Access, Equity and Quality: Envisioning the Future of Higher Education in a Digital Age

alain senteni | director of innovation & entrepreneurship | hbmsu | dubai
The Coming Tsunami in Educational Technology
Stanford President, John L. Hennessy at the 40th CRA conference, 2012

An Avalanche is Coming
Higher Education and the Revolution Ahead
Michael Barber, UK Institute for Public Policy and Research, 2013

Le Tsunami Numérique
Emmanuel Davidenkoff, Stock, 2014
DISRUPTION?
UAE National Media Council Yearbook 2009

“the challenge is to transform a centralised bureaucratic system into a student centered, decentralised learning environment.”
T&L vs L&T

who sets the pace?

control vs emergence
Le monde change

Les besoins éducatifs aussi !
In 2014, an estimated 8.5 M children still remain excluded from school

[Arab World Learning Barometer, 2014]
economy

- secure broad access
- increase quality
- reduce costs
employers have new expectations

Leadership  
Digital literacy  
Communication  
Emotional intelligence  
Entrepreneurship  
Global citizenship  
Problem solving  
Team-working

http://thelarningcurve.pearson.com
evolution of the job market from 19\textsuperscript{th} to 21\textsuperscript{st} century

19\textsuperscript{th} century transformation jobs

transformational work [workers convert raw materials into finished goods]

20\textsuperscript{th} century production jobs

21\textsuperscript{st} century interaction jobs

management, sales, teaching, customer service [skilled professionals who spend a lot of time interacting with other people]
Interaction-based work represents a significant proportion of jobs in developed and emerging markets alike.

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<th>Interaction jobs</th>
<th>Transaction jobs</th>
<th>Production jobs</th>
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<tbody>
<tr>
<td>United States</td>
<td>41</td>
<td>44</td>
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<td>Germany</td>
<td>37</td>
<td>38</td>
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<td>Brazil(^1)</td>
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<td>32</td>
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<td>India</td>
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<td>China</td>
<td>25</td>
<td>31</td>
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</tbody>
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\(^1\)Figures do not sum to 100%, because of rounding.

McKinsey Quarterly, 2012
George Siemens, 2013
Increasing diversity of student profiles

(Siemens, 2013)

In the US, less than half of the students can be considered full time students.

Students who can attend campus five days a week nine-to-five, are now a minority.

(Bates, 2013)
Increasing importance of informal learning (Wheeler, 2010)
“the task of universities today is to provide paths from their informal cloud of learning towards formal study for those who wish to take them”

Professor G. Martin Bean
Vice-Chancellor of The UK Open University
[2009-2015]
Vice-Chancellor/President of RMIT University
[2015-]
XXI\textsuperscript{st} century education

what kind of business are we talking about?
hand made
customized
high quality & cost
reputation
limited production
assembly chain
division of labor
lower cost
mass production
specialization
quality assurance
marketing
to move from a craft activity to a full-fledged industry, what paradigm shift is needed?
the medium is
the message

Marshall McLuhan(1964)
Understanding Media
Connectivism: “The pipe is more important than the content in the pipe.”

the medium is actually becoming the message

scalability
ubiquity
XXI\textsuperscript{st} century educator

what kind of job are we talking about?
XXI<sup>st</sup> century educator

Smart Learning Programme transforms education in UAE’s government schools
learners prefer to work with the world
what does this mean?
Learning Design & Open Practices

Real World Tasks

Authentic Situations

Activity-Based Learning

Real World Tasks

socioconstructivism (Lev Vygotski)
constructivism (Jean Piaget)
situated cognition (J. Love, E. Wenger)

authentic projects
structured & feasible work & thinking
affordable tools
responsive feedback
situated cognition

fun & emotional support
sharing & imitation
competition
confrontation
emotional support
what is new...

Schneider, 2005
Innovative pedagogy (1950s)

Celestine Freinet
(1896-1966)
Like other design professionals, teachers have to work out creative and evidence-based ways of improving what they do.

Every day, teachers design and test new ways of teaching, using learning technology to help their students.

By representing and communicating their best ideas as structured pedagogical patterns, teachers could develop this vital professional knowledge collectively.

From this unique perspective on the nature of teaching, Diana Laurillard argues that a twenty-first century education system needs teachers who work collaboratively to design effective and innovative teaching.

we need to (re)-design the learning space!
Data Visualisation Tools

heat map

Data Visualisation Tools

worldmapper

Territory size shows the proportion of people enrolled in tertiary education who live there [www.worldmapper.org](http://www.worldmapper.org)
what should be taught?
Learning Analytics

V

transparency individualization
Learning analytics provide big data to test measure learning activity continuously, at run time, not a posteriori.
emerging trends (Siemens, 2013)

Participatory culture - Social/technical connectivity
(Rise of the Individual)

Transparency and surveillance culture
(Rise of Data and Analytics)
Thank you for your attention!