Is Simulation the Future of Nursing Education?

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Disclosure

Project Lead for the Virtual Case Creator Online Simulation workstream – made available to HEI and Health Care Organisations Under License

No Personal Financial Gain
Birmingham City
• Acquired University status in 1992
• Approx. 25000 stds
• 8 Faculties
• New £150m City Centre Campus
Faculty of Health

- Approx. 7000 students
- Nursing (4 branches), SLT, Radiography, Social Work, ODP’s, Midwifery
- Centre for Defence Medicine
- 3000 pre-registration nursing stds
- 300 staff
BCU Simulation Milestones

- 2004 Online simulation platform (VCC)
- January 2005 CETL Status
- May 2005 International Council of Nurses conf. Taiwan
- March 2006 Pitt visit
- Sept 2006 NMC Pilot
- June 2006 QAA rating
- April 2007 Installation of VERT
BCU Simulation Milestones

- January 2007 Laerdel HQ
- Nov 2007 Laerdel Int. Conference
- Jan 08 2nd Pitt Visit
- March 08 Scoping Exercise
  - BU and WU Med Schools
- July 08 3rd Pitt Visit: formalise collaborative projects
The Pendulum That Swung Too Far?

- 20th century - Practice Based Learning
- Early 1990’s – P2K and HE
- Peach Report 1999 – Damming Critique
Practice Makes Permanent

Only well supervised practice with constructive feedback that makes good practice permanent  (Nichol, 2006)
Project 2000 and Higher Education Integration

- The development of the “knowledgeable doer”
- Focus upon academic disciplines
- Development of critical thinking skills
- Heavily criticised

“I must be the only knowledgeable doer who doesn’t know what they are doing”
Defining Simulation

Simulation is a technique - not a technology – to amplify experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner.

Gabba (2004)

Controlled and risk free encounters that replicate real life scenarios allowing students to learn, rehearse and apply skills before transferring these to clinical practice.

Morgan (2006)
Nurse/Simulation Publications

CINAHL Plus Literature Search

Over 4 fold increase in Simulation/Nursing Publication cf 2000
The Power of High Fidelity Simulation
NMC Pilot

Background

• Nursing and Midwifery Council
  • regulator for 682,000 nurses and midwives in UK

• Commissioned Simulation and Practice Based Learning Project in 2006

• 13 pilot sites selected to capture a wide range of approaches to simulation focussed learning within pre-reg. nursing only
NMC Pilot

• Aimed to identify what is required to ensure that simulation can develop skills as safely as practice experience

• Potential Outcome: Changes in the proportion of time learners need to spend in practice during their course
NMC Pilot

- Study population approx. 1000 learners Sept – Dec 06
- On average 6 days of clinical practice replaced by simulation based learning.
- Most learners participated in 6 simulation scenarios.
Outcome

• The most significant change in UK nurse education in the past 15 years

• Up to 300 hours of the 2300 hours practice component to provide clinical training within a simulated practice learning environment in support of providing direct care in the practice setting. (NMC Circular 36/2007)
What is the key challenge facing the field of simulation in health care?

1. Promoting patient safety
2. Improving the fidelity of simulation scenarios
3. Maximising the educational value of simulation
4. Obtaining further investment in simulation learning
Effective Education Design and Curriculum Integration: Priceless?

Sim Staff: £1000
Sim Equipment £40,000
Sim Facilities £500,000
Where do we go from here?
One Solution

By Applying and Aligning Different Simulation Modalities within a Curriculum Focussed Framework
Maximising Learning by Constructive Alignment of Multiple-Modality Simulation (CAMMS)

Biggs (1999)
ASSESSMENT INTERVENTION AND EVALUATION FOR ACUTE ADULT NURSING

Virtual Case Creator

- PART TASK TRAINING / SKILLS/LO’s
- LTI
- PLENARY
- TRADITIONAL TEACHING

SIMULATIONS & VIDEO

MOODLE

CLINICAL PRACTICE

SUMMATIVE ASSESSMENT
Full Context Simulation Scenario

• Facilitators act in the role of the students’ ‘mentor’ in practice.
• Encourages students to seek help and ask questions when unsure.
• Develops students confidence to question and challenge practice.
Streaming Live Video

• Peer observation
• Facilitated plenary and debrief
Modes of debrief

- Private debrief by facilitator immediately post scenario
- Debrief by peers outside of simulation suite
- Self-guided reflection of video performance
Welcome to your Simulation Video Site

Please take time to watch and reflect upon your simulation experience.

