

# Using eSims in Teaching

## Building Teaching and Organisational Capacity

Presenting an ALTC research project by

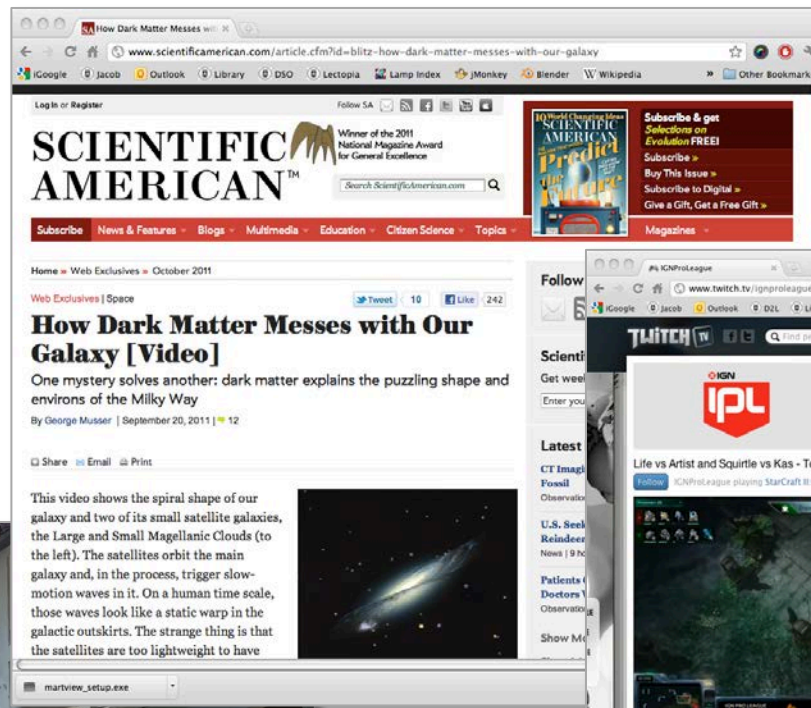
- Jacob L. Cybulski
- Stephen Segrave
- Dale Holt
- David O'Brien
- Judy Munro





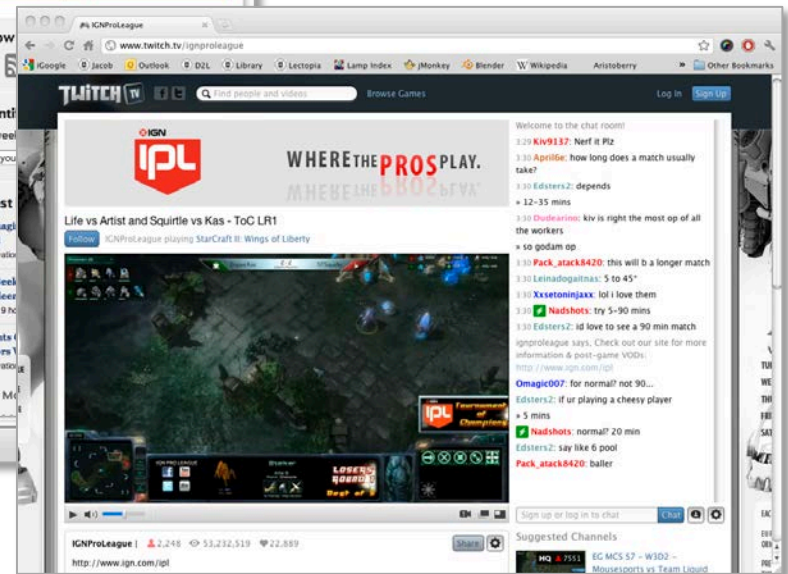
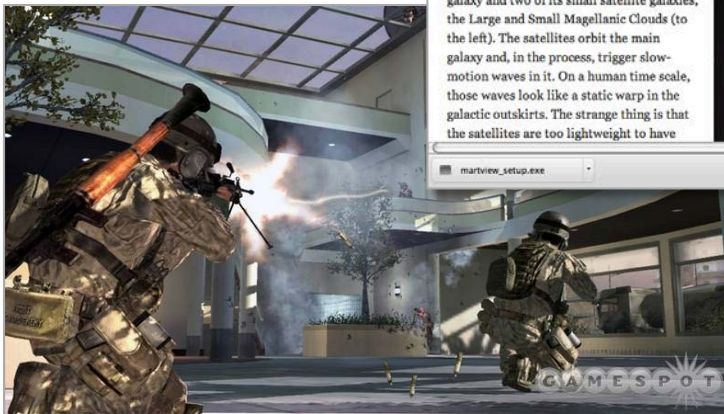
# Present: Learning from experts in new media

*Publications*



*Collaborative  
Social Media*

*Games*





# Future: Experiential Blended eSimulation

*Electronic simulation*

*Delivering experience*

*Blended with traditional methods of teaching*



*eSimulation  
what's in 'e'?*

*electronic  
experiential  
emotional  
engaging*

*Space vs. Place*



# Experience in using new media to support teaching and learning

Teaching  
Enhanced

Experience  
Gained



2011-2012: eSims Book

2008-2010: ALTC Project – Deakin, RMIT, CSU

2008: InSims + a lot of new eSims

2007: Fab ATM, Pressure Point!, Client View, Mods & Rockers, UnReal Interviewing, ViewQuest, Blue Apple Cruises, ...


2004: LiveSim

2001: HOTcopy






FIRST AUSTRALIAN BANK
ATM project



**Documents**



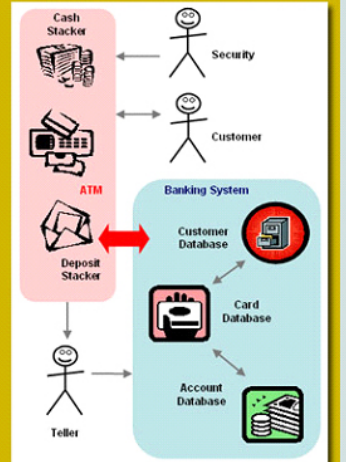
Rear service panel of a popular Qualtex WeatherMaster unit.

**Questions** Prompt Gender:  Male  Female

- Go to the top menu
- Go up, to the previous menu
- Describe the interaction of a bank customer with the ATM?
- What are typical ATM features?
- Tell me about the way you withdraw cash from an ATM?
- How do you deposit money via an ATM?
- Tell me about ATM transfers.
- Can you request a bank statement from an ATM?
- What happens when the transaction is finished?

**Alerts**


You have 40 minutes remaining. You should start asking some concrete questions. We hope you are not alone and you've come to this session with a good note taker.



