Rings of engagement: A Model for MOOC enrollment

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Abstract: This article presents a new model for MOOC enrollment, called "*Rings of Engagement,*" to address the issue of the extreme attrition rate in the current MOOC enrollment model. While the current MOOC enrollment model considers the total number of enrolled participants in a MOOC as the final number of enrolled learners, our model has three circles of learners' enrollment, based on learners' learning needs. We argue that by creating three different circles of learners' enrollment, we can keep track of learners' performances and attrition rates in each circle to assess the effectiveness of MOOCs.

Key Words: MOOC, online learning, E-learning, enrollment

Both criticisms and celebrations of massive open online courses (MOOCs) have been heavily dominated by the issue of learners' participation, engagement, and completion. When the initial stage of the hype cycle of MOOCs was complete, even its advocates were worried about the attrition rate of MOOCs. For instance, addressing this concern, Udacity founder and former Stanford professor Sebastian Thrun said in a 2103 interview: "We were on the front pages of newspapers and magazines, and at the same time, I was realizing, we don't educate people as others wished, or as I wished. We have a lousy product" (Chafkin, 2013, p. 1). Echoing the concerns of faculty across the board, Eileen Landy, Secretary of United University Professions, said "We are concerned that there is an experiment being done on students and we don't know the

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outcome but it could jeopardize their higher education" (Rivard, 2013). By contrast, in a reply to the online Fast Company article, Tzigi noted:

> I don't think that low completion rates are a problem. To this date I have signed up for many courses and if you checked my "completion rate," you'd think that it's terrifyingly low - I have earned a certificate only in 3 courses out of about 20 I've signed up for. Only I've never wanted to earn all those certificates - sometimes I sign up for a course because it seems interesting and I want to get to know some parts of it, sometimes I want to see what it's actually about. And sometimes I want to learn the whole thing through. Only in this last instance do I take part in all activities required to earn the certificate (Chafkin, 2013, p. 1)

Students "auditing" the course not required to submit course assignments.

Students pre-registered (and/or maybe paying) taking the MOOC for a certificate
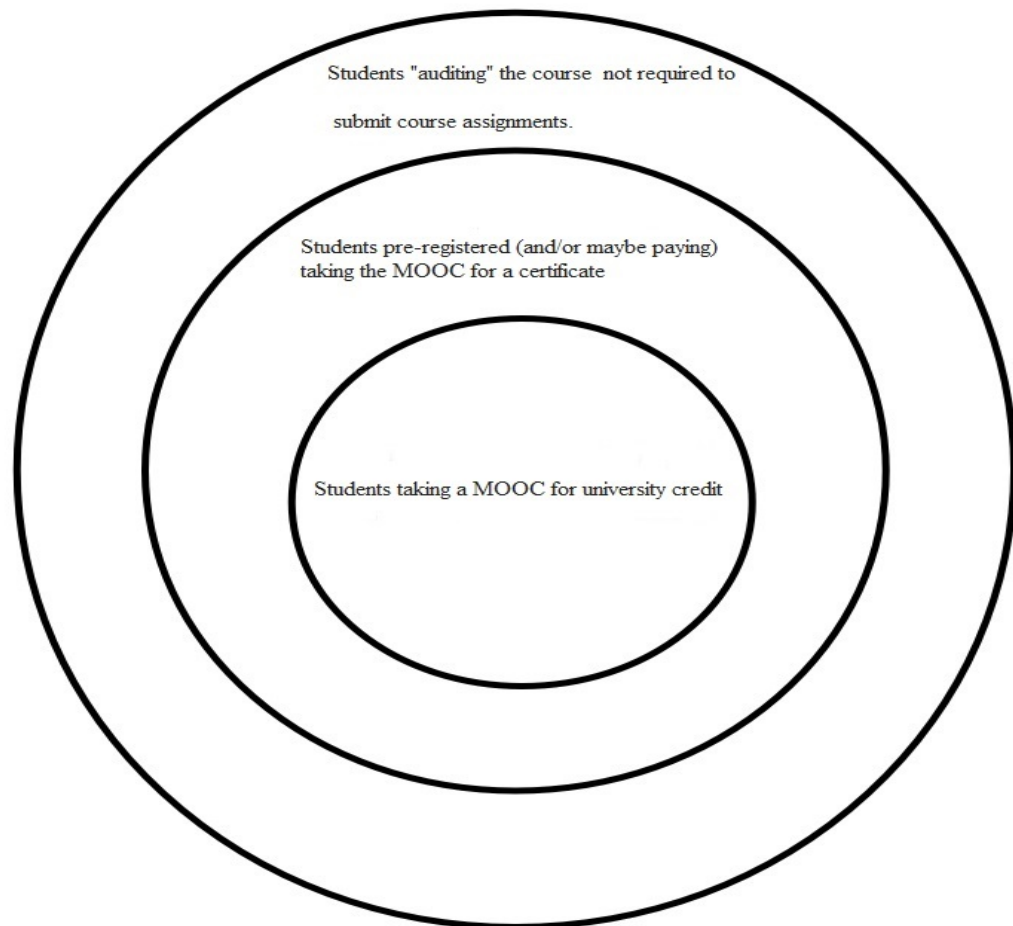
Students taking a MOOC for university credit

