Training for the global economy: trends in the Asian Region

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Context

1. Genesis of this report: Asia as a supplier not just a market

2. The study tour and report development process

3. How we hope it is used
A changing landscape

The global economy is undergoing fundamental change

1. Global economic power is shifting towards Asia: by 2030 the purchasing power of middle class of Asia will be double Europe/North America combined

2. Economies transitioning from low to high value activity: energy and environmental technologies, next generation IT, biotech, digital

3. Skill requirements are changing. In Australia up to 44% of jobs – or 5.1 million positions – are at risk from digital disruption.

Technology disruption is both a driver of and antidote to change across industry

Digital technologies are impacting on industry costs and business models

Impacting:
- On TAFE institutions
- Customers/industries
Five major trends
Trend 1

Gearing VET to the needs of the global economy, not just needs of students

Major Focus Areas and Fast Facts

Prioritising skills required by the economy in the medium term by the economy - not left to the whim of student preferences. Nearly a third of job vacancies by 2018 will require some post-secondary qualification but less than a four-year degree.

Investment in STEM skills (75% of the fastest growing occupations require STEM-related skills / experience), broadening to STEAM

Examples

• China has mandated mathematics study until the end of secondary school and 41% of all degrees awarded in Chinese institutions are in STEM subjects

“Consider the five-year employment growth rates for the following jobs: ICT business and systems analysts (19.1%), software and applications programmers (17.2%), and database and systems administrations and ICT security (21.1%).33 These projections don’t even account for jobs not yet invented.”
With a nod to the Chief Scientist in absentia….

The current picture is bleak and the sense of urgency not there...

Australia has experienced a decline in year 12 participation rates for STEM across the board.

Between 1992 and 2010, participation in Year 12 biology dropped from 35-24%, physics (21-14%), chemistry (23-17%) maths (77-72%).

- In maths 72%, only 10% of students were studying at an advanced level in 2010.

Chief Scientist: the achievement gap between best and worst performing states in maths is the equivalent of two years of schooling.

That “talent war” has a particularly acute focus in the STEM disciplines and is ramping up the importance of “talent security” as a major national policy imperative.

“If you think education is expensive, try ignorance.”
- Derek Bok, Lawyer and educator
Jobs of the future translated into course offerings

From courses in big data management and governance or financial business informatics to a cyber security hub.
## Trend 2

### A relentless focus on job readiness

#### Major Focus Areas and Fast Facts

- Embedding competencies in collaboration and problem solving
- Creating job like training experiences within institutions
- Entrepreneurship – training people to create their own jobs

#### Examples

- Up to 20% of curriculum in some Asian institutions provides instruction in ‘methodologies’ (non-tech skills)
- Production-based learning in Malaysia with profits re-invested in the institution
- Bangladesh uses ICT to develop next generation of medicos across borders (exchange with Germany)
Trend 3

Integration with industry, not just partnerships

Major Focus Areas and Fast Facts

- Integrating industry into all aspects of VET: signalling of demand, curriculum design, industry traineeships and feedback on graduate quality
- Explicitly targeting firms with potential to transfer innovation to institutions – not just a supplier / customer relationship
- An increased focus on the role of start ups at the dynamic edge of economies

Examples

- Meister Schools in Korea (including formal alliances with Samsung, Hyundai, KIA)
- Cisco Networking Academies in 170 countries

“Relationships firms that are knowledge and innovation-rich firm offers two advantages: the opportunity to work with companies that will thrive in the global economy and those with the potential to transfer innovation to the institution.”
## Trend 4

**Technology now driving pedagogy, not just an augmentation tool**

### Major Focus Areas and Fast Facts

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<thead>
<tr>
<th>Focus Area</th>
<th>Description</th>
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<tbody>
<tr>
<td>82% of learners in Asia Pacific would prefer learning materials on a mobile device</td>
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<td>Use of predictive analytics to drive personalised training, and better screening</td>
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<td>Gamification of training: 50% of all organisations that manage innovation processes will gamify those processes by 2015</td>
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<td>Blended environments and flipped learning models</td>
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### Examples

Major education gaming platforms emerging in Korea:
- Gamified
- Classting (mobile communities)
- Codetoki (employer to trainee matching)

*“Traditional lecturing techniques (‘sage on a stage’) could increase the failure rate by a factor of 1.5 as compared with more active, progressive learning techniques.”*
Emergence of a Smart Campus mindset

Major Focus Areas and Fast Facts

- **Student engagement, experience and learning outcomes**
- **Operational efficiencies, productivity and revenue growth**
- **Strategic goals**: Better proximity to skills of digital economy, industry partnerships and impact on society
- **Innovation**
- **Collaboration tools, video**
- **Campuses as community hubs**
- **Cyber Security**
- **Big Data, Analytics, Visualisation**
- **Smart Security**
- **Smart Lighting**
- **Renewal of Communities**
- **Smart Parking**
- **Smart Energy**
- **Attention Tracking**
- **Emotion Tracking**
- **Predictive Analytics**
- **WiFi end points to capture smartphone data to monitor attendance in real time.**
- **Predictive analytics to address disengagement earlier**
- **Emotion tracking experiments (using facial recognition software) at Temasek Polytechnic, Singapore.**

“In the Australian VET sector alone the Value at Stake from the impact of IoE is estimated at $1.7 billion over the next decade.”
Where to from here…

- Briefings with governments and individual TAFEs
- Dissemination of the report
- 2016 Study Tour to Singapore/South Korea in April

braddavies@dandolo.com.au to express an interest