From culture shock to cultural empathy to cultural competence: An innovative 3D immersive simulation experience

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Overview of presentation

- Background and rationale for study
- Study aims
- Intervention - 3D simulation
- Results
Definitions

- **Cultural shock** - The feeling of disorientation and vulnerability experienced by someone when they are suddenly subjected to an unfamiliar culture or way of life.

- **Cultural empathy** – awareness and understanding of the values, beliefs and views of people from a different culture to one’s own.

- **Cultural competence** – A set of congruent attitudes and behaviours that promote the health and wellbeing of all people irrespective of race, ethnicity, religion, gender or language etc.

- **Simulation** – a technique to replace or amplify real experiences with guided experiences, often immersive in nature, that evoke aspects of the real world.
Australia’s multicultural diversity

Australia is one of the most culturally diverse nations in the world:

- Population originating from 160 countries
- 1 in 4 people born overseas
- 200 languages spoken
- 116 religions practiced[1]
Poorer health outcomes for CALD people

Culturally and linguistically diverse (CALD) patients are twice as likely to experience serious adverse events in hospital as English speaking people[2], for example:

- Medication errors[2]
- Misdiagnosis and incorrect treatment
- Poorer pain assessment and treatment
- Experiences of **powerlessness, vulnerability, loneliness** and **fear** when undergoing health care[3]
Teaching cultural competence ... Can it be done?

- Cultural competence is essential to safe clinical practice and a key dimension of professional practice[^4].

- However, contemporary educational approaches tend to improve knowledge about the care of CALD patients but do not change discriminatory attitudes or enhance culturally competent behaviours[^5].
Empathy development: Can it be measured?

- Educational approaches which attempt to place students 'in the `shoes' of particular patient groups have had promising results in empathy development[6].

- However, few of these studies discussed the elements of empathy being measured or used validated scales to measure outcomes.
Study Aims:

1. To explore the impact of an immersive 3D cultural simulation on health professional students’:
   - Cultural empathy
   - Attitudes and behavioural intentions in relation to cultural competence
   - Satisfaction with the cultural simulation

2. To explore the relationship between participants’ cultural empathy and behavioural intentions in relation to cultural competence.
Development of the 3D cultural simulation

- A 10 minute 3D video of an unfolding scene in a hospital ward of a developing county.

- The hospital environment, language, and clinical practices exhibit an amalgamation of cultural behaviours, symbols and metaphors unfamiliar to people from Anglo-Celtic Australian backgrounds.

- The video was developed in consultation with staff and clients from NSW Northern Settlement Services for Migrants and Refugees.
Scenario filming ....
Implementation of the immersive 3D cultural simulation

- Introductory briefing

- Students lie on a bed and view the video through 3D glasses while imagining that they are a patient in the ward.

- This is a sensory experience with students exposed to a range of unfamiliar sights, sounds and smells.

- The simulation is immediately followed by a debrief and guided reflection.
What the participant sees ...
What the participant sees ...
What the participant sees
Briefing for simulation

In this simulation you are asked to imagine that you have been travelling in a foreign country. Over the last few days you have felt increasingly unwell with tiredness, headaches, neck stiffness, fever, dizziness, nausea, visual changes and auditory changes.

You phoned a friend who is a doctor in Australia and she advised you to seek immediate medical care as your symptoms are consistent with those of meningitis or even encephalitis.

You presented at the local community hospital and were admitted. You were given a medication that eased your headache somewhat but your visual and auditory changes are still present.

- In this simulation you will be asked to:
- Lie quietly on a bed and wear a pair of 3D glasses and head phones
- Imagine the scene that unfolds is real. As the patient you will observe the ward and your care but do not need to participate.
- Accept that any distortion of sounds or sights are symptoms of your illness.
- Focus on your feelings – do not analyse the scene, just experience it.
Director's cut of 3D video

- Click here to go to the video (2D version)
- Click here to go to the video (3D version)
Participants:

- **Sample 1:** n = 459 from a population of 530 2nd year Bachelor of Nursing students (response rate 87%)

- **Age:** Mean: 27.35 ± 8.62; **Range:** 18 to 60

- **Gender:** Female (88%) and Male (12%)

- **Country of birth:** 84% born in Australia; 5.8% Asia; 3.6% Africa; 6.6% other countries

- **Languages:** 87% spoke only English
Culture shock

- The feeling of **disorientation** and **vulnerability** experienced by someone when they are suddenly subjected to an unfamiliar culture or way of life.

