Emotive Vocabulary in MOOCs: Context & Participant Retention

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Abstract

Massive Online Open Courses (MOOCs) have been growing in popularity with educational researchers, instructors, and learners in online environments. Online discussions are as important in MOOCs as in other online courses. Online discussions that occur in MOOCs are influenced by additional factors resulting from their volatile and voluntary participation structure. This article aims to examine discussions that took place in MobiMOOC in the spring of 2011, a MOOC structured around mobile learning. This line of inquiry focused on language from the discussions that contained emotive vocabulary in the MobiMOOC discussion forums. Emotive vocabulary is words or phrases that are implicitly emotional (happy, sad, frustrated) or relate to emotional contexts (I wasn't able to...). This emotive vocabulary, when present, was examined to determine whether it could serve as a mechanism for predicting future and continued participation in the MOOC. In this research, narrative inquiry approach was used in order to shine a light on the possible predictive qualities of emotive text in both participants who withdrew from the course as well as moderately or moderately active participants. The results indicated that emotive vocabulary usage did not significantly predict or impact participation retention in MobiMOOC.

Keywords: MOOC, Online Learning, Participation, Emotional language, Affective Factors, Narrative inquiry

Introduction

In recent years, the educational community has been experimenting with form (Open courses), content (Open Educational Resources), and accessibility (Open Access). This experimentation can serve to mitigate the negative impact of reduced funding; further, it signals a professed desire to hinge educational pedagogy to the realities of emerging modernity. In short, it is a belief held by many that the present educational structure will not efficiently serve the needs of tomorrow. The authors believe that combining technologies that embrace the complexity of knowledge production with pedagogical formats that allow learners to build knowledge by means of filtering that complexity, will allow a new educational balance to emerge (de Waard et al., 2011b). This paper focuses on one such manner of experimentation designed to maximize the affordance of an open, often free of cost, collaborative learning culture that is available online: the Massive Online Open Course (MOOC).

A MOOC ascribes to the principles of universal access: it is widely available to most everyone with internet access and free to join. Enrolment sizes tend to be high, generally over 500 participants. Pedagogically it embraces an open, social structure, and a constructivist, connectivist manner of knowledge production. In short, anyone is free to join, create, interact, analyze, and reflect according to his or her own learning needs. There is pedagogical structure, but little authoritative control aside from that imposed by the network of participants itself. Learners join, participate, and withdraw at high frequency. This paper focuses on the high levels of participation and low levels of retention often experienced in the MOOC format through the specific context of the discussion forums of MobiMOOC, a course designed around the theme of mobile learning.

Recent research has examined many facets of online discussions forums including the role of explicit

grading requirements, course expectations and extensive questions, as a way of encouraging active participation (Fisher, 2010). Additionally, social affective factors have been examined (Dyer, Costello, Martin, 2010) as well as the role of a sense of community in participation (Dawson, 2008; Guan, Tregonning, Keenan, 2008; Johnson, 2010). An additional study investigated how the length of membership in an online community molds language use, interaction, and role performance by community members in online discussions (Nguyen & Rose, 2011; Johnson, 2008; Jung, Choi, Lim, Leem, 2002; Kucuk, 2009; Kim & Bonk, 2010; Schimke, Stoeger, Ziegler, 2009; Scollins-Mantha, 2008; Dollan, 2008; Picciano, 2002).

Researchers have examined message patterns to determine how earlier messages in a discussion chain affect future participation. For example Chen & Chiu (2008), examined the content and elements of group dynamics and Bajali & Chakrabarti (2010), examined how the perceived richness of discussions affects participation. The role of gender has been researched as a factor in participation and the type of language used (Guiller & Durndell, 2007; Lin & Overbaugh, 2009; Yates, 2001). Frequency analysis of how and when people log in (Hung & Zhang, 2008), software usability and sociability (Lu, Phang, Yu, 2011) and even procrastination have been examined in online interactions (Michinov, Brunot, Le Bohec, Juhel, Delaval, 2011). Much of this research forms the basis of this paper's focus into the analysis of MobiMOOC discussions.

MobiMOOC Design

MobiMOOC ran for six weeks between April 2 and May 14, 2011. It was organised by Inge de Waard who also remained present as an active participant throughout the course. Leading researchers and practitioners in the mLearning field facilitated MobiMOOC and the course featured 1827 messages on topic (de Waard et al., 2011b). There were 536 participants in MobiMOOC, substantial because the course was only advertised informally through blogs and Twitter. The topics covered in the six weeks of MobiMOOC included mLearning planning, mLearning for development (M4D), leading edge innovations in mLearning, interaction between mLearning and a mobile connected society and mLearning in K-12 environments. Each topic was facilitated by an expert in the particular subject area. All the facilitators in MobiMOOC (Inge de Waard, Judy Brown, Niall Winters, David Metcalf, John Traxler, and Andy Black) were guides on the side, each putting forward as many learning actions and follow-ups as they wanted, as each of these facilitators were also voluntarily engaged in the course.

The course was free for anyone interested in the topic of mLearning and after its completion the content remained available as an open repository for mLearning resources. Although most resources offered by the facilitators and participants were openly accessible online, some of the academic resources (citations offered by MOOC participants) were behind database paywalls.

All participants (including the facilitators) were able to receive new information and construct new knowledge that fit their own personal learning needs. As such, participants were in charge of their own learning. The participants were able to get information that was relevant to them by asking the entire group for insights. The course organiser suggested three categories for learner participation, indicating the importance of self-regulated learning to the participants. These three types were as follows:

- **Lurking participants**: follow the course, look at the recordings, and browse the available course resources. The benefit to the lurking participant was to get some idea of what is going on in the field of mLearning.
- **Moderately active participants** took one or two topics and engaged in the conversation with everyone involved. The benefit for the moderately active participants was that they developed more in-depth knowledge in that area of mLearning and were able to exchange notes and expertise, getting answers to questions they may have had.
- **Memorably active participants** participated in at least five of the six topics. They developed an mLearning proposal in their area and received peer and expert help. Although a template was provided, it was clearly communicated that the writing of the proposal would be done by each of the participants. Memorably active participants received a certificate of participation (de Waard et al., 2011a).

The discussion on MobiMOOC took place in many forms. The organiser of MobiMOOC created an official course wiki and an official Google Group through which discussion could take place. Due to the open nature of the MOOC, in addition to the official MobiMOOC venues, participants also blogged about MobiMOOC topics (and shared those links in the Google Group). Additionally, there was a Facebook group created for MobiMOOC and many participants tweeted with the hashtag #MobiMOOC. The flexibility in participation format and the large number of participants contributed to a large amount of textual and non-textual information generated by MobiMOOC participants.

Participants of MobiMOOC

By looking at the forum posts, we determined that by the end of the MOOC, 13.3 % of the overall participants of the MOOC completed the course as active participants (74 people). Approximately 5.8 % of

the participants were memorably active (32 people). The majority (86.7 %) were either lurkers or dropped the course. At the end of the course, a survey was distributed amongst the participants. In this survey, the majority (82.5 %) of the active participants indicated that they used what they learned in MobiMOOC in their day-to-day work, and they took the opportunity (65 %) to work on an mLearning project while participating in MobiMOOC.