*(Exhibit 1 – FAB ATM)*

# Focus: Talking Characters

- **Immersion** HOTcopy (Journalism)
- **Listening** ClientView (Law)
- **Task Guidance** Blue Cut Fashion *Store* (Information Systems)
- **Interpretation** PPressure Point! (Public Relations)
- **Interviewing** Suicide Risk Assessment (Mental Health)  
Domestic Violence (Policing Studies)  
Know Your Client (Financial Planning)
- **Quest** UnRealInterviewing (Forensic Interviewing)
- **Elicitation** Blue Cut Fashion *Chain* (Business Analysis)  
Purple Integrated Taxi (Systems Analysis)
- **Meeting** Ringo Robotics (Project Management)



# Experience was gained! Experience which can be disseminated...

- **eSims development**

- Educational design
- Interaction design
- Script development
- Studio work (actors)
- Video engineering
- Sound engineering
- Graphic design
- Multimedia development
- Game design
- Software engineering
- Integration & testing

- **eSims infrastructure**

- Contents management
- Speech and character servers
- Web and database servers
- Network services

- **Development & deployment**

- Management engagement
- Production and project management
- Help desk and technical support
- Acquisitions and partnerships
- Dissemination and adoption
- Maintenance





The general aim of this project therefore was:

To determine how to...

- effectively transfer knowledge and experience and
- build organisational capacity

To enable educational institutions to...

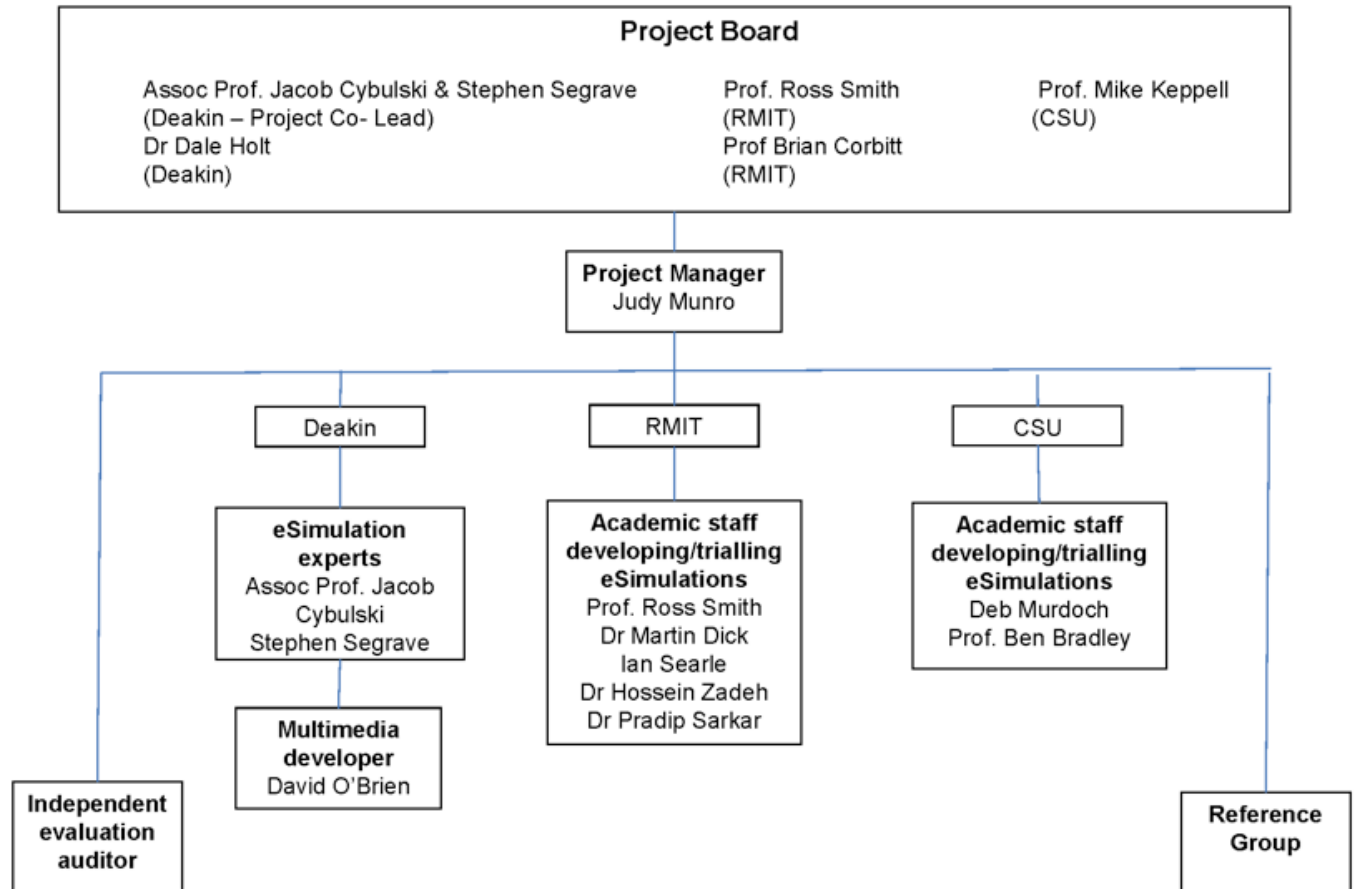
- develop, deliver and evaluate eSimulations

With a view to...

- enhance professional learning in the Australian higher education sector.



# The eSims Team



## Methodology cycle Activities

Project initiation

Project Conference 1

### 1. Planning

- eSimulation training (Deakin)
- Individual eSimulation design (Deakin, CSU, RMIT)

### 2. Action

- eSimulation development (Deakin, CSU, RMIT)
- eSimulation deployment (Deakin, CSU, RMIT)

### 3. Evaluation

#### *Formative*

- Blogs
- Fortnightly all-of-team meetings
- Project Conference 2 – team focus group
- Surveys of student responses
- Consultation with Reference Group

#### *Summative*

- Team member surveys
- Analysis of surveys and transcripts

### 4. Reflection

#### *Formative*

- Solution of immediate problems (facilitated by Deakin)
- Refinement of eSimulations
- Refinement of the design of application of eSimulations in classroom settings