Figure 1. Rings of Engagement: MOOC learners' enrollment categories

MOOCs continue to be assessed in terms of attrition rates, which reach as high as 90-95 percent (Kolowich, 2013). The assumption is that if a course cannot hold at least 10% of the learners, the quality of the course is questionable. Recent events are

also challenging MOOC proponents, as when San Jose State University decided to put its MOOC project on hold after two semesters of experimentation with Udacity, a Silicon Valley-based for- profit company specializing in MOOC. Later, Sebastian Thrun, the founder of Udacity, revealed that his company would focus more on vocational courses rather than higher education, citing high attrition rates as one of the reasons (Lodge, 2013). All of these roadblocks challenge MOOC proponents about its sustainability, undermining their big promise of revamping conventional higher education model by radically transforming access to knowledge (Holmes, 2013). As was visible in the blogosphere after Thrun's announcement, many are ready to see MOOCs fail. Rees (2013), a professor of history at Colorado State University–Pueblo, argued:

> How do you teach tens of thousands of people anything at once? You don't. What you can do over the Internet this way is deliver information, but that's not education. Education, as any real teacher will tell you, involves more than just transmitting facts. It means teaching students what to do with those facts, as well as the skills they need to go out and learn new information themselves.

We believe that MOOCs' current problem is rooted in unrealistic expectations. While it may look like the problem with MOOC is the approach, we argue that it is not the approach itself but rather the misalignment between learners' expectations and MOOC providers' expectations of their learners.

In the former, simply duplicating a traditional online course to turn it into a MOOC with pre-recorded videos or podcasts is actually devastating MOOCs. In the latter, loosely enrolling an unlimited number of students and strictly using the standard of attrition rate normally used in a traditional educational setting is also failing MOOCs. The idea of giving access to the same education to learners around the world or whoever is interested in high quality education as to American Ivy League students will hardly be achieved through the current MOOC delivery and enrolment model. However, instead of throwing the baby out with the bathwater, we should examine what works and what does not work in order to fix it. Anant Agarwal, president of edX as cited in Holmes (2013) stated: "In large part, the experience is very good, but we see that there are problems, and there are a number of things that can be done that have promise. We are not even close to the kinds of conclusions we want." Likewise, the Obama administration's Council of advisors on Science and Technology (2013) asserted that if there is no flexibility in degree accreditation, it could mean the death knell for the massive open online course.

Within the scope of this paper, we propose a new enrolling model for MOOCs to address the perceived and real failures of MOOCs. The model can also address the first issue, instructional delivery. We essentially argue that the impersonality of MOOCs is not different from the impersonality of large lecture halls in on-campus courses, as pointed out by education bloggers such as Schuman (2013). We ask whether we can conduct a small-group seminar at scale, and we discuss the under-researched concept of vicarious participation, which is at the heart of this question.

Our proposed model of MOOC enrollment as illustrated in the form of concentric circles (see Figure 1) is loosely based on the early MOOC offered by George Siemens at Athabasca University and by Stephen Downes at the National Research Council. The

model shows three circles describing the categories of students according to their level of engagement with the course. Those who are taking the course for credit are in the first circle, flanked by the second circle of pre-registered and moderately engaged students (who take the course for a certificate), who are further distinguished from those in the peripheries who are simply auditing or observing the course. The MOOC offered by Athabasca University had 24 tuition-paying students in the Extended Education program at the University of Manitoba and over 2,200 online students from the general public who audited the course without paying tuition (Mackness & Williams, 2010). Our model also accounts for the current certificate or signature track delivery approach initiated by prominent MOOC providers such as Coursera, edX, and Udacity.