MobiMOOC participants were also quite diverse in their backgrounds. The survey shows that participants were diverse in both age (21-30=15 %, 31-40=22.5 %, 41-50=25 %, 51-60=27.5 %, 61-70=10 %) as well as gender (male=57.5 %, female=42.5 %). This may indicate that the MOOC format attracts people from across what is perceived to be the traditional technology dichotomies. The diversity of MobiMOOC was also evident in the careers of participants. An analysis of the discussion forum posts, where participants self-identified their professional areas as part of their introduction to the course, indicated that a substantial amount of participants came from the ranks of Instructional Designers (32 %). This included Instructional Systems Specialists, Instructional Media Specialists, Instructional Technology Specialists, and Instructional Designers; and Educators (26 %), which included Teachers, Instructors and Professors. Managers of Instructional Technology (9 %) and Students (9 %) also made up other large segments of MobiMOOC participants. The remainder of the participants were quite diverse including librarians, doctors, administrators, researchers in varying fields, and developers.

Participants in the MobiMOOC course comprise a diverse set of students, teachers, researchers, and educational technology enthusiasts at a wide range of institutions ranging from elementary school teachers to university faculty to researchers at government facilities. Geographically, there was a large concentration of participation in Europe and North America with little participation in South America, Africa, Asia and Oceania, as indicated in our MobiMOOC crowdmap (Figure 1).

Figure 1. MobiMOOC Crowdmap

Most of the participants worked in Higher Education (49 %). This might be expected since information about MOOCs tends to circulate by word of mouth in academic circles. MOOCs also tend to be designed by educators for educators. In our survey, K-12 educators and professional were the second largest group (18 %), while instructional designers and learning professionals from private firms (13 %) came in third. Other groups included government employees in various learning roles (7 %), non-profit employees (9 %) and self-employed learning professionals (4 %). MobiMOOC also included one participant who was a retired educator.

Purpose of the study

Using the discussion boards as evidence of the construction of a personal narrative of engagement with the course, MobiMOOC discussion logs were analysed. Our research team aimed to determine the following:

- if the vocabulary that MobiMOOC participants used when communicating about the MOOC, and through the MOOC to fellow participants, gave clues as to how these participants felt about the

MOOC;

- how participants felt about the progress that they made during the MOOC, and their self-assessment of their continued participation;
- if levels of participation, and overall learner retention in MOOCs can be predicted through textual analysis of the emotive language used by MOOC participants;
- if certain keywords or key-phrases signal increased participation and/or retention, while other keywords predict an increase in dropout rate or demotion of participants from their current status (active or memorably active).

Significance of the study

The significance of determining such keywords or key-phrases is immensely important to course facilitators; should certain keywords or key-phrases be found that signal increased or decreased participation in a course, automated responses to those signals can be developed to foster renewed participation. For example, automated alerts that alert facilitators of a potential increase of dropouts or lurkers could be built into the MOOC management systems, be these systems traditional Learning Management Systems (LMS) or social media groups. Facilitators could then adjust the course to promote greater participation within it or address learners in danger of dropping out to assess the reasons behind their demotivation and possibly get them engaged into the course again.

Even though there were many sources of textual data from MobiMOOC, including Twitter posts or delicious bookmarks shared with the #mobimooc tag, a Facebook group, blog posts, an official Google Group and an official wiki, the text analysed for this project was the text collected from the MobiMOOC Google group. This was the MOOC's centre of activity for participant communication.

Methodology

Type of research

Using a narrative inquiry approach with an analysis of language frequency (emotive language), discussion participation frequency, and participant interactions, the authors began this inquiry with the belief that there are predictive qualities in the language used both by the participants who withdrew from the course as well as those who became moderately or memorably active. To address these questions requires an analysis of the discussion logs as evidence of a personal narrative of engagement, or disengagement, from the course. The qualitative data collected from the discussions of the participants were then subjected to an analysis to gauge the general level of engagement with the MobiMOOC.

Data collection and ethical considerations

Data collected for this research was taken from the text-based discussions for the MobiMOOC Google Group discussion forum, which served as the main hub of activity for MobiMOOC. In addition, if MobiMOOC participants publicized their blog posts as they pertained to MobiMOOC, those blog posts as well as comments to them were also analysed. The discussion data that we analyzed are publicly available data whose original use was not for research purposes. Great care was taken to insure the anonymity of the participants and, as such, names, website addresses, and other identifying information were removed to reflect this consideration.

Although no explicit privacy statement was posted in either the MobiMOOC wiki or the MobiMOOC Google Group establishing specific expectations of privacy or openness, it is our belief that the public availability of these discussion venues under investigation, Google Groups and publicly available blog posts, being open to the public, mitigates the need for informed consent. It is our belief that these actions ascribe to the principles of the Ethics Guide of the Association of Internet Researchers (2002) in that the material to be used is primarily for an analysis of retention and participation in open courses and, as such, risk is minimal.

Structure of the data analysis

For the purpose of this research, we determined that an analysis of the Google Group discussion logs for MobiMOOC would yield the greatest results for determining the nature of retention and withdrawal of participants on the course. The reason for picking Google Group discussion data over other MOOC sources is that the Google Group was the central, and official, discussion forum, and as such, it can be viewed as a common denominator for all MobiMOOC participants. MOOCs tend to have high (>50 %) withdraw/dropout rates and MobiMOOC was no exception; of the more than 500 participants that began the course, a little over 70 were active in some sort of discussion by the final week; possible lurking participants were not taken into account as these participants are not trackable. This high withdrawal rate poses challenges to adoption of the MOOC as a widespread learning format for a diverse range of disciplines and learners. Retention strategies can possibly mitigate this high withdrawal rate.

This research does not presuppose a particular level of participation in the MobiMOOC course, but rather attempts to gauge that engagement with the course based on an analysis of the discussion board transcripts. The premise of our investigation is that an increase in engagement or in disengagement with the course was signalled in the form of emotive language in the early weeks of the course (Weeks 1-3), signalling a change in participation patterns in the second half of the course (Weeks 4-6). Two members of the research team reviewed the discussion board transcripts and seemingly 'meaningful' exchanges were coded according to the following three categories:

1. Possible professional mismatch between course objectives and participant expectations
2. Trepidation, uncertainty, unfamiliarity, some indication of a lack of confidence in ability
3. Professional expertise, experience, confidence, self-assuredness

The coding reflects the assumption that not everyone will participate or withdraw from the course based solely on uncertainty, unfamiliarity with the course structure, or a perceived lack of confidence in navigating the learning in the course. Rather, increased engagement or disengagement from the course might signal satisfaction or dissatisfaction in meeting professional learning needs (coded as equating to a professional mismatch between the course and the professional needs of the participant); conversely, professional expertise, experience, and self-confidence might signal an increased engagement with the course and other course participants. What is not accounted for in this analysis are those students classified as lurkers (lurking as following rather than actively engaging the course); there is very little data available to track their participation with the MobiMOOC course and as of yet very little work has been performed on lurkers in MOOCs (Kop, 2011).

After the six weeks of discussion board transcripts were coded, further narrative analysis was conducted to determine whether participants were signalling either their withdrawal or their increased participation in the course.

Connecting to relevant research frameworks

This form of analysis has precedent with online transcripts being used by researchers to investigate the process of social construction of knowledge (Gunawardena, Carabajal & Lower, 2001) and critical thinking (Bullen & O'Brien, 1997; Webb, Newman & Cochrane, 1994). Our research attempts to replicate this form of analysis not directly towards evidence of social construction of knowledge or critical thinking, but rather towards the notion of social engagement with the course, a facet affected by a variety of factors including learner self-confidence and self-empowerment, professional expectations and learning satisfaction, and social acceptance.

