MOOC: the European Perspective

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Agenda

• The context
• MOOCs: a few concepts
• MOOCs for Europe

• Strategy for MOOCs
• MOOC: a revolution?
A short history

- 1972: Open University (UK)
- 2000: Learning Management Systems (LMS)
- 2002: Open Educational Resources (OER)
- 2008: George Siemens “all learners, all teachers”
  The connectivist MOOC, cMOOC
- 2011: S. Thrun, Stanford
  xMOOC and transmissive MOOC
- 2012: Coursera, edX...
Massive Open Online Course

• Massive: large number of participants
  – Definition of large?
    • Depending on the subject
    • Lurkers, true participants and certification

• Open:
  – No prerequisite but must register
  – Not Open Source

• Online
  – More than contents: self contained
## From OCW to MOOC

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Connectivist branch MOOC</td>
<td>(Siemens, Downes, Cormier, et al.)</td>
</tr>
<tr>
<td>2009</td>
<td>Stanford branch of MOOC</td>
<td>(xMOOC)</td>
</tr>
<tr>
<td>2010</td>
<td>MIT OpenCourseWare</td>
<td>(starting in 2002)</td>
</tr>
<tr>
<td>2011</td>
<td>Udacity</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>Coursera</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MITx (MIT)</td>
<td></td>
</tr>
</tbody>
</table>

### Potential Future Problems
- Revenue Models
- Credentialing, Badges or Accreditation
- Course Completion Rate
- Student Authentication
US context: students debt

- Tuition fees at an unacceptable level:
  - Over 10,000 $ in public universities
  - 40,000 – 60,000 $ private universities

- An abyssal students debt:
  - Mean value 25,000 $ in 2012 (15,000 $ in 2004)
  - 40 Millions loans
    (20 Millions in 2004)
US context: Tuition debt

A negative impact on the US economy

First debt before housing!

Source: Le Monde 23/03/2013

966 Billion US$
Growth of MOOCs

Main actors: US

- Coursera: Stanford, EPFL, Edinborough…
  www.coursera.org
- edX: Harvard, Berkeley, U. of Texas…
  www.edx.org
- Canvas: Brown, U. of C. Florida…
  www.canvas.net
- Udacity: private company
  www.udacity.com
Main actors: Europe

• Miriada X (Spain)  
  www.miriadax.net

• Futurelearn : (UK)  
  www.futurelearn.com

• France Université Numérique (France)  
  www.france-universite-numerique.fr

• Iversity (Germany)
Provider distribution

Where do we stand?

Gartner Hype Cycle

- Peak of Inflated Expectations
- MOOC
- Plateau of Productivity
- Slope of Enlightenment
- Trough of Disillusionment
- Technology Trigger

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MOOC and pedagogy

• Flipped learning
• Distance learning with few interactions with teachers
• Distance assessments
• Strong interactions among participants through social networks
• Community managers
c-MOOC: the social Web

- The connectivist model: « All learners, all teachers »
- No build path, no pedagogical path
- Bring your own resources
  - Web crawling more important than anything else
- Aims:
  - Exchanges, social learning
  - Network and connections
  - Acquisition of knowledge
- Certification: how?
x-MOOC: the continuity

- Videos + documents \rightarrow theater + book
- Forums + social tools \rightarrow face-to-face
- Peer evaluations + quizzes \rightarrow Assessments

- Certification ?
<table>
<thead>
<tr>
<th></th>
<th>cMOOC</th>
<th>xMOOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning model</td>
<td>Connectivist</td>
<td>Classic</td>
</tr>
<tr>
<td>Objectives</td>
<td>Build by participant</td>
<td>Build by teacher</td>
</tr>
<tr>
<td>Coherence</td>
<td>Participant</td>
<td>Teacher</td>
</tr>
<tr>
<td>Learning</td>
<td>Navigate, build connections</td>
<td>Follow the course</td>
</tr>
<tr>
<td>Resources</td>
<td>Aggregation by participants</td>
<td>Included in the course</td>
</tr>
<tr>
<td>Exchanges among pairs</td>
<td>Very important</td>
<td>Possible</td>
</tr>
<tr>
<td>Interactions</td>
<td>Distributed</td>
<td>Forum on site</td>
</tr>
</tbody>
</table>
## cMOOC & xMOOC

