Thinking about thinking like a writer: Learning at scale in a writing MOOC

Kate Fedewa,[1] Jeffrey T. Grabill,[2] Kristen Heine, Julie Lindquist,[3] and Jennifer Royston[4]
Michigan State University, Michigan, USA

Abstract: MOOCs have become part of the public discourse about educational possibility, labor, and access. As a group of teachers interested in precisely those issues--and further, in learning more about what it means to learn writing--we were motivated to take on the project of designing a MOOC as research project. During the summer of 2013, we offered a MOOC focused on learning writing called "Thinking Like a Writer." The MOOC had several important design features, which grew from our shared sense of what learning assets participants would be likely to have and what kind of experience would be most valuable for those making a transition to college writing. In this article, we report on our initial data analysis focused on the experience of the MOOC for both teachers and students. We take up how teaching at scale necessitated changes in instructor identity (from "teacher" to "facilitator" and "curator"), how the meaning of "access" is still very much an open question deserving of careful attention in

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[1] **Kate Fedewa** teaches first year writing, professional writing, and the Thinking Like a Writer MOOC at Michigan State University. She holds a PhD in English Literature from the University of Wisconsin-Madison. Her research interests include the history of rhetoric, teacher and student identity, and representations of education in popular culture.

[2] **Jeff Grabill** is a Professor and Chair of the Department of Writing, Rhetoric, and American Cultures. He is also a senior researcher with WIDE Research (Writing in Digital Environments). As a researcher, Grabill studies how digital writing is associated with citizenship and learning. Grabill is also a co-founder of Drawbridge, an educational technology company. He has published two books on community literacy.

[3] **Julie Lindquist** is Professor of Rhetoric and Writing at MSU, where she teaches courses in writing, rhetoric, linguistics, and literacy, and directs the First-Year Writing Program. She is author of A Place to Stand: Politics and Persuasion in a Working Class Bar (Oxford) and, with David Seitz, Elements of Literacy (Pearson). Her writings on rhetoric, class, literacy, and writing pedagogy have appeared in College Composition and Communication, College English, JAC, and Pedagogy, as well as in several edited collections. Lindquist is now at work, with MSU colleague Bump Halbritter, on a long-term research documentary project that inquires into the literacy practices of undergraduates across Michigan communities.

[4] **Jennifer Royston** is a PhD student in the Department of English at Michigan State University. She earned her Master's Degree in 'Shakespeare in History' from the Department of English at University College London, UK. Since earning her teaching certificate in 2008, she has taught in a variety of secondary and post-secondary traditional and online classrooms.

MOOC conversations, and perhaps most importantly, how teaching at scale forces us to think differently about learning.
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A recent issue of *The New Republic* features a short piece entitled "Who Takes MOOCs? The Devil May Be in The Data." To answer the question posed by the title, the piece includes a graphic representation of the demographic profile of MOOC users around the globe. The authors frame their two-page visual data display with a claim about the incongruity between the polarized debate about the effects of MOOCs as an educational delivery system with the claim that "the debate over the free Internet classes has become a fact-free zone." They go on to explain that "while techno-utopians tout MOOCs' potential to topple barriers to college educations for disadvantaged people worldwide and skeptics warn of the downsides to automated instruction, neither side has been able to point to reliable data to support its claims" (Alcorn, Christensen, and Emmanuel, 2013/14).

The authors of the TNR are correct in suggesting that the availability of data on MOOC users lags behind the status of MOOCs as a topic of general interest to educators and to the wider public. The MOOC concept has become an important player in the public discourse about educational possibility, labor, and access. As a group of teachers interested in precisely those issues--and further, in learning more about what it means to learn writing--we were motivated to take on the project of designing a MOOC as research project. We hoped to collect data not only on MOOC user demographics in particular, but on writers engaged in the act of learning writing. So during the Spring of 2013, we began planning the design and delivery of a MOOC focused on learning writing. We hoped that the MOOC would raise new questions for us about writing, learning, and educational environments, and we were not disappointed.

"Thinking Like a Writer:" Exigency, Concept, and Design

The MOOC we created, which we named "Thinking Like a Writer" to reflect the kind of inquiry-based learning experience it would provide, ran for eight weeks in July and August of 2013. Making a MOOC was a novel experience for us, the team assembled to design and deliver the MOOC. Although we could not be certain who would take our MOOC, we designed the experience for a population of learners we understood to be transitional. That is, we imagined the students in our course would be making a transition from one writing context to another, and we expected that many of these students would be transitioning from high school to postsecondary education. We imagined that the course would serve to prepare such students for the experience of writing in a new, perhaps college, context. Believing that we were too early in our process of learning what kind of value a MOOC could deliver to assume that our course could stand in for a more traditional course, we made the decision to create our first MOOC as a not-for-credit experience in which participants could earn a certificate for completion. Our MOOC had several important design features, which grew from our shared sense of what learning assets participants would be likely to possess and what kind of experience would be most valuable for those making the transition to a new writing context:

- It was organized in four "episodes," for which students would generate writing, post drafts for peer feedback, assess feedback and create revisions plans
- It treated the writing generated by participants as the primary content of the course
- It asked participants to generate stories of their own learning, from which they could draw conclusions about the nature of learning writing, as well practice rhetorical moves and strategies
- It put processes of giving feedback and planning revision at the center of the learning experience (feedback and revision are key learning moments)
- It did not assign grades

As we will discuss below, some of our assumptions about learners and "transitions" were incorrect if not naive. Writing instruction as we understand and practice it in the US is not common elsewhere in the world, and different as well are various transitions to university education. Even so, we imagined that these design features would give participants an opportunity to reflect on the resources for learning and writing that would be useful to them in their educational or professional careers, help make visible the ways of thinking and practicing common among effective (and more experienced) writers, and emphasize the affordances of the revision processes as for evaluating and generating writing. We came to describe the "Thinking Like a Writer" MOOC as an informal learning experience, or something like a "museum for teaching writing." That is, we saw it more as adult free-choice learning, with opportunities for observation of and reflection on writing practices, and less like a formal classroom experience. Therefore, in designing our curriculum, we primarily built a learning environment. We created activities that supported engaged, inductive learning. The lessons we constructed were taught not through lectures or content-heavy videos, but through guided moments of invention and reflection, focused around the student's own writing. We believed that the experience-based pedagogical model allowed for a student-led learning progression.

