Digital transformation in the VET sector

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Context

- Workforce practices are changing rapidly
- New educational technology is being developed rapidly
- Competition is increasing (deregulation, international market)
- Traditional employment arrangements are changing
  - who will fund training?

YET: Uptake of digital technology is occurring slowly
Technology adoption research

Technology is likely to be adopted if it is perceived to be:
(a) useful and
(b) easy to use

(Technology Acceptance Model, Davis 1989)

Technology is likely to be adopted if:
(a) performance expectancy is high and
(b) effort expectancy is low

Multiple Stakeholders for Technology Adoption

Decisions about use of technology in VET are influenced by:

- Government (decide policy and infrastructure investments)
- Employers (what courses and which graduates are employable)
- Technology developers (what platforms and applications to build)
- Teachers (end users)
- Students (end users)

AND

Perceptions of effectiveness and ease of use vary according to values, experience, skills and resources
Our stakeholder engagement

<table>
<thead>
<tr>
<th>Stakeholder group</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators</td>
<td>4</td>
</tr>
<tr>
<td>Students</td>
<td>8</td>
</tr>
<tr>
<td>Employers</td>
<td>9</td>
</tr>
<tr>
<td>Technology provider</td>
<td>1</td>
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<td>Researcher</td>
<td>1</td>
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<tr>
<td>Government</td>
<td>2</td>
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</tbody>
</table>
Findings
Multiple objectives & different priorities

1. Quality (educators and students)
2. Relevance (employers, government, technology provider)
3. Convenience (students and educators)
4. Efficiency (not students)
5. Inclusion (educators)
Multiple objectives & different priorities

1. Quality (educators and students)
2. Relevance (employers, government, technology provider)
3. Convenience (students and educators)
4. Efficiency (not students)
5. Inclusion (educators)

Use of traditional systems vs technology involved trade-offs between these objectives
Human led or face to face training necessary for:

<table>
<thead>
<tr>
<th>Quality</th>
<th>Relevance</th>
<th>Efficiency</th>
<th>Convenience</th>
<th>Inclusion</th>
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<tbody>
<tr>
<td>• Teaching</td>
<td>• Strategic, in-depth two-way partnerships</td>
<td>• Creating content when suitable digital material</td>
<td>• When technology fails</td>
<td>• For students without access to technology</td>
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<tr>
<td>practical skills</td>
<td>between educators and employers</td>
<td>does not exist or is too expensive</td>
<td>• New technology can increase workloads for teachers</td>
<td>• For students who would struggle to engage with</td>
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<tr>
<td>• Teaching soft</td>
<td>• Ensuring that students are prepared for a</td>
<td>• Adapting digital content for local contexts and</td>
<td></td>
<td>learning independently</td>
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<tr>
<td>skills</td>
<td>range of tasks, contexts and equipment.</td>
<td>needs</td>
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<tr>
<td>• Employability</td>
<td></td>
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<td></td>
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<tr>
<td>• Supporting</td>
<td></td>
<td></td>
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<tr>
<td>students</td>
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<td></td>
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<td>when they get</td>
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<tr>
<td>stuck</td>
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<tr>
<td>• Preparing for</td>
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<td>high stakes</td>
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<td></td>
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<tr>
<td>environments</td>
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<tr>
<td>• Data to support resource allocation decisions</td>
<td>• Enabling more learning to be delivered into the workplace where students can be exposed to current workplace practices</td>
<td>• Students and government making more informed decisions</td>
<td>• Making the learning experience more “engaging”, “interactive,” “exciting,” and “uplifting” (students and educators)</td>
<td>• Providing a wider range of course and a better quality online learning experience for remote students</td>
</tr>
<tr>
<td>• Approximating real world conditions</td>
<td>• Enabling more learning to be delivered into the workplace where students can be exposed to current workplace practices</td>
<td>• Reducing time spent by educators designing and delivering content</td>
<td>• Making learning content and systems available from anywhere anytime (students, educators and employers)</td>
<td>• Offering flexibility for students who need to balance learning with other responsibilities</td>
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<td>• Variety of learning modes</td>
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<td>• Automating capture of training activity and verification of credentials</td>
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<td>• Replay, practice</td>
<td></td>
<td>• Efficient consultation (with students and employers)</td>
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<td></td>
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<td>• Automating classroom allocations and timetabling</td>
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Stakeholder engagement revealed:

- Trade-offs and competing objectives
- Unintended consequences
- Where there was consensus about uses for technology

Using data generated by digitization to improve quality, relevance and efficiency
Applications
Data61 Australian Skills Dashboard

Beta website available at: https://dmorg.it.csiro.au/
Ribit.net is an online marketplace that matches students to businesses for paid career-related work opportunities, using an algorithm and structured “speed dating” events for students and employers.

- Talent is the No. 1 factor for business to succeed
- Digital skills are essential to grow Australia’s economy
- Talent mismatch costs Australia $4B & the global economy $150B

Ribit
- tackles the digital skills talent shortage
- helps businesses develop digital capacity
- makes students more employable
The Role of VET in Australia’s Future Workforce
Application of findings to strategy

- Largest population cohort requiring skilling is shifting to the existing workforce
- Rapidly increasing rate of occupational change is a key emerging risk for small, medium and large business (digital disruption)
- Futureproofing VET and Providers against policy and funding changes
- Piloting new approaches to skilling that are time responsive and directly meets needs
- Learnings and new products can be adapted from and to single subscriber market.
New commercial product offerings

Jobs Queensland
Growing Opportunities in the Fraser Coast

Queensland Farming, Agriculture and Horticulture Workforce

Queensland Resources Sector Workforce (Minerals, Coal, Gas)
New commercial product offerings
Queensland Future Skills Partnership

A New Partnership to develop qualifications, skill sets and micro-credentials for the Fourth Industrial Revolution - 4IR

TAFE Directors Australia Convention 2019
3-5 September 2019 | Hilton Brisbane
Technology for learning
Preparation and planning

System Readiness

Educator Readiness

Content Readiness
Learning Management – Data and Learning Analysis

Usage – engagement - adoption

• Executive reports – TQ and regional growth trends in Connect (Learning Management System)
• Educator and student engagement (access) trends
• High-level operational reports to support administration
• Data quality reports
• Analytics on special programs in Connect e.g. Healthy Relationships

Reporting/analytics follows a push approach, where reports/dashboards are published to users who then extract meaningful insights and take appropriate actions.
THANK YOU

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