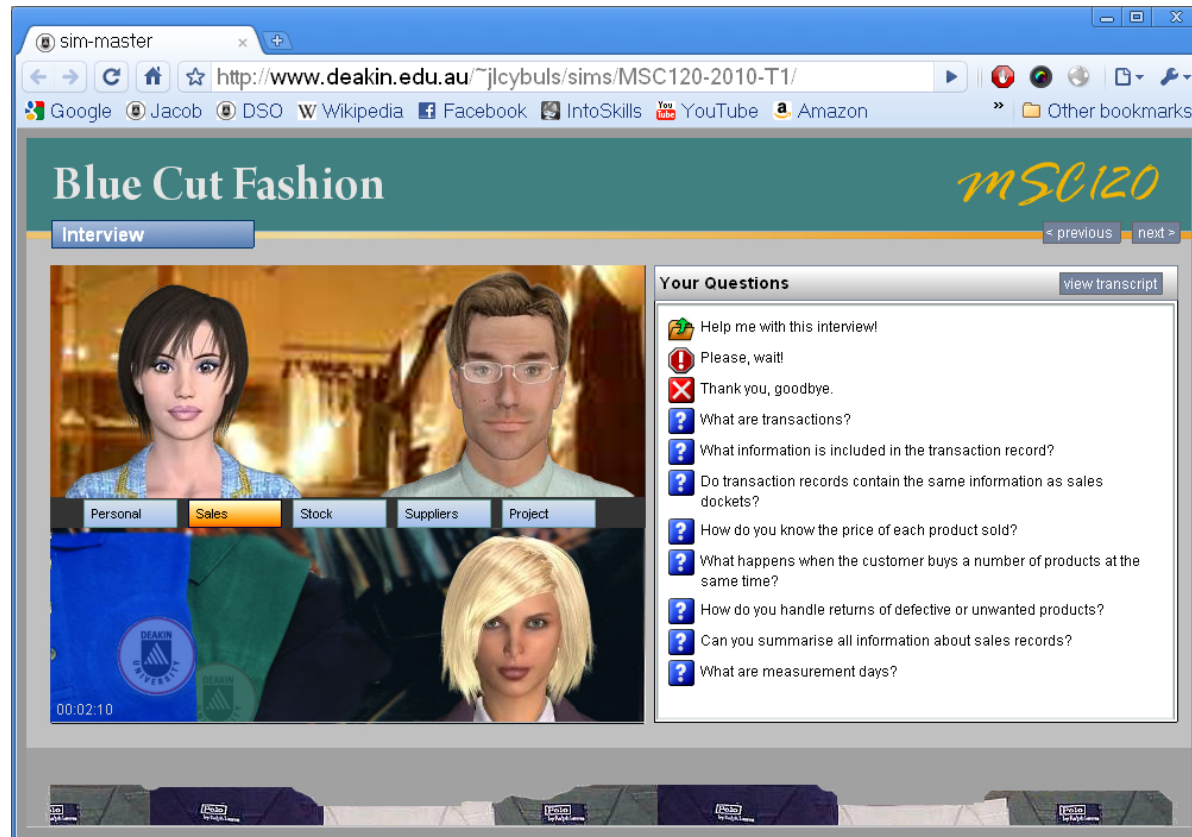
#### *Summative*

- Conference presentations/papers
- Project Conference 3
- Reference Group feedback
- Final Project Report

# Action Research



Methodology cycle	Activities	Outcomes
Project summation / On-going dissemination of results	<ul style="list-style-type: none"> <li>• Project report</li> <li>• Project Guide</li> <li>• Project website</li> <li>• Project posters and eSimulations portfolio</li> <li>• IGI Global text – Professional Education Using eSimulations: Benefits of Blended Learning Design</li> </ul>	



The screenshot shows a web browser window with the address bar containing <http://www.deakin.edu.au/~jicybul/sims/MSC120-2010-T1/>. The page title is "Blue Cut Fashion" and the URL "MSC120" is displayed in the top right. The main content area features a video player with two characters, a navigation menu with tabs for "Personal", "Sales", "Stock", "Suppliers", and "Project", and a "Your Questions" section with a "view transcript" button. The video player shows a woman and a man in a clothing store setting, with a timestamp of 00:02:10. The "Your Questions" section contains a list of questions related to the simulation.

**Blue Cut Fashion** *MSC120*

Interview < previous next >

Personal Sales Stock Suppliers Project

00:02:10

**Your Questions** [view transcript](#)

- Help me with this interview!
- Please, wait!
- Thank you, goodbye.
- What are transactions?
- What information is included in the transaction record?
- Do transaction records contain the same information as sales dockets?
- How do you know the price of each product sold?
- What happens when the customer buys a number of products at the same time?
- How do you handle returns of defective or unwanted products?
- Can you summarise all information about sales records?
- What are measurement days?

*(Exhibit 2 – Blue Cut Fashion)*

Students generally praised the eSimulation's ability of bringing to life abstract topics that could easily be related to the professional practice to be learnt.



eSim	Trimester / Semester 1		Trimester / Semester 2		Trimester / Semester 3	
	Strongly agree	Agree	Strongly agree	Agree	Strongly agree	Agree
KYC	13%	75%				
BCFS	19%	63%			12%	75%
BCFC	0%	77%				
RR	23%	76%				
SRA	0%	100%				
CV						
PITS						
UI						
DVS						

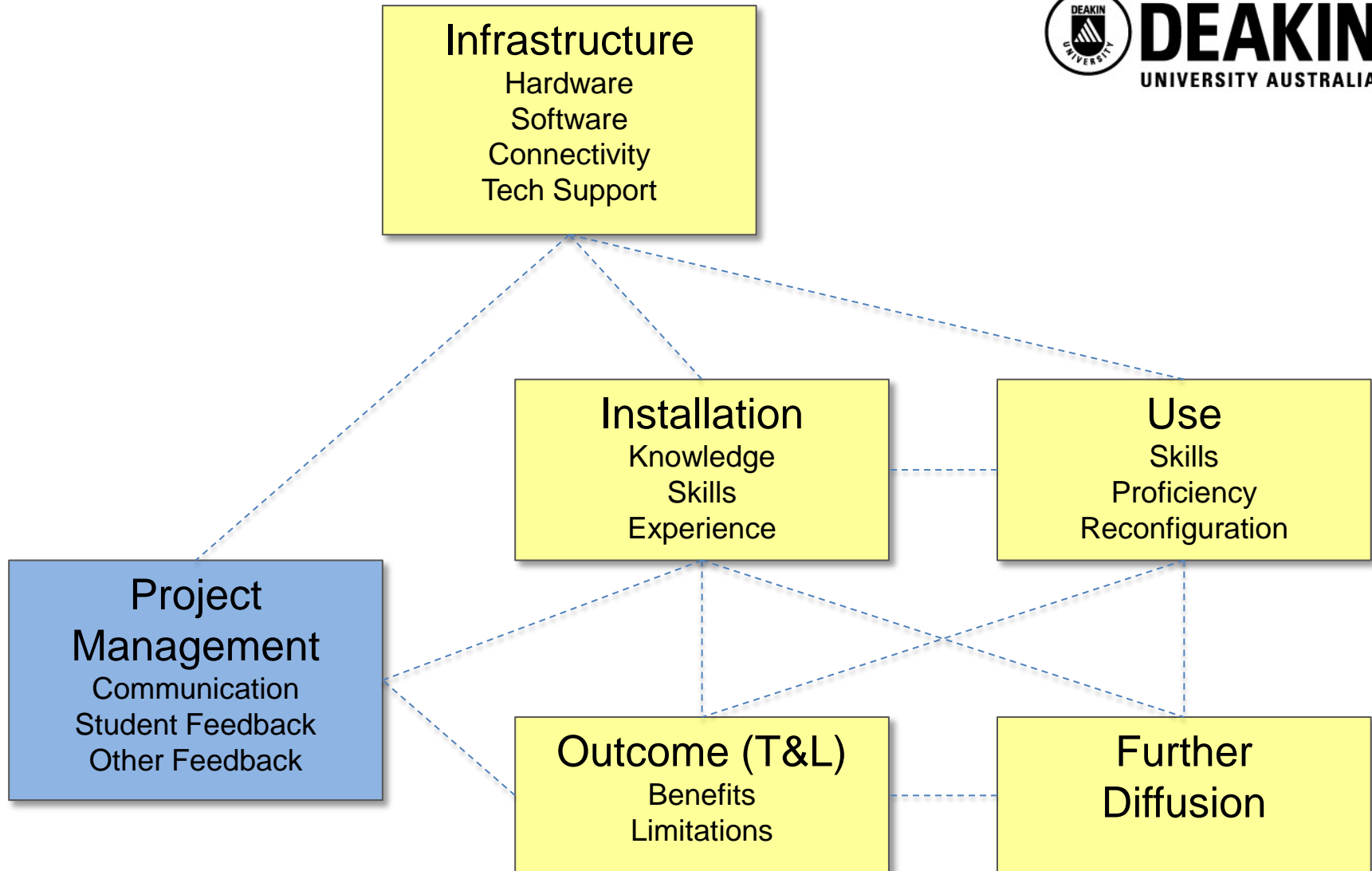
They emphasised that eSimulations provided them with access to experiences that they may not otherwise have had in a university context.