By analysing the online transcripts for evidence of language as well as parsing out relevant passages for further analysis, our goal is "to reveal information that is not situated at the surface of the transcripts," but rather address participant patterns of engagement with the course that might signal satisfaction (De Wever et al., 2006). Our research focuses on transcript analysis, a "research methodology that builds on procedures to make valid inferences from text" (Rourke, Anderson, Garrison & Archer, 1999). Further, inspiration was drawn from the analytical framework of learner engagement as put forth by Henri (1992), which recognises that a participant dimension of learner engagement can be analysed through an analysis of overall participation, which is measured through the total number of messages, responses, and accesses to the discussion, and the active participation in the learning process, which is the number of statements directly made to learning. In the MOOC format, the network and participation often become the learning itself so it is our belief that Henri's facets of participation blend heavily into one another (1992). As such, this research focuses on overall participation and emotional signals within that participation.

Also of interest to this research is the presence of social messages in the discussion transcripts, such as jokes, compliments, and greetings (Rourke et al., 1999). These are generally considered meaningful and motivating exchanges between students and important in establishing social presence in online discussion formats. Social presence might generally be categorized as affective responses, interactive responses, and cohesive responses (De Wever et al., 2010). There is evidence of all three of these types of social presence responses on the MobiMOOC discussion boards.

In the following sections, we describe how we analysed and withdrew valid inferences from the text of the transcripts.

Findings & results

First pass

Our initial examination of the data entailed re-reading and re-familiarizing ourselves with the content and the dynamics of the course. This process allowed us to develop a more detailed picture of the week-by-week discussions in MobiMOOC from the perspective of the ethnographer, rather than as a participant. At the

time of the course, the authors were not participating as researchers; rather, we participated as fellow MobiMOOC participants. Our personal recollections were quite positive regarding our participation in the MOOC and about our fellow participants. In this review of the transcripts, we aimed to determine if our own recollections were more favourable than the prevailing sentiment in the MOOC.

Reading through six weeks of MobiMOOC transcripts revealed that our recollections of the MobiMOOC environment were accurate. During the course, as well as before and after the course[1], there was excitement exhibited around the topic of mobile learning (mLearning), around the MobiMOOC course itself, and towards our collegiality. Many individuals took the opportunity to share their own experiences and knowledge on the topic, provided feedback to fellow participants who were undertaking mLearning projects, and provided academic resources for further reading and study. No explicit contradictions were revealed during our initial examination of the discussion data exploring the accuracy of our initial impressions of the MOOC. It was at this time that we also went through and coded these discussions for indications of expertise, trepidation and uncertainty, and potential mismatch between expectations of the participant and what the MOOC had to offer.

Second pass

The next step in our analysis was a Linguistic Inquiry and Word Count analysis (LIWC). Using LIWC© software, we calculated the degree to which people use different categories of words across a wide array of texts. We aimed to determine the degree that discussion texts use positive or negative emotive vocabulary. The software also determines the degree of language use in 70 other language dimensions; however, we focused only on the expressed positive and negative emotions for this analysis (Pennebaker, Booth, Francis, 2007). In addition, we ran each week's texts through Wordle to visualize and reveal major themes in each week's discussions to ensure we didn't overlook any significant emotive vocabulary or passages. Wordles are word clouds that "give greater prominence to words that appear more frequently in the source text" (Feinberg, 2011).

Referring to our LIWC analysis (Figure A.2.1), positive emotive vocabulary use substantially outnumbers the use of negative vocabulary in the weekly discussions. Even in Week 4, when there is a dip in the quantity of positive vocabulary use, there is a corresponding dip in negative vocabulary use, which indicates that there were fewer discussion posts during Week 4 than other weeks of MobiMOOC. We did see an increase in negative vocabulary between Week 1 and Week 2, and during this period we did see a small dip in positive vocabulary between Week 1 and Week 2. However as a whole the positive outweighed the negative.

The word frequency clouds were very revealing (Figures A.1.1 - A.1.6). All weeks show that participants were sticking to the topic of mobile learning and not going "off topic." In Weeks 5 and 6, the MOOC seemed to become a little more intimate, given that participant's first names surfaced with much greater frequency[2]. Throughout the six weeks of the course, even though thematic vocabulary (mLearning related) was the majority of the vocabulary present, considerable positive emotive vocabulary was also present. However, we did not see this same pattern for negative emotive vocabulary. During Week 1 we also saw considerable social vocabulary, such as greetings and introductions, which is to be expected during the first week of a course when participants introduce themselves.

Third pass

Our first two passes over the discussion data did not indicate whether positive and negative emotive vocabulary can predict an increase or decrease in participation. We examined the discussion analytics to see how many posts were posted each week, how many participants participated each week, and what categories these participants belonged to.

For this pass, we weren't analysing the discussion data itself; rather, we analysed the discussion and participant counts. We examined a pre-MOOC and a post-MOOC period in addition to the six weeks of MobiMOOC itself. These pre- and post-MOOC periods contain data for one month before the beginning date of MobiMOOC and one month after the completion of the last day of MobiMOOC. What we observed is that there is an increase in discussion posts between Week 1 and Week 2 (Figure A.3.2), perhaps attributable to a "honeymoon period" where participants are getting acclimated to the MOOC. However, participation starts to decline after Week 2 and maintains a plateau in the final two weeks of the MOOC and the post-MOOC period.

From a participant point of view (Figure A.3.1), MobiMOOC hit a peak of active participants in Week 1. However, after Week 1 the number of participants started declining, again reaching a plateau in the final weeks of MobiMOOC (Weeks 5, 6, and the Post-MOOC period). Interesting to note is that the post-per-participant ratio actually increases over the duration of the MOOC (Figure A.3.4). It is higher than both the pre-MOOC period and that of the first week of the MOOC, again reaching a plateau for Weeks 5 and 6 and the Post-MOOC period.

Taking this into account, and examining the participant heat map (Wilkinson & Friendly, 2009) (Figure A.4.1), we note that during Weeks 1 and 2, the majority of posts were contributed by individuals who

participated in one or two weeks of the MOOC, while in subsequent weeks more of the discussion was done by people that had been in the MOOC for a longer period. To borrow Kim's terminology (2000, in Bishop, 2009), more of the MOOC discussions were made by participants who emerged as *Elders, Leaders* and *Regulars* in the latter half of the MOOC, while in the beginning of the MOOC more of the discussion was made by participants who were *Novices or Lurkers.* What is interesting is that almost one third (⅓) of the registered participants (Figure A.4.3) of the MOOC fall into this category of *Lurker*[3] or *Novice.* We know that many Lurkers and Novices did not convert to Regulars or Leaders, however, the emotive vocabulary use in the discussion forums does not tell us why this is as Lurkers and Novices are notably present in the first two weeks of the course.

Final pass

Our final analysis layer was that of a narrative analysis of select passages from the discussion transcripts. Our team chose passages from each of the categories that we coded; we examined the content, specifically from the first Week of MobiMOOC. This week saw the most active participants and was the second most active week on MobiMOOC.

Note that in the following passages have been made anonymous, including the omission of all organizational names, locations, and website locations.