We were happy to discover, as the MOOC ran, that participants seemed to embrace the opportunities we provided for them to invent, reflect, and share. As an added benefit, the experience unsettled a number of commonplaces about teaching and learning in our own field. In particular, the MOOC experience provoked us to consider how teaching on a large scale necessitated changes in instructor identity (from "teacher" to "facilitator" and "curator"), how the meaning of "access" is still very much an open question with respect to kinds of students, their needs, and available delivery systems, and perhaps most importantly, how teaching at MOOC scale forces us to think differently about learning as an issue of experience design and research.

Tracking the MOOC Experience

Within the constraints of what it was possible for us to know about how MOOC participants experienced the course, we made persistent attempts to pay attention to how participants engaged the opportunities available to them. Our impression was that many of the MOOC's participants were highly motivated as writers and learners, even as we say that our students were not the ones we expected—that is, people preparing to transition from high school to higher education (more on student identity below). But they seemed to be hungry for an organized writing experience and eager to invest in the community the MOOC provided. They were eager not only to complete the writing tasks

for themselves, but also to provide each other with feedback that enhanced their own development as readers and writers. We were excited to see this kind of response to peer review tasks, since our MOOC design was predicated on the theory that feedback is the real agent of change.
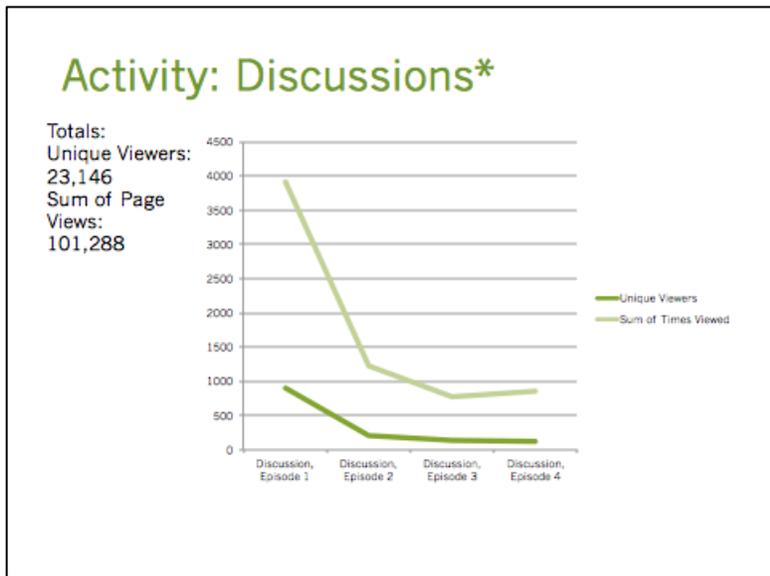
Figure 1: Views of Primary Discussion Threads for Each Episode

Figure 2: Quality of the Learning Experience

To find indicators of the experience for participants, we collected data from basic patterns of activity and post-experience surveys. For surveys, we utilized both the standard course experience survey provided by our LMS partner, Canvas, and an instrument called the Community of Inquiry Survey Instrument (COI). The COI instrument was developed to assess online learning experiences and is understood to

be a valid, reliable, and efficient measure of the dimensions of social presence and cognitive presence in online learning environments (see Arbaugh, Cleveland-Innes et. al. [2008]).

When it came to basic use and activity data, our MOOC experience tracked with typical MOOC results: high numbers of early views and activity followed by significant drop-off to a much lower but stable level of activity. For example, as Figure 1 shows, the writing MOOC had just over 23,000 unique viewers and roughly 3,000 people signed up for the course. If we use "discussions" as an example, we saw roughly 1,000 unique participants in official discussion threads in episode 1 and saw that number drop quickly to roughly 250 (note: this tracks only instructor-created discussions; participants generated their own discussion threads that were often very active). The basic pattern of activity represented in figure 1 is true for all activity-based indicators for our experience: significant drops after the first episode to a stable number, often with a slight increase toward the end of the experience.

With regard to the quality of the experience, the results are positive and are certainly more positive than we expected (as we discuss below, our level of interaction with individual students was much lower than in a traditional classroom, and so we expected students to react negatively to this fact). When we look at the key questions from the Canvas survey about the design of the learning experience, the quality of the learning materials, and the quality of the instructor, we see generally positive feedback (figures 2-4).

Figure 3: Quality of the Learning Materials

The Community of Inquiry (COI) survey tells a similar story about generally positive student experiences, but the questions were more nuanced. Here we look at two areas of the survey that are of particular interest to us: student perceptions of teacher presence with regard to facilitation (see Table 1), social presence with regard to communication (see Table 2), and social presence with regard to group cohesion (see Table 3). These three question areas are of interest to us because they get at one of the

key issues for teacher roles and identity when teaching at scale and the ability of students to communicate and work together online.

Figure 4: Quality of the Instructor

The responses about teacher presence tell a story that is consistent with our expectations but not consistent with our fears. We worried in the development and delivery of this MOOC that our distributed teacher roles and reliance on peer feedback would result in poor results given questions that focused on "the instructor." A meaningful number of responses for each question are "neutral," which makes sense given the distributed teacher presence. These responses actually raise more questions than they answer, however. That is, given that our instructor interactions with students were shared and distributed unevenly, who (or what) did students have in mind when they answered this question? What did they imagine occupying the space of "instructor?" We might also wonder what other elements of the experience "facilitated" and might have influenced how students responded; for example, other students or aspects of the technological environment itself.