eSim	Trimester / Semester 1		Trimester / Semester 2		Trimester / Semester 3	
	Strongly agree	Agree	Strongly agree	Agree	Strongly agree	Agree
KYC	40%	41%				
BCFS	27%	46%			25%	45%
BCFC	44%	44%				
			61%	28%	61%	
			50%	0%	100%	
				10%	57%	
				8%	54%	
					66%	0%
					13%	66%

Being representatives, in the large majority, of Generation Y, it was not surprising to note that the interactivity, engagement and 'gaminess' of the professional role projects sustained students' interest throughout the semester;

eSim	Trimester / Semester 1		Trimester / Semester 2		Trimester / Semester 3	
	Strongly agree	Agree	Strongly agree	Agree	Strongly agree	Agree
KYC	14%	61%				
BCFS	17%	46%			22%	50%
BCFC	0%	75%				
RR	23%	76%	13%	63%		
SRA	100%	0%	50%	50%		
CV			10%	52%		
PITS			7%	44%		
UI					33%	66%
DVS					28%	42%

# Findings: Student Experience

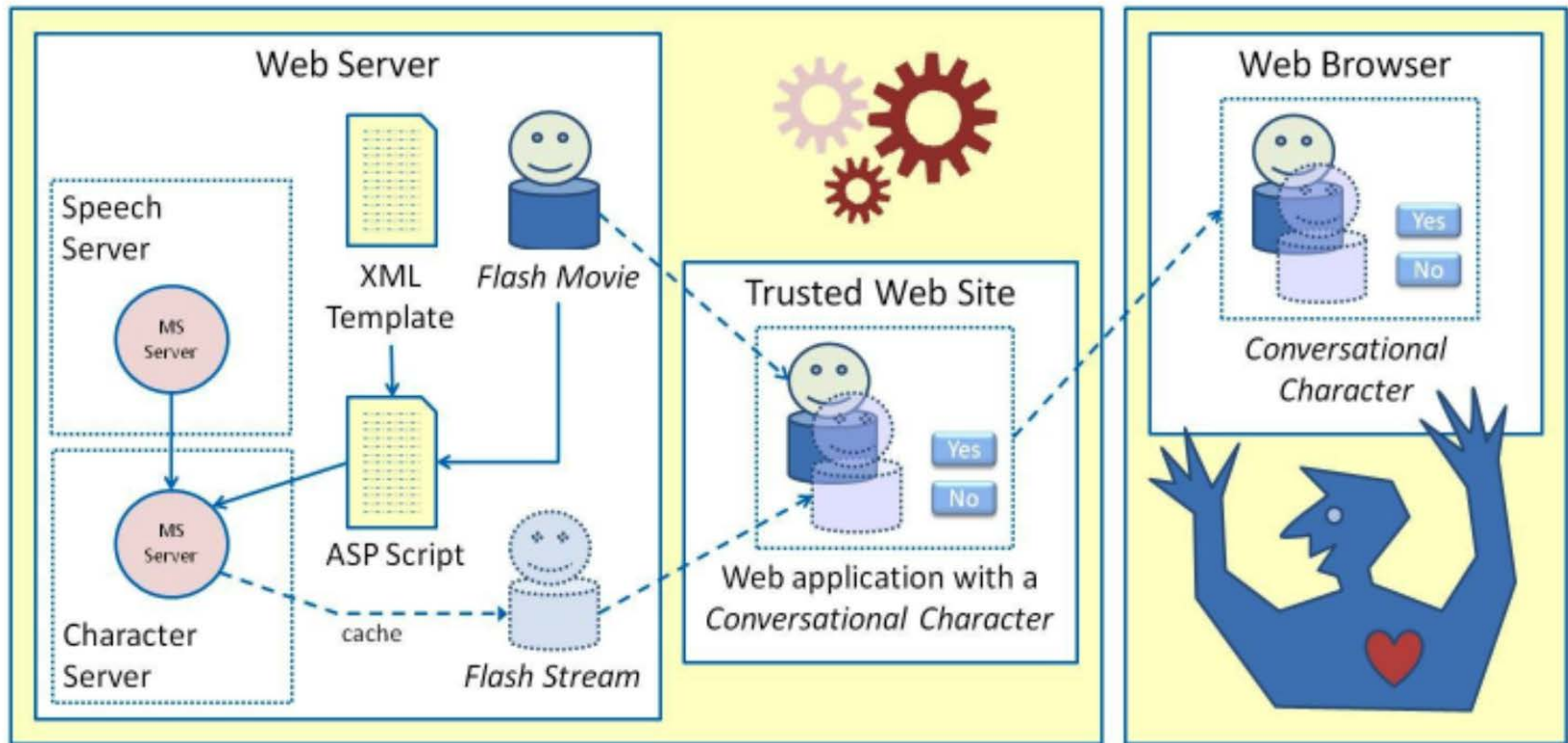


Findings:  
Staff Experience



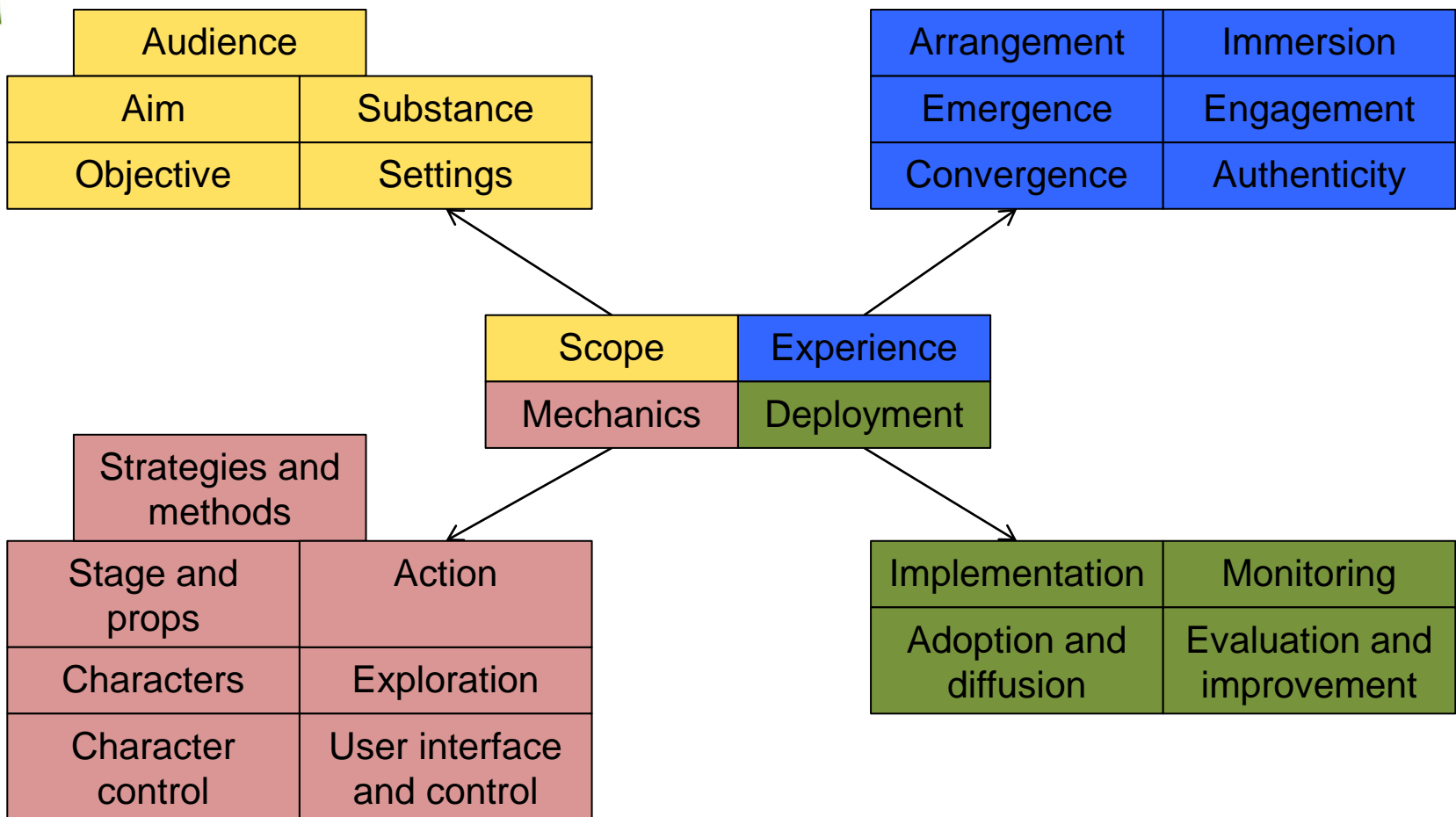


# Findings: Infrastructure Design





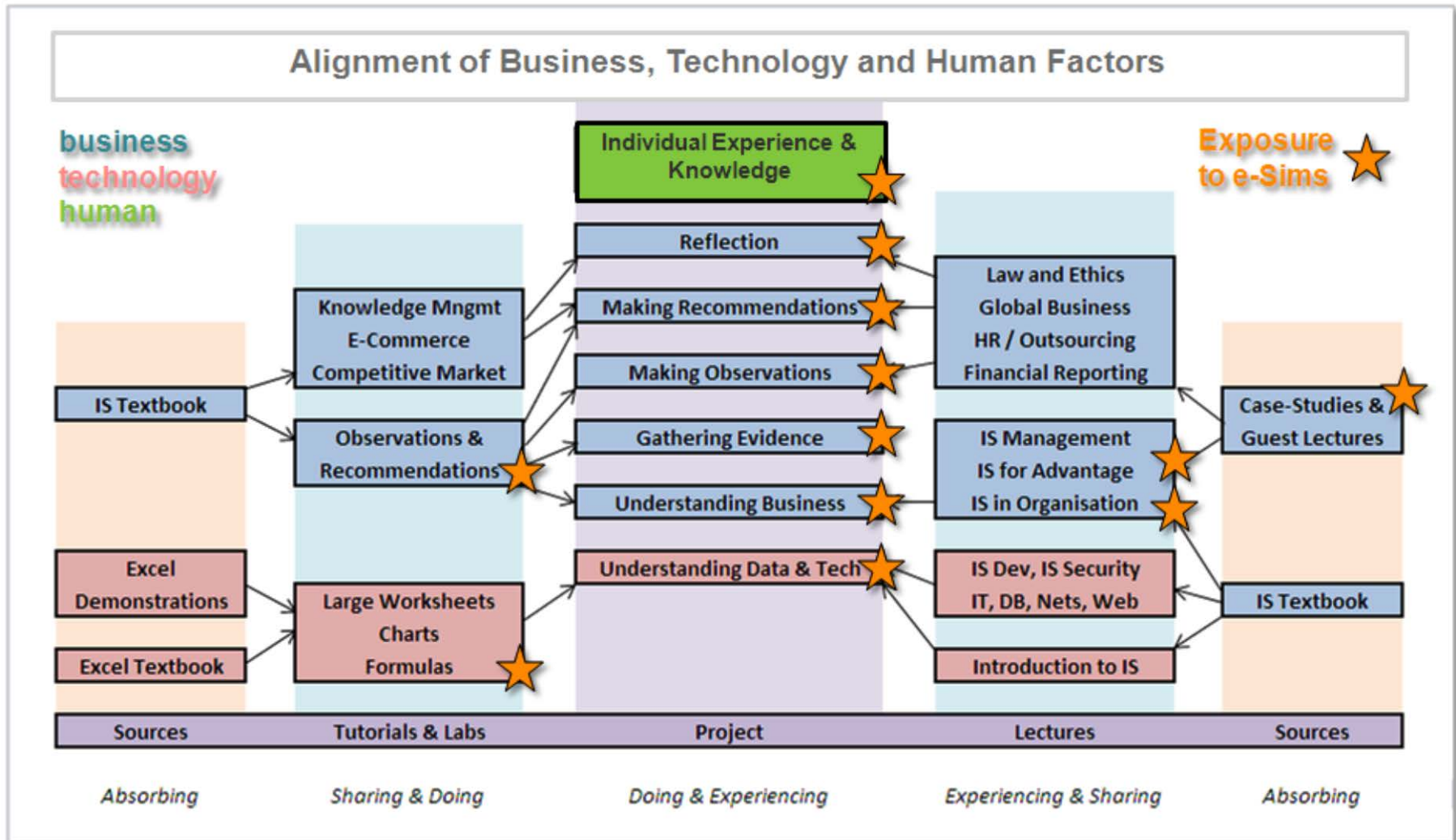