Trepidation, uncertainty, unfamiliarity, some indication of a lack of confidence in ability

The following passage is an example from our category indicating potential trepidation, uncertainty, unfamiliarity, and some indication of a lack of confidence in ability:

> Hello All,
>
> I'm _____, instructional technologist at _____. I work in our Center for Teaching & Learning. We offer workshops, consultations & more to help faculty use technology in pedagogically sound ways in their courses.
>
> Our university does not yet have a strategy for mobile learning so I'm hoping to develop a proposal to present to my director and ultimately our Provost.
>
> I'm little more than a newcomer to mLearning but I see it's value. We use Moodle as our learning management system (or VLE) but we really haven't looked much at making it more "mobile." Personally, I have an iPad and use it as more than an eReader (although I do love reading books on it).
>
> Still trying to get a feel for this MOOC & Google group - a bit overwhelmed with all the topics so far.
>
> _____

> I am new to google groups. Where do I make my profile?
>
> _____, I think this is the most recent scoop on Google Groups and linking to your Google Profile - from Google Groups support: http://goo.gl/MSM9V

> Hi Folks,
>
> I'm finding the sheer volume of stuff being generated in the MOOC quite overwhelming (and the course hasn't even started yet)! =8-0
>
> Suspecting I'm not alone, I'm wondering if those who have already participated in things like CCK11 and LAK11 could offer us newbies to MOOCs some tips on how to cope?
>
> Perhaps these could be added to the wiki?
>
> Cheers,
>
> _____

> I know this will go against the flow, but taking on a new role this year as a year 8 co-ordinator, it's a huge problem. Can someone please read this blog post I made and offer some advice.
>
> Also read the comments that have been made.
>
> (URL)
>
> Thanks,
>
> _____
>
> I read your blog post and I perfectly agree with you. At least i may country we haven't arrived to that point but if we

give them mobile phones from a very early age we will be encouraging them to do what they are doing in your country.

Educating students and teachers in mobile etiquette is good but will they use it as they were taught or will they use it as they wish and want?

_____

Hi _____,

I'm not sure this counts as advice or help, but it sounds more like a problem with certain students and their parents rather than mobile devices per se I've heard of similar issues where parents have turned up at schools demanding audience with teachers or heads over similar issues they consider unfair. These people exist with or without the phone, its a social issue rather than a technological issue. In the same way as taking inappropriate pictures is, but that hasn't stopped you using the iPods.

It's interesting to consider the flip side to this too. How frustrating is it to be the victim of an abusive or incompetent teacher, when the authorities don't believe you. Have a look at this http://www.handheldlearning2009.com /proceedings/video/905-video/303-z... (the whole video is worth watching, but the relevant bit is 4:40 to 6:40) I blogged about that talk and the whole conference here (URL) - I think it has relevance to what's happening with the MOOC movement too.

_____

I've posted on the site too, but I agree with _____. This is not about the device, it is about behaviour. One of the things I noted was that the teacher is the adult in the room. The teacehr can expect certain standards, including students putting phones on airplane mode, and putting them in full view on the desk. Anotehr point I raised was that people tend to get a bit hysterical about phones as if they are inherently bad. If students brought to school an objectionable magazine or photograph, would the school ban all magazines and photographs? Stepping back and seeing the situation for what it is. In the cases described in the blog, it seems to me kids are playing teacher against parent. A united and clear front is what is required, as well as rules of engagement. it is about behaviour not an object.

Some relevant posts about mobile phone use in US schools has started up over in the Kicking Off thread (URL)

(relevant posts will be time stamped just before this one)

_____

I signed up for this free MOOC (Massive Open Online Course) about mobile learning a few days ago, having seen a link during an #eltchat about the subject on Twitter on Wednesday evening. During the said chat, I felt like I was missing something - like I wasn't really part of the gang. I was ashamed of my own ignorance, so I decided to do something about it and registered for the course.

What on earth is a MOOC? This was my first question, so I turned to the oracle that is YouTube & found several videos including this one which gave me the answer:

Having established what a MOOC was, I now had to get to grips with what mlearning was. I lurked around the mobiMOOC wiki and the group discussion pages. I read all the information provided by the facilitators and the posts from course participants. And then came the revelation! I'm not as ignorant as I thought I was! Unfamiliar with the jargon certainly, but not totally clueless in reality.

You see, I already engage in mlearning every day. I just didn't know I was doing it! I use my mobile phone to talk, to send & receive messages, and to take photos which I sometimes use in class. I use my i-Pod Touch to access the internet via wi-fi, to manage my contacts and my diary, to keep notes, and to listen to podcasts and share them with my students. I use my laptop to do everything else, including to write my blog. All of these things, I now understand, are mlearning!

Forgive me for being a bit late to the party, but I'm here now and I won't be lurking behind the curtains any more! I'm starting to go through the course materials and following up on links provided by my fellow participants. I'm hugely encouraged by what I have seen so far and I'm really looking forward to being more actively involved over the next few weeks.

_____, ciao!

Thanks for sharing your first thoughts. Looking at what you are doing, I am sure you will come up with an interesting mLearning project.

Nice. You are right, I think. We do a lot of the "learning" without thinking about how things have changed or giving a name to it.

I am "mobile learning" right now as I read your post on my phone and communicate with you on this blog.

Hi _____, learning has a broad meaning I see. Almost anything is learning. I like your books in the background picture of the blog.

Do you not allow pingback in your blog? That would make comments easier.

regards _____

Thanks for the comments - much appreciated!

_____, - you will have to enlighten me - I did say I wasn't au fait with much of the jargon!! So, what is 'pingback' and how do I get it? See, I'm learning all the time!!

Pingback is a little trick your weblog will do for you.

I do not know why your blog does not do the trick, maybe it is not activated?

On Pingback is an explanation on Wikipedia.

In Blogger in the dashboard you could choose preferences / backlinks and choose not hide. In that place you will see a information link on backlinks.

Thanks for this!!

In the exchanges, we see something all too common in online education and with MOOCs in particular: students are attempting to negotiate the technology that is a prerequisite for participating in online courses. They are attempting to filter, or create processes to deal with any sort of potential information overload that comes with being part of an online course, especially a massive online course like MobiMOOC. We believe that there was some trepidation on the part of these participants. However the expressed statements that these participants are not alone might mean that there is a possibility for participants to help out fellow participants both with the technology (as seen with one participant helping another with their Google Profile), and with the MOOC content itself.

Professional expertise, experience, confidence, self-assuredness.

The following are two examples passages from our coding indicating professional expertise, experience, confidence, self-assuredness.

In the following exchanges, we see that participants are showing their professional expertise by indicating where they work, what they are involved in, providing advice to fellow MobiMOOC participants, and sharing with others links to their social media profiles so that, presumably, other participants may follow them. This professed professional expertise projects a narrative of confidence.

Hi fellow mobiMOOC participants!

I'm based in _____, Scotland in the medical school at the University of _____ where I work in the eLearning Team. My particular interest is in how mlearning can best be used to support medical education and specifically in the undergraduate curriculum.

I have a blog, but have decided to set up a Posterous site to post my reflections on mobiMOOC together with any web clippings I find interesting relating to mlearning. I've just posted my thoughts on the first learning activity 'Mobile learning and me' and you can read it here (URL).

Looking forward to the next few weeks!

_____

Hi, I am _____, working at _____in Madrid, Spain. In the elearning field for 4 years. Some affirmations that can describe parts of myself:

- A journalist and a marketing girl before elearning showed up in my life

- Interested in mlearning cause I am currently leading a related project for the financial sector.

- Using my company own platform, known as _____, to develop it.

