MOOCs: THE POWER OF COLLABORATIVE LEARNING AND THE COMMUNITIES OF KNOWLEDGE

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PhD AIM & HYPOTHESIS

• **AIM:**

- To analyze MOOCs and Beyond (MOOCs as New online spaces for Open Knowledge; New Methodologies, innovative social dynamics, and renewed institutional designs associated for creating Open Communities of Knowledge)

• **HYPOTHESIS**

1. MOOCs enable much more than massive spaces for scalable online courses. MOOCs create new online spaces for Communities of Knowledge.

2. MOOCs can permeate remove borders in (formal/non formal) Education and enlarge open knowledge sharing in two directions.
   - They offer solutions for Educational Institutions (Secondary Schools/Universities/Colleges...) to offer Open and Massive education (formal/non formal).
   - They offer Open Knowledge Networks to different stakeholders (companies, institutions/individuals...). Networks to access knowledge, to organise knowledge, to share/exchange knowledge with others.

3. MOOCs are a powerful tool in combination with other social tools (P2P activities, fora, Q&A...) for Global Open Knowledge Networks. Knowledge networks (academic, professional, communities of practice) can be connected in a region or even globally.
THEORETICAL FRAMEWORK

• Networking Analysis Theory (Sociological Prospective)

  Networking analysis is based on an assumption of the importance of relationships among interacting units. The social network perspective encompasses theories, models, and applications that are expressed in terms of relational concepts or processes. Actors and their actions are viewed as interdependent rather than independent, autonomous units(...)(1). (Wasserman, S. and K. Faust, 1994, Social Network Analysis. Cambridge: Cambridge University Press.

• Connectivism (Educational Prospective)

  Connectivism is a hypothesis of learning which emphasizes the role of social and cultural context(1). The relationship between work experience, learning, and knowledge, as expressed in the concept of ‘connectivity, is central to connectivism, motivating the theory's name. The phrase "a learning theory for the digital age” (2) indicates the emphasis that connectivism gives to technology's effect on how people live, communicate and learn. (George Siemens. Connectivism: A Learning Theory for the Digital Age)

• (1)Connectivism and Previous Theories: Connectivism is often associated with and proposes a perspective similar to Vygotsky's 'zone of proximal development' (ZPD), an idea later transposed into Engeström's (2001) Activity theory. It is somewhat similar to Bandura's Social Learning Theory that proposes that people learn through contact.
DATA ANALYSIS
MOOC survey to Students and Learning Analytics

TOOLS: Survey to Students and Learning Analytics from 2 different MOOC Platforms

RATIONAL OF THE MOOC DATA ANALYSIS

• MOOCs collect valuable data on student learning behavior; essentially complete records of all student interactions in a self-contained learning environment, and analyze their opinions and motivation with the benefit of large sample sizes.

• Our main objective here is to show how the huge amount of data available in MOOCs offers a unique research opportunity, permitting not only to study detailed student profile, interest and behavior, but also analyze how these students interact with other peers in a new online environment creating a new space for Knowledge and Networking.
CASE STUDY:
MOOC: Transversal Competencies for Entrepreneurship. (Course offered in both platforms)

• Total Students: **261,480**
• In the Course: **5602**
• Sample: **210** surveys
• Description: Clasic xMOOC Academic Platform (Language, Spanish)
• Features: (OpenMOOC)
  – (Video, test, Self-assessment, online and presental certification)
  – Some social tools
    (Fora, Curator, Facilitator P2P activities, P2P Assessment, open badges)

• Total Students: **38,881**
• In the Course **2262**
• Sample: **82** surveys
• Description: Thematic cMOOC Platform focused on Entrepreneurship (MOOC layer +Community layer) (Languages Spanish & Portuguese)
• Features: (WeMOOC)
• MOOC Platform (video, test, self-assessment, online certification)
• Social Layer: (Karma, system of voting, fora, Q&A, Tool for friendship, Content upload by users, Supply & demand ads, events, Facebook, twitter,...)
QUESTIONS FOR ANALYSIS

1. Who is behind the MOOC? Sociodemographic Profile of students
2. Why do they register in a MOOC? Motivation
3. What is the level of Drop out? Completion Rate and Certification availability
4. What is the level of Social participation in the online environment? Interaction with peers.
5. How do students learn in a MOOC environment? Tools Used and learning style
6. How to measure MOOC success? Beyond the scalability of the online learning experience; Level of satisfaction and outputs (For students and Institutions)
7. Where are the MOOC borders? Language and internationalization
8. Lessons Learned
SOCIODEMOGRAPHIC PROFILE

What is the profile of the students in the Case Study? (I)

- Note: NO significant sociodemographic differences between platforms, or with other MOOC.

