MOBIMOOC 2012:
A New Tree Structure
For The Delivery of Connectivist Moocs

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ABSTRACT

Based on the explicit principles of connectivism (autonomy, diversity, openness and interactivity) and on the activities of aggregation, remixing, repurposing and feeding forward resources and learning, connectivist Massive Open Online Courses (c-MOOCs) have made a large impact in online education since 2008.

Ideally a great part of c-MOOC participants should share, produce and consume digital media. But this does not happen and a majority of learners stay on the side as silent participants that only consume (lurkers). Those active never exceed 10% of those registered.

The way c-MOOCs have been delivered up to date can be divided into: i) those that make use of a daily newsletter used by the facilitator to syndicate fundamentally the blog posts from the active participants and ii) those that rely on a centralizing web page and where all course discussions happen via the usage of a mailing list. In each format participants undergo a very different learning experience but the relation active-to-lurker is in both ve similar.

After the success of MobiMOOC 2011, Inge de Waard organized and coordinated in September 2012 a three weeks course on mobile learning. MobiMOOC 2012 relied on a format of a centralized wiki and mailing list but introduced a new delivery structure: *a tree arquitecture*. Participants concentrated in only one topic in the first week, four were offered on the second and eight on the third.

MobiMOOC 2012 and this experimental new organizational structure are described in detail in this paper. We particularly analyze if a more balanced distribution of participants in active and lurkers roles was achieved when compared to previous experiences.

Keywords: Mobile technology; mLearning; MobiMOOC; MOOC; collaborative learning.

INTRODUCTION

In the new digital culture practically all digital users are in some way both producers *and* consumers of digital media (Stewart 2012). Connectivist MOOCs by definition should be "the place" for networking and where course participants share, produce *and* consume.

But if we look at the evidence from the research literature related to c-MOOCs, we realize that already early in the courses participants polarize into either an active or lurkers role. Those active produce and consume but lurkers only consume.

The following MOOCs are representative of many that have been carried out with great success during the last years: CCK08, PLENK2010, MobiMOOC (2011), EduMOOC (2011), Change11, and LAK12. One of the most surprising facts of participants behavior in these c-MOOC is that around 10% of those registered, at most, are producers and 90% consume. In some weeks of Change11, there were even less than 2% of active participants (producers) of the 2435 registered (see Figure: 1). c-MOOCs share many common characteristics: the relation between number of lurkers and active participants, dropout rates, the profile and background of participants, the accreditation mechanisms, the role of tutors and facilitators, but differ in some of the tools used in their delivery which is reflected in the way participants interact within the course.
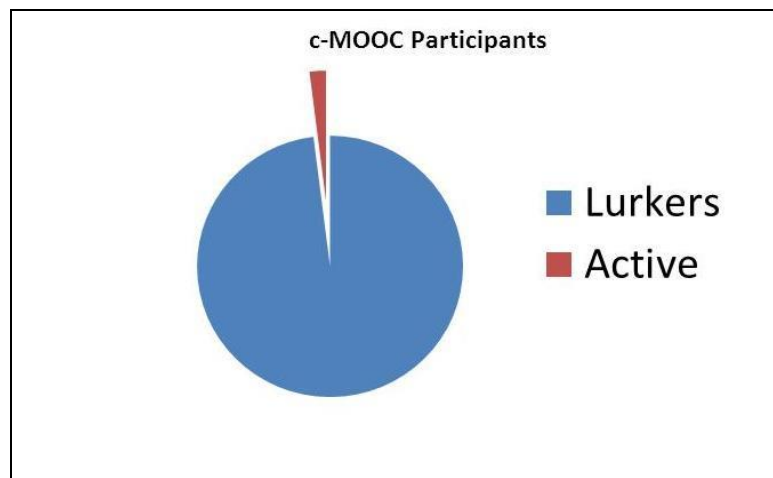

Figure: 1
Participants' role during week 33 of Change 11

Basically, two formats have been reported up to date:

A) **Format A:** Makes use of a daily newsletter employed by the facilitators and to syndicate posts from participants.
B) **Format B:** Makes use of a centralizing web page or wiki jointly with the usage of a mailing list (in most cases Google Groups).

The following are examples of courses that have used each of these formats: i) Format A: CCK08, PLENK2010, Change 11, LAK12, ii) Format B: EduMOOC, MobiMOOC. Some c-MOOCs have used variations of Format A and B, but these represent a very small percentage of those delivered up to date. Digital Storytelling (known as DS106) from the work of Groom & Levine (2011) is an example.

Depending on the format used, the courses had a different impact on the behavior of learners and the outcome of the course (Rodriguez 2012). Lurking can be considered positive for a course but not to such an extreme polarization. New organizational structures should be experimented in the search for a more balanced distribution of learner's roles.

