

MOOC Pedagogy: Gleaning Good Practice from Existing MOOCs

Maha Bali

Associate Professor of Practice
Center for Learning and Teaching
The American University in Cairo
Cairo EGYPT
bali@aucegypt.edu

Abstract

The revolutionary potential of massive open online courses (MOOCs) has been met with much skepticism, particularly in terms of the quality of learning offered. Believing that a focus on learning is more important than a focus on course completion rates, this position paper presents a pedagogical assessment of MOOCs using Chickering and Gamson's Seven Principles of Good Practice in Undergraduate Education and Bloom's taxonomy, based on the author's personal experience as a learner in four xMOOCs. Although most xMOOCs have similar characteristics, the author shows that they are not all offered in exactly the same way, and some provide more sound pedagogy that develops higher order thinking, whereas others do not. The author uses this evaluation, as well as reviews of other xMOOCs in the literature, to glean some good pedagogical practices in xMOOCs and areas for improvement.

Keywords: massive open online course (MOOC), xMOOC, pedagogy, Bloom's taxonomy, Seven Principles of Good Practice in Undergraduate Education

Introduction

MOOCs have received a lot of media attention recently, hyped by some as a "revolution" ([Friedman, 2012](#)) and a "noble" endeavor ([Caplan, 2013](#)), and yet many are skeptical of the values behind them and possible detrimental consequences (see, for example, [Kolowich, 2013](#); [San José State University Department of Philosophy, 2013](#)), as well as the quality of online learning provided and whether it deserves credentialing (e.g., [Snyder, 2012](#)). It would be more accurate to say there is no unified "ultimate goal" for MOOCs, and one cannot generalize across institutions ([Caplan, 2013](#); [Lakshminarayanan, 2012](#)) or even courses, as motivations vary from philanthropy/altruism to marketing/branding to future profit-making ([Kolowich & Newman, 2013](#); [Yuan & Powell, 2013](#)).

MOOCs, however, are not conceptually as revolutionary as they seem. They are the next logical step in two increasingly growing phenomena: online learning, which has been growing since the start of the millennium ([Butcher & Wilson-Strydom, 2013](#)) and open educational resources, such as [MIT OpenCourseWare](#) and [iTunes U](#) ([Yuan & Powell, 2013](#)). MOOCs are also an extension of a model already quite common in the online world: the idea of making profit out of offering something for free ([Glance, 2013](#)), although one could argue that MOOCs help universities fulfill their ultimate non-profit goals of offering knowledge to society and widening access to education ([Glance, 2013](#)).

Writing about a hot topic such as MOOCs is difficult because rapid developments in the field can make one's writing seem outdated before it gets published (as [Lakshminarayanan, 2012](#) also notes). In the few weeks it took to put together this paper, revolutionary things happened to MOOCs. For example, [Coursera](#) teamed up with global translation partners ([Soldak, 2013](#)) in a move toward making MOOCs more accessible to people not fluent in the English language (although it is unclear which aspects of the courses would be translated). Between the first and second drafts of this paper, I enrolled in and observed (but did not fully participate in) more MOOCs and discovered different formats of MOOCs beyond the ones reviewed in this position paper, reinforcing my general view that MOOC pedagogy cannot be evaluated as a genre, but each MOOC needs to be looked at individually. As a new phenomenon, much is written about MOOCs in trade journals and individual blogs, which means that a plethora of ideas gets published very quickly. A recent review of scholarly literature on MOOCs found

that most published research focuses on connectivist MOOCs or cMOOCs ([Liyanagunawardena, Adams, & Williams, 2013](#)), which have existed for a longer time than xMOOCs ([Daniel, 2012](#)), although the literature on xMOOCs is growing (e.g., special issues in [this journal](#) and in [eLearning Papers](#)).

It is important when discussing MOOCs to make two distinctions: first, one cannot generalize about MOOCs as being "all good" or "all bad." It is not even enough to distinguish between connectivist (cMOOCs) versus traditional (xMOOCs) ([Daniel, 2012](#)), although this distinction is important. Connectivism, the belief that "learning is a network phenomenon, influenced (aided) by socialization and technology" ([Siemens, 2006](#), Background section, para. 5), is considered the latest generation of distance education pedagogy ([Anderson & Dron, 2011](#)), and is the pedagogical philosophy behind cMOOCs ([Rodriguez, 2012](#)). Social media are used extensively in connectivism because it asserts "that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks" ([Downes, 2007](#), para. 1). Most of the cMOOCs I have come across are *about* connective knowledge or at least some form of eLearning or technology (e.g., the cMOOCs in [Kop, Fournier, & Mak, 2011](#); [Mackness, Mak, & Williams, 2010](#); [Rodriguez, 2012](#)); some are not regular university courses but professional development activities for educators and/or technologists, and are similar to earlier professional development events (e.g., *Ikarus* in Herberger, 2006). Moreover, the high degree of autonomy, flexibility, and technological skill needed to benefit from cMOOCs ([Mackness et al., 2010](#)) suggests that connectivist approaches are unlikely to be widely used in existing traditional university courses in the short term. On the other hand, xMOOCs are regular university courses converted to MOOC format, and as such are more structured and follow more widely known pedagogies used face-to-face (F2F) and modified for online teaching – those course designs are mainly influenced by cognitive-behaviorism and some social constructivism ([Rodriguez, 2012](#)). This paper focuses on xMOOCs offered primarily on one platform, Coursera. In reality, much of the media hype on MOOCs refers to xMOOCs, particularly as a way for elite universities to offer some of their education to the masses.

