MOOC and Pedagogy
Where are we heading?

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Agenda

- A very slow tsunami
- MOOC and pedagogy
- MOOCs and technology
- A user-centric approach
- Driving students to success
A very slow tsunami

- Educause 2012: # 1
- Educause 2013: on the side
- Educause 2014: ?

MOOC → On line course

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A very slow tsunami

MOOC is not a technology; It is a means to teach and to learn using established technologies.

Thus it is moving at the same path as pedagogy

On line course

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Growth of MOOCs

A very slow tsunami!
Peak not yet reached!

MOOC and student retention

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

P. Hill e-Literate, March 2013
MOOC and pedagogy
MOOC in the university

- Blended learning
- SPOC: a MOOC with controlled registration
  - Distance and face to face personalized interaction
  - Face to face application lectures

The most efficient way of learning
Blended learning
Can we afford?

- Example of a 6 weeks MOOC (SPOC)
  - Base: Sciences with Maths equations and graphics
  - MOOC being used internally at least 3 times

- Human resources
  - Teachers
  - Academic support
  - Technical support
Do you have the budget?

<table>
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<th>Mission</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Course 3</th>
<th>Total Euros</th>
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<td>Teachers</td>
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<td>5 200</td>
<td>25 400</td>
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<td>Pedagogic support</td>
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<td>1 200</td>
<td>1 200</td>
<td>8 400</td>
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<td>Technical support</td>
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<td>2 000</td>
<td>2 000</td>
<td>14 000</td>
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<td>Salaries ≈</td>
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<td>48 000</td>
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</table>

Pomerol, Epelboin & Thoury  MOOCs, Design, Use and Business Models, Wiley 2015

Base: 6-8 weeks
Teachers: 75 k€/y, support teachers: 60 k€/y, tech: 47 k€/y
Cost comparison

€

<table>
<thead>
<tr>
<th>Classic</th>
<th>MOOC</th>
<th>Blended</th>
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</tbody>
</table>

Number of students

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MOOC economy

- Less expensive solution:
  - MOOC valid only above 200-300 students
  - Below 200 – 300 students: classic approach
  - Above 500 students blended approach versus classic approach

- Staff environment not taken into account

Most universities do not possess neither the manpower nor the budget to massively invest in MOOCs and SPOCS
Blended learning economy

- Blended learning and distance learning for freshmen
  - Cheaper way to handle large classes
  - Efficient means to attract distant students
  - A method to increase the participation of minorities?

- Rare studies and small classes
  - If universities are able to work together
MOOCs economy

- Communication:
  - Recruiting more students without additional investment (staff, building): MOOC
  - Reputation

- Recruiting students
  - Attracting students
  - Testing incoming students
Free MOOCs can only be a by-product of SPOCs and blended learning

https://formation.unpidf.fr/fr/mediatheque/media-51
MOOC and technology
Closed LMS

Closed systems:
• Only tools from the same origin available
• Pedagogic approach defined by the platform
Closed LMS

Choice of alternative services only from the same origin
Closed LMS

Choice of alternative services only from the same origin
Coming: an open model

Service E
Service D
Service B
Service C

Service 1
Service 5
Service 4
Service 3
Service 2

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Coming: an open model

The best of two or more solutions, according to the views of the teacher.
Coming: an open model

Each service = a virtual server

Intercommunication and exchanges: Learning Tools Interoperability (LTI)

Adding services from remote universities
New skills to come

- Instructional designers: a mix of pedagogy and IT skills
- Teachers: a mix of knowledge and instructional design
  - Prebuild models
  - LMS on demand
- Richer but more complex systems!
A user-centric approach
2010: the digital university

Organization centric

Learning environment

Portal

My space

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2015: the digital university

User centric:
Diversification:
integration of many services around the user space
The user-centric university

Siemens & al. « Preparing for the digital university »

http://linkresearchlab.org/PreparingDigitalUniversity.pdf p. 199
Siemens & al. « Preparing for the digital university » already cited

www.apereo.org
Siemens & al. « Preparing for the digital university » already cited

www.prosolo.ca
Next: the digital university

A galaxy of related services with the user in the center

All services as add-on of the personal social space
Driving students to success
Learning analytics

Well coordinated services provide huge amounts of data about the students
• Activity
• Learning
• ...
A well of information for a user-centric support
Learning analytics

« Learning analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs »

Learning analytics

- High potential impact to improve students success
  - Definition of indicators still in progress

- Limitations
  - Lack of valid data from many systems
  - Privacy of data
  - Definition of predictive indicators
Adaptive learning is an educational method which uses computers as interactive teaching devices, and to orchestrate the allocation of human and mediated resources according to the unique needs of each learner. Computers adapt the presentation of educational material according to students' learning needs, as indicated by their responses to questions, tasks and experiences.

Wikipedia
Adaptive learning


More and more complex systems!
Driving students to success

- Blended learning does not rise the rate of success: “Those who succeed succeed better”
- Adaptive learning allows to best adapt learning to the capacities and feelings of each person
- Learning analytics is the method to introduce individual mentoring at a time of mass education
Conclusion

❖ An important challenge for the digital university in the coming years:
  ❖ True blended learning must be generalized
  ❖ Tools and services will be more and more user-centric
  ❖ The digital environment will be more and more complex

Will the universities have the human and financial resources?
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