MobiMOOC 2012 was a 3 weeks course on mobile learning which started the 8th of September 2012. This course followed the Format B described above but introduced a new delivery structure: *a tree architecture.* **It provided one topic in the first week, four in the second and eight in the third week. The denomination was inspired in the branches of a tree, where there is a central stem (in this case mLearning) and different branches emerge into thinner, more specialized topics.**

In this paper we describe MobiMOOC2012 in detail and analyze if the new proposed tree structure modified the previous patterns in numbers or participants behavior improving the connectivist nature of c-MOOCs.

RESEARCH METHODOLOGY

The following c-MOOCs have been chosen for the present study: CCK08, PLENK2010, Change11 and LAK12 as representative courses for the c-MOOC format A and MobiMOOC (2011 and 2012) and EduMOOC for format B. A large amount of data exists in the form of surveys and research papers in the cases of CCK08 and PLENK2010. This was used as the source of information.

As a researcher I participated in MobiMOOC (2011 and 2012), EduMOOC, Change11 and LAK12. I was an observer during the courses, collecting qualitative and quantitative data through observation of activities and engagement.

MobiMOOC 2012: A New Tree Structure
MobiMOOC 2012 was a three weeks course on mobile learning which started the 8th of September 2012. This course was delivered following the Format B described above but introduced a new delivery structure*: a tree architecture***.**

In week one all attendees followed one topic. In week two more topics were offered of a more expert content. Participants could register to all topics of their interest. Each specialized topic had a separate mailing list. In the final week still more new topics were added.
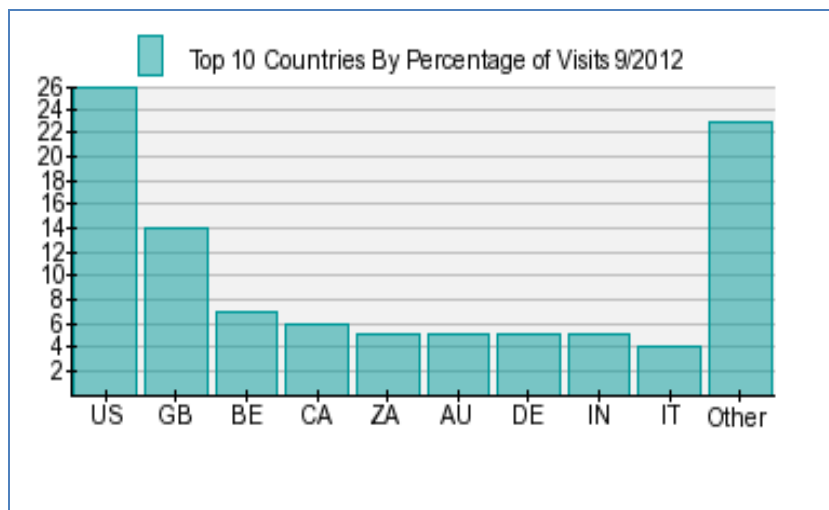

Figure: 2
Participants distribution by country

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The idea behind the use of *a tree* architecture was to allow people with different backgrounds to first reach the same basic level during the first week. The topics of the second week became more complex, yet they added to existing learning experiences or more holistic mLearning views.

The third week was considered a specialized week. More and complex topics were given in parallel with each other. This enabled learners to choose the topic (s) of their interest. These were chosen after a consultation to the MobiMOOC 2011 database of learners.

The content of all topics was shared via Open Educational Resources or OER (synchronous sessions recorded and shared, resources were bookmarked and shared.).

Active discussions happened on each theme. A participant who registered to a particular one could start or respond to different threads.

In week: 1 discussion started out from the central discussion area, MobiMOOC Google group. By weeks 2 and 3 this changed and other discussion groups (new Google groups) were created and became options.

Participants were mostly educators and learning technologists from different parts of the world (see Figure: 2 and 3), interested in different pedagogies, and learning theory associated with mobile learning.

The tools used and facilitators roles were also very similar to those used in MobiMOOC 2011 (de Waard 2011).There was no formal assessment mechanism but badges (informal certification) were instituted to show learners participation.

Figure: 3
MobiMOOC 2012 Crowdmap

Tools Used

A c-MOOC consists of many online spaces. Since social media tools can provide different learning/teaching purposes or benefits participants were offered to use an array of online tools to enhance their learning experience but the course core happened at the wiki and through Google group.

The wiki provided the online syllabus. YouTube, Twitter, Facebook and Delicious, were used throughout the course for sharing specific content. Other spaces such as MobiMOOC Crowdmap were added by the participants complementing those proposed by the coordinators. With the exception of Twitter and YouTube all other spaces were used much more scarcely than in the previous MobiMOOC (2011). Many of the participants accessed the course via mobile devices.