# Findings: Experience Design





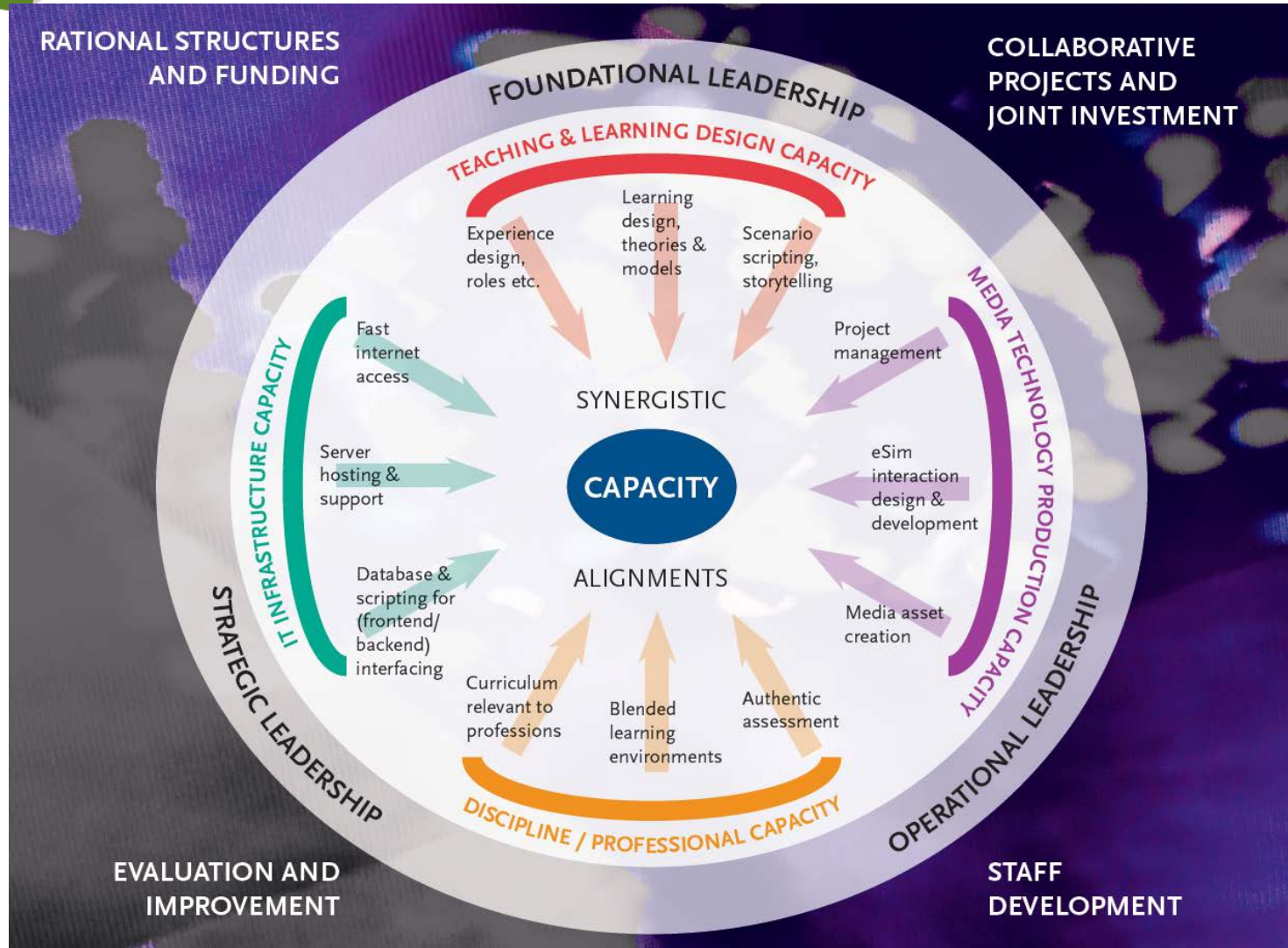
*(Exhibit 3 – Where are we?)*

# Findings: Learning Design

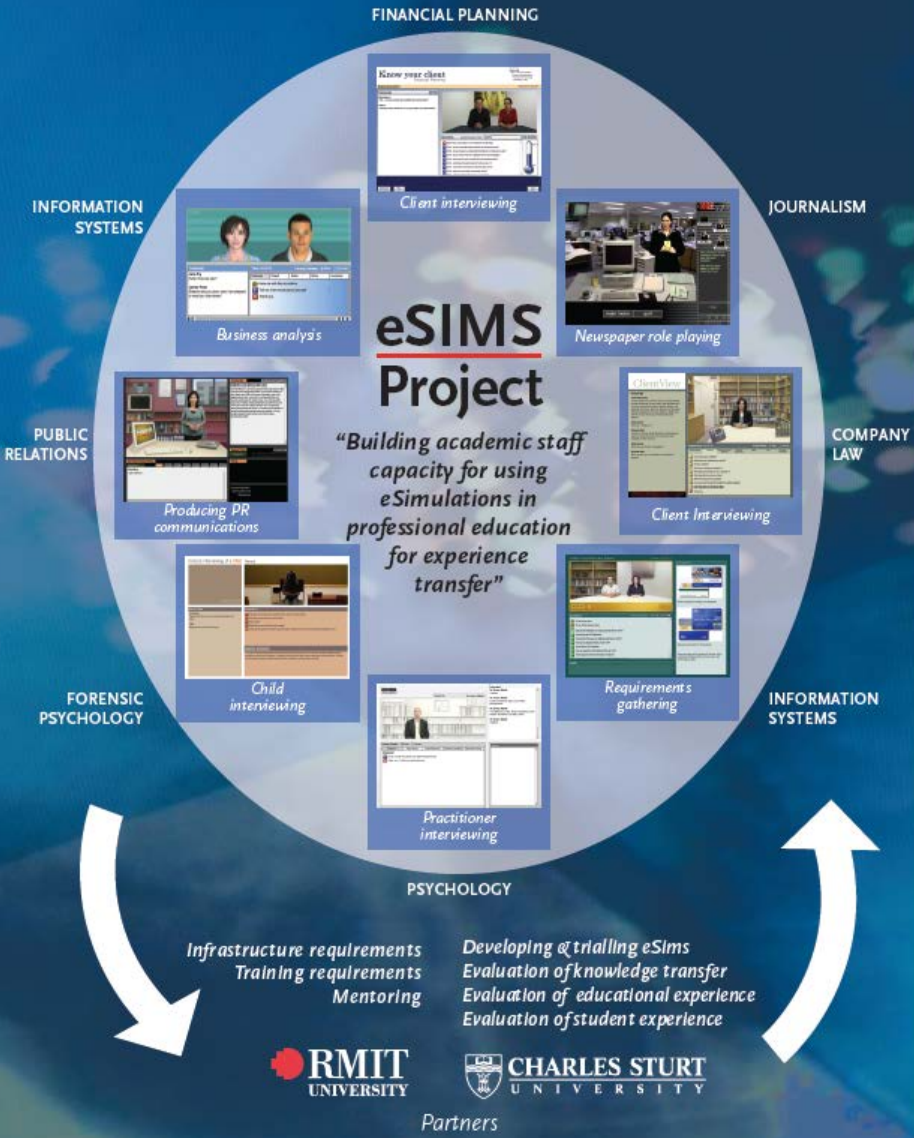




# Findings: Capacity Building



Learning Designs for Professional Experience



Learning Designs for Professional Experience



Practical Deliverables: eSims (7+3) & curriculum



# Dissemination

- Training
- Seminars
- Workshops
- Conferences
- Journals
- Reports
- Flyers
- Posters
- Web Sites
- ALTC

