Challenges to Higher Education: Open, Free and the Emergence of Credentials

Presentation at The LINK Lab
University of Texas, Arlington
26 September 2014
Alignment to LINK Lab interests

• What will universities look like in 2025? 2050?
• How will social networked technologies transform learning?
• How will learning analytics help us better understand teaching and learning?
• Is the future of learning personalized, connected, and global?
• What role does a modern university play in the shaping work in the 21st Century?
• What pedagogical and support systems do universities need in order ensure success for all learners?
What is the status quo?

Where are we today?

Has the role of universities changed over time?

If we look back 800, 400, 200, 100... let’s say 50 years...

What about the world?
After the Internet Bubble (15 yrs)

Where are we today?

• 50x more Internet users (2.4 billion)
• Online connections that are 180x faster (10.5 Mbps) or better... or worse...
• Always-on connectivity of mobile (164m US smartphone users)
• We’re all socially connected (so great businesses spread faster)
• We all have one-click purchase power (Apple, Google, Amazon, eBay)
• The VC market has right-sized (returned back to mid 90’s levels & less competition)
• Lower costs to start a business (95% reduction), many more companies created & funded by angels / seed and changes to VC thinking
• But it often still takes VC to scale a business (thus large capital into industry winners like Uber, Airbnb, SnapChat, etc)
Scope of change

• In everything else, the change has been fundamental
  • the way we access information / knowledge
  • the way business operates and transacts
  • the way people communicate
• Yet we preserve our industrial-age view of education...
It’s not about cheap courses...

ADDRESSING AFFORDABILITY
Drivers for change

- Ernst and Young: *University of the Future* cites drivers for change as:
  - Democratisation of knowledge and access
  - Contestability of markets and funding
  - Digital technologies
  - Global mobility
  - Integration with industry

- Rising student debt
  - Australia: > 30 bn and growing (one student in 2012 with debt of 400k)
  - USA: > 1.2 trillion (exceeds credit card debt)

- Student expectations of change in teaching and learning practice
- Changes in the work ↔ learning ecosystem
- *Smarter Australia* (Universities Australia – see later slides)
Student Debt in Australia

The most expensive students have racked up individual debts of $413,252, $313,308, $248,078, $244,198 and $200,743 under the interest-free Higher Education Loan Program (HELP), data obtained by The Daily Telegraph reveals.
Cost allocation of traditional higher education

Staff (total) ≈ 60%
Other Costs ≈ 32%
Deprec\textsuperscript{n} etc ≈ 8%

Project Constraint Model

The Iron Triangle – “you can have any two”
## Products and Services: Unbundling of education

<table>
<thead>
<tr>
<th>From this...</th>
<th>To this</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enroll in qualification (bundle)</td>
<td>Select and register for a certification</td>
</tr>
<tr>
<td>• Core curriculum with approved electives</td>
<td>• Self-guided according to personal/career goals</td>
</tr>
<tr>
<td>• Provider delivers courses and content</td>
<td>• Access content from anywhere (free – fee)</td>
</tr>
<tr>
<td>• Tutorials, Practicals, Labs, etc</td>
<td>• Fee-based; simulations; experience (incomplete)</td>
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<tr>
<td>• Provider has some responsibility for progress</td>
<td>• Responsible for own progress and motivation</td>
</tr>
<tr>
<td>• Provider’s information resources are included</td>
<td>• The web; community resources</td>
</tr>
<tr>
<td>• Provider examinations and assessments</td>
<td>• Certification-based assessments</td>
</tr>
<tr>
<td>• Accreditation with an award</td>
<td>• Certifications: Professional capability frameworks</td>
</tr>
<tr>
<td>• Variable Fees (20k – 38k per year)</td>
<td>• Unbundled fees; from free to service-based fees</td>
</tr>
<tr>
<td>• Additional Fees may be charged</td>
<td>• Consumer driven</td>
</tr>
</tbody>
</table>

### Consumer driven

- Products and Services: Unbundling of education
A changing landscape

COMPETITIVE PRESSURES
Examples of the changing landscape of higher education
Common transformational themes

- Affordability
- Competency-based / Outcomes-based
- Transferrable, workplace skills
- Recognition of experience and learning already acquired
- Often a focus on partnerships
- Engagement with Open Education Resources / Courses
- Focus on adult learners, typically “non-consumers”
Relationship of PLA to success

Recent CAEL study:
62,475 students across 48 Colleges

Result:
Students with PLA 2.5x more successful in earning degree
What is “Open”? And do we care?