Assessment Mechanisms

After some discussions with the use of the mailing list badges were introduced to show what had been learned. Through the wiki any MobiMOOC participant could modify and download/print a badge (informal certification). To provide badges, the Open Badges initiative by Mozilla was adapted to fit mLearning goals and capacities.

Role of Facilitators

In any c-MOOC the following characterize the ideal role of a facilitator: amplifying, curating, way finding, aggregating, filtering, modeling, and staying present. In MobiMOOOC, Inge de Waard took the role of organizer/coordinator and facilitator.

The facilitators were experienced mobile learning experts within their own specialties. Each topic was in charge of a facilitator who could invite guest speakers. Guest from a wide spectrum of different countries participated creating a diversified set of ideas.

It was the responsibility of the facilitator/guide-on-the-side of a topic to provide links, possible learning actions and resources related to the topic (PDF's, documents, movies, audio files, mobile tools). They could suggest to go through them, understand how they worked, discuss with the other participants to get a clear angle on the topic at large (via the resources that were provided, or via other resources the participant could provide), and ultimately see how that topic might benefit learners context or region.

Additionally, the facilitator gave a virtual classroom session on his topic of approximately 60 minutes. This virtual classroom session could be followed live, so participants could ask questions to these experts in mobile learning. These sessions were recorded, so everyone, no matter where they lived around the world could follow and discuss with all in the group.

Projects and Award

A new and very successful activity was introduced during MobiMOOC 2012. The idea was to have projects and a contest between them with an associated reward. Participants were invited to submit projects which could even be in a draft form.A MobiMOOC 2012 projects group was set up where other participants could exchange their views on those mLearning project presented. They could use the mLearning template provided to write up their draft and post it for others to comment on. A final version had to be uploaded by 25th of September 2012 at the latest which allowed the organizer to set up the MobiMOOC award selection site. Participants had to choose the one which they found to be most promising in terms of human impact (meaning a mLearning project with potential to positively affect people living in difficult or challenged situations).The winner received 500 USD (which was awarded by some private contribution) to start setting up the mobile learning project.

MobiMOOC 2012 in Numbers

MobiMOOC 2012 falls into the Format B category described above with a centralizing web page (a wiki in this case) and the use of email lists for discussions.

A central discussion using Google groups was kept running during the three weeks. In weeks 2 and 3, four and eight additional Google groups were set up, each associated with a different topic. 17 mLearning projects were built during the course with a wide range of interests and approaches, resulting in collaborations across countries and even continents. A special Google group was set up for this activity. Participants were invited to vote and a prize awarded to the most voted project. Table 1 and Figure 4 resume MobiMOOC 2012 in numbers.

Registered members in wiki: 490 **Registered participants in Google group: 648** **(all percentages quoted in this work refer to the average between the 2 former values: 569**
Week 1: **Number of participant´s introductions: 85 (14%)** **Lurkers to the central discussion group: more than 200 (>50%).**
Week 2: (4 discussion topics) **Lurkers to the central discussion group: more than 200 (>50%).** **Active participants in each of the 4 discussion groups: 20 (4%); 11 (2%); 6 (1%); 7 (1%).** **Lurkers in each of the 4 discussion groups: 38 (8%); 44 (8%), 29 (5%), 19 (3%).** **Active participants to all 4 groups: 28 (5%)**
Week 3: (8 discussion topics) **Lurkers to the central discussion group: more than 200 (>50%).** **Active participants in each of the 4 discussion groups: 0 (0%); 5 (1%); 6 (1%); 3 (0.5%); 5 (1%); 14 (2%); 2 (0.5%); 3 (0.5%).** **Lurkers in each of the 4 discussion groups: 0 (0%); 23 (4%); 19 (5%), 17 (5%), 15 (4%); 37 (6%); 12(2%); 13 (2%)..** **Active participants to all 4 groups: 37 (6%)**
special Google group for projects **Active participants to this group: 23 (4%)** **Lurkers in this group: 45(7%)**

Figure: 4
Unique visitors to centralizing wiki showing number of lurkers

THE CONCEPT OF LURKING

The concept of lurking within c-MOOCs has been an open debate within the academic community. Some even consider the term derogatory. George Siemens (2010) made a post to his Elearnspace blog in which he strongly criticized lurkers in c-MOOCs as follows:

"Creation, collaboration, and sharing are the true value points of a PLN. It's not what it does for me, but rather what I am now able to do with and for others. Being connected, without creating and contributing, is a self-focused, self-centered state. I've ranted about this before, but there is never a good time to be a lurker. Lurking=taking. The concept of legitimate peripheral participation sounds very nice, but is actually negative. Even when we are newcomers in a network or community, we should be creating and sharing our growing understanding".

