MOOCs: The Enduring Importance of "Teacher Presence"

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This paper explores the role of the teacher in MOOCs. The paper begins by describing types of MOOCs––cMOOCs and xMOOCs as well as hybrids that include elements of both—and then presents highlights from MOOC implementations, research findings, and insights from teachers who have implemented MOOCs. The author concludes that, although some MOOC developers minimalize the teacher's role, researchers, instructors, and participants support the idea that the teacher is no less important than in other learning environments, underscoring the need for research into the role of the teacher in MOOCs.

INTRODUCTION

As one of the latest developments in distance education, the MOOC (Massive Open Online Course) is now familiar and recognized, both in the field of education and through media debate and coverage of MOOC implementations. As originally configured (Siemens, 2005; Downes, 2006), MOOCs have several elements that distinguish them from other distance education offerings. First, MOOCs are open and free to anyone, anywhere in the world, regardless of the age or qualifications of the participant. For this reason, enrollment in a MOOC course often reaches up to several thousand. Furthermore, the pure form of MOOCs does not provide a syllabus or learning objectives, student learning assessment, or degree or credits for participants. Facilitators provide access to online resources and sometimes pre-recordings by expert speakers during the cMOOC, but participants are responsible for using this as a jumping off place for creating their own networks and content. Online collaboration systems are available for weekly sessions and an RSS aggregator and a daily newsletter merge individual information from participants to create a network of knowledge. Blogs and Twitter are also used by participants, who sometimes go outside the discussion environment set up by the facilitators to create their own Facebook groups. Students learn by interacting with each other and with the knowledge they gather and share with others. This learning environment is quite different from standard distance education courses, which require a fee and prerequisites, have limited enrollment, provide a pre-established structure, assess student learning, and usually provide credit for completion of the course. As is true for traditional distance education courses, MOOCs alone are often not useful for disciplines such as nursing, physical therapy, agriculture, and other sciences that require hands-on, repeated practice with tools, instruments, and machines (Ong & Grigoryan, 2015).

Since the introduction of the MOOC concept in 2005, MOOCs have been adapted and extended by various users, and the MOOC literature now refers to cMOOCs, xMOOCs, and hybrid MOOCs, which contain elements of both (Waite et al., 2013; Ong & Grigoryan, 2015). Of course, some researchers reject the simplistic categorization of MOOCs as xMOOC or cMOOC and prefer to look at each MOOC separately (Lane, 2012; Conole, 2013; Bayne & Ross, 2014), arguing that useful generalizations cannot

be made across institutions (Lakshminarayanan, 2012), or at the course level (Kolowich & Newman, 2013; Yuan and Powell, 2013). However, for the purpose of discussion, the author of this paper will refer to the following classifications: cMOOCs, xMOOCs, and hybrid MOOCs.

MOOCs were first developed by Canadian educators George Siemens (2005) and Stephen Downes (2006) as a way of implementing connectivist pedagogy. The name MOOC was the contribution of Dave Cormier (Cormier & Siemens, 2010), who gave this name to the first massive online open enrollment course conducted by Siemens and Downes. Connectivism views learning as totally learner-driven and consisting of the building of connections, with other people, information, and systems. In connectivism, learning is self-directed and not dependent on direction from a knowledgeable expert. This type of MOOC is mostly unstructured, with the learners themselves creating a structure as they share and build knowledge and connections. MOOCs that use the connectivist model are called cMOOCs. cMOOCs are often not connected to a particular university and are free and open to registration by anyone who cares to participate. Because they are built around connectivist practices, this type of MOOC is referred to as cMOOC.

The second major category of MOOCs is the xMOOC, which is a type of mass enrollment course offered by major universities that is structured and features pre-taped lectures, a pre-defined body of topics to be covered, online quizzes, and other online assignments. Instructors at Stanford University held an xMOOC in 2011 and then formed Udacity, a for-profit company that provides a platform for xMOOCs. Coursera is another for-profit xMOOC platform that originated at Stanford. MIT and Harvard collaborated to form edX, an open source not-for-profit MOOC platform.