- Recently speeched about the subject at _____ 2011.

- Addicted to any kind of new technology that can make a change, meaning devices, social network and so.

I am expecting to be part of mobimooc with a very high level of participation, and be remembered "As an memorably active participant." let's see if I get my goal.

This is my first mooc course, first time I hear about the concept, and I already love it!

Looking forward to join the adventure.

Hi _____,

Here in _____ we have an extremely high mobile penetration rate with over 100%. I worked on a project with fisherfolk and it started with the desire of one of the training institutes to deliver content to fisherfolk via podcast on a mobile phone.

The back ground research led to a survey to find out first if they used a mobile phone, what kind of phone and how they used the phone (talk, sms, check lottery numbers). We also asked if they used there phones for work and how, and if they would be willing to pay for service that helped their work. For these surveys it was done face to face (verbal/written) in the local communities. This method was chosen so technology and literacy did pose a barrier to gathering the information.

It is crucial to understand your target audiences level of use, the technology available, the environment it will be used in and also to understand their needs and wants because whatever you develop must be relevant or meet a need or else they will not use it. Once this information was gathered a possible project could then have been developed. The involvement of the community or target group through the project process from development to implementation is crucial to its success.

My best advice to you is to spend time with the group you are working with, observe how they use their phones in their work, ask questions so you fully understand how they use their phones. Find out what language they use to talk about their phones. Get their thoughts on your project ideas, if you find someone in the community who is interested in your ideas use them as a sounding board for ideas, survey questions, how to deliver the survey etc...

These are my thoughts and experiences on how to assess a target audience.

_____

Possible professional mismatch between course objectives and participant expectations

Finally, these two example passages from our category indicating possible professional mismatch between course objectives and participant expectations are revealing.

In the following set of introductions, we observe some potential mismatch between the participants, what they wrote about themselves and the topics of MobiMOOC, which were posted on the MobiMOOC Wiki. It is possible these participants connected with others who shared the same goals, but perhaps MobiMOOC may not have been the venue for them. These participants do in fact fall into the 1-2 Week participation group.

Hi all,

my name is _____ and I manage the Learning Laboratories at the Centre for Learning Sciences and Technologies at the _____. I am looking at m-learning topics since some years with a focus on context-aware systems, mobile field trip support, and situated learning and information access.

Main topics in the field of m-learning we are currently exploring are:

 - Ubiquitous access to information: so how can we support users to access information not only on the PC, the mobile device but synchronized with cloud storage support.

 - Learning experiences in context: how can we use sensors and context information to enhance learning experiences and information filtering and mobile learning services in context, to get more efficient, and effective learning.

 - Orchestration of learning experiences, how can we arrange and create physical spaces linking real world and digital information to support learning in overarching scripts.

Me and a group of colleagues maintain a mobile learning blog at: (URL) Current topics I am personally interested in are also eBook content and iPad in the classroom and we have some pilot projects with schools in Heerlen and using mobiles with adults in city excursion.

Hi all,

This is my first MOOC, so I'm still feeling my way around! I work as a content publishing manager at _____ (my team creates technical documentation). I'm interested in how mobile devices should fit into that space. I posted the tools I most often use on my mobile and some links to interesting videos I found on my blog, here: (URL)

Cheers,

_____

Hi,

Ways I am connecting with the MOBImooc at this point are:

This email group and the course WIKI

Twitter: _____following list for #mobimooc

Blog: (URL)

Looking forward to good conversations and info!

I'm a senior analyst at the research firm _____. I cover the L&D space including mobile learning. I'm preparing for a session at this year's mLearnCon on the readiness of organization's technology infrastructure for mLearning.

Caveats for this study

While conducting this study our team was surprised not to find any significant indicators of participation in the emotive vocabulary of participants. In hindsight, perhaps this was to be expected due to the open nature of a MOOC. Some see MOOCs as being a venue with an open-door policy as participants can come and go as they please. The low barrier to entry and departure of MOOCs may signal to participants a lack of requirement to justify their departure from the MOOC; since participants do not have to stay for the full duration of the course, any perceived or factual negativity (expressed through the use of negative emotive vocabulary) may not be recorded because participants simply leave without indicating, one way or another, why they left.

An important consideration for this study is the distinction between lurkers and dropouts. In MobiMOOC, 48 % of the participants did not post on Google Groups while the MOOC was in-session. These individuals may be lurkers and active in their own ways (reading and following along) that are not visible to other participants and researchers or they may have dropped out. Additionally, we see that about 9 % of registered users participated in the pre- and post-MOOC periods, but not during the MOOC. Emotive vocabulary use did not seem to indicate why these registered users did not participate during the MOOC.

Finally, about 24 % of registered participants participated in one or two weeks of the course[4], but again emotive language use alone does not describe why these participants participated in ⅓ or less of the course and not in the remaining ⅔ of the MOOC. We know that these participants wrote something during those weeks, but we do not know if they dropped out or lurked. Some examples of 1-2 week participant patterns are participation in Week 1 and Week 6; Participation in Week 1 and 2; and Participation in Week 2 and 6. As researchers we do not know if they were following along in the weeks they were not active, or if they decided to "*jump out*" in those weeks and "*dip in*" in the weeks that they participated. We also do not know if they were dissatisfied and decided to drop out without exhibiting any of the emotive language that we were searching for.

Further Research

As mentioned at the beginning of the paper, the official Google Group was but one of the locations that participants in MobiMOOC could use to discuss items relating to their participation in MobiMOOC. The Google Group did act as a central hub for all MobiMOOC discussions, but there were other venues available to participants as well. Other venues included a participant created Facebook group, Twitter discussions and posts using the #mobimooc hashtag, and the official MobiMOOC wiki where participants could contribute to the creation of an open resource around the topic of mLearning.

It would be interesting to compare our results from this Google Group discussion analysis with an analysis of Facebook group messages and Twitter posts with the #mobimooc hashtag in order to compare both participation patterns, type of content shared and discussed, and emotive vocabulary use. In addition to emotive vocabulary, social vocabulary use might be interesting to examine in MobiMOOC discussions, based on Henri's framework (1992). This framework consisted of participative, social, interactive and metacognitive dimensions that look at active participation as part of the learning process, and how the active participation and learning might influence lurkers to join in the discussion and learning.

Another model to consider is the Rourke, Anderson, Garrison, & Archer (1999) social presence model which examines social interaction between participants. Looking at overt social interaction between participants, and social cues might be a better indicator of future participation. Perhaps in order to get more engagement from lurkers, future MOOCs may employ a more traditional starter-wrapper-moderator discussion architecture (Hara, Bonk, Angeli, 1998) which in turn might get MOOC lurkers participants to engage a bit more and perhaps aid in separating the lurkers from the dropouts or no-shows.

Following an internal MobiMOOC research team discussion, it became clear that the ethical considerations of analysing participant's online data from social media and other sources is not yet well defined. The new, open and public nature of learning, and the long-term visibility of submitted and shared content, bring analysis of this data into an ethical grey area for research. Further investigation into this matter is also needed.

Conclusion

We started this research project with the aim of analysing the discussion forum logs of MobiMOOC, a Massive Online Open Course that lasted six weeks in the spring of 2011. Our goal was to determine if the emotive language that participants used in the discussion forums served as predictors of participation in future discussion topics in the MOOC. Our research did not indicate any correlation between the use of emotive language and increases or decreases of participation in the course. One reason might be that, unlike face-to-face environments where linguistic and paralinguistic behaviour might signal such changes

in participation, in an online environment paralanguage is not visible. It may also be that these participants are dropping out of the course without saying anything. MOOC participants have mentioned ideas for how MOOC designs might better track lurkers and non-lurkers and offered ideas for MOOC designers to better gauge the level of increased or decreased participation at a more granular level (Koutropoulos, 2011).