Table 1: Community of Inquiry Questions on Teaching Presence (Facilitation)

Teaching Presence					
Facilitation	strongly disagree	disagree	neutral	agree	strongly agree
The instructor was helpful in identifying	0	11	20	11	6

areas of agreement and disagreement on course topics that helped me to learn.					
	strongly disagree	disagree	neutral	agree	strongly agree
The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.	0	8	12	19	11
	strongly disagree	disagree	neutral	agree	strongly agree
The instructor helped to keep course participants engaged and participating in productive dialogue.	2	3	12	20	11
	strongly disagree	disagree	neutral	agree	strongly agree
The instructor helped keep the course participants on task in a way that helped me to learn.	1	6	14	20	7
	strongly disagree	disagree	neutral	agree	strongly agree
The instructor encouraged course participants to explore new concepts in this course.	0	2	11	19	16
	strongly disagree	disagree	neutral	agree	strongly agree
Instructor actions reinforced the development of a sense of community among course participants.	1	2	13	20	12

Table 2: Community of Inquiry Questions on Social Presence (Communication)

Social Presence					
Open Communication	strongly disagree	disagree	neutral	agree	strongly agree

I felt comfortable conversing through the online medium.	1	4	11	22	10
	strongly disagree	disagree	neutral	agree	strongly agree
I felt comfortable participating in the course discussions.	1	4	10	25	8
	strongly disagree	disagree	neutral	agree	strongly agree
I felt comfortable interacting with other course participants.	0	3	7	27	11

Table 3: Community of Inquiry Questions on Social Presence (Group Cohesion)

Social Presence					
Group Cohesion	strongly disagree	disagree	neutral	agree	strongly agree
I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.	0	2	18	26	2
	strongly disagree	disagree	neutral	agree	strongly agree
I felt that my point of view was acknowledged by other course participants.	0	1	15	24	9
	strongly disagree	disagree	neutral	agree	strongly agree
Online discussions help me to develop a sense of collaboration.	1	2	15	24	6

The results provided in Table 2 are important. Much of what happened in our MOOC took place via participant interactions in discussion forums, Facebook, and in our peer learning service (Eli). Participants clearly felt comfortable with the level of open communication in the experience. And in Table 3, which we understand to be the best way on the COI instrument to assess the peer learning experience of the MOOC, we see that participants generally agree that they were able to disagree with each other productively, feel listened to, and collaborate.

Given the survey responses, it is difficult to make definitive claims because we have few points of comparison. This is our first writing MOOC and the first writing MOOC for Canvas as well. Moreover, the published research literature is not well

developed. As noted above, these survey results raise more questions for us, but they also point to areas where more attention is necessary in future design work. We focused on peer feedback in this MOOC, so we expected more negative feedback on teacher presence (data on "direct instruction" was decidedly more negative, as anticipated). And while the "facilitation" numbers were a bit surprising, it is clear that teacher presence is an area that needs more attention.

What we learned from the experience is that it may indeed be possible to learn writing at scale – but that a few essential features must be part of the experience. We came to see how true it is that a team of designers designs and delivers a MOOC. We learned how to draw on expertise, such as instructional designers, that we don't typically call upon for our on-campus programs. Both the design of the MOOC experience--the curriculum, its sequences, and its technologies – and the means by which the designers/instructors frame and facilitate the experience, matter when it comes to ensuring that students work as productive peer learners. Students must be self-motivated, but motivation must be cultivated and supported throughout the MOOC experience. High quality feedback and revision are essential to learning in writing, so students as well as teachers must be willing to make investments into helping others learn. Like museum visitors, the participants in "Thinking Like a Writer" engaged with the experience differently: some students didn't respond much at all to the environment, others sampled what the space had to offer, and others treated the experience as something that played an important role in their lives while it was happening.

Teacher Experience: Time, Labor, and Teacher Identity

As we discovered, MOOCS are conceived, developed, and executed by teams, not a single teacher (or even a team comprising only teachers). Our writing MOOC would not have been possible without the diverse team of professionals assembled to create and administer the course. Collaboration was necessary for the development, design, marketing, and delivery of the MOOC experience; this level of collaboration contrasts with the often solitary process of designing a traditional class held in a face-to-face environment. However, while we found this collaborative effort to be a positive experience, this new way of working inspires questions about the labor that is necessary to design and facilitate a course at MOOC scale. We believe that one of the effects of working with the scale and experiencing the collaborative nature of a MOOC is that it complicates our understandings of teacher identity, particularly in relation to our understandings of the relationships it's possible to develop with our students.

The process of assembling what was necessary for "Thinking Like a Writer" began with technology platforms (those who could help with this were very much part of "the team"). We knew that we had to choose a platform that would allow us to maintain the integrity of our curriculum, and we also needed a platform that had the technical capabilities of hosting the required technologies at scale. We ultimately chose Canvas as our LMS partner because it is fairly malleable, and offered the most flexibility to us as designers of the course. Choosing Canvas, we discovered, allowed us to maintain the structure of our designed curriculum. And the instructional designers at Canvas helped us translate our course to a digital environment in the most efficient possible manner. And Canvas came with other advantages: using Canvas to host our course allowed us to promote it to a broader range of potential participants. Canvas also enabled us to

