MEGA-TRENDS SHAPING SOCIETIES AND IMPACTING ON HIGHER EDUCATION

Dirk Van Damme

OECD/EDU/IMEP – @VanDammeEDU
Mega-trends...

- Lower voter turnout
- Ageing Populations
- Global Economic Integration
- Knowledge-intensive Economies
- Migration and mobility
- International inequality
- More satisfied with life?
- Women in the labour market and childbirth
- Almost ubiquitous access and use of computing and the Internet
- Changing balance of global power
- Intergenerational Transmission of Disadvantage
- More diverse families, generally smaller and with older parents
- Urban life
- Skills mismatch
- Obesity epidemic
GLOBALISATION
Question:
Starbucks was launched in 1971 in Pike Place Market in Seattle. It has since grown into a major multinational. How many countries does Starbucks currently operate in?

a. 35
b. 52
c. 67
Global expansion of multinational companies

The global reach of five companies in food services, garments, banking, and technology, 1988-2015

Migration

Global integration

Harmonisation of values

Democracy and dual nationalities

Trade patterns

Environment

Affluence and inequality

Globalisation
Globalisation also generates inequalities and exclusion. How strong is the backlash against globalisation among the excluded?
Global expansion & redistribution of qualifications

Global distribution of tertiary educated 25-34 y-olds in 2013 and 2030

2013:
- China: 17%
- United States: 14%
- India: 14%
- Russian Federation: 10%
- Japan: 6%
- Indonesia: 4%
- Brazil: 4%
- Korea: 4%
- Mexico: 3%
- Germany: 2%
- Spain: 2%
- Turkey: 2%
- Canada: 2%
- Italy: 1%
- Saudi Arabia: 1%
- Other: 6%

2030:
- China: 27%
- United States: 8%
- India: 23%
- Russian Federation: 4%
- Japan: 3%
- Indonesia: 5%
- Brazil: 5%
- Korea: 2%
- Mexico: 2%
- United Kingdom: 2%
- France: 1%
- Germany: 2%
- Spain: 1%
- Turkey: 2%
- Canada: 1%
- Italy: 1%
- Saudi Arabia: 3%
- Other: 6%
Global distribution of academic graduates and academic excellence

**Share in academic *graduates* 2010**
- United States, 13.7%
- China, 17.8%
- Russian Federation, 10.9%
- Japan, 6.9%
- India, 11.4%
- Korea, 3.9%
- Mexico, 3.0%
- Turkey, 1.7%
- Brazil, 3.0%
- Canada, 2.1%
- Spain, 2.2%
- Indonesia, 4.3%
- United Kingdom, 2.9%
- Other, 11.7%

**Share in academic *excellence* THEWUR 2012**
- United States 43.2%
- United Kingdom 13.8%
- Netherlands 6.0%
- Canada 4.3%
- Germany 4.3%
- Switzerland 3.5%
- Australia 4.3%
- France 3.0%
- Japan 2.5%
- Sweden 2.6%
- Korea 2.2%
- Hong Kong 2.0%
- Other 8.4%
Globally connected networks in research
Global integration of qualifications?

Proportion of 25-64 year-olds scoring at PIAAC numeracy level 4 and 5, by educational attainment of the population (2012)
DECREASING SECURITY
INCREASING RISKS
Global risks interconnections map

Question:

Cybersecurity is perceived as an increasing threat and risk, but is also a booming business. How many certified cybersecurity professionals are there in the world?

a. 40,000
b. 80,000
c. 100,000
Number of certified individuals in cybersecurity worldwide


Note: The International Information Systems Security Certification Consortium, otherwise known as (ISC)2, issues a range of cybersecurity certifications.
Commodification of higher education as a risk

"My education from university was worth the cost"
Percentage of 30,000 US graduates answering the question “My education from (University name) was worth the cost”

<table>
<thead>
<tr>
<th>Type of University</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attended Out-of-State Public University</td>
<td>4 4 12</td>
<td>27 52</td>
</tr>
<tr>
<td>Attended In-State Public Universities</td>
<td>3 5 12</td>
<td>28 52</td>
</tr>
<tr>
<td>Research Universities</td>
<td>3 5 12</td>
<td>26 52</td>
</tr>
<tr>
<td>Private For-Profit</td>
<td>13 15 20</td>
<td>25 26</td>
</tr>
<tr>
<td>Private Nonprofit</td>
<td>4 7 14</td>
<td>27 47</td>
</tr>
<tr>
<td>Public</td>
<td>3 5 12</td>
<td>28 52</td>
</tr>
<tr>
<td>National average</td>
<td>4 6 13</td>
<td>27 50</td>
</tr>
</tbody>
</table>

Source: Gallup-Purdue Index 2015 Report
End of credentialism?

Source: Survey of Adult Skills (PIAAC) (2012)
Formal education vs skills

United States

quantiles

Years of Education

Proficiency
Formal education vs skills
Credentialism as social security?

Ernst & Young Removes Degree Classification From Entry Criteria As There's 'No Evidence' University Equals Success

The Huffington Post UK | By Lucy Sherriff
Posted: 04/09/2015 14:55 BST | Updated: 21/09/2015 09:59 BST

Ernst & Young, one of the UK’s biggest graduate recruiters, has announced it will be removing the degree classification from its entry criteria, saying there is “no evidence” success at university correlates with achievement in later life.

The accountancy firm is scrapping its policy of requiring a 2:1 and the equivalent of three B grades at A-level in order to open opportunities for talented individuals “regardless of their background”.

