4 March 2015: 07:00AM GMT

**Enhancing student learning outcomes with simulation-based pedagogies**

A/Prof. Pierre Benckendorff (University of Queensland, Australia)

**Your Hosts**

Professor Geoff Crisp,  
Dean Learning and Teaching, RMIT University  
geoffrey.crisp[at]rmit.edu.au

Dr Mathew Hillier,  
Institute for Teaching and Learning Innovation, University of Queensland  
mathew.hillier[at]uq.edu.au

---

**Just to let you know:**
By participating in the webinar you acknowledge and agree that:
The session may be recorded, including voice and text chat communications (a recording indicator is shown inside the webinar room when this is the case). We may release recordings freely to the public which become part of the public record. We may use session recordings for quality improvement, or as part of further research and publications.

---

Transforming Assessment  
Webinar Series
ASSESSING ONLINE BUSINESS SIMULATIONS

www.bizsims.edu.au

PROJECT PARTNERS
THE UNIVERSITY OF QUEENSLAND | GRIFFITH UNIVERSITY
LA TROBE UNIVERSITY | UNIVERSITY OF SOUTH AUSTRALIA
WILLIAM ANGLISS INSTITUTE

Funded By

Australian Government
Office for Learning & Teaching
Today’s Goals

- Contemplate the major challenges in developing business capabilities
- Explore some of the leading simulations in business
- Discuss how simulation-based pedagogies and assessment can be used to enhance business capabilities
Challenges in Business Education

- Large cohorts

- How can students develop and practice business capabilities?
  - Reports and essays are limited
  - Business plans and case studies not dynamic / interactive
  - WIL experiences often focused on operational skills
  - Exams and MOOCs largely content-based

- Can we provide large cohorts with a learning experience where students sharpen their managerial skills through regular feedback?
What are Online Business Simulations?

Complex simulations designed to teach strategy, competitive analysis, finance, marketing, HRM, cross-functional alignment, and the selection of tactics to build a successful business.
Online Business Simulations

Perceptual Map (at end of this year)

Perceptual Map forecast as of December 31st of this year. The perceptual map plots products and customer segments. Labels indicate products. Circles represent customer segments. Products in the upper left corner are big and slow. In the lower right corner products are small and fast. Similarly, the circle in the upper left represents "Low Tech" customers. They want big, slow products. The circle in the lower right represents "High Tech" customers. They want small fast products. The black circle marks the heart of the segment. The dashed circle is the absolute outer limit of what customers will buy. For your product to have any appeal, it must be inside the dashed circle, and it is not considered a good product until it is inside the black circle.

The long-term trend is towards smaller, faster products. Customers are marching steadily towards the lower right corner of the map. High Tech customers will reach it by year 8. Your job is to offer products that meet customer expectations for smaller size and higher performance every year.
### INFORMATION ON SONITE MARKET - SALES AND MARKET SHARES

<table>
<thead>
<tr>
<th>Firm</th>
<th>Brand</th>
<th>Volume sold</th>
<th>Retail sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Period 6</td>
<td>Period 7</td>
</tr>
<tr>
<td>A</td>
<td>SALT</td>
<td>102,554</td>
<td>120,000</td>
</tr>
<tr>
<td></td>
<td>SAH3</td>
<td>104,088</td>
<td>134,211</td>
</tr>
<tr>
<td></td>
<td>SASI</td>
<td>177,600</td>
<td>264,000</td>
</tr>
<tr>
<td></td>
<td>SATO</td>
<td>102,051</td>
<td>192,000</td>
</tr>
<tr>
<td>E</td>
<td>SELF</td>
<td>66,874</td>
<td>21,206</td>
</tr>
<tr>
<td></td>
<td>SEXY</td>
<td>103,200</td>
<td>32,788</td>
</tr>
<tr>
<td>I</td>
<td>SIBI</td>
<td>50,119</td>
<td>41,482</td>
</tr>
<tr>
<td></td>
<td>SIFU</td>
<td>300,000</td>
<td>315,527</td>
</tr>
<tr>
<td></td>
<td>SIPS</td>
<td>0</td>
<td>192,000</td>
</tr>
<tr>
<td>O</td>
<td>SONO</td>
<td>84,603</td>
<td>91,045</td>
</tr>
<tr>
<td></td>
<td>SOLE</td>
<td>197,342</td>
<td>50,704</td>
</tr>
<tr>
<td></td>
<td>SODA</td>
<td>167,436</td>
<td>264,000</td>
</tr>
<tr>
<td></td>
<td>SOFA</td>
<td>0</td>
<td>40,800</td>
</tr>
<tr>
<td>U</td>
<td>SUSI</td>
<td>60,000</td>
<td>120,000</td>
</tr>
<tr>
<td></td>
<td>SULI</td>
<td>30,000</td>
<td>26,730</td>
</tr>
<tr>
<td></td>
<td>SUKO</td>
<td>35,860</td>
<td>14,442</td>
</tr>
</tbody>
</table>