administer surveys for the purposes of collecting data on participants' overall experience. An even more significant partner was MSU Global, a unit at Michigan State University charged with enhancing the reputation of the University by assisting faculty in creating, facilitating and implementing projects that lead to new research and funding opportunities. MSU Global provided instructional designers, visual design, marketing, and management expertise to the project. As Figure 5 shows, MSU Global, Canvas, and our core writing faculty combined to provide the expertise necessary to design and deliver the MOOC.   Although designing and marketing the course demanded a great deal of time and effort up front, course facilitation required daily attention to ensure effective communication with students and timely responses to their written work. What this chart does not demonstrate, however, are the multiple purposes of each task. For example, videos that outlined the content of each episode were created and uploaded to YouTube and our course website to advertise the course to potential students, and we also placed these videos at the beginning of each episode within Canvas, where they served as visual introductions to course experiences. In all, this chart displays the number of working parts necessary to make the "Thinking Like a Writer" MOOC possible.
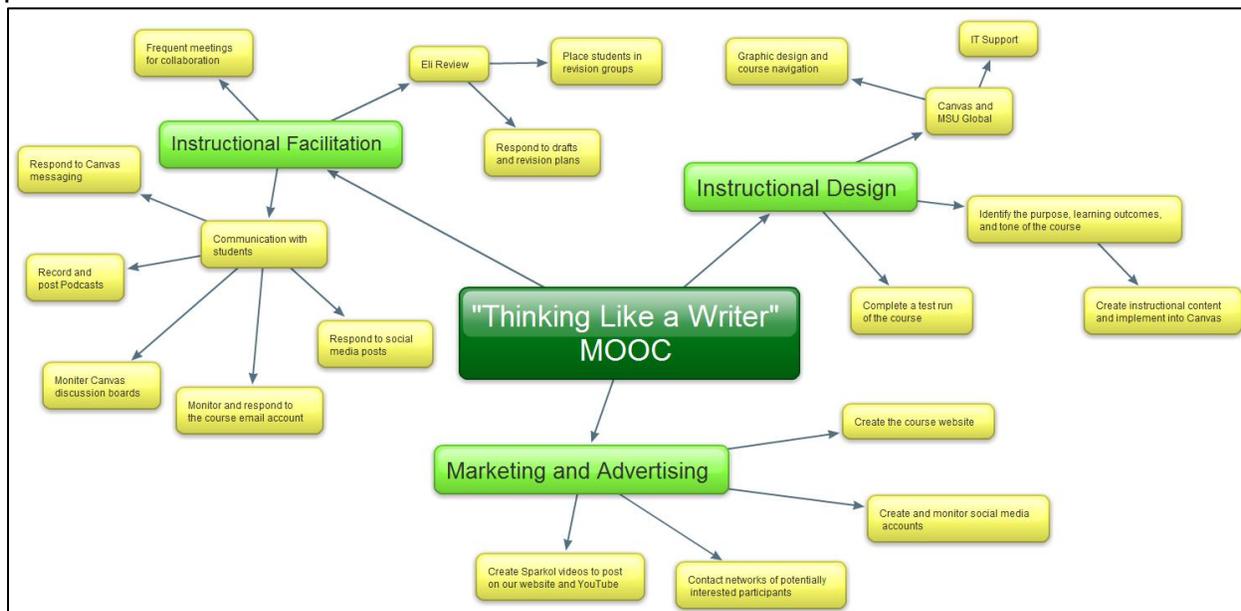
Figure 5: Map of Labor and Expertise on the Thinking Like A Writer MOOC

The design of our MOOC began with a set of basic questions: What are we trying to achieve? Who are we trying to teach? What do we want the learning to be? We also had to consider how we could materialize writing activities that develop capacities associated with this learning both online and at scale. And because we chose to make the course writing-focused, student-centered, and concerned with inductive learning, we also had to consider the tone and narrative structure of what was presented on our learning platform. Therefore, we had to become selective about the kind of writing activities we would curate in an eight-week, online, free, non-credit course, while also keeping in mind that each of these additional elements would shape the student experience in ways we could not possibly predict. For example, uncertainty about how

many students would enroll and their demographics complicated the planning process. Moreover, we could not anticipate how many students would actually complete each writing activity. Ultimately, we learned that many more unknowns exist when planning an open-access online course and that these unknowns complicate planning and design. We found that this degree of uncertainty differed from the process of developing a traditional face-to-face university course. In response to this uncertainty, identifying our hypothetical students and creating a curriculum with the appropriate learning outcomes for those students enabled us to streamline our goals and, in turn, allowed us to move forward in designing a course based on those desired outcomes. But in general, designing our MOOC entailed a novel and difficult relationship between what was stable and predictable, and what was dynamic and unpredictable. Our MOOC had to be very carefully scaffolded as a learning environment, but it also had to include flexible spaces in anticipation of the variety of participant needs and possible modes of participation.

Our assumed student who struggled with writing but was willing to learn by going through one or more streamlined "episodes" designed to facilitate thinking like a writer directed our thinking about activities. However, our assumptions about what our students were like did not directly address a new challenge, which was the question of who was "the instructor" of the course, and similarly, who should be the "face" of our course for students. While our decision to present two of our instructors to serve as the core representatives of the course models a more traditional instructor/student relationship (and is true of most other MOOCs), our course was actually a more thoroughgoing collaborative effort shared between our five instructors who each monitored the course and personally responded to student activity. And while one of our representatives delivered weekly announcements to the course participants, we also recorded weekly round-table group discussions that included our individual perceptions of students' progress during that particular week. And because instructors were delegated to maintaining and responding to different modes of communication (Canvas discussion boards, e-mail, social media, etc.), students could communicate with different members of the instructional team directly. While our experience survey data shows that students had a positive perception of their (composite) instructor, those same responses raise questions about the nature and identity of the "instructor." When students indicated that they were pleased with the quality of the course instructor, who did they envision as their instructor? Did they take "instructor" to mean our course representatives, the entire instructional team, or whomever they personally corresponded with? While our method of collaboration seems to have been perceived as positive by our students, it also creates some unease because it destabilizes our understanding of teacher identity and raises questions pertaining to the value students' place upon our individual and collective roles in their process of learning. While collaboration is key to facilitating a course at scale, we are left to question how students' orientation toward collaborative teaching affects students' level of satisfaction and helps determine the level of student success in the course.

