Learning Analytics and Language MOOCs: Are we teaching strangers?

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CONTEXT
UNED, MOOCs & Learning Analytics
Spanish National Distance Education University.
Over 200,000 students.
Methodology based on principles of distance learning, technology-enhanced learning.
Largest offer of virtual courses in Spain.
Pioneering work in Open Educational Resources & Practices.
Around 250 MOOCs (Massive Open Online Courses) created at UNED since 2013.
Language MOOCs at UNED

Alemán para hispanohablantes: nociones fundamentales II #MooCálemán

Español para viajeros

Inglés Profesional / Professional English
Our 1st failure experience with Learning Analytics

Lack of flexibility

Difficulties to access database

Missing data

Lack of communication

Challenges in coordinating various teams
“Failure is simply the opportunity to begin again, this time more intelligently.”

(Henry Ford)
PURPOSE

To get a clearer understanding of students’ behaviour in a Language MOOC, as a result of the Learning Analytics process.
Are we teaching strangers?

A CASE STUDY
Research questions

RQ 1
In the context of Language MOOCs, what types of learning objects do students engage with most?

RQ 2
What aspects of online interaction and participation relate more strongly to course completion & success?

RQ 3
What are the most prominent student profiles in a Language MOOC?
METHOD

Participants & procedures
## Relevant information about MOOC

### MOOC
1st edition of “How to succeed in the English B1 Level exam”
6 weeks
Nov-Dec 2015

### Learning resources
- Video-lectures (16)
- Downloadable documents (12)
- Online texts (2)

### Evaluation tasks
- Quizzes (4)
- P2P activities (4)
- Online texts (2)

### Social interaction
- Course forums
- Facebook group

### Gamification
- Badges (up to 7)

### Target group
EFL (English as a Foreign Language) students with B1 level (CEFR)
Data collection procedures

Qualitative techniques

Initial & final questionnaire (Google Forms)

Quantitative techniques

- MOOC platform recorded online activity
- Data set processed with MS Excel & SPSS
- Descriptors used:

<table>
<thead>
<tr>
<th>Learning objects used by participant</th>
<th>Online interaction &amp; participation</th>
<th>Course success</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ‘video-access’</td>
<td>- ‘task-submit’</td>
<td>Tracking. Course success established at +5 on scale 0-10</td>
</tr>
<tr>
<td>- ‘article-access’</td>
<td>- ‘assess-submit’</td>
<td></td>
</tr>
<tr>
<td>- ‘book-access’</td>
<td>- ‘peer-feedback-submit’</td>
<td></td>
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<tr>
<td></td>
<td>- ‘forum-message-comment’</td>
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</tbody>
</table>
SOME SLIDES WITH THE DETAILED DATA HAVE BEEN OMITTED UNTIL THE PAPER ON WHICH THIS PRESENTATION IS BASED BECOMES PUBLISHED IN THE CALL JOURNAL.

(PLEASE SEE REFERENCE AT THE END OF THE SLIDE SHOW)
CONCLUSIONS TO THE CASE STUDY
What we have learnt about our LMOOC participants

- They prefer **videos** as learning materials.
- Students in their **40s download** resources significantly more. Maybe different age groups have different intentions when signing up for an LMOOC.
- There is a strong association between **mark obtained** & number of **video accesses**.
- There is a strong association between **mark obtained** & access to **online materials**.
- There is **no** significant correlation between **forum interaction** & **course success** in an LMOOC.
- The most prominent profiles are “**Viewer**” & to a lesser extent “**All-rounder**”.
OUR NEXT STEP: INTEGRATING LEARNING ANALYTICS IN OPEN edX
What do we want to analyse? Triple perspective:

1. To get a general idea of how our MOOCs are going
2. To analyse each of the elements that compose the MOOC (learning objects)
3. To control the activity of the participants individually
How to do it using an open source platform? Some tips based on our experience

The tools:

![edX Insights logo]

<table>
<thead>
<tr>
<th>Course Info</th>
<th>Membership</th>
<th>Cohorts</th>
<th>Student Admin</th>
<th>Data Download</th>
<th>Analytics</th>
<th>Email</th>
<th>Certificates</th>
</tr>
</thead>
<tbody>
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<td></td>
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<tr>
<td>Open Responses</td>
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<td></td>
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</tr>
</tbody>
</table>

### Open Responses

<table>
<thead>
<tr>
<th>UNITS</th>
<th>ASSESSMENTS</th>
<th>TOTAL RESPONSES</th>
<th>TRAINING</th>
<th>PEER</th>
<th>SELF</th>
<th>STAFF</th>
<th>FINAL GRADE RECEIVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>809</td>
<td>60</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>730</td>
</tr>
</tbody>
</table>

- **Submit First Draft**: Peer Reviewed Pair... 292
- **Grading and Feedback**: Peer Reviewed Pair... 118
- **Submit Final Draft**: Peer Reviewed Pair... 178
- **Submit First Draft**: Peer Reviewed Pair... 84
- **Submit Final Draft**: Peer Reviewed Pair... 137

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Assessment</th>
<th>Total Responses</th>
<th>Training</th>
<th>Peer</th>
<th>Self</th>
<th>Staff</th>
<th>Final Grade Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit</td>
<td>First Draft: Peer Reviewed Pair</td>
<td>292</td>
<td>52</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>237</td>
</tr>
<tr>
<td>Grading</td>
<td>and Feedback: Peer Reviewed Pair</td>
<td>118</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>115</td>
</tr>
<tr>
<td>Submit</td>
<td>Final Draft: Peer Reviewed Pair</td>
<td>178</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>166</td>
</tr>
<tr>
<td>Submit</td>
<td>First Draft: Peer Reviewed Pair</td>
<td>84</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>80</td>
</tr>
<tr>
<td>Submit</td>
<td>Final Draft: Peer Reviewed Pair</td>
<td>137</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>132</td>
</tr>
</tbody>
</table>
### The WHATs? & the HOWs

#### Some examples:

<table>
<thead>
<tr>
<th>What</th>
<th>INS</th>
<th>CSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of <strong>registered students</strong> since the opening of the course, age, sex, country and studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of <strong>students who have passed</strong> the course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of participants who have attempted to solve the <strong>1st quiz or activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics of all students who have <strong>at least seen a video or completed a task</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual <strong>analysis of videos</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data</strong> related to students who have passed or failed <strong>sorted by exam and type of user</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


THANKS!

Any questions?
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Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by [SlidesCarnival](https://www.slidescarnival.com)
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