While a great deal of media attention and research have examined various aspects of MOOCs, most interest has been in the experience of students in MOOC courses. The need for more exploration into the role of teachers in MOOC environments and their experiences with implementing MOOCs has been expressed by numerous researchers (Bayne & Ross; Ross et al., 2014; Bali, 2014; Liyanaganawandera et al., 2013; Koutropoulos et al., 2012) and is the focus of this paper.

EXAMPLES OF MOOC IMPLEMENTATIONS

This section describes implementations of MOOCs of each type. In keeping with the focus of this paper, emphasis is on the teachers' role in MOOCs.

cMOOCs

In cMOOCs, the teacher's goal is to facilitate learners in self-directed knowledge (Ross et al., 2014). Teachers are involved in "aggregating, curating, amplifying, modelling, and persistently present in coaching or mentoring." The facilitator also needs to be dynamic and change throughout the course, whenever and however it is needed" (Kop, 2011, p. 22). Teaching actually becomes subordinate to learning (McAuley et al., 2010), as learners establish connections and build knowledge on their own. The teacher serves as a co-participant and facilitator within the learning network (Anderson & Dron, 2011), encourages learners to embrace learning through social media (Kop, Fournier & Mak, 2011), or is even totally out of the picture of the learning process (Kop, 2011; Kop & Hill, 2008). Knowledgeable others, i.e., other participants, often take on the role of the teacher (Kop, 2011).

Kop, Fournier, & Mak (2011) studied two cMOOCs (PLENK2010 and CCK11) that were facilitated by George Siemens and Stephen Downes, founders of the theory of connectivism (Siemens, 2008). The facilitators were active in providing resources, and speakers, all through the cMOOC, and participants were responsible for using this as a jumping off place for creating their own networks and content. Elluminate software was available as an online synchronous collaboration system for live weekly sessions, and grasshopper, an RSS aggregator, and a daily newsletter merged individual information from participants to create a network of knowledge. Blogs and Twitter were also used by participants. Participants also went outside the discussion environment set up by the facilitators to create their own Facebook groups, and many of them commented that they did not feel safe on the outside Facebook or

experience the same sense of community. Just-in-time interactions on Twitter made them feel more connected to other participants, and they commented that Twitter was the best venue for interaction.

Kop, Fournier, & Mak (2011) reached several conclusions based on the results of this study. First, MOOC participants expressed a need for social presence, and interactive learning appeared to depend on participants feeling "relatedness, care, mutual respect, and support." (p. 7). "Such care is offered, not imposed, and respects humans' needs for autonomy, self-determination, and challenge, as well as for security" (Arnold, 2005, p. 18). Second, deficiencies were found in the MOOC's support structures. Participants complained about the lack of participation by facilitators and interaction with students. Some participants, particularly students new to MOOCs, seemed to expect direction from the teacher, and others were intimated and overwhelmed by the experience. Experienced MOOC participants did better and realized that the learning environment could be self-constructed. Third, some participants did not understand what the learning objectives were for the course, since each person was supposed to set his/her own goals. Positive aspects of the MOOC support included how teachers provided background support, but without directing students' participation; and facilitator engagement. Kop, Fournier, & Mak (2011) concluded that course design and facilitation have a powerful effect on student perceptions of support, inclusiveness, and overall satisfaction. The MOOC instructor needs to be active in aggregating, curating, amplifying, and modelling; consistently present for coaching or mentoring; and dynamically changing, as needed, throughout the course.

Saadatmand & Kumpulainen (2014) studied a 13-week, a 10-week, and a 12-week cMOOC offered by the University of Regina, Athabasca University, and the University of Manitoba. Course materials/activities were made available to students through Google, Facebook, Twitter, wikis, blogs, and social bookmarking tools Diigo and Delicious. Students were encouraged to choose and use the online tools they preferred and to network with each other. Students reported that they found blogging and Twitter to be the best tools for communication and networking. Although some students reported being overwhelmed by the amount of information produced, their comments about the MOOC were generally positive. They indicated that the choice of tools enabled them to self-organize and self-direct their learning. Saadatmand & Kumpulainen (2014) concluded that "the role of the instructor is also as important in MOOCs as in a traditional learning setting. MOOC learners had a positive attitude toward the support and feedback received from the course instructor/facilitator" (p. 24).

