Creation of Innovative Teaching/Learning Material for Simulation in IPE

Scott Crawford MD, FACEP, CHSOS

Faculty Development Course XV: Simulation in Interprofessional Education
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Objectives:

- Describe types of simulation equipment and tools we use for simulation based education
- Identify limitations of current simulation equipment
- Describe resources available to improve current simulation practice
Fidelity Types

- Environmental
  - Appearance of simulator, room, and supplies
- Equipment
  - Visual and sensory cues
- Psychological
  - Trainee belief in tested task

*Figure 1. A Typology of simulation fidelity (adapted from Rehmann et al., 1995).*
Isn’t Bigger Better?

• “Published literature has yet to reveal a direct relationship between the level of simulation fidelity and training effectiveness” (Beaubien & Baker, 2004)

  — Perceived learner fidelity closest to actual task reproduction
  — Costly to accurately reproduce
  — Current high fidelity manikins have limitations
  — Standardized patients have limitations
Discussion on Fidelity

- Society for Simulation in Healthcare dictionary: 9 separate entries with “Fidelity”

- Hamstra and colleagues (2014):
  - Skip “Fidelity” focus on function
    - Transfer of learning
    - Learner engagement
    - Suspension of disbelief
Equipment

- Does it work?
- Does it train what you want?
- What setup or training is required for proper operation?
Innovative Technology

Task trainer
Innovative Technology

Simulated OR
Innovative Technology

Moulage
Innovative Technology
Innovative Technology

Augmented reality
Innovative Technology

Virtual reality
Innovative Technology

Virtual reality
Innovative Technology

Equirectangular images
Innovative Technology
Innovative Technology
IPE training

- Skills
- Communication
- Logistics
- Medical Knowledge
Possible scenarios for IPE

• OR cases

• Disaster planning

• Medical Error

• Patient hand-off of critical patients

• Low-frequency high risk events
Setting the stage

• The pre-brief or orientation
Scenario Design

- Objective to match needs of all learners and learner types
Feasibility

• Schedule

• Cost of equipment/supplies

• Resource availability

• Function of training equipment
Logistics

• Number of people in the room
• Live streaming of video
• Direct contact vs phone communication
Lights Camera Action…

• You are building the set and script for an improv show

• Are you ready to produce it?
Question 1

• What does the term fidelity refer to in Simulation?

– A. Fidelity tells you how expensive the manikin is
– B. It describes the information provided to the learner from the equipment
– C. It addresses specific the features of the manikin separate from the room or equipment
– D. Fidelity describes all aspects of realism in a scenario
Question 1

• What does the term fidelity refer to in Simulation?

  – A. Fidelity tells you how expensive the manikin is
  – B. It describes the information provided to the learner from the equipment
  – C. It addresses specific the features of the manikin separate from the room or equipment
  – D. **Fidelity describes all aspects of realism in a scenario**

• Fidelity can refer to any of three items, equipment, environment or psychological.
Question 2

• What is true of the about fidelity in teaching simulation?
  – A. High fidelity means better education
  – B. Low fidelity provides less learning
  – C. Fidelity must be matched to the objectives of the scenario
  – D. All of the above
Question 2

• What is true of the about fidelity in teaching simulation?
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  – B. Low fidelity provides less learning
  – C. Fidelity must be matched to the objectives of the scenario
  – D. All of the above

• The most important aspect of any simulation scenario is to match scenario design and equipment use with learning objectives. Piloting the scenario to ensure that these two pieces complement one another must occur before running any simulation based learning activity.
Question 3

• Who needs to be involved in the scenario design process other than the content expert?
  – A. Standardized patients
  – B. Simulation director
  – C. Facilitator
  – D. Simulation Specialist (technician)
  – E. All of the above
Question 3

• Who needs to be involved in the scenario design process other than the content expert?
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• Logistics and equipment features are second only to learning objectives in scenario design. Once the educational objectives are created, feasibility should be the next consideration in design. The facilitator or standardized patient should be able to support a well written case even without direct involvement, and the director may have input into the timing and types or courses being offered, but the operation, function and planned use of equipment is best decided in discussion with the Simulation Specialist.