**Total Sonite market**: 1,684,703, 1,920,934, +14.0%, 100.0% 563,018, 602,495, +7.0%, 100.0%
<table>
<thead>
<tr>
<th>Category</th>
<th>Weekday Rooms</th>
<th>Weekend Rooms</th>
<th>Conferences (per person per 24 h)</th>
<th>Groups</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disc. for 3+ Nights</td>
<td>$140.00</td>
<td>$120.00</td>
<td>$99.00</td>
<td>$60.00</td>
<td>$45.00</td>
</tr>
<tr>
<td>Disc. for no breakfast</td>
<td>3 %</td>
<td>3 %</td>
<td>15 %</td>
<td>40 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Disc. for non-cancel</td>
<td>5 %</td>
<td>5 %</td>
<td>25 %</td>
<td>60 %</td>
<td>50 %</td>
</tr>
<tr>
<td>Conf. Rooms.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What are Online Simulations?

Simulations

Physical Simulations
- Scenarios
- Role Plays
- PBL

Virtual Simulations
- Software
- Online
  - 3D VLEs
  - Data Centred
Authenticity Matrix
(Herrington, Reeves and Oliver, 2010)

Academic Setting

Decontextualised

Academic Tasks in Academic Settings
Exams | Essays | MOOCs

Real Tasks in Academic Settings
Scenarios | PBL | Simulations

Real Tasks in Real Settings
Placements | Service Learning

Academic Tasks in Real Settings
Field Trips | Worksheets

Real Setting

Authentic

Online Business Simulations
PEDAGOGY | ASSESSMENT | LEARNING
Why simulation-based learning?

Average Retention Rates

Passive Teaching Methods

- Lecture 5%
- Reading 10%
- Audio/Visual 20%
- Demonstration 30%

Participatory Teaching Methods

- Discussion Group 50%
- Practice by Doing 75%
- Teach Others 90%

Adapted from National Training Laboratories, Bethel, Maine
Why simulation-based learning?
(Biggs, 1999; Feinstein, Mann, & Corsun, 2002; Fripp, 1997)

- Applied to many different disciplines
- A technique (not a technology) to amplify real experiences
- Developing skills in a safe and risk-free environment
- Make errors that do not have real repercussions
- Encourage collaborative learning
Why business simulations?

- Integrate the various elements of running a business
- Experiential/active learning environments that mirror real world problems
- Opportunity for manageable large class capstone learning experience
- Authentic and dynamic team-based learning experiences
- Develop employability skills
Why online business simulations?
(Adobor & Daneshfar, 2006; Bowness, 2004)

- Apply critical thinking and decision making in a non-linear environment
- Decisions/actions lead to complex and unexpected outcomes
- Develop graduate capabilities and strategic decision making skills
- Continuous feedback to help students understand the outcomes of decisions
- Technology enabled learning available any time, any where
What do students say about bizsims?

- The best aspects of using simulation is that it is close to a real life scenario, but at the same time it allows us to make mistakes.
- I think it's definitely better than any other course at the uni, because it's practical and you really make something happen and it's not only about theory.
- Sometimes we had arguments but in the end we used the data to prove which decision was better.
What do students say about bizsims?