Fournier, Kop & Durand (2014) studied results of a PLENK 2010 MOOC course offered through a joint venture of the National Research Council of Canada and the Technology Enhanced Knowledge Research Institute at Athabasca University. The course featured Elluminate Live once a week with a guest speaker and as a discussion platform for participants and facilitators. Participants used blogs, social bookmarking, and Twitter. Participants remarked that a blog post, Moodle discussion posts, videos, word clouds, and concept maps were motivators to them. Sixty-eight percent of them reported that feedback from a knowledgeable person, either the facilitator or another participant, had an important impact on learning. Blogs indicated that pedagogy, learning support, and assessment were very important.

xMOOCs

Ross et al. (2014) describe the "distant "rock star" lecturer or actor-producer, which is typical of xMOOCs, where an expert teacher is able to communicate his expertise widely (Rodriguez, 2012). Often, a famous academician pre-records lectures, but may otherwise offer little or no availability to students. xMOOCs are institution-driven, content-based, and behaviorist in that they focus on knowledge acquisition through repetition and testing (Rodriguez, 2012).

Bali (2014) participated as a learner in four Coursera xMOOCS. The courses included weekly lectures, weekly quizzes with prompt feedback, and some peer-reviewed assignments, but Bali experienced little teaching presence beyond weekly emails and announcements by faculty. Instructors did conduct online office hours when students could pose questions, and some offered Google Hangout, in which students could discuss issues synchronously. However, the effectiveness of Google Hangout has been described as limited (Ross et al., 2014) because of the small number of students who can participate and the technical/time limitations (Bali & Meier, 2014).

An AI Planning xMOOC that was run on Coursera at the University of Edinburgh, UK featured video lectures, a course discussion forum, Second Life experiences, course quizzes, programming assignments and a digital artefact creation assignment (Tate, 2013). Although content was emphasized in this course, efforts were also made to attract new communities of learners to the field of AI Planning and engage them in working together on this topic in the xMOOC space. To broaden participation, three levels of successful completion of the course were defined: awareness level (novices to the field), foundation level (participants who mastered the core course content), and performance level (participants who completed programming assignments and/or a digital artefact). Guest lecturers spoke and then interacted with students in the xMOOC discussion space. Second Life sessions brought together instructors, feature lecturers, and students. Facilitators noted a very low (4%) level of participation in discussion groups and in Second Life sessions, which they attributed to the expectations of participants toward xMOOCs and Coursera in particular, which tend to emphasize content consumption and use automated quizzes. Facilitators concluded that the collaborative environment they had intended to create did not work well with the Coursera platform and also did not fit the expectations of the participants. Facilitators also noted the significant dedication in time necessary to prepare for and run an xMOOC, which amounted to 30 days of preparation for a 5-6 week xMOOC, and many additional hours of facilitation time, video production, and copyright clearance.

OLDSMOOC was developed through collaboration of a number of educators in the UK as a team- and project-based experience for participants (Cross, 2013). Participants formed groups to collaborate on the development of an innovative project. The developers also served as facilitators, taking turns delivering lectures each week, with each lecturer also commenting on the presentation of the week before. Using a Learning Design Studio format, each week's activities focused on a different step in the design process. Participants participated in a Google Pages site, Cloudworks, Google Hangouts, and Google Groups. Participants could earn any or all of nine "badges" for their level of participation, task completion, and for being a peer reviewer and group member.

Hybrid MOOCs

Beaven et al. (2014) studied an 8-week MOOC run by the Department of Languages at the Open University in the UK that explored open translational tools and practices. This hybrid MOOC integrated elements from cMOOs and xMOOcs. Like an xMOOC, the course had stated objectives, weekly reading assignments, discussions, webinars featuring experts, and a series of specific tasks to be developed (task-based MOOC), However, it also had cMOOC characteristics, in that students collaborated on translations through blogs and no formal assessments were made. Some students indicated that they expected more guidance from the facilitators. The researchers concluded that one cannot make the assumption that students have the collaboration and communication skills necessary for success in a MOOC. Facilitators need to state in advance how students are expected to learn on the MOOC and the specific skills they need for success.