<table>
<thead>
<tr>
<th></th>
<th>cMOOC</th>
<th>xMOOC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synchronization</strong></td>
<td>At own pace</td>
<td>By teacher</td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td>University, firm or badge. Not necessary</td>
<td>University, firm and badges</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Among pairs</td>
<td>University &amp; firm</td>
</tr>
<tr>
<td><strong>Teacher attitude</strong></td>
<td>Facilitator</td>
<td>Owner of knowledge</td>
</tr>
<tr>
<td><strong>Student attitude</strong></td>
<td>Autonomous, sociability</td>
<td>Flipped learning</td>
</tr>
<tr>
<td><strong>Student objective</strong></td>
<td>Self enrichment</td>
<td>Promotion</td>
</tr>
</tbody>
</table>

After J-M Gilliot [http://tipes.wordpress.com/2012/06/12/differents-types-de-moocs/](http://tipes.wordpress.com/2012/06/12/differents-types-de-moocs/)  (French)
MOOC and student retention

Emerging Student Patterns in Coursera-style MOOCs

Success as not the same meaning in a MOOC than in a class

P. Hill e-Literate, March 2013

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MOOC for Europe
Models for Europe?

• The organization model:
  – Centralized: HE European model?
  – National, private consortiums?

• The MOOC model:
  – Mass and open?
  – Economy?
OpenupEd

- Pan-European initiative
- Portal about MOOCs
- Quality label?
- Under the supervision of EADTU

- No provision for a European MOOC platform
- Very incomplete portal

www.openuped.eu
National providers

- Private: Iversity …
- Semi private: FutureLearn, MiriadaX…
- State: FUN…
- Poland: Poznan SC (?)…
- A number of smaller actors either private or locally founded
- No common European thinking
The MOOC model

• From the beginning a different view from the US
• SPOC
  – Change in learning: flipped classes
  – Remedial courses
  – Distance learning
• MOOC: mostly another use of SPOC
EUNIS position

E-learning Task force meeting, Lausanne May 2013:

EUNIS has a keen interest in these developments but remains skeptical about the fact that much current MOOC activity is US-centric with its roots firmly in the commercial sector that is currently underwriting much of the development activity. There are also contrasting pedagogic models being labeled under the same banner. Europe needs to analyze the lessons learned from these developments and look at how best to apply them to improve the educational experience in a diverse range of educational contexts.
EUNIS position

EUNIS sees opportunities to improve pedagogic practice by incorporating more online learning (especially effectively designed peer interactions) in traditional courses. There are also some opportunities for widening participation bearing in mind the digital literacy (and indeed cultural attitudes to learning) required by students before they can become effective learners in this type of context.
MOOC strategy
An important investment

- Course scenario renewed
- New documents and OER
- Massive use of short videos (chunks 5-7 up to 15 mn)
- Need of a local organization to sustain the MOOCs

A MOOC is a complex team project
## MOOCs and SPOCs: why?

<table>
<thead>
<tr>
<th>Objective</th>
<th>MOOC</th>
<th>SPOC</th>
<th>Level</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational transformation</td>
<td>option</td>
<td>yes</td>
<td>Bachelor Minors</td>
<td>All B levels. Priority larges groups</td>
</tr>
<tr>
<td>Remediation</td>
<td>option</td>
<td>yes</td>
<td>Bachelor</td>
<td>Failed modules</td>
</tr>
<tr>
<td>Entrance in university</td>
<td>yes</td>
<td>no</td>
<td>High School</td>
<td>Self evaluation and initiation courses</td>
</tr>
<tr>
<td>Life long learning</td>
<td>yes</td>
<td>yes</td>
<td>All levels</td>
<td></td>
</tr>
</tbody>
</table>
### MOOCs and SPOCs: why?

<table>
<thead>
<tr>
<th>Objective</th>
<th>MOOC</th>
<th>SPOC</th>
<th>Level</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign students</td>
<td>yes</td>
<td>option</td>
<td>All levels</td>
<td></td>
</tr>
<tr>
<td>Knowledge sharing</td>
<td>yes</td>
<td>option</td>
<td>All levels</td>
<td>Excellence</td>
</tr>
<tr>
<td>Recruiting students</td>
<td>yes</td>
<td>option</td>
<td>All levels</td>
<td></td>
</tr>
</tbody>
</table>
Human resources for MOOC

MOOC contents:
- Teachers
- Community managers

• MOOC development:
  - Video specialists
  - Web integrator and graphic artist
  - Pedagogic instructor
  - Project manager

A MOOC is a project with many people, which needs a project manager
MOOC: do you have the budget?