You can also use the forum to discuss these experiences with the rest of your small group.

Please be assured that these videos and discussions can only be reviewed by your small group.

Simulation Video One

Simulation Video Two
AVS Connections for SimMan, SimBaby and SimNewB

Rollover images to learn more

Switch to SimBaby

Main Menu

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Scoping Skills and Simulation: Methods

- Desktop survey of over 50 organisations
- National Online Survey
- Curriculum mapping exercise
- Expert Panel
  - Vision Statements and Recommendations
Scoping Skills and Simulation: Recommendations

- Leadership
- Multi and Inter professional learning opportunities
- Educational Framework
- Regional Staff Dev. Academy
- Regional Advisory Board
- Focus on Evaluation
- Hub and Spoke Approach to Centre Organisation
So Is Simulation the Future of Nurse Education?

- For us, rarely has emphasis on one field of educational innovation, led to such a transformative effect.
- More situated learning on campus
- More effective module design
- Increased student progression
- Increased external funding
- Increased R&D opportunities
We’re still unsure about the impact that simulation will have on the wider sector but whatever happens in the future we know that we would never go back to the past.
References

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Part Task Trainers

NG Tube and Tracheostomy Care  Airway Management

Wound Care

WISER
Peter M. Winter Institute for Simulation, Education & Research
PICU Scenario

Learning objects can be linked to support decision making and to scaffold learning allowing clinical skills to be refreshed and further developed.
Online Simulation: Teacher and PC Supported Scaffolding
Communication Scenario

Posture perhaps indicating low self esteem, lethargy.

Withering plant indicating low motivation.

Cracks in wall perhaps indicating socio economic status, lack of support, motivation.

Perhaps some indication of alcohol dependency/failing to cope.

The use of video allows the learner to interview this client and the decision making exercise allows them to further assess and initiate care.
Advanced Patient Simulators

APS

and Part Task Trainer learning

SYMPOSIUM ON NURSING SIMULATION
Sailing into the Future

"...The great thing in this world is not so much where we stand, as in what direction we are moving...we must sail sometimes with the wind and sometimes against it, but we must sail, and not drift, nor lie at anchor."

Oliver Wendell Holmes
Who are our students?

- http://moodle.bcu.ac.uk/course/view.php?id=168
Part Task Trainers

NG Tube and Tracheostomy Care

Airway Management

IV Training

Wound Care
Learning Objects

Urinalysis

Oxygen Administration

Blood Transfusion

Early Warning Scoring Systems
Practice Learning Theory

Lave & Wenger  Vygotsy  Brown et al  Schon

Rejected the dualistic construction of knowledge promoted “knowing” as an active and practice immersed process

Dewey  Argyris
Practice Learning Theory

Lave & Wenger  
Vygotsy  
Brown et al
Schon

Dewey

Zone of Proximal Development
Scaffolding (Bruner)

Argyris
Practice Learning Theory

Lave & Wenger  Vygotsy  Brown et al  Schon

Legitimate Peripheral Participation

Dewey  Argyris
The swampy lowland of messy practice problems that can’t be solved by application of facts and formal theories.
Practice Learning Theory

Lave & Wenger

Vygotsy

Brown et al

Schon

Dewey

Situated Cognition

Biggs
Practice Learning Theory

Lave & Wenger

Vygotksy

Brown et al

Dewey

Schon

Constructive Alignment

Biggs
Patient Safety

• To Err Is Human
• An Organisation with a Memory
• Astonishing human and economic cost of human error
• Increase in multi site studies that explore in-practice behavioural outcomes
• Potential for Simulation to facilitate these studies