2008-2010 **Suicide Risk Assessment**  
Mental Health

2008-2010 **Ringo Robotics**  
Project Management

2010 **Blue Cut Fashion**  
Chain and Store

2010 **Birds with One Store**

2010 **Coping with the vagaries of Project Management**

2010 **Business analysis**

about this simulation

profession/discipline/field  
Mental health

academic leaders  
Stephanie Johnson, CSU

design leader  
Deborah Murdoch, CSU

location  
School of Humanities and Social Sciences, CSU

about this simulation

profession/discipline/field  
Project Management

academic leaders  
Ben Seale, RMIT  
Dr Hossein Zadeh

location  
School of Business IT & Logistics, RMIT

about this simulation

profession/discipline/field  
Business analysis

academic leaders  
Assoc. Prof. Jacob Czubinski, Deakin  
Dr Loreal Nguyen, Deakin  
Dr Vladislav Sarkar, RMIT

location  
School of Information Systems, Deakin  
School of Business IT, RMIT

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location  
School of Information Systems, Deakin  
School of Business IT, RMIT

needs of

SRA offers that practice to students in a safe computer mediated environment that scaffolds their learning before a residential school that continues to build on the earlier established skills.

Mental health professionals need to develop client assessment skills and an understanding of potential risks to the client. Assessment is linked to the simulations by asking students to develop an assessment and case notes from the interview. Dependent on the level, masters or undergraduate, students will be asked for a varying degree of information and understanding gained from the interview and relate it to the theory discovered in earlier teachings.

SRA was designed in keeping with constructivist principles where students are provided with notes, lectures and online discussions through a subject forum and encouraged to discover information and understandings through experience. This is a blended learning experience where students access information from a range of sources, both offline and online, to developing an understanding of practice based learning in an authentic manner.



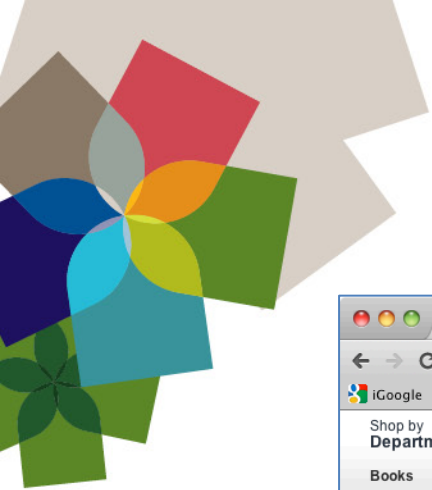
Business analysis is a process of learning and discovery in some business application domain. The most important objective for future business analysis is to become effective learners.

With this in mind, BCF was designed around a constructivist learning paradigm where the learning process can be described as emergent, collaborative, creative and domain specific. The distinct learning behaviours, i.e. endogenous, exogenous and dialectic, which have all been incorporated into the BCF blended learning environment (see Figures).

Endogenous behaviour supports reflective and introspective analysis of objectives, tasks and processes. Exogenous behaviour focuses on seeking knowledge from external sources (research, help desk and online forum). Dialectic behaviour involves negotiation with experts (simulated and real) and their peers.

Effective learners also need to be creative. Through the BCF project we encourage students to think outside the square, learn to relax and resolve business and technological constraints.





Jacob Cybulski Framed Home x Amazon.com: Professional E x

www.amazon.com/Professional-Education-Using--Simulations-Benefits/dp/1613501897/ref=sr\_1\_4?ie=UTF8&qid=1331...

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**Professional Education Using E-Simulations**  
Benefits of Blended Learning Design



Dale Holt, Stephen Segrave & Jacob L. Cybulski

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### Professional Education Using E-Simulations: Benefits of Blended Learning Design [Hardcover]

Dale Holt (Author, Editor), Stephen Segrave (Editor), Jacob L. Cybulski (Editor)  
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### Book Description

Publication Date: **September 30, 2011** | ISBN-10: **1613501897** | ISBN-13: **978-1613501894** | Edition: **1**

The use of digital, Web-based simulations for education and training in the workplace is a significant, emerging innovation requiring immediate attention. A convergence of new educational needs, theories of learning, and role-based simulation technologies points to educators readiness for e-simulations. As modern e-simulations aim at integration into blended learning environments, they promote rich experiential, constructivist learning.

Professional Education Using E-Simulations: Benefits of Blended Learning Design contains a broad range of theoretical perspectives on, and practical illustrations of, the field of e-simulations for educating the professions in blended learning environments. Readers will see authors articulate various views on the nature of professions and professionalism, the nature and roles that various types of e-simulations play in contributing to developing an array of professional capabilities, and various viewpoints on how e-simulations as an integral component of blended learning environments can be conceived, enacted, evaluated, and researched.

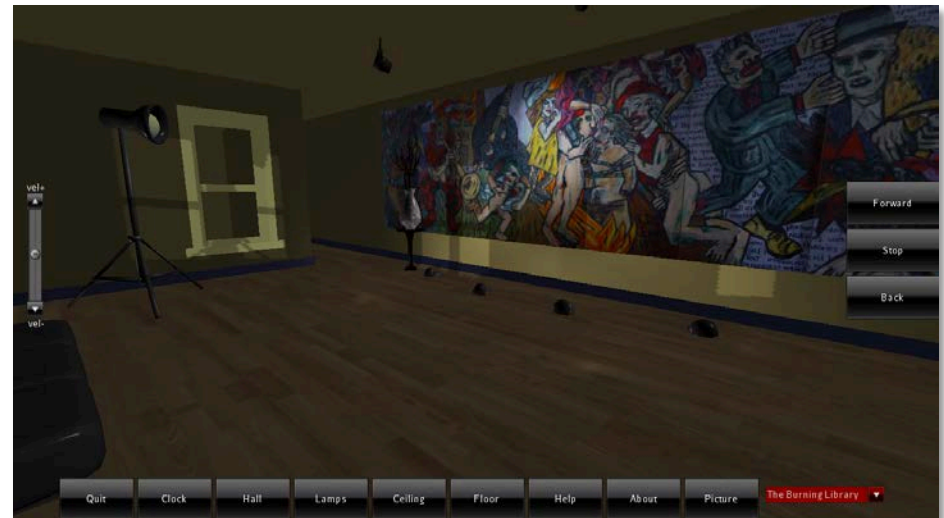
### Editorial Reviews

About the Author

Community Building

# Near Future: Collaborative e-Sims, FP-Art

Create collaborative spaces that blend the real and virtual.



Walk through the virtual gallery and experience art first person.