Maggie Stilwell, EY’s managing partner for talent, said the company would use online assessments to judge the potential of applicants.

“Academic qualifications will still be taken into account and indeed remain an important part of our recruitment process, but we have found that they are not a good indicator of future success in the workplace,” she said.
New credentials: open badges, nano-degrees, micro-credentials, etc.
SOCIAL INEQUALITIES
SOCIAL EXCLUSION
Gini coefficients of income inequality, mid-1980s and 2013, or latest date available
Trends in real household incomes at the bottom, the middle and the top, OECD average, 1985 = 1
Globalization and global redistribution of income (Branko Milanovic’s “elephant chart”)

Figure 4. Change in real income between 1988 and 2008 at various percentiles of global income distribution (calculated in 2005 international dollars)

Note: The vertical axis shows the percentage change in real income, measured in constant international dollars. The horizontal axis shows the percentile position in the global income distribution. The percentile positions run from 5 to 95, in increments of five, while the top 5% are divided into two groups: the top 1%, and those between 95th and 99th percentiles.
Amount of money spent by US households on child development
Average numeracy score by parent educational background (PEB) and inequality

![Graph showing numeracy score by PEB and inequality](image-url)
The engine of social mobility falters
MULTIDIMENSIONAL EXCLUSION

Poverty

Social exclusion

- fringes of society
- denied access to many resources

 Discrimination
- Race
- Gender

Lack of
- Education
- Jobs
- Housing

ill health

↓ rights
↓ resources
↓ opportunities
TECHNOLOGY AND SKILLS
Question:

We have now become adept multi-taskers, capable of doing many things online at the same time. On average, how many things do we tend to do online at once?

a. 6
b. 8
c. 10
Online multi-tasking: more efficient or more distracted?

Average number of activities being performed online at the same time per Internet user, 2009 and 2013.

A BRAVE NEW WORLD

New technologies

Entrepreneurs

Biotechnology

R&D

Social networks

Privacy

Cyber security

Cyber bullying

Information as power

Digital divide
Qualitative changes in skills demand

Mean task input in percentiles of 1960 task distribution (US)

- Nonroutine interpersonal
- Nonroutine analytic
- Routine manual
- Nonroutine manual
- Routine cognitive
Mismatch between skills supply and demand

Figure 9: The hardest skills to find are those that can’t be performed by machines

Q: How difficult, if at all, is it for your organisation to recruit people with these skills or characteristics?
Q: In addition to technical business expertise, how important are the following skills to your organisation?

<table>
<thead>
<tr>
<th>Difficulty in recruiting people with skill</th>
<th>Importance of skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents who answered somewhat difficult or very difficult</td>
<td>Respondents who answered somewhat important or very important</td>
</tr>
<tr>
<td>Creativity and Innovation</td>
<td>77%</td>
</tr>
<tr>
<td>Leadership</td>
<td>75%</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>64%</td>
</tr>
<tr>
<td>Adaptability</td>
<td>61%</td>
</tr>
<tr>
<td>Problem solving</td>
<td>61%</td>
</tr>
</tbody>
</table>
WOMEN’S EMANCIPATION
Question:

On average across OECD countries, the number of managerial positions held by women has increased by 11% between 2000-2012. In which country has it increased most?

a. Italy
b. Chile
c. Luxembourg
More female managers

Percentage of managerial positions held by women in private and public sectors, 2000-2012

Female leadership

Women in national parliament

Women’s first marriage

Question:

In 1990, the average age for women’s first marriage was 25. What is the average age now?

a. 28  
b. 30  
c. 32
Marriage age is rising


Source: Eurostat (2015), Marriage and divorces data.
Female graduation rates

Percentage of female graduates in tertiary levels of education (2014)

- Bachelor’s or equivalent
- Doctoral or equivalent

Chart showing the percentage of female graduates in tertiary levels of education (2014) for various countries, including EU22 average and OECD average.
Women's earnings as a percentage of men's earnings, tertiary graduates (2014)
WHAT DO THESE MEGA-TRENDS IMPLY FOR SKILLS IN THE FUTURE WORKPLACE?
Trends Affecting Future Skills Demand

Future Work Skills 2020

While all six drivers are important in shaping the landscape in which each skill emerges, the color-coding and placement here indicate which drivers have particular relevance to the development of each of the skills.

- **Extreme Longevity**: Increasing global lifespans change the nature of careers and learning.
  - Key skill needed in the future workforce.
- **Computational World**: Massive increase in sensors and processing power make the world a programmable system.
  - Trans-disciplinarity.
- **Superstructured Organizations**: Social technologies drive new forms of production and value creation.
  - Design Mindset.
- **Virtual Collaboration**: A platform for flexible, cohesive work teams.
  - Cross-Cultural Competency.
- **Globally-Connected World**: Increased global interconnectivity puts diversity and adaptability at the center of organizational operations.
  - Increased global interconnectivity puts diversity and adaptability at the center of organizational operations.
- **New Media Ecology**: New communication tools require new media literacies beyond text.
  - Computational Thinking.
- **Novel and Adaptive Thinking**: Workplace robotics nudge human workers out of rote, repetitive tasks.
  - Cognitive Load Management.
- **Sense-Making**: The ability to make sense of complex, multidimensional problems.
  - Social Intelligence.

**KEY**
- Drivers—disruptive shifts that will reshape the workforce landscape.
- Key skill needed in the future workforce.
Thank you!

dirk.vandamme@oecd.org
www.oecd.org/edu/cri
twitter @VanDammeEDU