As the MOOC progressed in Weeks 5 and 6, the discussions seemed to become more intimate given that participant's first names surfaced with much greater frequency. Also interesting is that the post-per-participant ratio increases over the duration of the MOOC (Figure A.3.4), after an initial dip (Week 3) when perhaps the novelty of the MOOC had worn off. Presumably in this period, participants who had decided to participate in the MOOC remained, and those who decided to not participate or lurk dropped off. Lastly, it is interesting to note that the discussion in the first half of the MOOC was mostly dominated by individuals who participated in only the first two weeks of the MOOC, while in the second half of the MOOC (post dip) the forum was dominated by individuals who had participated in more than three weeks of the course.

MOOCs suggest possibilities for research in many areas, including research in the areas of learner motivation, engagement, social presence and instructor presence. There are, however, areas in which MOOCs need to evolve in order to better facilitate the capturing and analysing of data relevant to their structure. Some of these categories of data include: determining who is merely 'window shopping' in the initial periods of a MOOC, who is a lurker, who is an active participant, and when and why participants drop out (completely). Some Learning Management Systems (LMS) do have existing capacity for such learner and learning analytics. MOOCs have been carried out using a variety of tools and so may or may not use an established LMS. Therefore, access to that rich data is not always available. In order to better understand the learners and MOOC participation, such data may need to be available for analysis and systems that facilitate this collection may need to be built.

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Appendix

A.1. Wordles of Weekly Discussion Data

Figure A.1.1. Week 1 Wordle

Figure A.1.2. Week 2 Wordle

Figure A.1.3. Week 3 Wordle

Figure A.1.4. Week 4 Wordle

Figure A.1.6. Week 6 Wordle

A.2. LIWC Analysis Charts

Figure A.2.1.

A.3. Weekly Post & Participant Counts

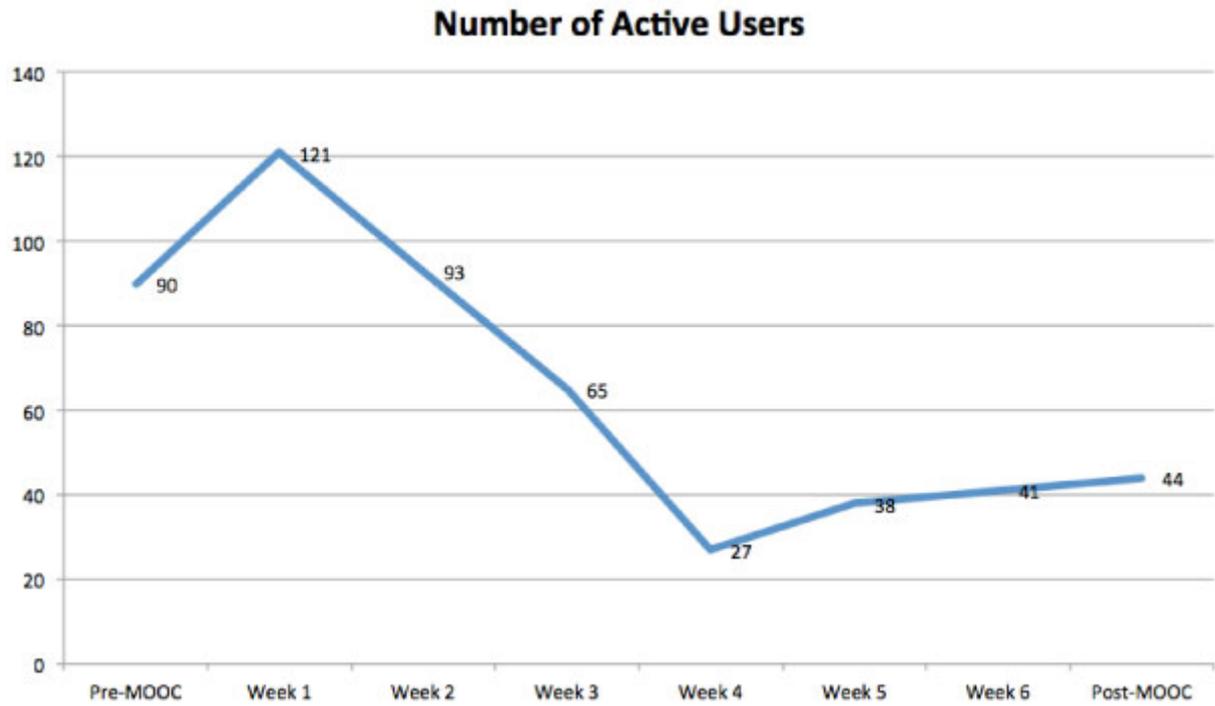### Number of Active Users
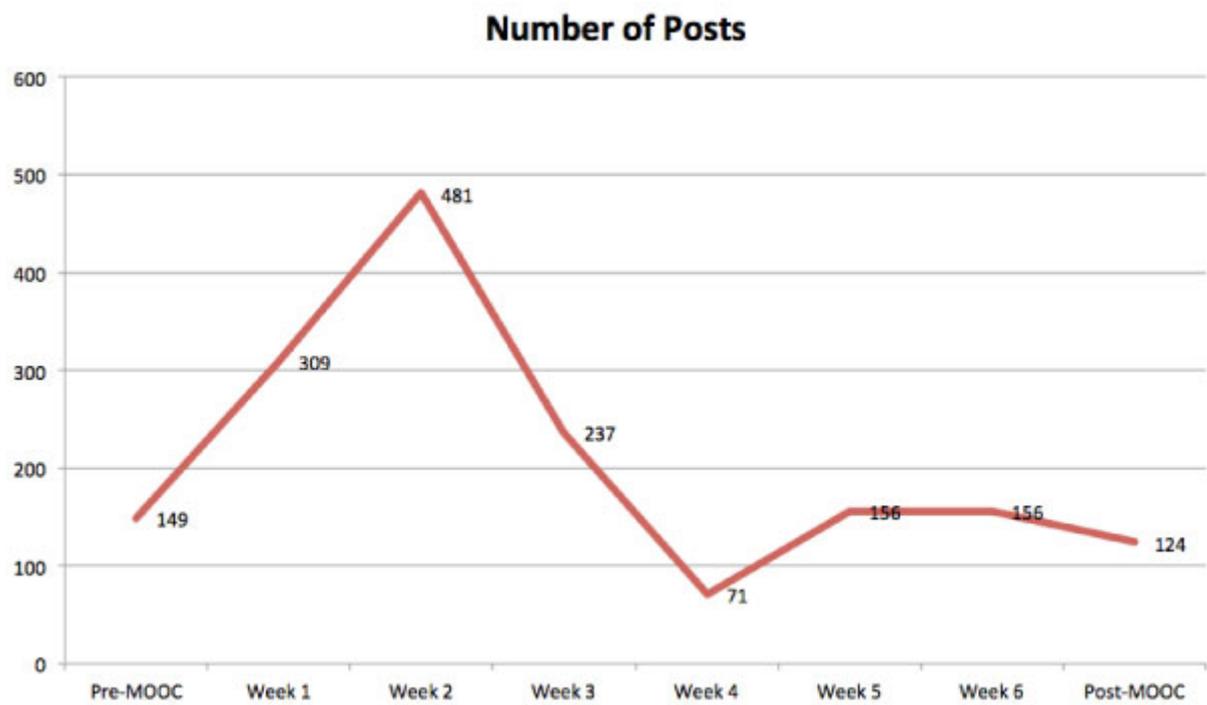

Figure A.3.1.