• Example of a 8 weeks MOOC
  – Base: Sciences with Maths equations and graphics
  – MOOC being used internally at least 3 times

• Human resources
  – Teachers
  – Academic support
  – Technical support
## Budget: teachers

<table>
<thead>
<tr>
<th>Mission</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Course 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>40</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Writing docs</td>
<td>90</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Writing assessments</td>
<td>40</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Video recording</td>
<td>32</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Project organization</td>
<td>30</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Animation</td>
<td>48</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>520</strong></td>
<td><strong>520</strong></td>
<td><strong>520</strong></td>
</tr>
</tbody>
</table>

Y. Epelboin

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## Budget: pedagogic support

<table>
<thead>
<tr>
<th>Mission</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Course 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedagogic engineer</td>
<td>40</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Project manager</td>
<td>60</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Tests</td>
<td>60</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>225 hours</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Budget: technical support

<table>
<thead>
<tr>
<th>Mission</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Course 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>32</td>
<td>6</td>
<td>6</td>
<td>Recording</td>
</tr>
<tr>
<td>Video</td>
<td>180-240</td>
<td>36-50</td>
<td>36-50</td>
<td>Editing</td>
</tr>
<tr>
<td>Texts</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>Formatting</td>
</tr>
<tr>
<td>Iconography</td>
<td>35</td>
<td>7</td>
<td>7</td>
<td>Variable</td>
</tr>
<tr>
<td>Integration</td>
<td>15</td>
<td>3</td>
<td>3</td>
<td>Platform</td>
</tr>
<tr>
<td>Meetings</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>480 hours</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Budget: cost

- Video studio: from 20 000 € up to 60 000 € and more
- Video editing: 4 000 € per machine
- Computers for all the staff
- MOOC staff: 30 000 € - 50 000 €
- UC San Diego: 300 000 $ for 16 weeks
Delivery of MOOCs

• Requests for platform 24/7
  – Servers (or cloud)
  – System engineers: 2
  – Software engineers: 2
  – Administrative tasks, support...: 4

• Possible financial models (evolving):
  – Coursera: free but 80% if course sold and own certification
  – edX: 50% only but minimum 50 000 $
  – FUN, Futurelearn: paid by consortium
  – ...
Defining the priorities

• Each university must debate:
  – Which strategy?
  – Which priorities?

• Each university must evaluate:
  – Available hardware
  – Available technical support staff?
  – Available pedagogical support staff?
  – Volunteers among teachers
MOOC: a strategic decision

- A Steering Committee
  - All contributing actors
  - All concerned Executives

Under the direct supervision of the Rector!
MOOC: a revolution?
A revolution?

• **No:** Open University UK model from 1992 adapted to 2013 technologies

• **Yes:** the alternative to face-to-face teaching for mass education, especially in Africa and Asia

• **Yes:** mass education for those who will never come to the university
A new way of learning?

- **No:** the flipped learning model already exists, but remains a niche alternative
- **Yes:** acquisition of knowledge without teachers
- **Yes:** acquisition of competencies: c-MOOC approach but not adapted to all fields.
- **Yes and No:** methodology already in place in some fields
A new way of diplomation?

• **No:** An accumulation of successes to MOOCs does not make a diploma
  – Coherence of accumulated knowledge
  – Knowledge and competency
  – Quality of assessments: quizzes do not suffice

• **Yes:** Possibility to show a profile (badges) to employers
An alternative?

MOOCs do not replace face-to-face or any equivalent means for distance learning. They are complementary.

But it is the only alternative to conventional universities for less developed countries
Impact on traditional universities

- Massive use of blended learning
- Changes in the campus: learning centers to work together, less theaters
- Changes in the diplomation. Exams + profiles (badges)
- Competition among universities: MOOC approach will be an influencing factor
Impact on traditional universities

• Distance learning
  – End of synchronism with the university timing
  – End of organization by ECTS
  – Certification or graduation?

• Open education
  – Bring a new public to the university

• Professional and life long learning
2025 horizon?

• Major industrial companies: Google, Microsoft…

• Survival of universities
  – In the USA:
    • Standardized curricula under pressures to reduce costs and prices.
  – In Europe:
    • Concurrency between universities and education business
    • Certification and graduation
    • SPOC

See edu@2025  R. Katz, YouTube
Discussion

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