Ross et al. (2014) describe the experience of a team of teachers in designing and teaching a MOOC, EDCMOOC, a Coursera-based course that ran at the University of Edinburgh, in the UK. The authors describe EDCMOOC as a "hybrid" (Waite, et al., 2013) that was built on an xMOOC platform with teacher-defined structure, content, and assignments. At the same time, its approach to the learning process was social and non-hierarchical, giving it the structural and pedagogical characteristics of a cMOOC. The authors admit to feeling a great deal of uncertainty at the idea of the teacher being "present, but radically outnumbered…We wanted to foster the dialogue-rich, multimodel, and collaborative model of online education that we valued on our Masters program, but we had to assume that even if we could support and foster such conversations, we would not be part of most of them…" (p. 62). They wanted to provide strengths of the xMOOC model like structure, a narrative, and resources, but not to impose themselves too much on participants. The MOOC provided resources (films, academic papers, media reports, and videos) that were pre-selected by the instructors and were the foundation for activities. Also included were forum discussions, blogs, tweeting, an image contest, and two Google Hangouts where instructors responded to student discussions. Similar to cMOOCs, the formation of learner groups was encouraged,

as were social media for building personal and peer networks. No quizzes or tests were given, and there were no pre-defined learning outcomes. Assessment was only made at the end of the course on web-based digital artifacts students were asked to complete, as well as an assessment of the artifacts of three peers. This final project was given either a pass or a fail mark. The instructors ran a blog about their thoughts each day about teaching the MOOC. They indicated that they felt overwhelmed at times by the number of people, conversations, ideas, and resources circulating in the MOOC. They also noticed an early blog that said, "Where are the professors?," and at the end of the first week, "the outpouring of elation and relief from participants was overwhelming. They [students] had been waiting for "an embodied, authoritative, and recognizably 'teacher moment'" (Ross et al., 2014, p. 64) The authors realized that they needed to reassure students that they were there without preventing them from confidently participating in interactions with the other participants.

THE IMPORTANCE OF TEACHER PRESENCE

This section highlights major issues relating to the teacher's role in MOOCs that have been revealed in studies of individual MOOCs, reviews of MOOC research, and MOOC instructors' experiences and insights. The discussion is based on consideration of the concept of "teacher presence," which is one of three important types of presence in Garrison and Anderson's (2003) Community of Inquiry model in online learning. Teacher presence is the design, organization, facilitation, and instruction that occur. Social presence includes learning that occurs in a network of learners, and cognitive presence happens when learners collaborate to create something new. It could be argued that both social and cognitive presence are actually dependent on the teacher himself/herself—who is responsible for designing the course and facilitating participant interaction and learning as an interactive group. Downes and Siemens downplay the role of the instructor in cMOOCs: "too many educators fail to understand how technology is changing society" (Siemens, 2006, para. 10; Siemens, 2008). Bali (2014) agrees that many educators neither comprehend the possibilities that technology now offers to revolutionize education nor know how to integrate it into their teaching philosophies.

This attitude does not change the fact that educators are still the ones who design and offer MOOCs; thus, teacher presence is critical, cannot be dismissed, and needs to be defined more effectively. Saadatmand & Kumpulainen (2014) argue that the role of the teacher in a MOOC is as important as it is in a traditional classroom. Ross et al. (2014) argue that the view that MOOC teachers are distant celebrity figures, automated, or facilitated out of existence oversimplifies their role. A teacher's discipline, the institution, and personal preferences impact the way he plans for, designs, and structures a MOOC. Martin's (2012) survey of student and teacher attitudes toward MOOCs found that the majority of students were satisfied with the MOOC experience, but 35% were dissatisfied with the lack of instructor to student interaction. Instructors also mentioned this as a problem, but indicated that, although they were aware of this limitation, it was impossible for facilitators to interact with so many students. They suggested that teaching assistants be used to interact with students, and that peer evaluation can also help. Kop, Fournier, & Mak (2011) found that MOOC participants mentioned the lack of participation by facilitators as a negative aspect, and many expected that they would receive more direction from the teacher. Even in an online climate, a teacher should communicate to students concern about his/her successful progress through a course (Noddings, 2005)