These questions of instructor identity raise additional questions about what *teaching* means in such an environment. Our instructional approach encouraged participants to share their work with each other in each of four episodes, primarily

through a set of invention (discovering what one knows) and peer review. Throughout the invention process, students shared their work through the course Facebook page, Twitter, and the Canvas discussion board. This provided an opportunity for students to get a better feeling for the writing strategies that others used and to engage in shared inventional processes. Students were then asked to share their rough drafts through ELI Review, our platform for peer feedback. There were several steps required in the peer feedback process: Students were asked to (1) read the drafts of the other members of a small group; (2) add contextual comments and identify other features in the writing they reviewed; and (3) to make decisions as writers about the feedback received as part of revision planning (more on this process in our discussion of learning, below). These opportunities for sharing work gave participants the ability to see and learn from a variety of invention, writing, and revising styles; in essence, the theme for our first writing task – "considering learning" – became a theme for the whole course. But such a learning scaffolding entailed changes in our work as teachers, including reassessing our roles in students' learning.

One unexpected phenomenon that we noticed toward the middle of the course was the creation of independent, student-run revision groups that seemed to form through connections made through our Canvas and Eli communities. It seems that these 3-5 person revision groups formed outside of our course learning platforms so that students could receive more feedback on each of their writing tasks. One particular student, who was a part of such a revision group, contacted us via email to discuss the conflicting feedback she received from such a revision group. In her email correspondence with us, she summarized the contradictory feedback she received from her peers and expressed a level of frustration in not knowing how to plan and proceed with revisions. The level of reflection this student expressed through this informal email seemed to mirror that of the more formal revision plan assignment all students enrolled in the MOOC completed within Eli, which asked that students summarize and rank their peers' feedback in order to create an effective revision plan. This particular student even mentioned that she included feedback that she received from her independent revision group within the revision planning tool in Eli, which indicates that this student recognized that for her, learning extended beyond the confines of the course itself, and beyond instructor feedback exclusively.

The formation of these autonomous revision groups signals to us once more that students of the digital age are using technologies to their advantage and in ways that suit their learning desires. Students are able to move from within the boundaries of required learning platforms into more informal digital spaces as means to communicate with their peers on their own terms. But it is important to note that in our experience, revision groups formed in addition, not in place of our required revision activities, indicating that students simply wanted to extend their experience, not replace it.

Observing these types of learning experiences allowed us to understand *teaching* in this MOOC to be composed of two practices, *facilitating* and *curating*. Since the course was entirely structured around student writing, that meant that directions were given via Canvas pages, students posted and responded to each other's informal writing through Canvas discussion boards and social media, and we responded to students' more formal writing through Eli Review. Eli Review enabled us to divide the

process of manually organizing revision groups evenly so that our students were placed in revision groups quickly, and based on their own individual progress. This demanded a certain level of daily attentiveness, but in turn, it enabled us to offer a largely self-paced course that corresponded with our original vision of the "Thinking Like a Writer" experience. The distributed nature of student activity and the significant attentiveness required by our team of instructors meant that we spent our time facilitating conversations, questions, and peer learning activities. Serving specific roles also meant a shift in the way in which we were accustomed to designing and running our own course. From the beginning, we conceived of and designed the MOOC to focus on moments of student learning, a deliberate shift from a teacher-centered experience toward one in which we attempted to follow student activity and facilitate activity that we thought corresponded with and reinforce our learning goals. While *facilitation* proved a productive way to understand how to engage with students, it nonetheless resulted in a fragmented experience for the instructors. We felt that we understood our particular responsibility very well but were sometimes removed from other aspects of the course for which others were responsible. We all agreed that the inaccessibility of layered interactions with particular people over time was something we noted – and missed.

    Curation proved to be a different, but nonetheless important, pedagogical move. As curators, we focused on assembling content that we thought supported student learning, and much of this curatorial work took place during the experience as much as prior to the start of the course. While it is true that we assembled prior to the start of the course materials that we thought necessary as well as directions for assignments and navigation through the platform, it was still the case that student questions and needs, particularly with the scale of the experience, overwhelmed our initial assumptions. Furthermore, we assumed that any given question was an indicator of many more, similar questions. For example, if we received three emails asking for clarification about writing activity two, we assumed others felt similarly and responded accordingly. But did three student questions actually indicate that three hundred students did not understand? Identifying with the new role of curator meant attending to student needs, questions, discussion, and writing as a core content of the course that would quickly disappear if we did not attempt to assemble and shape it for others to see and reflect on, including instructors. We curated content for students to engage with, if they chose to do so. Such assembly work was part of our efforts to create a digital environment that provoked curiosity and allowed the development of a community of participants willing to learn together. The learning environment, in other words, was only partially the technologies themselves. Most of that environment was what students did with and on those platforms--their writing, discussions, questions, and so on. In a learning experience of such scale, curating that content in a way that makes it available as a resource for learning is a significant responsibility and not one commonly associated with our non-MOOC teaching.

    Ultimately, this learning experience suggests the complexities that arise when teaching at scale that pertain to not only time and labor logistics, but also to the instructor identity that is formed through the collaborative efforts that make designing and facilitating a MOOC possible. Teaching writing at scale demands revision of the traditional instructor role because there is an undeniable and unavoidable loss of

individual autonomy that results from the need for collaboration. Furthermore, the unpredictability of student demographics and motivations complicates the process of theorizing the student and developing an open-access course at scale. Upon reflection, we can say with confidence that we each identified with our individual roles but that our individual understanding of the entire scope of the course was fragmented. Still, our *collective* roles as instructors of this course can best be defined as *curators* and *facilitators* of learning experiences and *observers* of learning.

The Open Question of Access

A MOOC is a course delivery model that takes access as a primary ethical concern, despite the fact that as conversations about MOOCs and access have matured, they tend to develop around polarized claims -- do MOOCs open access for students who would otherwise find education economically (or geographically) prohibitive, or are they experiences that are viable only for those who have the social histories and technological means to use them productively? It depends on what we mean by a MOOC, of course. The "open" characteristic of MOOCs historically has characterized the ability to access and reuse materials and technologies. One type of MOOC--the cMOOC or "connectivist" MOOC--focuses on the student creation of content, while the MOOC most are now familiar with (the xMOOC) is, as Porter (2014) argues, perhaps best understood as a textbook or courseware (p. 18). Indeed, publisher or courseware may be the future of an xMOOC provider like Coursera. So any concern with access needs to be interested in the question of "access to what?" In our case, we remain interested in access to high quality experiences that facilitate development in writing that might make a material difference in the lives of learners. But as our experience also demonstrates, the meaning of "access" is still very much an open question deserving of some careful attention.