This position has been refuted in several studies mostly based on the interpretation of the concept of autonomy as outlined by Downes (2010) in the principles of learning in networks.

For example in a blog post Mackness (2010) states: "For me, autonomy lies at the heart of how this works, and has been central to the success of the open courses I have so far attended (PLENK, CCKO8 and CritLit). In other words, a key principle is that we have the choice of how connected, open, interactive or participative we want to be. We can therefore choose to lurk".

Some interpret, founded on the work of Wenger (1998) that legitimate peripheral participation has to do with the development of competency and identity within a learning community. If someone joins a learning community (or a network), normally it is done at the edge. Gradually a learner develops its identity within it. In more recent work Wenger (2007) addressed the issue of learning on the boundaries of communities. He has suggested that this is where the most powerful learning experiences can happen. People at the edge straddle the boundaries between different communities and can feed information/learning back and forth across these boundaries.

What is argued in this paper has to do with an extreme polarization of those that participate in c-MOOCs and who become lurkers. An example was week 33 in Change 11 where only 2% of those registered actively contributed to the course. Rather than a connectivist network the course could be identified as a standard course with multiple tutors. In a standard course a *one-to-many* relationship is established. Connectivism is based on the need of a *many-to many*-interaction. In most c-MOOC delivered up to date, a more realistic description would be of a *few-to-many* situation.

CONCLUSIONS

The following, related to our discussion was stated by the organizer Inge de Waard once MobiMOOC 2012 finalized: "The alternative approach of MobiMOOC using the tree or branching approach had some positive, but also some negative results on the learner dynamic: on the positive side it generated a lot of content on different mLearning topics and it did get people thinking and debating. On the negative side the original idea that participants would choose one or two topics did not happen. Instead they choose to follow all the topics, resulting in fewer discussions due to time constraints".

In a recent analysis Hogue (2012) stated the following views of the tree structure:

> ➢ "MobiMOOC 2011 was much more connectivist in nature.
> ➢ The delivery of content in the form of webinars was much more central to what was happening.
> ➢ People didn't necessarily break out into separate discussions, rather, they tried to follow several of them at once,

- ➢ Because of the large number of concurrent webinars people didn't have the time or energy left for the online discussions.
- ➢ The breaking up of the online discussions into separate groups created a barrier that not everyone was willing to jump over.
- ➢ By week three, the discussion were pretty much dead.
- ➢ The structure turned it more into a delivery focus rather than the connectivist, community created focus that aimed in c-MOOCs.
- ➢ The structure didn't easily allow for the c-MOOC to adapt to the participants interests.
- ➢ It was much too logistics orientated and it didn't really allow for the creation of new "topics" that were not explicitly planned in the beginning.
- ➢ I suppose this could have been done in the main discussion group, but it didn't feel as open to such changes in the flow of things.
- ➢ Conclusion from this experience is that I (Hogue) won't be seeking out a tree structured MOOCs in the future"

Similar to what happened in all previous c-MOOCs more than 50% of registered participants remained behind the scenes as lurkers. In previous c-MOOCs using for their delivery Format B, a dynamic interaction was established between learners creating a collaborative environment. The simplicity of adding an opinion or just a comment to some discussion thread of interest did not need to show expertise and dormant lurkers became active just in those occasions. In this way other participants got to know of their existence. This occasional appearance of lurkers made them visible and a sense of community was established.

In MobiMOOC 2012, only during the first week discussions happened through the central Google group. When in weeks 2 and 3 the course was split into discussion topics and their associated Google groups. The lurkers associated to the main mailing list did not re-register in the new ones thus their numbers reduced dramatically. A very small number of participants were active (5 and 6% in week 2 and 3 respectively).

Although the number of registered participants was high (569), the proposed tree arquitecture of MobiMOOC 2012 split participants into smaller groups during weeks 2 and 3.

The original 50% or more of lurkers remained orphan to the special topic discussions or activities and received mostly the organizer´s announcements to general activities as webinars and scattered information from active participants.
The following three main conclusions follow:

- ➢ MobiMOOC 2012 had too much "organized" structure which reduced the community creativity characteristic of c-MOOCs. Only those topics set in the organization could be discussed not allowing the proposal of new ones.
- ➢ Webinars played a central role to the course. But their abundance had a reduction impact to participant's discussions.
- ➢ The tree structure in weeks 2 and 3 divided participant into very small groups. Most lurkers, which in c-MOOCs represent more than 50% of those registered, were left out of the ongoing discussions.

Connectivist MOOCs are a new, innovative and successful educational proposal that needs to be investigated further and their delivery format improved.

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