Engaging MOOC Learners as Lifelong Collaborators

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Abstract. In this position paper we argue that there exists an unrealized opportunity to integrate MOOC learners as lifelong *collaborators* in the institutional mission of teaching and research. It is well observed that while many learners sign up for a MOOC course, completion rates are much smaller, owing in part to the variety of the intrinsic motivations of learners. However, some learners not only complete, but re-engage in the course in subsequent offerings. The experience of this type of MOOC learner poses an interesting model for MOOC learner engagement, one that represents a shift from MOOC participant as mentee and learner, to MOOC participant as mentor and educator.

Keywords: MOOC, learning through teaching, collaborators, mentorship

1 Introduction

We highlight two existing ways that learners can participate as collaborators in MOOC courses: mentors and liaisons. On the Coursera platform learners can become recognized as mentors by being selected by either Coursera or the course instructor and team. These learners have performed well in a previous session of the course and have been active and helpful participants in the course forums. This role comes with no financial remuneration1 and requires that the learners both successfully pass the course and complete the mentor training provided by Coursera. On top of this, institutions, such as the University of Michigan, regularly hire expert learners from previous iterations of a course as Course Operations Liaisons—individuals who are responsible for managing mentors and/or providing front line support in discussion forums. Figure 1 shows a conceptual perspective of how learners can be (directly) engaged in a course.

[1] Coursera in fact stresses that only non-monetary rewards should be provided, as monetary rewards might change the relationship with the institution into a transactional one, revealing employment liability. Coursera does provide some limited micro-credentials (badges) for mentors. Our experiences suggest that mentors sometimes engage because of an identity they have formed with the course, along with a mixture of self-promotion and altruism.

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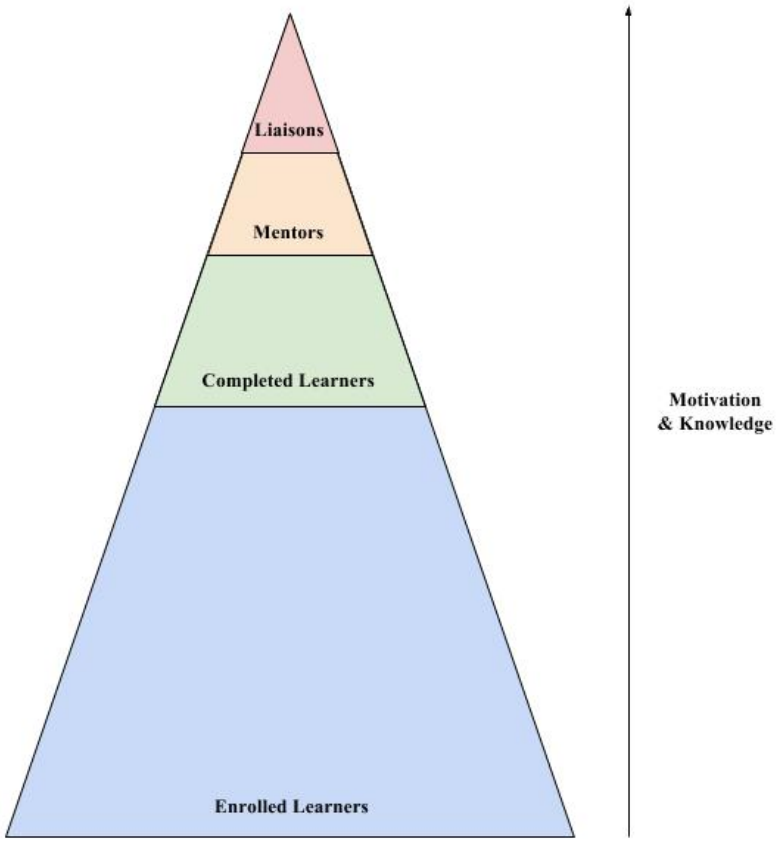

Fig. 1. A conceptual triangle showing the different ways in which learners engage with University of Michigan MOOCs. The sizes are are meant to be illustrative of cohort reduction as one moves up the triangle, and the area of layers is not to scale.

While most of the MOOC research has been focused on enabling learners to transition between the bottom two levels of the triangle, we believe there is much opportunity to be realized in having some learners transition into the top two levels as well. In particular, we are pursuing three different ways that we can engage learners as course mentors and liaisons (i.e., collaborators) in our MOOC courses:

- Collaborators in Content Creation: In this case, mentors and liaisons will be engaged as co-creators of content. We are exploring this through an introductory data science

course2, where mentors will be invited to help build next-iteration assignments and problem banks. This is one way in which we can leverage the diverse background of mentors, leading to a more diverse set of perspectives on how underlying skills can be taught. Mentors will also help shepherd student submissions of content, as this course allows students to upload datasets and identify new problems as part of a final project. In doing so, mentors act as a content quality filter, and can value-add student submissions with more details based upon their knowledge of the domain.

