disability"
  - M=4.37 (SD.69) (pre), 4.60 (.65) (post), T(42)=.-2.031, p = .049 Scale values range from 1-5

# Participant perspectives on playing the role of Alfred:

- It put me in the shoes of an older adult.
- This VR is a good representation of what goes on in the head and problems older adults face.
- [*Difficulty in playing the role*] Not being able to see clearly and feel frustrated.
- Seeing through his viewpoint; what it's like for Alfred on a day-to-day basis.
- I got a full understanding of how elders who can't hear well feel.

# 2017 VR Experience—Affective Themes

13 Students, 108 Themes



% of Total Responses

% of Total Responses

# Vocabulary:

## Affective Themes

Could not hear Flowers Lonely Excited control Dependency Useless Unable Dropping Burden Happy Useless Overwhelmed Disrespected Better Anxious Overwhelmed Invisible Frustrating Could not see Annoyed Invisible Frustrating Amazed Disillusioned Angry Mad Relieved Left Uncomfortable Weak Heavy Curious Family Bewilderment Child Carefree Not understood Нарру Unseen Lone Stress Uneasy Coddled Cooperative Afraid Unheard Surprised Awe Aggravated Loved Worry Light Sad Worried Stuck Acceptance Ignored Importance Sad Dumb Strange Lost Happiness Anger Stupid Concerned Constrained Dissatisfaction Apathy Frustrat n Unfocused Disoriented Irritated Nervous Peaceful Tired Unaware Disappointment Unwhole JOY Curiosity Upset Hopelessness Disappointed Anxiety Compassion Excitement Embarrassed Misunderstood Hopeful Scared Sadness Alone Fear Helpless (Word)ItOut



Implementation and ResearchConsiderations• Space for VR

- IRB
- Screen shots
- Simulator Sickness Questionnaire (http://w3.uqo.ca/cyberp sy/docs/qaires/ssq/SSQ v a.pdf
- Alternative assignment option
- Placement of VR activity within the course; weighting for grade



2017 Exploration; 2018 Alfred Pilot Research Study

- Self-rated empathic communication skills (Segal et al. (2017) empathy scale.
- Remembering and classifying feelings and emotions
- Student interest; self-rated learning about disability, aging.

### **Opportunities for further research:**

Understanding potential benefits of VR training to develop empathic understanding in the elder care workforce.

- > Can VR help those working with older adults identify mutually agreed on goals?
- ➤Can VR help workers engage more <u>empathetically and effectively</u> by offering a broader understanding of the diverse life course, strengths, and challenges faced by older adults?
- Can VR be useful in teaching acquisition of knowledge for practice? (Alzheimer's diagnosis study).