“Learning interprofessional collaboration through simulation: a sociomaterial perspective.”

Johanna Dahlberg
Faculty of Medicine and Health Sciences, Linköping University, Sweden

Established in 1986
6th medical school in Sweden
• problem-based learning
• integration of subjects
• interprofessional learning
• early patient contact
• community-oriented learning

Today 7 programs
350-450 new students each semester
Curriculum for IPE since 1986

- HEL 1 (1986): 7 weeks
- HEL 2 (2002): 2 weeks
- CTW (1996): 2 weeks

Years:
- Undergraduate
- Advanced
PBL and theme-based integration of subjects

Interprofessional education
Need of change

- Global policies
- Less than 12 weeks on IPE
- Better integration of IPE into the programs
  - Not first in semester 1
- Changes in the faculty
  - New teachers
  - New students
Creating spaces for interprofessional Learning: Strategic revision of a common IPL curriculum in undergraduate programmes.

Lindh Falk et al. 2015 p49-65
Arguments for simulation exercises in healthcare education

- Patient safety
- “Safe” environment for making mistakes
- Standardisation of clinical “experience”
- Lack of clinical placements for students
- Thematising aspects of professional knowledge that is embodied.

Interprofessional collaborative practice?
Modelling

• Medical simulation is influenced by exercises for military purposes, or from aviation industry
• Practice of specific skills, to deal with complex practices
• Given procedures
• Normativ

(Singh et al 2013)
The SIMIPL project:

Interprofessional learning in simulation-based training for the healthcare professions

www.liu.se/simipl

Swedish Research Council, Educational Sciences,
Project ID C0545001
2013-2016
Aim

Linköping - Study how interprofessional collaboration in healthcare teams is arranged and enacted in simulation-based training.

Gothenburg – video-supported debriefing
Stockholm – instructors function
Design and method

- Video recordings of 30 simulation scenarios from a common pool of data
- Students and professionals
  - Acute emergency scenarios
- Ethnographical approach
- Collaborative qualitative analyses

Figure 1. A model of the simulation setting
Note: Adapted from Dieckmann (2009).

Sociomaterial perspective

We understand simulation in interprofessional health education in terms of practices.

This means we focus on what people do and say, and the things involved in practice (Schatzki 2010, 2012)

Directs our attention to bodies and materiality in seeking to understand interprofessional collaboration in simulation
Zooming in – zooming out: shifting theoretical lenses and trailing connections

• Zooming in:  
  Focus on aspects of practice such as
  – sayings and doings
  – active role of material elements and infrastructure
  – body choreographies
  – (...)  

• Zooming out:  
  Follow the practice and articulate the
  – associations/links between practices
  – mediators
  – patterns of associations and interests
  – effects of the global on the local
  – (...)  

Davide Nicolini, *Organisation studies* 30 (12), 1391-1418, 2009
Findings

1. Enacting simulation
2. Observing simulation
3. Learning through reflection
   a. students
   b. professionals
1. Enacting IPCsim: Body choreographies

Students relate to the manikin as a:

- **Technical body** – what are the technical limitations?
- **Physical/medical body** – students perform their medical “knowings”
- **Human body** – caring for the manikin as a human being.

Enacting IPCsim: Bodily positioning *in sync*

- *Sayings, doings, and bodily positionings* were connected in fluid *chains-of-actions*.

- how *leadership* is distributed and influences bodily positionings.
Enacting IPCsim: Bodily positioning *out of sync*

- *Sayings, doings* and *bodily movements* were disconnected, creating parallel professional enactments – *out-of-sync*.

- focus on designated professional actions and tasks
2. Observing simulations

Two different sociomaterial settings were studied.