VERSIONS OF OPENNESS
Open?... Free?...

• What do we mean by Open?
  • Open does not equal Free
  • Definitions of Open vary according to context
    • Open participation vs Open Source
  • Open Education Resources are Free and Open
  • Open Education may be participation and/or no cost
• The transformational shift is from...
  Open Education to Open Credentialing
The anomaly with OER

• Raison d’être
  • Reuse
  • Revise
  • Remix
  • Redistribute

• Only 1 R is prevalent
  • OER’s are typically consumed by “adoption” (basic Reuse)
  • little or no “adaptation” (the other 3 Rs)

• Caused by problems in content format and lack of simple tools
The “next big thing”?

ANALYTICS AND COGNITIVE SYSTEMS
On the cusp... From Big Data to Cognitive computing...

- **Big data models**
  - Useful but still based on thinking like a machine
  - We speak their language

- **Cognitive computing models**
  - Next generation... thinking machines
  - They speak our language

- What will this mean for student experiences, learning, research, and roles?
From simple and social to complex and deep

Stanford University on LinkedIn

Melbourne University on LinkedIn

University of Texas on LinkedIn

California Institute of Technology

Deakin University on LinkedIn

Cortana... Siri... Google Now...

The future of Google Now...

IBM Watson and health

Key theme: cognitive systems are beginning to join the conversation...
Looking at credentialing from the customer’s view...

DEAKINDIGITAL: OPEN CREDENTIALALING
DeakinDigital’s model is premised upon:

• Democratisation of knowledge and availability of content
• Digital disruption’s trend to make that which was monolithic more granular (eg music; publishing etc)
• Systemic pressures on traditional education models
  – Lack of affordability
  – Lack of scalability
  – Unmet demand, especially in emerging economies
• Intention to shift from credit hour models
• Better alignment with transferrable workforce skills
Framework Alignment Model

<table>
<thead>
<tr>
<th>GLO</th>
<th>AQF</th>
<th>Generic Descriptors</th>
<th>Industry-specific Assessment</th>
<th>Credentials</th>
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<tbody>
<tr>
<td>Communication</td>
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<td>Level Descriptor</td>
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<tr>
<td>Digital Literacy</td>
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<td>Critical Thinking</td>
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<td>Problem Solving</td>
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<td>Self-management</td>
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<td>Teamwork</td>
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<td>Discipline KSA Level</td>
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<td>competency/capability</td>
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<td>LEAD Attributes</td>
<td>1</td>
<td>LEAD Descriptor</td>
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Graduate Learning Attributes - Barrie paper
DeakinDigital Pty Ltd

- - Commercial in Confidence - -
Capability clusters and design logic

- Graduate Learning Outcome Required by Deakin
  - Communication
  - Digital literacy
  - Critical thinking
  - Problem solving
  - Self-management
  - Teamwork
  - Global citizenship
  - Discipline-specific knowledge and capabilities
  - LEAD Attributes

- Proposed Professional Capabilities
  - Lead thinking
  - Empower others
  - Adapt and innovate
  - Drive strategy
  - Communication
  - Digital literacy
  - Critical thinking
  - Problem solving
  - Manage self
  - Collaboration
  - Emotional Intelligence
  - Cultural awareness
  - Ethics
  - Technical mastery

- Assessing Each Professional Capability
  - Instruments for every capability at each level
  - Portfolio Evidence
    - Examples of evidence by capability by level
  - Psychometric/Personal Tests
    - Tests that inform judgments on personal attributes for each capability by level
  - Observed Experience or Testimony
    - Examples of formally declared assertions of autonomy, influence and experience
  - Deakin Digital Credential

Professional and Occupational Specific Technical & Functional Competencies
Initial Target Market

• **Non-consumers** (defined differently locally and internationally)

• **Early target market**
  – Adult learners
  – Pre-university (early entrant)
  – International students unable or unwilling to travel
  – Niche markets or industries

• **Build and expand over time**
  – Concentrate on expanding local market
  – Diversification of offers
  – Scale through partnering
Service model

- Focused on non-consumers in higher education
- Open credentialing as an alternative to higher education
- Credentialing of transferrable workplace skills aligned to qualifications
- Enabled through Prior Learning Assessment and Recognition (PLAR) of independent learning, experience and activities
- Brokering/offering a full range of customer support services
- Open content models and OER ecosystem participation
- New functions and business opportunities related to employment
Vision

To provide the most highly valued, evidence-based employability credentials for continuous career development using smart systems