Second, when discussing the pros and cons of MOOCs, one must clarify one's perspective. In this paper, I take the perspective of a learner, and I evaluate the pedagogical approaches of the different MOOCs. Discussions of the wider consequences for higher education as a whole are not my purpose here. Although some have suggested using MOOCs as a way to support flipped classrooms or blended learning in regular university courses (e.g. [Blom, Verma, Li, Skevi, & Dillenbourg, 2013](#); [Kolowich, 2013](#); [Lakshminarayanan, 2012](#)), my objective here is to evaluate MOOCs as stand-alone courses.

A recent survey ([Kolowich & Newman, 2013](#)) of 103 faculty teaching MOOCs on Coursera produced interesting results: Even though 79% of respondents think MOOCs are worth the hype, only 48% consider their MOOC as academically rigorous as the classroom version, and only 28% think students should receive institutional credit for completing their MOOC. Although the survey's authors admit it may suffer from response bias (e.g., the most enthusiastic faculty may have been the ones to respond), I will refer to it where appropriate, since the MOOCs I am discussing were all offered via Coursera.

This position paper will evaluate the pedagogical potential of MOOCs, using my concrete experience as a participant observer in four different Coursera courses. An important position I take in this paper is that each MOOC should be evaluated separately, rather than evaluating MOOCs as a genre; however, looking at different MOOCs, I attempt to find transferable good practice that can help designers of future MOOCs. Although the majority of the paper reflects on the four MOOCs I have personally experienced, where appropriate, I also draw upon other reviews/reflections of MOOCs from [The Chronicle of Higher Education](#) and [MOOC News & Reviews](#), and reflect on other MOOCs I have observed but not participated in fully.

Pedagogical Evaluation

The majority of xMOOCs involve original videos ([Glance, Forsey, & Riley, 2013](#); [Kolowich & Newman, 2013](#)), but [Guzdial \(2013\)](#) points out that this is "a fundamental misperception of how teaching works," as MOOCs are built around online lectures, which should not be the primary pedagogy in universities. While offering these lectures online allows students to watch videos multiple times and at their own pace, this is not necessarily the best way for every person to learn (Prensky, 2011), and meaningful learning is unlikely to result from this kind of pre-packaged instruction ([Morris & Stommel, 2013](#)).

My experience seems to be representative of xMOOCs (based on [Glance et al., 2013](#); [Guzdial, 2013](#)) in that there were weekly lectures (sometimes split up into shorter mini-lectures), weekly quizzes with immediate feedback, and some courses had assignments that were peer-reviewed, although none of the

MOOCs I participated in involved writing-intensive peer-reviewed assignments. All of the courses had discussion forums that students could use for their own purposes, and in some courses, instructors directly encouraged students to use the forums, though none of the instructors had strong presence on the forums. Attempting to evaluate MOOC pedagogy, however, will highlight subtle differences in the ways the courses were offered that have the potential to promote or inhibit learning.

In trying to address learning in MOOCs, one needs to consider general design principles of good pedagogy, the challenges of online learning in general, and the specific challenges of MOOCs, which include the large number and diversity of students' cultures, languages, ages, experiences, educational backgrounds, and motivations for participating ([Anderson, Collier, & Horii, 2013](#)). Because xMOOCs are college courses converted to a MOOC format, I choose to evaluate their pedagogy based on approaches often used to evaluate higher education, rather than distance learning.

Overview of Four Courses

Table 1 introduces and compares the four courses I took. I kept the course details (title, instructor, institution) anonymous to preserve confidentiality, and also because these details are not important in my analysis. In the upcoming analysis, I look at different aspects of the courses, whereas this table allows readers to look at the details of each course as a whole and to compare courses on various factors.