- A state of **bewilderment, distress, loneliness and frustration** experienced by an individual who is suddenly exposed to a new, strange, or foreign social and cultural environment.
Results: Content analysis of recurring words (>100) used by participants during the debrief (Q.1)

- confused
- frustrated
- lost
- distressed
- anxious
- disoriented
- isolated
- otherness
- fearful
- alone
- lonely
- vulnerable
- scared
- anger
Results: Cultural empathy

- Changes in cultural empathy were measured using a pre-test post-test Kiersma-Chen Empathy Scale (KCES)[7] and the Cultural Empathetic Concern Scale (CECS)[8].
Kiersma-Chen Empathy Scale (KCES)

- Paired-samples t-test indicated that on average participants reported **higher** scores on the KCES post simulation compared to pre simulation

- \( (M= 5.76, \ SE \pm 0.32) \rightarrow (M= 5.91, \ SE \pm 0.35) \)

  The difference was **significant**:  
  - \( t (459) = -3.193, \ p < 0.002 \)
Cultural Empathetic Concern Scale (CECS):

- Paired-samples t-test indicated that on average participants reported *higher* scores on the CECS post simulation compared to pre simulation:
  
  \[
  (M = 5.57, \text{SE} \pm 0.49) \rightarrow (M = 6.10, \text{SE} \pm 0.45)
  \]

The difference was **significant**:

- \(t(455) = -12.419, p < 0.001\)
Results: Cultural Competence

- Behavioural intentions in relation to cultural competence and the predictor variables of attitudes, perceived behavioural control and social norms were measured using a quasi-experimental design and the Theory of Planned Behaviour: Cultural Competence Questionnaire (TPB:CCQ)[9].
- Participants were randomly allocated to the control group (those who had not experienced the simulation) or experimental group (those who had experienced the simulation).
## Results: TPB-CCQ

<table>
<thead>
<tr>
<th></th>
<th>Control (n = 219) Mean ±SD</th>
<th>Experimental (n = 241) Mean ±SD</th>
<th>Significance (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude</strong></td>
<td>4.74 ± 0.52</td>
<td>4.90 ± 0.50</td>
<td>p &lt; 0.01</td>
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<tr>
<td><strong>Perceived behavioural control</strong></td>
<td>4.35 ± 0.71</td>
<td>4.41 ± 0.67</td>
<td>p = 0.354</td>
</tr>
<tr>
<td><strong>Social norms</strong></td>
<td>5.64 ± 0.77</td>
<td>5.56 ± 0.79</td>
<td>p = 0.296</td>
</tr>
<tr>
<td><strong>Intention</strong></td>
<td>6.14 ± 0.84</td>
<td>6.29 ± 0.71</td>
<td>p &lt; 0.05</td>
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</tbody>
</table>
Correlation analyses were conducted to explore the relationship between CCES (empathy) scores and TPB-CCQ intention scores. Cultural empathy had weak positive linear relationship with intention, $r = .232, p < 0.01$. This indicates that as cultural empathy increases, the intention to behave in a way that promotes cultural competence also increases.
Quantitative Results: Participant Satisfaction

- Satisfaction was measured using the Simulation Experience (SSE) scale [10]

- **Mean scores:** 4.45-4.76 out of 5 indicating that 98.2% either agreed or strongly agreed with each of the 18 satisfaction items.
Qualitative Results: Participant Satisfaction

- I thought I had an understanding of what it meant to be culturally aware and empathetic until the roles were reversed and I was the patient. I now have an understanding of how it really feels to be an 'outsider'.

- It was amazing how quickly my opinions have changed after just a 10min video. You don't really understand until you are placed in the situation yourself. Amazing!

- Really opened my eyes to what it might be like to be a patient from a different country. I will definitely be aware of this in my nursing practice.

- Invaluable experience! I took a lot away from this and faced some realisations about my own culture and (I'm ashamed to say) cultural ignorance. I consider myself an empathetic person but this experience will stay with me.
Conclusion:

- 3D immersive simulations have the potential to replicate an authentic experience that provokes a sense of cultural shock.
- Cultural shock can enhance cultural empathy.
- There is a relationship between cultural empathy and intention to practice in a culturally competent manner.
- Nursing students value these types of simulation experiences.
- Research with other health professional groups and in other contexts is required to further explore the impact of this educational approach.
Acknowledgements

- University of Newcastle Higher Education Participation and Partnerships Program (HEPPP) grant

- Helen Buchanan and clients from the NSW Northern Settlement Services for Migrants and Refugees

- Other project team members from the Research Centre for Health Professional Education – Conor Gilligan, Victoria Pitt, Samuel Lapkin, Donovan Jones & Amanda Morris
References


You never really understand a person until you consider things from his point of view ... until you climb into his skin and walk around in it.

~ To Kill a Mockingbird, Lee, 1960.

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