For a number of observers of higher education, MOOCs are a leading indicator of change in higher education (if not drivers of that change). Clay Shirky (2012), for instance, writes that "The possibility MOOCs hold out is that the educational parts of education can be unbundled. MOOCs expand the audience for education to people ill-served or completely shut out from the current system …" (np). Our own thinking about access was much less concerned with transforming higher education. We are interested in increasing access. When we created Thinking Like a Writer, we envisioned it as a developmental writing course: a course that would prepare students for the expectations and rigors of college writing. We wanted to give students the opportunity to develop practices – particularly in critical thinking and revision (learning) - that would aid them in a variety of writing situations.

It is time to deal with who actually showed up for our MOOC (as best we understand this), which is not the same thing as for whom we designed the MOOC. The term "developmental writer" is not something used globally, and even where it is used, it often has different meanings. That is, the concept is used in higher education in the US but not elsewhere. Indeed, the practice of writing instruction as a commonplace of higher education is mostly a North American practice. Yet the reach of a MOOC is global, and ours was no different. We had students from every content on the planet (save Antarctica), and they brought with them their experiences with education, with technologies, with writing, and with the Englishes they used. We provided resources

and support for writing English as a second language, but we did not account in meaningful ways for the issues of culture that shaped our learning environment. The kind of developmental writer that we had imagined was one who had some experience writing in an academic setting (whether that be K-12 education, or something equivalent) but perhaps lacked the strategies, confidence, and practice necessary to becoming a successful writer in academic contexts. Although we were aware that many of our learners might be facing other transitional experiences, we primarily imagined our target audience as students about to enter an American college or university, or international students who wanted additional opportunities to be able to practice college-level writing. What we found, however, when looking at the data from an end-of-the-course student demographic survey, is that many of our primary participants came from neither of the above-mentioned groups (see Figure 6).
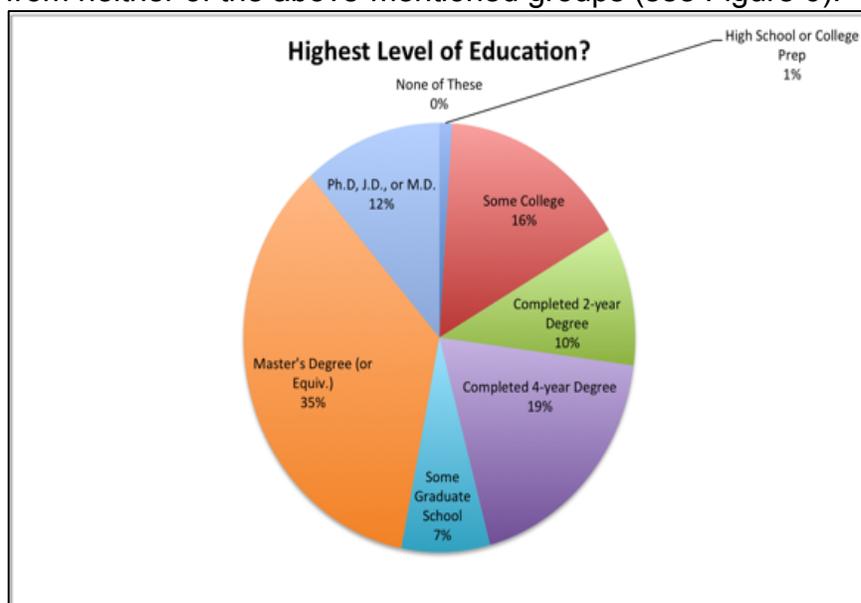
Figure 6: Level of Educational Attainment in the Thinking Like A Writer MOOC

As figure 6 illustrates, 73% of the respondents to the demographics questions had completed at least a four-year college degree--hardly the underserved student population that we had originally imagined. As would be expected by looking at the levels of student education, the average age of our MOOC students was higher than we'd anticipated as well (see Figure 7).

Our demographic data seems consistent with other, similar experiences. In a survey of their own MOOC courses (all run with major provider Coursera), researchers at the University of Pennsylvania found that

> "Across all geographic regions, MOOC students have very high levels of educational attainment: 83.0% of students have a post-secondary degree (2 or 4 years), 79.4% of students have a Bachelor's degree or higher and 44.2% report education beyond a Bachelor's degree. The educational attainment of MOOC students across the world far surpasses the general educational attainment of their national peers" (Christensen et. al., 2013).

As Christensen et. al. note, MOOC participants have average education levels far higher than the general population (83% versus 33% in the US).
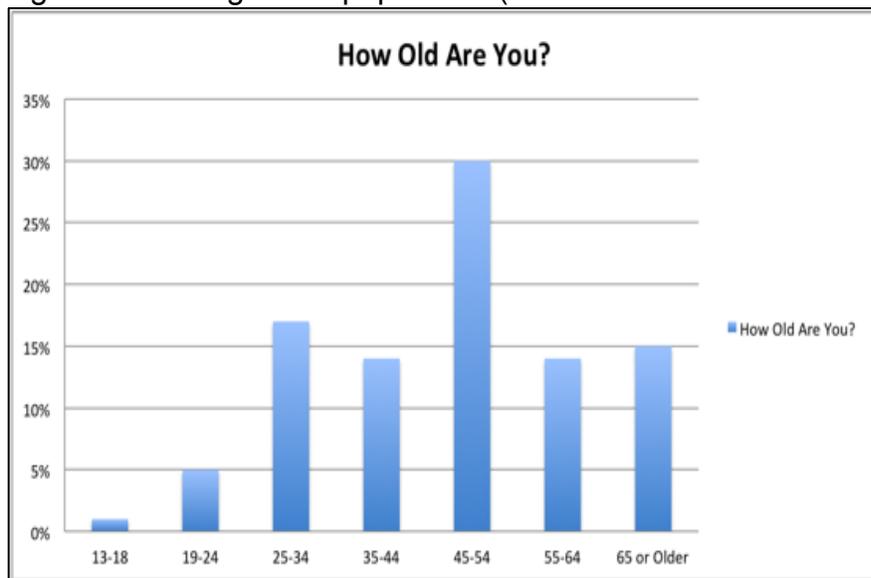
Figure 7: Reported Age in the Thinking Like A Writer MOOC