Number of Posts
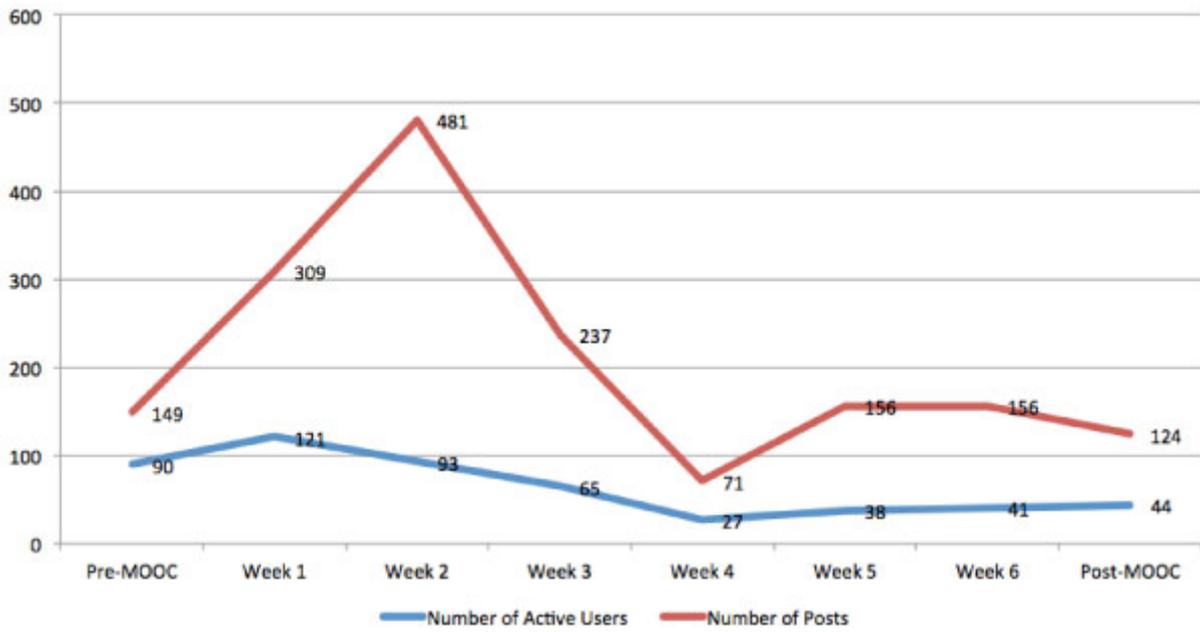

Figure A.3.2.

Posts v. Participants

Figure A.3.3.

Post/Participant Ratio

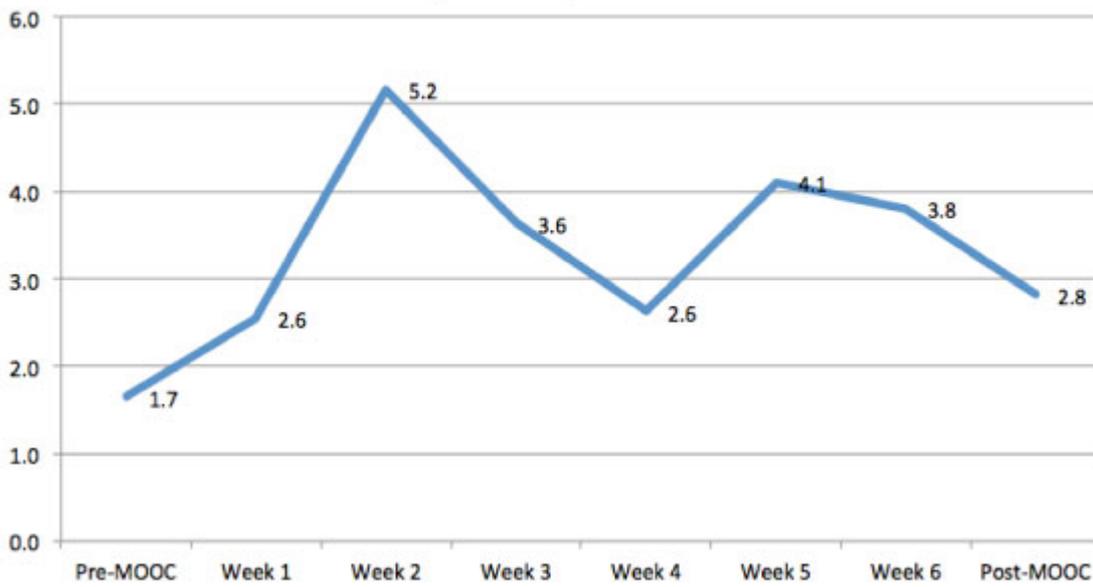*Figure A.3.4.*

A.4. Participants

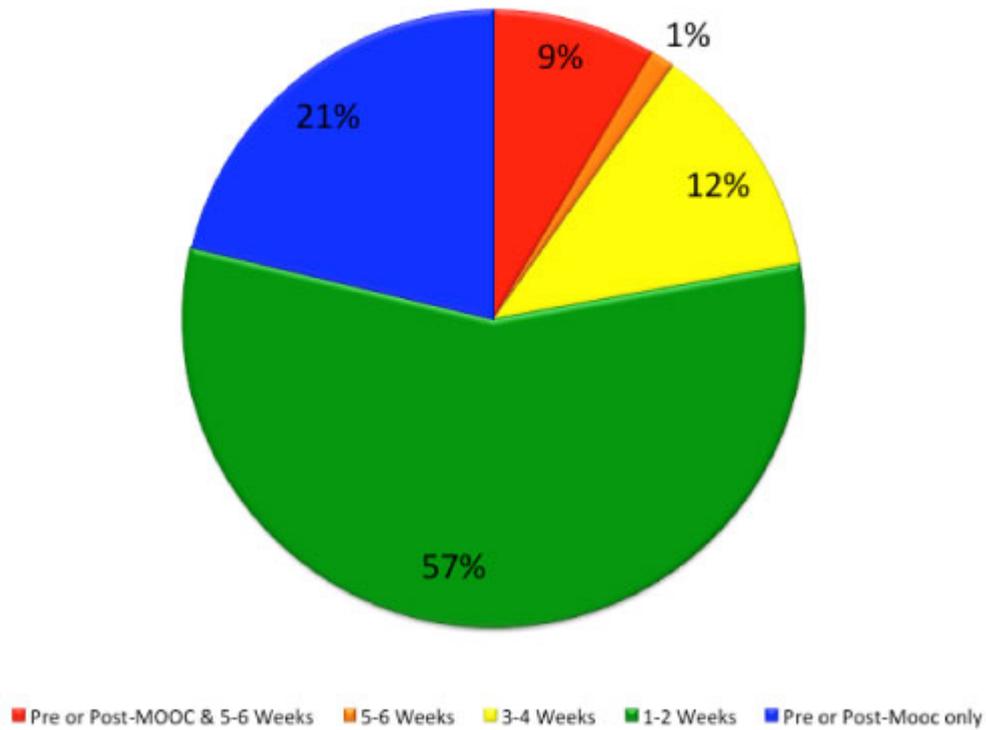|	Pre	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Post

