Keynote

Mind the skills gap: arming students with the skills they need to own tomorrow
MIND THE GAP
Generation jobless

The global rise of youth unemployment
Idle hands

Youth unemployment and inactivity*
By region†, 2012 or latest, m

- **Unemployed**
- **Inactive**

<table>
<thead>
<tr>
<th>Region</th>
<th>Unemployed</th>
<th>Inactive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Asia</td>
<td>0</td>
<td>31.1</td>
<td>31.1</td>
</tr>
<tr>
<td>East Asia &amp; Pacific</td>
<td>0</td>
<td>18.4</td>
<td>18.4</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>0</td>
<td>21.6</td>
<td>21.6</td>
</tr>
<tr>
<td>Middle East &amp; north Africa</td>
<td>0</td>
<td>40.6</td>
<td>40.6</td>
</tr>
<tr>
<td>OECD‡</td>
<td>0</td>
<td>15.2</td>
<td>15.2</td>
</tr>
<tr>
<td>Latin America</td>
<td>0</td>
<td>23.2</td>
<td>23.2</td>
</tr>
<tr>
<td>Europe &amp; Central Asia</td>
<td>0</td>
<td>24.4</td>
<td>24.4</td>
</tr>
</tbody>
</table>

*15-24 year olds not in education
†Regions exclude OECD countries
‡Not in education or training

Sources: OECD; World Bank; The Economist
<table>
<thead>
<tr>
<th>Country</th>
<th>2010 Youth unemployment %</th>
<th>2013 Youth Unemployment %</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Arab Emirates</td>
<td>9.8</td>
<td>9.9</td>
<td>UP</td>
</tr>
<tr>
<td>China</td>
<td>9.0</td>
<td>10.1</td>
<td>UP</td>
</tr>
<tr>
<td>France</td>
<td>22.6</td>
<td>23.7</td>
<td>UP</td>
</tr>
<tr>
<td>United States</td>
<td>18.7</td>
<td>15.8</td>
<td>DOWN</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>19.6</td>
<td>20.3</td>
<td>UP</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>29.8</td>
<td>28.7</td>
<td>DOWN</td>
</tr>
</tbody>
</table>

Source: World Bank & International Labour Office
Unemployment by age group NZ 2013

Unemployment rate
By age group
2011–13

Percent

15-19

20-24

Unemployment by age group NZ 2013
China's Graduates Face Glut
Mismatch Between Their Skills, Job Market's Needs Results in Underemployment
Graduate underemployment:
2001 = 34%;  2012 = 44%
Education for the work available

- Study different things?
- Studying harder?
- Performing better?
Driving the Skills Agenda:
Preparing Students for the Future.

Top five skills sought by employers:

- Problem solving
- Team working
- Critical thinking
- Creativity
- Leadership

- Literacy
- Numeracy
Tony Bates

A.W. (Tony) Bates

Teaching in a Digital Age
Guidelines for designing teaching and learning

Tony Bates
• communication skills (including social media)
• ability to learn independently
• ethics and responsibility
• teamwork and flexibility
• thinking skills
• digital skills
• knowledge management

‘skills mostly need to be embedded within a knowledge domain, developing them is often context specific’
Content knowledge
- can be transmitted equally effectively through a wide range of media

Skills development
- more tied to specific teaching approaches and technologies
Knowledge

- Based on direct personal experience
- Academic knowledge
Knowledge

- Based on direct personal experience

- Academic knowledge
  'a second-order form of knowledge that seeks abstractions and generalisations based on reasoning and evidence'

Laurillard, 2001
Academic Knowledge:

- Transparency
- Codification
- Reproduction
- Communicability
‘a role of university teaching is to mediate between students' experience and its symbolic representation’
Newton's Third Law of Motion
Arming students with the skills they need to own tomorrow:

- Subject content (work-related)
- Academic knowledge of content
- Skills embedded in knowledge domain
‘We cannot expect students to construct academic knowledge simply through independent study or discussion with their peers’

Laurillard, 2001
Arming students with the skills they need to own tomorrow:

- Subject content (work-related)
- Academic knowledge of content
- Skills embedded in knowledge domain

HOW CAN TECHNOLOGY HELP?
The continuum of technology-based teaching

(Bates, 2015)
Hybrid learning:

redesign the whole learning system to create optimum synergy between the in-person sessions and learning online
Everything that can be done online should be done online!

Hundreds of research papers have shown that face-to-face teaching is not more effective than online teaching.
Everything that can be done online should be done online!

and...

online learning is usually less expensive, more flexible and more convenient for the students
Instead of asking what should be done online, we ask what should not be done online?
Face to face:

• Conversational interaction for understanding some academic knowledge

• For teachers to assess and comment on students’ independent work
Academically adrift
Limited Learning on College Campuses

Richard Arum and Josipa Roksa
Academically Adrift: Highlights

- 36% of students did not demonstrate any significant improvement in learning over four years of college.
- 32%: no courses with >40 pages reading per week
- 50%: no writing >20 pages a semester
- 100%: average 12-14 hrs/wk studying
How much haematology online?  
Bates, 2015
• Exploring how technology can be used as a catalyst for change in the system

• Technology as a tool to help develop core skills that will enable students to thrive in the future world of work
• Exploring how technology can be used as a catalyst for change in the system

• Technology as a tool to help develop core skills that will enable students to thrive in the future world of work

TOO MODEST!
• Exploring how technology can be used as a catalyst for change in the system

• Technology as a tool to help develop core skills that will enable students to thrive in the future world of work

• Harnessing the transformational power of technology in making learning relevant, engaging and steeped in the real world

YES!
We look forward to a future of hybrid learning where all teaching and learning that can be done by or through technology is done by or through technology.
The teachers' role will focus on working with individual students to help them embed the knowledge and skills they acquire online and to build up their competency and understanding through constructively critical appraisals of their independent work.
THANK YOU

For text & slides: www.sirjohn.ca