- We really had to work closely together because every decision made by each group member could affect our performance.
- Due to the fast pace of the simulation we really develop problem solving skills that help us to make decisions quickly.
Project Aims

- Map the **features** of online simulations.
- Evaluate the contribution of simulation-based **pedagogies** to **student learning outcomes**.
- Identify and promote innovative **pedagogies** and **resources** for using online simulations as learning tools.
- Assess the **challenges** associated with the integration of simulations into sustainable teaching practice.
Project Team
- Pierre Benckendorff, UQ
- Marlene Pratt, Griffith
- Gui Lohmann, Griffith
- Paul Strickland, La Trobe
- Paul Whitelaw, Victoria University
- Paul Reynolds, UniSA
- Lainie Groundwater, UQ
Project Resources

- Simulations Audit
- Simulation Learning Barometer
- Case Studies
- Good Practice Guide
- Website www.bizsims.edu.au
- National Workshops
AIRLINE Online Business Simulation

Educators

Pierre Benckendorff | The University of Queensland | p.benckendorff@uq.edu.au

Gui Lohmann | Griffith University | g.lohmann@griffith.edu.au

Key Features

- **Simulator:** AIRLINE Online Simulation
- **Students:** Postgraduate coursework, internal and external students
- **Class Size:** 20-40
- **Assessment:** Business proposal, annual report, reflective blog, business performance (see percentages for each institution below)
- **Pedagogy:** UQ - Flipped classroom (40 x 10-20 minute video lectures, 13 x 2 hour workshops); GU - Intensive delivery of lectures followed by simulation (7 x 3-hour workshops, 50 hours of simulation work).

Background

This case covers the use of the AIRLINE Online simulation using a similar pedagogic approach and assessment regime across two Queensland universities. At the University of Queensland the simulation has been used since 2011 in a masters unit. The simulation is also being used by a postgraduate unit at Griffith University, however most of the case relates to Dr. Lohmann’s use of the simulation with undergraduate students at Southern Cross University. Owned by a company called Simulate, AIRLINE Online:
Do you use simulations at your institution? Why? Why not?
Tips for using Simulation Pedagogies

- Map out expectations (time, team roles, instructor as a ‘guide on the side’)
- Give students time to learn from trial and error, trials or practice rounds
- Provide support (e.g. videos, demos, manuals, flow charts)
- Encourage collaboration (e.g. facebook, skype, wikis)
- Align learning outcomes
- Use complementary pedagogies (e.g. field trips, industry speakers, mentors, cases)
- Link curriculum to events in the simulation, use class time for debriefs
- Assess learning (not time or effort spent on the simulation)
- Aim for authentic learning and assessment (Herrington et al. 2010)
Authentic online learning environments
(Herrington, Reeves and Oliver, 2010)

1. Authentic context
2. Authentic tasks and activities
3. Expert performances
4. Multiple roles and perspectives
5. Collaborative construction of knowledge
6. Reflection
7. Articulation and presentation
8. Coaching and scaffolding
9. Authentic assessment
Design an authentic assessment task to complement an online simulation
Assessment

Assessment aligned with learning outcomes and simulation tasks

- Team interaction (e.g. peer evaluation, PBL/case, wikis)
- Reports and presentations
  - Proposals or plans
  - Company performance
  - Competitor analysis
- Reflective assessment
- Performance metrics?
Some challenges...

For Educators

○ Commercial packages require additional funding
○ Steep initial learning curve

For Students

○ Time is compressed
○ Some variables cannot be simulated
○ Students become too engaged
○ Not a solution for all team work problems
WE NEED YOU!

Online Business Simulations
PEDAGOGY | ASSESSMENT | LEARNING
Session Feedback Survey

With thanks from your hosts
Professor Geoff Crisp,
Dean Learning and Teaching, RMIT University
goeffrey.crisp[at]rmit.edu.au

Dr Mathew Hillier,
Institute Teaching and Learning Innovation,
University of Queensland
mathew.hillier[at]uq.edu.au

Recording available
http://transformingassessment.com