



Ethics of Simulation

Vital Considerations in Immersive Technologies

social IT
software & consulting



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BACKGROUND

- VR can be used with vulnerable populations (Freeman et al., 2008)
- ...and this can influence or modify behaviours and attitudes (Pase, 2012)

Virtual environments can immerse someone in digitally created environments which can range from the cartoonish to the hyper-realistic. It is natural (and expected) that people will experience a sense of presence within a digitally created environment and this can be achieved through 1st or 3rd person perspectives.

- “Virtual Embodiment” & “Extended Self”



Engaging with a virtual environment can result in a sort of ‘virtual embodiment’ or ‘extended self’ where the environment effects the user, and the user can impact the environment. This extension of ‘self’ can lead to emotional, cognitive, and behavioural changes and often that is the aim of virtual theories. The following image shows a women embodying a virtual avatar through virtual reality.

Ethical Considerations

When immersed in realistic or familiar digital environments will it cause difficulty for someone to separate reality from fantasy?

Slater et al. (2020)

1. When immersed in realistic or familiar digital environments will it cause difficulty for someone to separate reality from fantasy?
 - What effect could this have on someone with cognitive impairment?
 - An inability to distinguish reality from virtuality could be seen as recalling events which happened in the virtual environment as 'real' events.

Ethical Considerations

Will someone who cares for / works with someone with Dementia be able to separate the 'lived experience' from the simulated experience?

Slater et al. (2020)

2. *Will someone who cares for / works with someone with Dementia be able to separate the 'lived experience' from the simulated experience?*
 - What effect will this have on their future interactions with the person with Dementia?

Ethical Considerations

Physical & Psychological safety of Participants

Carneiro et al. (2021)

3. *Physical & Psychological safety of Participants*

- Physically, will the virtual environment place any demands on the physical body?
- Psychologically, will the virtual environment help / hinder the person.

Ethical Considerations

Preventing Errors

Carneiro et al. (2021)

4. *Preventing Errors*

- Can a simulated environment provide something the 'real world' cannot?
Can it prevent errors from being made?

Ethical Considerations

Facilitating Learning or Training

Carneiro et al. (2021)

5. *Facilitating Learning or Training*

- Can the virtual environment accurately and effectively provide a space for learning and understanding?
- Will it provide collaboration, interpersonal and interprofessional training in an ethical way (factoring for power dynamics) and supporting decision-making skills?
- It is important when considering virtual simulation as a method of learning or training to be clear and confident in what the aims / objective are of the task – what are the learning outcomes and what should the person who experiences the environment come away with afterwards.



Simulation and Ethics in Practice

DILEMMA GAME



vevox
Audience Engagement

Join at vevox.app

Or search **Vevox** in the app store

ID: 171-791-929



Join: **vevox.app** ID: **171-791-929**

This is a SAMPLE SLIDE which includes an example of the type of information you will need to include for people to access the dilemma game using a polling platform e.g. Vevox. Make sure to create a multiple choice poll that includes each ethical dilemma and their options on slides 12-22, using a polling platform of your choice and include the website link/password/ QR code needed to access the poll.



Experience Dementia

As a trainer, you are running an immersive workshop demonstrating to professionals and carers what it is like to experience Dementia.

After trying the immersive experience, one of your members becomes upset and is unwilling to continue with the experience citing the 'realness' of the experience.

How do you proceed?

ID: 171-791-929

The first dilemma is used as an example to make sure all participants understand how the game works and has access to the online poll. Present the dilemma and talk through each of the options as a group.



Experience Dementia

- A. Assume they are talking about the graphics of the experience and suggest they take a 10-minute break before trying the immersive experience.
- A. Assume they are refereeing to a close contact with Dementia and is upset as the immersive experience brought up difficult emotions. Suggest they take a break, or not return to the virtual environment.
- A. Tell them that it's not real, it's just a computer simulation.
- A. Ask them what the difficulty is and if appropriate discuss what about the simulation caused the difficulties

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The most appropriate response to this dilemma is option (D). It is important not to presume the cause of a person's distress and therefore asking them about what is causing them difficulty can help inform your decision on how best to approach this situation. While virtual reality is not real it is based on real life and therefore any emotions evoked during this experience may also be related to the person's lived experience.



Small Group Discussion

- 1. How would you answer each scenario?**
- 2. What other ethical dilemmas do you think could occur and how would you respond to them?**

****Important note for the facilitator :**The options provided for each ethical dilemma is not an exhaustive list of approaches and therefore it is important to encourage participants to consider other options for each dilemma which may be more suitable when discussing the groups answers.