### AGE

<table>
<thead>
<tr>
<th>Age Group</th>
<th>MOOC Students (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;15 years</td>
<td>0%</td>
</tr>
<tr>
<td>15-30</td>
<td>35.37%</td>
</tr>
<tr>
<td>31-45</td>
<td>46.34%</td>
</tr>
<tr>
<td>46-55</td>
<td>13.41%</td>
</tr>
<tr>
<td>&gt;55 years</td>
<td>4.88%</td>
</tr>
</tbody>
</table>

### GENRE

- **Sex of MOOC Students %**
  - Women: 36.59%
  - Men: 63.41%
¿What is the profile of the students in the Case Study? (II)

**Sociodemographic Profile**

**Education %**

- Primary Education: 0%
- Secondary Education: 7.32%
- Vocational Training: 14.63%
- Graduate: 37.80%
- Postgraduate: 40.24%

**Place of residence %**

- Rural: 11.11%
- Urban: 88.89%
¿What is the profile of the students in the Case Study? (III)

MOOC STUDENT TYPICAL PROFILE:
• Man, 25-35 years, Higher Education, Worker and Urban
MOTIVATION
(To Register in the MOOC)

Motivation %

- Other motivation (to entrepreneur): 10%
- Certification: 1%
- Curiosity: 6%
- Professional (to find a job): 4%
- Interesting Subject: 78%

Motivation %

- To Improve my current job: 48.78%
- To find a job: 53.66%
- To Entrepreneur: 91.46%
- Interesting Subject: 92.68%

(Academic Oriented General Interest)
(Job Oriented Specific Interest)
**RATE OF COMPLETION**

¿Potential link with certification?

- 37.8% complete the course
- 1.23% certification apply (certification fee for ECTs credits)
- 23.5% Complete the course
- No certification

**DROP OUT PATH**

**MOOC DROP OUT RATE; Potential link with certification availability?**
PARTICIPATION
(Interaction with peers)

- Level of Participation (Fora)

<table>
<thead>
<tr>
<th>Participation %</th>
<th>Level of Participation (Karma)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Interaction</td>
<td>More Interaction</td>
</tr>
<tr>
<td>87.85%</td>
<td>78.51%</td>
</tr>
<tr>
<td>8.25%</td>
<td>20.81%</td>
</tr>
<tr>
<td>4.60%</td>
<td>0.65%</td>
</tr>
</tbody>
</table>

- Low Participation
- High Participation
- No participation (Observer)
USE OF TOOLS FOR LEARNING

Use of Social Tools

Peer Support
Curator Support
Facilitator Support
P2P Assessment
Selfassessments
Test
Contents
Videos

Use of Social Tools

Sharing contents
Writing in personal walls
Voting tool
Fora comments
P2P Direct Contact
Q&A regarding MOOCs
Supply/demands ads
Twitter (followers)
Facebook (followers)
P2P Activities
Contents
Selfassessment
Test
Videos

Learning: Autonomous + Academic Support

Learning: Autonomous + Social Support
LEVEL OF SUCCESS
Satisfaction and Outputs

• Percentage of Satisfaction 95%

OUTPUT
After the MOOC Experience...

- I will not participate in formal course in UNED
- I would like to participate in Formal Courses in UNED
- I would like to participate in other UNED MOOC
- I know better UNED University

OUTPUT
Do you feel capable to entrepreneur after the MOOC (%)?

- Totally Capable: 45.12%
- Very capable: 29.27%
- Partially capable: 25.61%
- No: 0%
INTERNATIONALIZATION
Removing Borders with Languages

Student per Country

Visits per Country

Platform Language: Spanish

Platform Language: Spanish and Portuguese
1. Typical sociodemographic Profile: man, 25-35 years old, high education, worker and urban.

2. Motivation: Interest in academic subject and job purposes (LLL)

3. The level of drop out in a MOOC could be linked with certification availability; More Completion Rate if there is a Certification (specifically in academic MOOC environments)

4. The traditional MOOC environment (xMOOCs) promotes less interaction between peers than communities of knowledge (cMOOCs).

5. Learning style in MOOCs is Autonomous but ICT and Social Tools can enable more collaborative learning style.

6. MOOC success must be measured beyond the scalability of the online learning experience; Level of satisfaction and outputs for students and Institutions must be take in account.

7. Language is the main enabler for internationalization of MOOC

8. Lessons Learned: More Learning Analytics are needed and a standardized framework for assessment.
“Intuitions without data are just opinions”

THANK YOU!!!
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