1. Enacting distant observation: simulation projected onto a screen in a separate small room

2. Enacting proximate observations: simulation observed through a one-way screen in the control room, with the instructor and the operator

Observing simulations - findings

• Students are participating in a passive position as a “normative” audience

• The activities in the simulation room are often commented on in terms of
  – redirecting students attention
  – ‘correct or incorrect’ professional behaviour
  – medical knowings

• The enactments in the simulation room do not cross over to the observation room as interprofessional
3. Reflecting on what was learned: doing debriefing

- Participant focus
  - Pre-debriefing: Individual and descriptive focus
  - Descriptions of individual doings, sayings and relatings
- Patient focus
  - Medical description
  - Medical “tips & tricks”
  - Normative approach
- Team focus as communication, positioning, taking the floor and anticipating.
Reflecting IPCsim: Structure and simulation practices

Algorithm
- Protocol driven, pre-structured, systematic procedure
- Instructor centered
- Closed inquiry approach
- Reinforcing good professional performances

Laissez-faire
- Spontaneous, ad hoc reflection, without structure or clear aim
- Collegial conversation
- Open inquiry approach
- Reinforcing good professional performance

Reflecting IPCsim: Structure and simulation practices

- Enacted and interconnected with and governed by historical traditions of teaching practices as well as simulation practices
- Loosing IPC focus
Conclusions

- A sociomaterial perspective challenges the normativity of pedagogy in simulation
- Offers new pedagogical tools
- Potential support for IPE in new ways
# How to think?

<table>
<thead>
<tr>
<th>Key socio-material understandings</th>
<th>Questions raised for educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>A focus on <em>materials</em> as dynamic and enmeshed with human activity</td>
<td>How do particular materials and built environments affect what our students do and think?</td>
</tr>
<tr>
<td>Human meanings and decisions are important but are not the only things acting in any situation</td>
<td>How might we encourage students to notice how materials influence situations in which they practise?</td>
</tr>
<tr>
<td>Emphasis is not on individual things and their characteristics, such as individual doctors’ skills or particular technologies, but on their <em>relationships</em> and what these produce</td>
<td>How might students become more actively aware of these relations and their effects?</td>
</tr>
<tr>
<td>Practices themselves are continuously changing <em>gatherings</em> of human and non-human elements that act on one another in unpredictable ways</td>
<td>How do different elements act on one another to affect what happens, and how do these different interactions produce particular kinds of knowledge?</td>
</tr>
<tr>
<td>The <em>whole system</em> affects any particular practice as it continuously adapts and changes pattern</td>
<td>How is a particular practice interconnected with and affected by other systems?</td>
</tr>
<tr>
<td><em>Uncertainty</em> and unpredictability are assumed</td>
<td>What might be inhibited in professional education dominated by predetermined curricula and planned objectives?</td>
</tr>
</tbody>
</table>
Acknowledgement

• Madeleine Abrandt Dahlgren
• Sofia Nyström
• Håkan Hult
• Samuel Edelbring

• Hans Rystedt (GU)
• Li Felländer Tsai (KI)
johanna.dahlberg@liu.se

www.liu.se
Arranging IPCsim: Locations and learning

Song-ee Ahn, Sanna Rimpiläinen, Annette Theodorsson, Tara Fenwick, Madeleine Abrandt Dahlgren

Learning in Technology-Enhanced Medical Simulation: Locations and Knowings

Figure 1. A model of the simulation setting
Note: Adapted from Dieckmann (2009).
Enacting simulation: A sociomaterial perspective on students’ interprofessional collaboration

Sofia Nyström, Johanna Dahlberg, Håkan Hult, and Madeleine Abrandt Dahlgren

Department of Behaviour Sciences and Learning, Linköping University, Linköping, Sweden; Department of Medicine and Health, Linköping University, Linköping, Sweden

• Relating to the manikin as a technical, medical and human body
• Bodily positionings in and out of synchrony with socio-material arrangements
Observing of interprofessional collaboration in simulation: A socio-material approach

Sofia Nyström, Johanna Dahlberg, Håkan Hult, and Madeleine Abrandt Dahlgren

- Enacting proximate observation
  - ’Stage-in-a-stage’
- Enacting distant observation
  - Focus on a screen
Debriefing practices in interprofessional simulation with students: a sociomaterial perspective

Sofia Nyström¹, Johanna Dahlberg², Samuel Edelbring³⁴*, Håkan Hult³ and Madeleine Abrandt Dahlgren³

- Structure as enabler and constraint
  - Algorithm
  - Laissez-faire
- Time constraint
- Losing IPC focus