10.00%

14.88% 20.43% 27.69% 48.15% 47.37% 46.34% 43.18%

6.67%

7.41%

1.65% 3.23% 4.62% 37.04% 7.89% 7.32%

31.11%

23.68% 21.95% 31.82%

7.41%

17.36% 21.51% 35.38%

21.05% 24.39% 15.91%

9.09%

32.31%

LEGEND

Pre- or Post MOOC & 5-6 weeks participation	
5-6 weeks participation	
3-4 weeks participation	
1-2 weeks particiation	
Only pre- or post-MOOC participation	

52.22% 54.84%

66.12%
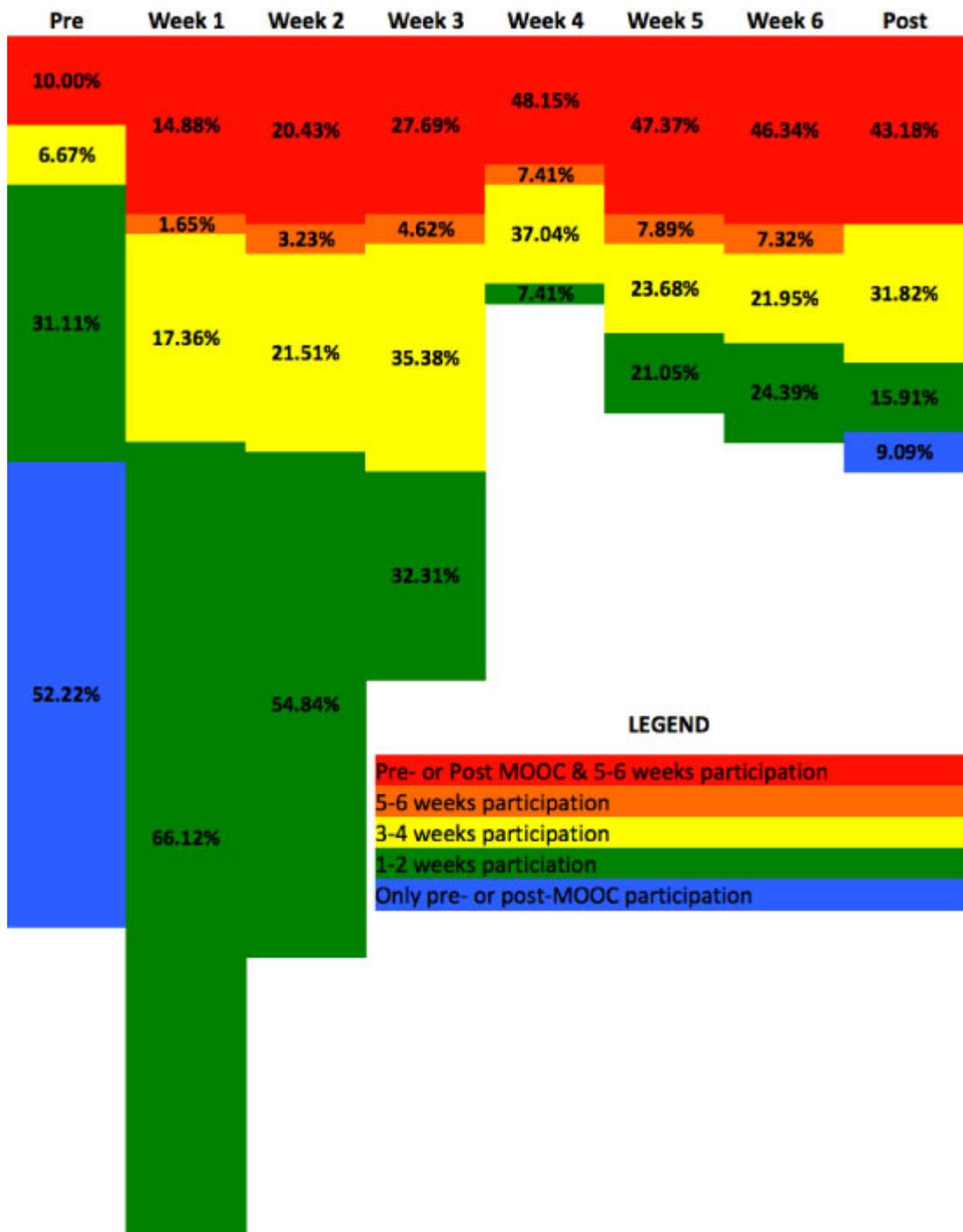
Figure A.4.1. Discussion Heat Map

Participant Posting Activity

Legend: Pre or Post-MOOC & 5-6 Weeks ■ 5-6 Weeks ■ 3-4 Weeks ■ 1-2 Weeks ■ Pre or Post-Mooc only

Figure A.4.2.

Percentages of Total Registered Users

Legend: Registered Non Participants ■ Pre or Post-MOOC & 5-6 Weeks ■ 5-6 Weeks ■ 3-4 Weeks ■ 1-2 Weeks ■ Pre or Post-Mooc only
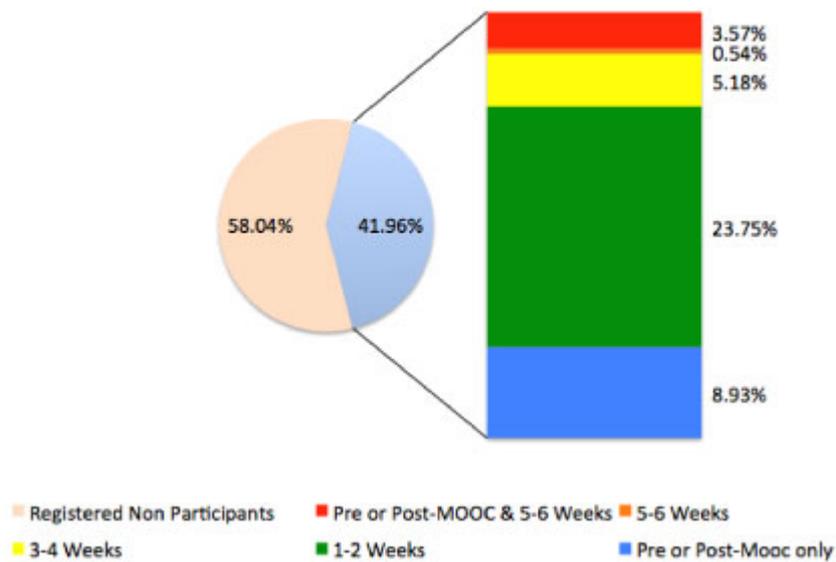
Figure A.4.3.

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[1] Discussion data examined was collected from a period of one month before the MOOC's official start and one month after the end of the sixth, and final, week.

[2] This may be a reason to examine other methodologies and frameworks in future studies such as those discussed by Rourke et al. (1999) and Henri (1992)

[3] For this discussion, a Lurker is someone who participated in the Pre-MOOC period, but did not participate in discussions during the MOOC. There many have been more lurkers, but these are the only quantifiable lurkers.

[4] Some of these participants also participated in either the pre-MOOC or post-MOOC period, so some members of this classification can be seen as having participated 2-3 weeks in total.