Dilemma 1 - Experience Sharing

After an immersive simulation demonstration to professionals and carers you start your discussion with the group and hear one member say

"...I can't wait to tell my mother I know exactly what she's going through now".

What do you do?



Dilemma 1: Experience Sharing

- A. Tell the member how great it is he/she had a good experience and how positively their comments will be received.
- A. Explain how the experience while detailed, does not fully represent a person with Dementia's experience, only elements of it.
- A. Agree that it is great to be able to experience the challenges in person and ask him/her to recommend this to colleagues.
- A. Explain that different people experience dementia in different ways and suggest that he/she asks her mother to try the demonstration to see if it resonates with her.

The most appropriate answer is B. While simulation can help people understand what it may be like to have symptoms of dementia, it cannot simulate every person's lived experience of dementia. Therefore it is important to remind people that the simulated experience does not fully represent a person with dementia's experience.



Dilemma 2: Design & Development

A toolkit designed to simulate the lived experience of Dementia is created.

People with Dementia should be involved in...?



Dilemma 2: Design & Development

- A. The design of the tools...
- A. The design and the development of tools...
- A. The design and the testing of tools...
- A. The design, development and testing...

(D) is the most appropriate answer. It is good to have people with dementia involved throughout the design, development and testing of simulation interventions as they can provide researchers with insight into what it is like to live with dementia. These insights can improve an intervention and make it more relevant to the needs of people with dementia, informal carers and healthcare professionals. However, it is important to follow ethical guidelines and consider the potential risks and benefits associated with the meaningful involvement of people with dementia in research as the impact to their safety and wellbeing should always be a top priority.



Dilemma 3: Simulation Experience

Your supervisor has asked you to take part in a 1-week training workshop.

5% of the training is about person-centered Dementia care and the remaining time provides simulations of the dementia experience.

*However, you doubt the effectiveness of the simulations.
What do you do?*



Dilemma 3: Simulation Experience

- A. Say you won't attend any of the training as it serves no purpose.
- A. Say you'll only attend one day of training – the day with the person centred care content.
- A. Go along but try to get pockets of time to keep up to date with emails and day-to-day tasks that you know will be coming in.
- A. Ask for access to the simulation materials and say you'll test them out in your own time.

While the most appropriate answer out of those provided is (D), there is another potential option that should be considered. That is to go along to the training with an open mind and report back to your supervisor on the effectiveness of the training for your organisation.



Dilemma 4: Emotional Response

During your training, you notice that another participant gets upset as a result of the simulation experience. They explain that they feel unhelpful in their work and unable to provide the support needed by the person experiencing dementia.

What do you do?



Dilemma 4: Emotional Response

- A. Explain to the participant that there is a steady decline to this point for the person with dementia but that they are experiencing it all at once in the training.
- A. Suggest that the services currently available will be enough to support the person with dementia.
- A. Ask them what they feel that they could be doing differently to support someone with the difficulties they experienced in the simulation.
- A. Suggest they go back to the person with dementia and ask them if their services are enough.

All answers may be appropriate depending on the context of this situation. It is important to understand what it is the person feels that they could be doing differently and direct them to additional supports that can help them to improve the quality of care they provide to people with dementia. While the support they provided in the past may not have been the best approach, it is often done with the best intentions and recognising this can help them to implement better approaches to support going forward. It is important to encourage a person centred approach to care and open dialogue between the professional and informal carers and the people with dementia they are caring for. This may involve asking the person with dementia are they happy with the supports they are receiving and how could they be improved.



30 Minutes

GENERAL DISCUSSION

- Carneiro, J. A. S., Santos, F. P., Lamounier, E. A., Cardoso, A., & Milagre, S. T. (n.d.). Ethical Aspects of Education and Training Based on Simulations in a Virtual Reality Environment. 5.
- Freeman, D. (2008). Studying and Treating Schizophrenia Using Virtual Reality: A New Paradigm. Schizophrenia Bulletin, 34(4), 605–610. <https://doi.org/10.1093/schbul/sbn020>
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- Slater, M., Gonzalez-Liencre, C., Haggard, P., Vinkers, C., Gregory-Clarke, R., Jelley, S., Watson, Z., Breen, G., Schwarz, R., Steptoe, W., Szostak, D., Halan, S., Fox, D., & Silver, J. (2020). The Ethics of Realism in Virtual and Augmented Reality. Frontiers in Virtual Reality, 1. <https://doi.org/10.3389/frvir.2020.00001>