- Collaborators as Teachers: Mentors and liaisons will share knowledge and model skills that are associated with moderate to deep knowledge of course content. We have begun to provide our collaborators (largely those of the liaison type) with opportunities to be presenters of content by asking them to script and film supplementary materials, such as a demonstration of how to solve a programming problem. We believe that providing collaborators with opportunities to teach will give them a rich learning experience. This view aligns with pedagogical approaches that leverage the distributed expertise within the community of learners. Brown and Campione (1994) advanced a program called Fostering a Community of Learners, where they used pedagogical techniques like reciprocal teaching (Palinscar and Brown 1984), jigsaw classroom (Aronson 1978), and cross-age tutoring (Bielaczyc and Collins 1999). These methods allow learners to share their own developing expertise with peers and to seek out expertise from other learners. Peer and cross-age tutoring approaches can benefit the tutor academically because of time spent reviewing and preparing materials for use with peers (Cohen 1986). Similarly, Bargh and Schul (1980) contend that the primary cognitive benefit derived through peer-tutoring lies in preparation stage of the teaching process. Roscoe and Chi (2007) show that two specific activities, namely explaining and questioning, can support peer tutors' learning through reflective knowledge building. More specifically, peer tutors learn through self-monitoring of comprehension, integrating new and prior knowledge, and elaboration and construction of knowledge. Fiorella and Mayer (2013) discovered that students who actually taught a lesson developed a deeper and more consistent understanding of the content than students who merely prepared to teach the same lesson. In a higher education setting, Siebert and Lake (2012) showed that giving students the opportunity to teach each other (peer-assisted learning) was beneficial to these students and was an effective complement to teaching clinical examination. Additionally, it is our view that such experiences can allow collaborators to practice and improve communication skills, can provide valued networking opportunities, and can lead to increased self-esteem, such as when they realize that they are making a meaningful contribution to the learning of a learner enrolled in the course. We see the engagement of collaborators as teachers as providing great benefit to the collaborator, both by allowing them to develop content expertise, confidence, and communication skills.

[2] See https://www.coursera.org/learn/python-plotting

- Collaborators as Agents of Research: We are exploring the ability and interest of mentors to engage in fundamental research as part of their mentorship activity. In particular, there have been several interesting advances in semi-automated analysis of discussion fora with respect to educational theories (Kovanović et al. 2016; Wise et al. 2016). These approaches require that human coders go through discussion forum content to determine the relationship between discourse and theoretical constructs. This activity is time consuming and expensive, and some have turned from experts to crowd workers to scale this activity. We believe that mentors, having proven domain expertise and intrinsic motivation, will allow us to obtain both higher quality results while engaging with learners in the research process. The vision we have here is not for mentors to be "cloud workers", but to engage with them in experiential in situ learning opportunities around research.

This is not the only way in which MOOC learners are being engaged as collaborators at the University of Michigan. For instance, some MOOC learners have enrolled in institutional MOOC offerings, then come to the institution to complete a more traditional residential education. Some of these learners have re-engaged with the MOOC functionality at the university, either through faculty-led research projects or through media production (e.g. providing live office hours). We have also begun to leverage residential learners as co-creators of content, both through direct employment (e.g. hiring liaisons) and/or through research (e.g. a class project to create MOOC content).

Finally, we want to distinguish this approach from that suggested by Rosé and Ferschke (2016), who describe an equally interesting "dual layer MOOC", where the MOOC activity leads learners to communities of practice, connecting the novice learner through community with work practice. We liken the dual layer MOOC approach as being similar to the connectivist MOOC (cMOOC) experiences, where learners are loosely coupled and decentralized. The vision we have proposed here is more akin to that of xMOOCs, or a traditional mentorship model, where MOOC learners gain more experiences under the tutelage of an expert. Further, we note that Rosé and Ferschke's vision for the dual layer MOOC was motivated in part by legitimate peripheral participation, where there is more of an onus on the learner to observe the activities of members of the community and gradually grow their responsibilities within the community. The approach we have described is more aligned with a guided approach, where post-course interactions (e.g. the second layer in a dual layer MOOC) are mediated in part by the organization (e.g. the University of Michigan's) and its structure and goals. Thus, instead of having a community or practice which is independent of the institution and self-directed, the learners who opt to continue to engage in the course via mentorship or liaison positions take on new roles as content creators, teachers, and researchers, and deepen their knowledge in that way. This distinction is not intended to suggest either approach is preferable, as it seems likely that learners might engage in different (or both!) forms of lifelong learning depending upon their interests.

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