How to improve the quality of the design and evaluation of interprofessional in-situ simulation-based education

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How to improve the quality of the design and evaluation of interprofessional in-situ simulation-based education

ASPiH Conference 2017 Workshop
Introductions

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Author of model being presented (work submitted for PG Cert in Simulation & Technology Enhanced Learning, Manchester Metropolitan University, 2017)

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Senior Lecturer in Simulation-Based Education
Module lead for SiH: Practical application module
Manchester Metropolitan University

Dr. Suzanne Gough PhD, PFHEA, MA Education, PGC-AP, BSc (Hons) Physiotherapy, MCSP
Senior Lecturer in Physiotherapy
Manchester Metropolitan University
Workshop learning objectives

1. Develop insight into the **challenges** and **barriers** of implementing sustainable interprofessional in-situ simulation activities in the healthcare setting

2. Critically discuss **methods to overcome local challenges** to the provision of interprofessional in-situ simulation

3. Develop **insight into a new model to facilitate the design and evaluation** of interprofessional in-situ simulation, mapped to new ASPiH standards (2016)

4. Reflect on the **application of the new model to their own area of practice**
Learning objective 1:

Develop insight into the challenges and barriers of implementing sustainable interprofessional in-situ simulation activities in the healthcare setting
Learning objective 2:

Critically discuss methods to overcome local challenges to the provision of interprofessional in-situ simulation
Learning objective 3:

Develop insight into a new model to facilitate the design and evaluation of interprofessional in-situ simulation, mapped to new ASPiH standards (2016)
Learning objective 4:

Reflect on the application of the new model to your own area of practice
Group work 1

‘Quick fire’ responses

‘What are the challenges and barriers to implementing interprofessional in-situ simulation-based education in your healthcare setting?’

(5 minutes)
New model for healthcare settings

Adapted from Jeffries, P.R. (2005), and Gough, S. et al. (2016)

Hurst, J. (2017)
Funding
(Equipment, faculty training)
Time constraints
Space / equipment
Participant & Faculty availability
Buy-in, expectations, requirements
Scenario theme
Number of participants available
Professional group / roles
Level (of experience)
Remote senior support availability

Adapted from Jeffries, P.R. (2005), and Gough, S. et al. (2016)

Hurst, J. (2017)
Hurst, J. (2017)
Theories
- Behaviourism & experiential learning
- Constructivism
- Complexity (systems behaviour & systems change)

Practices
- Flipped classroom
- Scaffolding
- Zone of proximal development
- Deliberate practice
- Time on task
- Mentoring

Adapted from Jeffries, P.R. (2005), and Gough, S. et al. (2016)
Fidelity, realism, authenticity
Space / equipment availability
Cues
Support mechanisms
Technical vs. non-technical factors

Hurst, J. (2017)
Hurst, J. (2017)
Reflection (group and self)
Evidence of participation (portfolio)
Further reading (guidance / protocols)
Appraisal
Integration into clinical practice
Further simulation participation

Hurst, J. (2017)
Hurst, J. (2017)

**Participant**
- Knowledge
- Skills
- Behaviours
- Critical thinking (technical, non-technical skills)
- Satisfaction
- Translation to practice

**Facilitator**
- Effectiveness
- Confidence

**Organisation**
- Meeting expectations
- Patient safety issues
- Systems
- Compliance

Drag Dodds and Cords in the diagram to the right to highlight the section labeled 'Evaluations / Outcomes'.

Adapted from Jeffries, P.R. (2005), and Gough, S. et al. (2016)
<table>
<thead>
<tr>
<th>Evaluations / Outcomes</th>
<th>Organisation / Management</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participant</strong> – knowledge, skills, behaviours, critical thinking (technical, human factors), satisfaction, translation to practice</td>
<td><strong>Funding</strong> (equipment, faculty training)</td>
<td><strong>Scenario theme</strong></td>
</tr>
<tr>
<td><strong>Facilitator</strong> – effectiveness, confidence</td>
<td><strong>Time constraints</strong></td>
<td><strong>Professional group / role</strong></td>
</tr>
<tr>
<td><strong>Organisation</strong> – meeting expectations, patient safety issues, systems, compliance</td>
<td><strong>Space/equipment</strong></td>
<td><strong>Level</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Participant &amp; Faculty availability</strong></td>
<td><strong>Number available</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Buy-in, expectations, requirements</strong></td>
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<th>Linked learning activities</th>
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<tr>
<td>Reflection (group and self)</td>
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<td><strong>Skill set / confidence</strong></td>
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<tr>
<td>Appraisal</td>
<td><strong>Team composition</strong></td>
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<table>
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<tr>
<th>Simulation facilitation &amp; debriefing</th>
<th>Simulation design &amp; Learning Objectives</th>
<th>Learning theories &amp; practice</th>
</tr>
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<tbody>
<tr>
<td><strong>Pre-brief</strong> – introduction, orientation, safeguards / confidentiality</td>
<td><strong>Technical vs. human factors</strong></td>
<td><strong>Theories</strong> – e.g. behaviourism &amp; experiential learning, constructivism, complexity,</td>
</tr>
<tr>
<td><strong>Scenario</strong> – duration, focus, progression / problem solving, manikin operation</td>
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<tr>
<td><strong>Debrief</strong> – location, safeguards, format</td>
<td><strong>Space / equipment availability</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Cues</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Support mechanisms</strong></td>
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</table>