All the courses had weekly videos and quizzes as well as active discussion forums, but only Course 2 had quizzes that tested understanding beyond mere recall. Course 1 was the only one without any other assessments, and it was also the only one that offered online office hours with the instructor. Courses 2 and 3 had peer-reviewed assignments, whereas Course 4 had reflective assignments that received no feedback.

Good Practice in Undergraduate Education?

Although MOOC participants may not be primarily undergraduate students (e.g., [Hill, 2013](#)), many of the courses offered are fundamentally undergraduate courses taught at the institution converted into MOOCs. The pedagogy of xMOOCs needs to be scrutinized because the earliest xMOOCs seem to have been designed without learning from previous models of online education and without accounting for the impact of massiveness and openness ([Guàrdia, Maina, & Sangrà, 2013](#)). However, as [Stewart \(2013a\)](#) proclaims, although online education is clearly different from traditional education, in essence, "it is teaching and learning for all the same reasons as any other teaching and learning experience, and we need to approach it with our whole selves, not just as mediators of technology" (para. 27). It is therefore suitable to evaluate these courses according to Chickering and Gamson's (1987) "Seven Principles of Good Practice in Undergraduate Education," which [Siemens and Tittenberger \(2009\)](#) suggest are appropriate for evaluating quality in online learning, and which is a model still used in discussions of higher education in my own field of faculty development. This is not to say that the model accounts for the nuances of online learning, massiveness, or openness, but to say that whatever the format of delivery, these principles remain acceptable as good principles for improving learning and can be used to evaluate university courses. In what follows, I take each principle and assess the extent to which it has been met by MOOCs I have experienced.

The first principle is encouragement of student–faculty contact. As would be expected in a course catering to thousands of students, there can be very little student–faculty contact. Although every instructor's videos included the instructor him/herself speaking to the camera (unlike [Khan Academy](#) where you cannot see the instructor), and there were weekly emails and announcements by the instructors, there was little other "teaching presence" (to use a term from [Anderson & Dron, 2011](#)) beyond the sage-on-the-stage role. Faculty and teaching assistants rarely participated in discussion forums, but students often managed to take the discussion forward without teacher facilitation. [Duhring \(2013\)](#) gives an example of a faculty member who found students responding to each other much faster than he could and reaching the correct answer without his intervention. Course 1 attempted to improve upon lack of teacher presence by having online "office hours" where students could pose questions, and the instructor would collect these and respond to them on a different day. The instructor in the particular course where this was done did so in a very personable manner and answered the questions with an informal tone. There is a known [edX](#) course that offers a kind of indirect contact with the faculty member, as the videos include parts of the F2F discussions in the [Harvard University](#) lecture hall. Presumably, watching the video would be like attending the F2F class but staying silent while observing other

students interact with the professor. However, the open letter written by faculty in the [Philosophy Department at San José State University \(San José State University Department of Philosophy, 2013\)](#) implies that this course delivery format further shows the importance of interactivity for learning, and how lack of it in MOOCs limits the learning process. Some MOOCs use [Google Hangouts](#), discussing issues synchronously via web-based conferencing, with some students asking questions via text and others as part of the Hangout. But as [Ross, Sinclair, Knox, Bayne, and Macleod \(2014\)](#) recognize in their paper (also in this issue of JOLT), this allows some students to communicate directly with the course instructor(s), but is still very limited in scope due to the small number of participants possible, and the technical and time limitations of synchronicity (see also [Bali & Meier, 2014](#)). It is therefore impossible to give all students this learning opportunity.

Table 1. *Comparison of the four courses*

Course	Course 1 (Psychology)	Course 2 (Mathematics)	Course 3 (Nutrition)	Course 4 (Health)
Length	12 weeks	8 weeks	5 weeks	8 weeks
Course Provisions	Weekly video lectures and downloadable slides, readings, quizzes (3 attempts)	Weekly video mini-lectures, optional textbooks, weekly quizzes (multiple attempts, changing questions), two peer-reviewed assignments	Weekly video mini-lectures, optional readings, weekly quizzes (multiple attempts), four peer-reviewed assignments	Weekly video mini-lectures, optional readings, weekly quizzes (multiple attempts), weekly assignments (not peer-reviewed)
Flexibility	Changed quiz deadlines so that all quiz deadlines were end of course date	Strict deadlines	All quiz deadlines were end of course date; assignments had deadlines so that peer review could be done in a timely manner; however, a second "track" was available that excluded assignments	All quiz and assignment deadlines were end of course date
Highlights	Discussion forum provided space to discuss areas not covered in the course; Instructor held online office hours	Students created their own study notes and shared them with others; Rigorous course (very close to how I would expect an undergraduate course to be)	Discussion forum provided space to discuss areas not covered in the course; peer-reviewed assignments allowed one to create something by applying learning in the course, then to view and assess the work of others	Assignments were reflective and encouraged deep analysis of what was learned, applying it to one's individual context
Weakest Aspects	Quizzes as only assessment; quizzes tested recall only; large number of students interested in certain aspects of the course that were not the instructor's focus	Strictness of deadlines; high time requirements (but this was part of the rigor)	Very laid back – almost felt like taking a class in a hobby, rather than a college course	No feedback on assignments at all