The importance of social presence is underscored by the fact that MOOC students often experience a lack of feeling connected with others (Van Tyron & Bishop, 2009) that can impact interaction with others as well as the cognitive presence necessary for building knowledge together. Kop, Fournier, & Mak (2011) found that MOOC participants expressed a need for social presence, and interactive learning appears to depend on participants feeling "relatedness, care, mutual respect, and support" (p. 7). "Such care is offered, not imposed, and respects humans' needs for autonomy, self-determination, and challenge, as well as for security" (Arnold, 2005, p. 18). A MOOC should ideally include social presence and cognitive presence, functioning as "a place or community where people feel comfortable, trusted, and

valued, and where people can access and interact with resources and one another" (Kop, Fournier, & Mak, 2011, p. 9).

Instructor Experiences with MOOCs

Numerous veteran MOOC instructors have discussed issues they have encountered with this type of teaching. First, major difficulties occur when a few facilitators manage a large number of participants. (Kop, Fournier, & Mak, 2011). Some instructors feel overwhelmed by the many "housekeeping" tasks related to running a MOOC (Kolowich, 2013). The near impossibility of responding to hundreds of student emails was recognized by faculty at Harvard University running a MOOC, who asked alumni of a course to serve as mentor/monitors (Stewart, 2013). Still, "receiving feedback from a knowledgeable person" is crucial (Fournier, Kop, & Durand, 2014), and peer instruction and peer assessment are encouraged to provide this (Luo & Robinson 2014; Kolowich & Newman, 2013).

Second, MOOC instructors have difficulty facilitating student interactions (Mackness et al., 2010). Challenges with online discussions include structuring them so that students will co-construct knowledge and ensuring equity in participation. The potential for verbal sabotage of interactions by nonconstructive participants is also an issue. Bali (2014) comments that a safe place for students in a forum is difficult to achieve, but the issue becomes even more difficult when Twitter and Facebook are encouraged as part of the MOOC experience. Netiquette guidelines need to be provided (Butcher & Wilson-Strydom, 2013). Furthermore, the teacher's ability to offer discussion forums and other interaction tools to engage students in discussion is crucial if active knowledge construction is to occur (Zingaro & Oztok, 2012). "Sustained discussion is a required condition for active knowledge construction" (Hew & Cheug, 2012; Hewitt, 2005). MOOCS decenters the teacher's role, but allows more opportunity for student-student interactions (Stewart, 2013).

Third, MOOC instructors have reported feeling as if they are "speaking into a vacuum) (Hew & Cheung, 2012, p. 50) because of the lack of immediate student feedback. Apparently, some instructors feel a lack of "presence," just some MOOC students do. Fourth, being a MOOC instructor is both time consuming and expensive (Hew & Cheung, 2012; Kolowich, 2013; Belanger & Thornton, 2013; Daniel, 2012; Bayne & Ross, 2014). Kolowich (2013) said: "Typically a professor spent over 100 hours on this MOOC before the event started, by recording online lecture videos and doing other preparation…Once the course was in session, professors typically spent eight to 10 hours per week on upkeep…In all, the extra work took a toll, most respondents said teaching a MOOC distracted them from their normal on-campus duties" (p. 4).

Fifth, assessing student progress is a serious challenge. Some MOOC instructors do not have formal assessments of student progress, and some use automatic grading (Head, 2013; Markoff, 2013). Automatic grading is, in some cases, quite effective (Shermis & Hammer, 2012), but not all agree with this evaluation (Winerip, 2012). Peer grading is a possibility that is supported by some instructors (Cooper & Sahami, 2013), but its validity is questionable. Students' peers may not have the knowledge or skill to evaluate others' work, may not be trustworthy or dependable, and students may not trust their peers' ability to assess work adequately (Krause, 2013; Jacobs, 2013). Students find peer assessment particularly unsatisfactory when the objectives of the course are not well defined (Dochy et al., 1999). Another issue in assessment of student performance in a MOOC is the difficulty of knowing if students are cheating or doing someone else's assignments. Coursera does offer software called Signature Track, which tracks a student's coursework to find patterns or the absence of them in students' typing patterns (Coursera). A second solution is to require students to go to a testing center for proctored exams (Hew & Cheung, 2012).