Given such demographics, it seems necessary to revise our thinking about MOOC access and the ethical claims associated with it. Clearly, we did not reach the student population we had hoped to reach, but even with the relatively educated population that participated, we found that the technologies utilized--all of them--caused some problems. A few of the technology access issues were due to the fact that some of the people taking the course had never taken an online course before, which raises additional issues of experience and culture. Other participants were new to some or all of the technologies used, and we even had a few students who purchased technologies in order to participate (yet could afford to do so). Still others resisted our use of social media as a possible (but not required) learning resource, citing any number of personal, ethical, and cultural concerns.

While we were able to speak to a number of concerns – or direct people to our partners at Canvas and ELI – it was a time-consuming endeavor for a small group of instructors to be able to manage. Given the number of issues that impacted access for a highly educated and relatively affluent population given global norms, it seems reasonable that access problems are compounded by demographics that truly include educationally underserved individuals. With regard to access, then, our experience only leaves us with more questions regarding:

- Issues of identification and reach: If we still believe that MOOCs can provide a valuable learning experience for underserved student populations – which we do – how can we better reach that population?
- Issues of student knowledge and experience: How can we leverage the funds of knowledge of the more educationally experienced participants in order to best benefit them? This is a significant learning demand that MOOC providers and teachers must address in their (our) own practice.

- Issues of technology: Part of the experience that everyone had was the digital environment in which the course existed. Students were partially responsible for creating the space in which they were learning, meaning that we need to consider how to help students better navigate that digital culture.
- Issues of culture: the nature of our course – where much of the content is student-generated – means that there's a lot of room for students to bring in aspects of their own culture, and accessible learning experiences must be adaptive with regard to culture; i.e. a course that allows for cultural openness rather than one that directs students to any singular cultural perspective.
- Issues of language: English is the language of our course and the language that participants used when participating in forum discussions, social-networking, and peer review. Expanding global access is an important goal, but at the moment that still means expanding access to those who already read and write in English.

Learning: Experience Design and Indicators

The pedagogical question that drove our MOOC development concerned the possibility of learning writing at scale. Our focus on learning is significant and meant that we needed to attend to indicators of learning and the experiences they were associated with. Much composition instruction is grounded in the lore that when a teacher, expert both in content and in pedagogy, interacts directly with a small group of students, those students will learn. But a MOOC cannot sustain (or really even attempt to provide) such interaction. That is, at scale, the attention of a teacher and the ability of that teacher to be the primary if not sole source of feedback is not viable. It is clear that MOOCs are good at delivering content at scale (so is the internet). And via lecture, it is possible to argue that MOOCs enable teaching at scale. But what does learning look like, and what experiences and interactions make learning possible? As we have already discussed, we understood our teaching in terms of facilitation and curation as part of our larger interest in learning. This shift in focus from teaching to learning was, to some extent, an uncomfortable one, as it also necessitated a shift in how we understood ourselves.

But how can teachers facilitate learning at scale? Learning is a difficult process, one that involves a changes in behavior, understanding, and identity. These changes can be experienced by students as a loss or a gain. They can also be so subtle as to go unnoticed or be life-changing. The face-to-face interaction of traditional teaching makes it possible for teachers to observe change in their students over time, yet the course environment of a MOOC makes this near impossible. Other indicators are visible in test scores. But the richest resource may be the writing students do as part of a course-- both writing to learn activities (including reflection) and writing that makes arguments or communicates understanding. Our MOOC experience had plenty of writing, as do most of them. We made the decision to try to attend to writing as a source of learning indicators. And we also sought to construct the course to generate moments of change for students by students. Our curriculum design followed several basic tenets meant to facilitate learning at scale:

Course content must be generated in a way that engages student knowledge. Our course syllabus told students "This is a course about *you*." We wanted participants to develop as writers and to see their own learning as part of what it means to "think like a writer." But students cannot recognize changes to their own thinking if

they do not start with their own experiences as a baseline. For this reason, we designed each activity to focus on a topic students knew well: themselves. Each episode began with an invention activity that asked students to notice writerly actions and ideas in their daily lives, and each episode centered around a writing task that asked students to employ new writing strategies when writing about their own experiences. Episodes Three and Four took these connections even further; students were required to respond to or revise content generated in Episodes One and Two. We believed that asking students to write about and reflect on their writing identities would generate opportunities for students to recognize their own development as it occurred. We also hoped that allowing each student such a personalized experience would encourage students to apply course content to the unique transition they were facing. However, as one of our reviewers astutely noted, issues of culture and educational practice put pressure on our most basic assumptions. Our reviewer wrote "in my home country, none of these activities would make sense even to the most seasoned professor of English. Just focusing on 'your own experience' may not appeal to people in many places." Indeed, the deeply cultural nature of our practices and assumptions need careful attention given an educational approach that is "global" in design.

Each episode followed an inductive process, moving from invention through deliberate practice to reflection in order to provide students with a written record of their process and thinking. We felt it necessary to generate opportunities for students to trace their own development. Each episode asked students trace their own thinking in a specific order: a shared "invention" based on individual experience; a writing plan identifying the purpose, development arrangement, and audience of the episode's writing task; a draft of the writing task; feedback for others on their initial drafts; a revision plan for a new draft of the writing task, utilizing feedback from other participants; a new draft of the writing task; and a final reflection survey, focusing on what each student learned and what activities facilitated that learning. This structure, repeated in each episode, generated opportunities for students to recognize their growth across each episode and the course itself.