As in the early MOOC approach initiated by George Siemens and by Stephen Downes, the Rings of Engagement (ROE) model also includes a small number of enrolled students who may be offered accreditation by a higher education institution. In the early MOOC approach initiated by George Siemens and Stephen Downes at their respective universities, no information was provided as to whether students with and without accreditation options were treated the same way or differently. We could not find any information about how many students with the credit option successfully completed the course either. However, according to Mackness and Williams (2010), for the passive learners or "*read-only participants,*" 1,870 remained subscribed to the daily online newsletter for the duration of the course.

The conventional MOOC approach offered open access for people to learn, explore and exchange new knowledge with each other. However, finance was a challenge against sustaining the practice. MOOC providers, especially for-profit start-ups such as Coursera and Udacity, need to receive incomes to afford their massive online learning and teaching infrastructures. For instance, Coursera and Udacity together raised a total of $86.5 million for their operation in 2013 (Korn, 2013). Unless they can find a way to cover their expenses through learners' tuition, their sustainability will hardly be achieved.

In the second approach to learner enrollment by prominent MOOC providers such as Coursera, edX, and Udacity, learners can enroll in the course with the option of taking the signature track to pay a certain amount of tuition to receive a certificate of course completion at the end of the course. No distinction between signature- tracked learners and non-signature-tracked learners are made in the MOOC (at least from the experience of the author, who took both types of courses). The total number of enrolled visitors in a MOOC is considered a number of enrolled learners. On the one hand, this enrollment approach gives a good impression of a huge success in terms of learner enrollment in MOOCs to the public. For instance, some MOOCs claimed to have more than 245,000 registered learners from around the world. On the other hand, this enrollment approach backfires its image in term of attrition rate, which was expected to exceed 90% in many courses. In an article titled "*Pay No Attention to Supposedly Low MOOC Completion Rates,*" Carey (2013) commented about MOOCs' low completion rate.

> This way of thinking about MOOCs is misleading. It mostly reflects how the traditional college mindset continues to dominate and limit the public understanding of what higher education can and should mean. (web)

The approach of including all MOOC learners into one category also fails to address the fact that different learners or groups of learners have different learning needs and purposes when taking a MOOC, even though they may share the same goal of achieving new knowledge. As indicated in a report by Stanford University's Learning Analytics group (2013), some learners take MOOCs for credit by seriously following the strict policy of assignment submission and course participation. Others take it with the option of a signature track as an add-on to what they already have because they either have already completed their degree or are pursuing a degree at a higher educational institution. Some learners are also interested in achieving new knowledge but do not care about verifications to earn credits or signature-tracked certificates. They can be named passive learners or auditors. They silently log into the course to watch the video lecture and read other learners' posts in forums without necessarily participating in course's discussions or other activities. They may or may not submit their assignments. They may even login to the course only one time during the entire course just to download the material for their future learning.

Thus, if we recognize that different individual learners or groups of learners in MOOC have different learning needs as reported in the Stanford University's Learning Analytics group, the current one-size-fits-all model of MOOC teaching and enrolment does not reach its potential of transforming education. Instead, MOOCs should embed the differentiated instruction philosophy into their structuresin order to provide different learners or groups of learners with different avenues to learning in terms of constructing, processing, acquiring and making sense of knowledge.

One of the well-known researchers in the field of differentiated instruction, Tomlinson (2005), confirmed the merits of differentiated instruction. First of all, learners learned best when their teachers address the differences in their readiness levels, interests, and learning profiles. In addition, differentiated instruction viewed learning experiences as social and collaborative events. Regardless of a traditional face-to-face or online settings, both the teacher and the learners are engaged in interactions and these interactions shape what happens in the classroom – be it a brick and mortar one or a virtual one. In fact, the idea behind the very first MOOC offered by Siemens, considered the father of MOOC initiative, emphasized differentiated instruction philosophy. According to Siemens (as cited in Kolowich, 2014), the rationale behind the MOOC is to make online instruction more suitable with the way people learn. Actually, what Stanford University's Learning Analytics group found about different groups of online learners' performances in the MOOC setting was validated in our internal course evaluation. In 2013, we offered an open online course in computer-assisted language learning for 512 learners from 27 countries. That was a six-week course instructed and facilitated by two faculty members. Approximately 45% of learners were tuition-paying learners. They had to pay a $15 tuition to take the course and would receive a certificate of successful course completion if they could complete the course with at least a minimum final grade of 80 out of 100. Fifty five percent of learners were invited-only learners. Those invited-only learners were selected from different sources, and they did not have to pay a $15 fee to register for the course. One of the reasons why those invited-only learners did not have to pay was because many