**Opportunities for projects in education, games and simulations, creation of virtual collaborative spaces and visualisation.**



## Farther Future: Other Applications

- Online training
- Skills assessment
- Advertising
- Information booths
- Help desks
- Web guides
- Mobile assistants
- Chat rooms

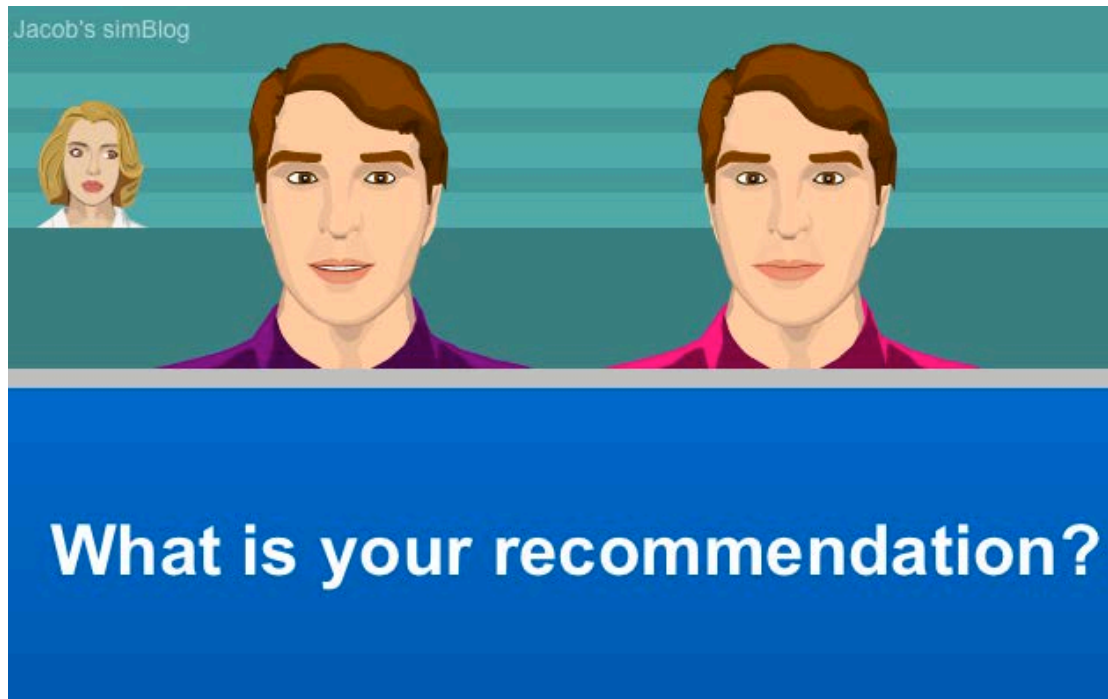


# Summary of Outcomes

1. Established a collection of resources useful in eSims R&D;
2. Developed 7+3 eSims in a range of professions;
3. Used, evaluated and improved these eSims throughout the project;
4. Trained staff and disseminated knowledge to partners and beyond;
5. Developed the necessary infrastructure at partner institutions;
6. Developed and used a survey instrument for eSims evaluation;
7. Engaged international eSims researchers and practitioners in a joint production of a book describing the experience of designing and using educational eSims in a blended learning environment;
8. Transferred the eSims experience into new projects.



Questions?



*(Exhibit 4 – Twins Business Riddle)*

<http://www.deakin.edu.au/~jlcybuls/sims/twins/simBlogTwins.htm>

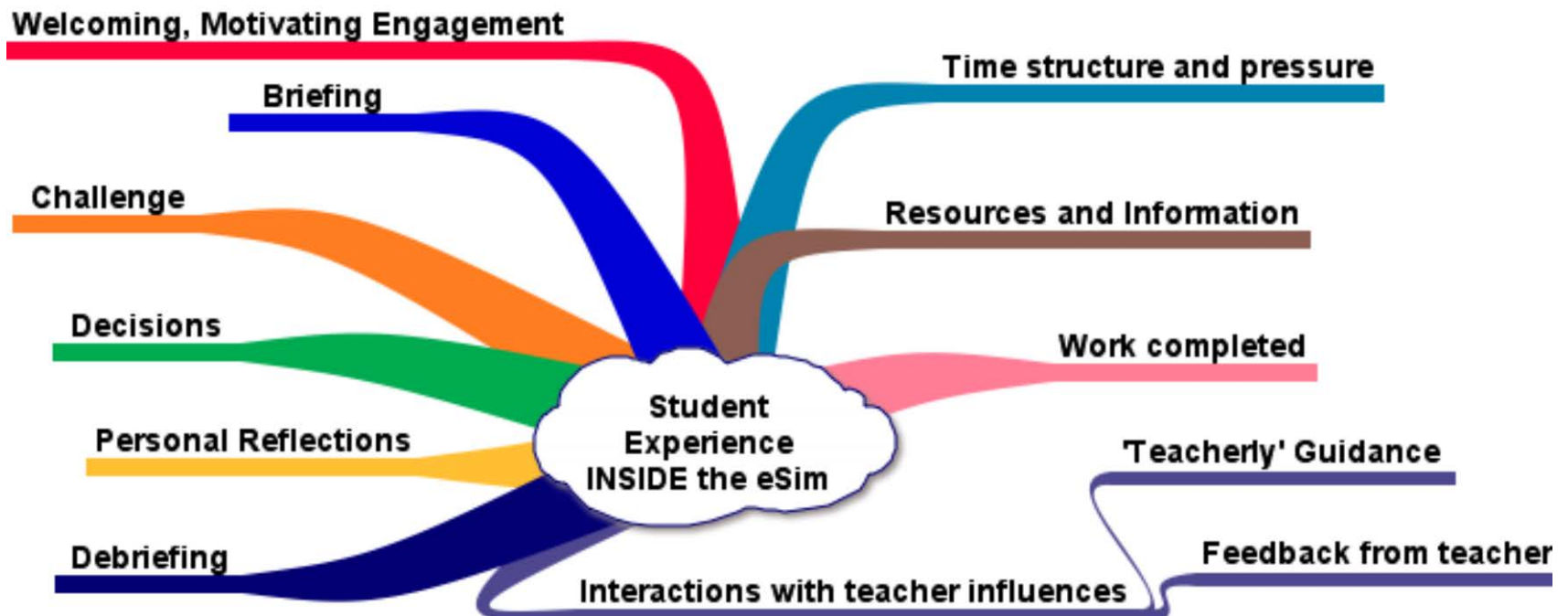


# Extras

## Detailed Project Objectives

1. Facilitate the transfer of *professional experience* (in the real world) to student learning experiences via eSimulations;
2. Facilitate student learning experiences via eSimulations to encourage the transfer of learned *professional experience* and capabilities to the real world;
3. Develop *capacities* across partner institutions in the development and use of eSimulations;
4. Build staff *capacities* in the development and use of eSimulations;
5. Evaluate the eSimulations *capacities* acquired by partner institutions;
6. Establish a national *community of practice* in eSimulations.

# Student Experience with eSims



# Lessons Learnt: Challenges



## Learning Curves

- Technology
- Education
- Processes

## Research & Development

- Instrument design
- Data collection and analysis
- Methodology gaps

## Technology

- Licensing
- Complexity
- Control

## Project Management

- Timeline
- Resources
- Team dynamics

# Lessons Learnt: Success Factors



## People

- Exemplary leadership
- Employing a project manager
- Supportive team environment
- Interest and enthusiasm
- Continuity of team
- Team skill and experience

## Process

- Detailed project plan
- Clear expectations by partners
- Clear roles and responsibilities
- Continuing project evaluation
- Compliance with requirements

## Information

- Regular and formal meetings
- Project conferences
- Ongoing sharing of information
- Project documentation