Feedback must be required and facilitated throughout the experience. We understood feedback to be the primary driver of learning (see Hattie and Timperley, 2007). Our MOOC used peer review as a means to both provide individuals with feedback on their writing. We encouraged peer feedback during invention and writing activities, and we guided students to focus their feedback around course goals. Our use of Eli Review as a platform for peer review also allowed us to generate a feedback loop in which good peer feedback was facilitated by the scaffolding and interactions of the software.

In order for feedback to promote learning, it must be useful. As instructors, we scaffolded each episode to encourage students to reflect on the usefulness of feedback they had received. We required students to write revision plans, in which they selected key items of feedback, responded to it, and then listed steps they would enact as they revised their drafts. This moment asked students to consider their reviewers as potential readers with expert knowledge of a reader's experience, and they were encouraged to treat revision as a deliberate process of rhetorical change (learning) that resulted in better writing. This approach to peer review surprised many students. One went so far

as to generate a discussion thread on best practices for peer review, and another generated a discussion on the experience of reviewing and responding. These threads suggest that students saw this approach to feedback as generative of adaptable writing strategies. For example, one student wrote:

> when i write too, there seem to be a few things that i imply into my writing because i know all of it. But for my readers, it actually might be confusing or they might be left with making a guess work of what i meant. I came to know of this from a peer review this time only. I wasn't aware of it earlier. It is a very important thing and i'll keep a note of it every time i review my texts now onwards.

Such an observation suggests that learning is possible as a result of useful feedback. Not only does this student recognize audience awareness as a new skill that he learned during one of the MOOC episodes, but he also identifies this skill as adaptable to new revision situations. Good feedback was also affirmed by other student evaluations of their reviewers. While we don't have strong data on the role of feedback in facilitating learning, the anecdotal evidence suggests it was important.

The concept of revision (change in writing, thinking, identity) must be foregrounded as the essential moment of a learning experience. The scaffolding of each episode moved students to one moment--revision. We asked students to process their feedback in order to plan a revision. That revision planning was structured to facilitate reflection and to guide an actual revision of a draft. While students didn't utilize the revision planning moment as fully as we would have liked, we saw high rates of revision for students who made it to the drafting moment of each episode. But a well-scaffolded revision moment in a writing class can do much more than address a piece of writing. It can also address understanding, content knowledge, and issues of identity. Simply put, facilitating revision moments in any experience is key to surfacing the data (e.g., writing) that will surface indicators of learning.

A course with such a learning focus requires a different set of capacities from both teachers and students than those expected in a traditional classroom. As we have noted above, this focus on learning required us wrestle with new labor practices and issues of teacher identity. We also saw how issues of access impacted student performance and comfort. We believed that our approach would also model the course's pedagogical objective: students would learn to think like a writer by practicing the deliberate, engaged, and reflective strategies a writer must employ as he or she reads and writes.

Learning is a difficult activity to observe, even in the traditional classroom. Our activity-based approach and the record of student activity we were able to capture, however, presented our team with a unique opportunity to trace learning indicators. We have at our disposal the ability to analyze student records to identify learning trends across the participants, which is both a blessing and a curse with a MOOC. That analytical work is forthcoming and is slowed by the sheer volume of content generated by the class. That work is guided by the experience design principles identified above and by our tracking of moments of change in the discourse produced by students.

Still, the experience taught us a great deal about how to facilitate learning, both at scale and in more traditional environments. Transparency was paramount, both in terms of the structure of the course and its instructional content. If a student did not

understand the purposes for an activity, she was more likely to struggle with it. And when a student was missing the terminology and other content knowledge necessary to frame an experience, she was less likely to recognize its value. We quickly discovered that those elements of the course that were not transparent—technology, the organization of instructional content, or the purposes behind our scaffolding—became elements of the course that hindered student participation more broadly. Those students who reported the experiences of the course as most useful were also those that described themselves as confident communicators and demonstrated buy-in regarding our stated approach. This buy-in and confidence seemed in many ways tied to participation in the class community. While we believe that some learning can happen at scale, this experience leaves us with a more focused set of learning-related questions:

- Can transformations to the role of the student in learning experiences exist without a transformation to the role of the teacher? To the concepts of the "classroom" and the "course"?
- What key elements of experience, "space," and structure are necessary for learning to happen?
- What role do student and teacher assumptions play in the success of a learning-centered pedagogy?
- How does user experience shape or facilitate indicators of learning?
- If facilitating learning experiences is possible at scale, what contexts, content, and practices will lead to good learning outcomes?

Conclusion

We believe that the debate about the viability of MOOCs will be determined by the realities of learning at scale. In other words, the conversation about MOOCs is at a very early stage, and in many respects, hasn't begun to take up questions of learning. Unless MOOCs can deliver experiences that lead to learning gains--changes in what people understand, can do, and who they are--they will likely fade, though some innovations associated with them may well persist.

Our MOOC implemented classroom practices that we believed would lead to good learning outcomes in digital environments: activity-based and student-centric exercises. Our instructional design employed content creation and sharing among students as a means of facilitating inductive learning. We imagined the students as content experts. We wanted students to generate the content the class discussed and draw conclusions about writing strategies as they shared content and ideas with each other. Our hope was that such student-centric pedagogy would provide our MOOC participants with opportunities for engaged learning. And so for us, a primary concern was whether or not students could effectively learn how to think (and behave) like writers in an experience of scale that focused considerably on peer feedback as the driver of change. The answer to that question seems to be that yes, they can.   Our evidence for such a claim is clearly suggestive and not definitive, but perhaps more importantly, our experience designing, delivering, and attempting to understand our MOOC has left us with a more refined and precise set of questions about how MOOC pedagogy changes teacher identity and practice, about how inviting the world to learn together alters how we think about access, and about the necessity to identify indicators of learning and associate them with the experiences that produce them. For learning

and teaching at scale to have the transformative power many hope for, questions such as those raised here must be asked, answered, and turned into useful pedagogical practice.

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