of them were from developing countries where online payment was not available or they did not have either a credit or debit card to make the online payment. Those invited-only learners had the same course access as their paid peers. In the first two weeks of the course, all of the learners were treated in the same way in terms of email response priority and virtual office hours. However, the first author of this manuscript, who served as the course administrator and facilitator, decided to make changes to the issue of instructor-learner interaction between paid learners and invited-only learners.

After the course was completed, we conducted an internal course evaluation by examining the learners' login data in our Moodle learning management system and could categorize learners into four groups. The first group comprised of a highly dedicated set of learners. They logged into the course frequently, clicked (and viewed) on almost every course sections and submitted all the assignments as requested. The majority of them were tuition-paying learners. The second group was a moderately engaged set of students. They logged into the course sometimes and also submitted their assignment occasionally. The third group consisted of a tourist-type students, who logged into the course as often as their peers in the second group. However, they rarely submitted their assignments or posted anything to the course discussion forum. In many exceptional cases, many of them in the third group even logged into the course as often as their peers in the first group, but tourists as they were, they did not submit any assignment or post anything to the course forum. The last group consisted of the layover visitors, who logged into the course only once or twice during the whole course just to lurk around. They may watch some videos occasionally or even partially, but never submitted any assignments.

If we use the traditional measuring rod of course completion to evaluate our course, it was not very effective because only 82 out of 512 learners could complete the course with a minimum of 80 out of 100 for their final grade to receive a certificate of course completion. Only 156 learners (including 82 learners with certificates) achieved a pass final grade of 50 (equivalent of D grade) or above. If using the course outcome measured by the course login frequency, the course evaluation looked better with the total number of 232 students who made at least one login attempt each week. In either course evaluation measures we mentioned above, we did not see any convincing evidence to state whether the course was effective or not. Kizilcec, Piech and Schneider (2013) argued that open online learning participants take and stop courses for different reasons, and therefore referring globally to "dropouts" makes no sense in those contexts. To that end, we propose a new model of MOOC enrollment to address the issues of attrition rate and sustainability of MOOC.

As shown in figure 1, learners enrolled in MOOC should be divided into three tracks as demonstrated in the concentric circles. The core circle should be learners who take it for credits validated by a higher education institution which could be either the originating university of the MOOC or another college that provides credits. These learners are students at the higher education institution which is offering or adopting the MOOC. There should be a cap on the number of enrolled students like any traditional learning course. The cap can be based on the ratio of instructors, facilitators and/or teaching assistants vs. students. Learners in the core circle should be treated in the same way as in any traditional online or face-to-face learning course.

The second circle is for learners with the option of a certificate or signature track. This option requires learners to pay a certain small amount of tuition to be on this track. There may be no cap on the number of enrolled students. Learners in this circle will also follow specific course requirements to be able to get a certificate or statement of course accomplishment. However, their workload or course participation requirements may be less rigorous than their peers in the core circle.

Finally, the third circle is for any learners who may join the course to learn new knowledge without credit or certificate. There should be no cap on the number of enrolled students. Course requirements and workload may or may not be the same as their peers in the core and second circles. The main distinction between them and their peers in the core and second circles is the interaction between instructors, facilitators and/or teaching assistants. They will have limited access to communicating with instructors, facilitators and/or teaching assistants and assignment feedback.

By creating three different circles of learners' enrollment, we can keep track of learners' performances and attrition rates in each circle to decide the effectiveness of MOOCs. On the one hand, MOOC providers can still attract an unlimited number of learners into their courses. On the other, the attrition rate can be managed. This model of rings of engagement in MOOCs can also explain the difference between MOOCs and current universities' admission approach. While the mainstream admission approach at universities is to filter applicants and throw out everyone deemed unable to succeed in their learning program, MOOCs admit everyone who wants to take the course with a mouse click instead of filtering and rejecting those who will be likely to fail. In other words, because MOOCs give everyone a chance to explore and try for themselves at different levels and depths of engagement, the assessment of their engagement and success must take the variability of participant engagement and learning into account.

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