Interprofessional in-situ simulation

Hurst, J. (2017)
<table>
<thead>
<tr>
<th>Evaluations / Outcomes</th>
<th>Organisation / Management (Each professional group)</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participant</strong> – 9, 12</td>
<td>2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 16, 17, 18, 19, 20, 21</td>
<td></td>
</tr>
<tr>
<td><strong>Facilitator</strong> – 2, 3, 7, 8, 11, 14, 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organisation</strong> – 5, 7, 8, 9, 11, 12, 13, 16, 17, 18, 19, 20, 21</td>
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<th><strong>Facilitators / Faculty</strong></th>
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<tbody>
<tr>
<td>1, 9, 11</td>
<td>ASPiH standards (2016) mapping</td>
<td>1, 2, 3, 4, 10, 12, 14, 18</td>
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<tr>
<td>1, 3, 9, 10, 14</td>
<td>5, 6, 9, 12, 13, 15</td>
<td>10</td>
</tr>
</tbody>
</table>
Group work 2

Using the blank template

‘Explore the practicalities of using such a model in your workplace and how the new ASPiH standards (2016) can be achieved ’

(15 minutes)
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**Organisation** – meeting expectations, patient safety issues, systems, compliance | **Funding** (equipment, faculty training)  
**Time constraints**  
**Space/equipment**  
**Participant & Faculty availability**  
**Buy-in, expectations, requirements** | **Scenario theme**  
**Professional group / role Level**  
**Number available**  
**Remote senior support availability** |

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**Appraisal**  
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**Scenario** – duration, focus, progression / problem solving, manikin operation  
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**Fidelity, realism, authenticity**  
**Space / equipment availability**  
**Cues**  
**Support mechanisms** | |

**Interprofessional in-situ simulation**
Case study
Theory into Practice

Adapted from Jeffries, P.R. (2005), and Gough, S. et al. (2016)

Hurst, J. (2017)
The unit leads for simulation, nurse education & the lead nurse discussed:

- Organisational expectations (technical (NLS) and non-technical (Human factor) training)
- Provisions for training space, equipment, faculty training & availability.

Embedded in a **2-hour slot** in the annual mandatory update programme.
The simulation set-up mirrors that in the workplace – junior and senior nurses and doctors (max. 3 of each profession). Consultants & shift coordinators involved directly or by telephone for advice. Nursing participants are rostered to attend in non-clinical time.

Hurst, J. (2017)
A multiprofessional faculty, made of neonatal consultants, sim fellow, and senior nurses (including education team), trained in facilitation & debriefing practice. At least 2 facilitators are present per simulation.
To aid ‘collaborative practice’, socio-cultural constructivist theory and ‘Scaffolding are employed during the development and execution of the simulation sessions. A flipped-classroom approach is used for more complex sessions - relevant information is provided one week before the simulation.
Technical & human factor learning objectives around the acute deterioration of a neonate are delivered using real anonymised scenarios. Senior help is available to participants for guidance/assistance. If a high emotional load is anticipated, specific faculty personnel are available to provide appropriate support.
Facilitation & debriefing in line with recognised standards (INACSL), allowing participants to problem solve.
Hurst, J. (2017)

The participants’ airway management skills are formatively assessed by the faculty after the debrief & participant reflection. Further reading is highlighted during debriefing. All participants receive a certificate of participation.
The simulations are evaluated on multiple levels, aiding sustainability:

**Participant** – feedback form, direct discussion, appraisal

**Facilitator** – facilitator debrief, peer-review

**Organisation** – including liaison with risk management, training compliance figures
Conclusions

- Explored the challenges and barriers of implementing sustainable interprofessional in-situ simulation activities in the healthcare setting.
- Reflect on the application of the new model to their own area of practice, in line with new ASPiH standards (2016) to aid improve quality of the design and evaluation of a sustainable interprofessional in-situ simulation-based education programme.
Acknowledgements

• Suzanne Gough and Leah Greene for co-delivering this workshop and their extensive feedback and support in the development of this model

• Fellow students undertaking PG Cert in Simulation and Technology Enhanced Learning at MMU for support and peer feedback

• Supporting simulation faculty at St. Mary’s Hospital, Manchester for their continued support with facilitation of NICU mandatory training simulation programme, using this model.