MOOC instructors have also shared their thoughts about why they chose to participate in this challenging education environment (Hew & Cheung, 2012). First, they have found that involvement in MOOCs has the effect of enriching their teaching because of the stimulating conversations about education they engage in that rarely took place before (Bali, 2013; Hew & Cheung, 2012; Bayne & Ross, 2014; Kolowich, 2013; Hicks, 2015). MOOCs have presented the opportunity to rethink teaching approaches (Ross et al., 2014), and the knowledge gained is transferable to other teaching settings. Some

instructors want to jump on the bandwagon and achieve fame by being among the first to implement MOOCs; or to help their department of university achieve recognition for innovation (Head, 2013; Hew & Cheung, 2012; Bayne & Ross, 2014). Still others view MOOCs as a way of extending educational opportunities to the less fortunate, both in their own country as well as globally (Hew & Cheung, 2012; Bayne & Ross, 2014).

CONCLUSION

This paper has presented examples of XMOOCs, cMOOCs, and hybrid MOOCs, with focus on the role of the instructor in MOOCs. This was, of course, not an exhaustive list of MOOC implementations. See Hew & Cheung (2012) or Liyanagunawardena et al. (2013) for a research summary. The focus was on providing insights into how both researchers and facilitators are or are not addressing the issue of teacher presence in MOOCs. Although the instructor's role is undeniably quite different than what it is in face-to-face learning environments, the above discussion has presented powerful arguments for the enduring importance of teacher presence in MOOCs (Kop, 2011; Bayne & Ross; Ross et al., 2014; Bali, 2013, 2014; Liyanaganawandera et al., 2013; Koutropoulos et al., 2012). Participant success in MOOCs, particularly for students who have less knowledge in the course topic or less experience with technology in a learning environment, depends on the facilitator's design of the MOOC so that it facilitates learner interactions effectively, and at the same time defines an effective presence for the instructor during the MOOC. MOOC developers are now beginning to offer certificates or badges to MOOC participants, and some universities contemplate giving course credit for student participation in MOOCs. In this environment, issues such as assessment, tracking participation, prevention of cheating, and facilitator accountability for student learning outcomes will become increasingly serious, underscoring the need for more research into the teacher's role in MOOC learning environments.

Many educators wonder if MOOCs will eventually replace their traditional online courses. Ong & Grigoryan (2015) argue that, if the participation of MOOC students in course tasks cannot be validated, secure learning assessment is not feasible, and cheating and plagiarism cannot be controlled, universities will be reluctant to offer credit for MOOC courses. However, MOOCs will continue to be useful for non-traditional students seeking knowledge in a particular subject or for experts in a niche area who do not care about earning credit. Ong & Grigoryan (2015) suggest that a MOOC could be "partitioned" (p. 375) so that enrolled students would participate, but would also meet regularly with the instructor, while the MOOC would also be available to non-enrolled participants, who would participate free and with no credit, but totally on their own.

Future research is needed in a number of areas, such as determination of the appropriateness of MOOCs for various disciplines, scaffolding for less knowledgeable or tech-savvy participants, MOOC skill-sets that need to be developed in students, more effective assessment methods to prevent cheating and improve peer-assessment, the possibility of combining MOOCs with classroom teaching, and the types of support and training that can be provided to faculty for the development and delivery of MOOCs. Ross et al. (2014) wrote that…"acknowledging the complexity of teacher positions and experiences can contribute crucial perspectives to debates about what the MOOC is for and what it can accomplish, including new ways of thinking about retention and access" (p. 67). MOOCs are still very much in their infancy, and debates about their effectiveness, appropriateness, and sustainability will continue for many years.

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