While the lack of contact with faculty can compromise learning in a university course, and its impact cannot be underestimated in terms of impact on learners, it would be unreasonable to expect deep or frequent faculty–student contact in a massive course, and it is highly unlikely that learners expect otherwise when enrolling. [Stewart \(2013b\)](#) suggests that the massiveness of MOOCs decenters the teacher's role in the learning experience. MOOCs meet the lack of faculty–student contact with enormous potential for student–student interaction – addressing the second principle of good practice, which is encouraging cooperation among students (and which [Stewart, 2013b](#) suggests could happen better in MOOCs than in traditional large classes). All MOOCs I took had busy discussion forums, used for sharing course notes, asking questions about the lecture, and discussing topics related to the course but not directly covered in the lectures. Some MOOCs encourage students to discuss specific ideas in the forums each week, while others give no such guidance. In some courses I learned so much more from the community discussions in the forums than I could from the instructor in any course. However, the forums were not mediated, nor were "netiquette" guidelines provided (important according to [Butcher & Wilson-Strydom, 2013](#)), and so there were instances of tension and even rudeness among students in several courses. For example, in Course 1 there were a series of sarcastic and antagonistic anonymous postings (presumably by the same person) criticizing a group of us having a side discussion. This happens in other MOOCs (e.g., [Heidebrink, 2013](#)), and has the potential of intimidating and even silencing some students or demotivating them ([Mak, Williams, & Mackness, 2010](#)). Instructors may not necessarily need to participate in discussion forums to answer questions as students often manage to do that on their own ([Duhring, 2013](#)), but some mediation may be required to provide a "safe" space for participants. Such a "safe" space, while already difficult to provide within the confines of a MOOC platform's discussion forum, can become even more difficult when instructors promote more social interaction via social networking such as [Twitter](#) and [Facebook](#). Some courses I have recently seen expect students to contribute frequently on Twitter, and facilitate aggregation by having a Twitter feed on the course page itself. But it would seem difficult for course designers/instructors to provide a safe environment beyond giving netiquette guidelines to students and intervening when some infringement is reported.

The other way some Coursera courses increased contact among students was via the use of peer assessed assignments (used by 34% of instructors surveyed by [Kolowich & Newman, 2013](#)). In Course 3, this started out as graded rubrics, based on instructor-created criteria. The instructor improved this slightly by later adding space for peer reviewers to give written comments to justify the grade. However, there was no further interaction between peer reviewers; one could not go back and forth to discuss further. This may have been suitable for the level of assignment in this particular course, but further discussion may be needed in other courses' teaching, for example, composition ([White, 2013](#)). The peer review offered an opportunity to see other people's work and learn from it, and there was the option of doing more than the required number of peer assessments. Although peer review facilitates scaling online assessment, the lack of back-and-forth possibilities severely limits its potential, even if one accepts the variations in quality of inexpert peer feedback.

The third principle relates to encouraging active learning. Course 1 relied exclusively on quizzes that tested only recall. In any course, assessments should address more than recall, but this is even more so in an online course, where students are already sitting on a computer with an Internet connection. Course 2 addressed active learning better: Quizzes tested understanding and application, and when one repeated the quiz, the questions changed, so that doing more quizzes was a way to practice what one learned in the course and engage with the material. This worked wonderfully for this course, which had mathematical content. Courses 3 and 4 involved assignments that had students applying what was learned to their real lives.

The fourth principle, giving prompt feedback, was easily met by quizzes that provided immediate feedback. The feedback was either simply whether the answer was right or wrong (Course 1) or a longer explanation was provided (Course 4). Peer assessments allowed feedback to be given to students by others, and the deadlines there helped speed up the feedback loop. However, Course 4's reflective/analytical assignment received no feedback whatsoever. Whereas I believe reflection is an end of learning in itself (i.e., not necessarily requiring validation), I would have liked to see other people's reflections as part of a peer review process.

One more element of promptness of feedback related to how the instructors responded to student feedback on the course design. For example, Course 1 changed the quiz deadlines to the end-of-course date, to make it more flexible (and I assume also to improve completion rates). The instructor also

responded positively to student complaints about poorly worded quiz questions and removed them from the grade. Promptness of feedback in discussion forums was afforded by the participants themselves, and this level of discussion forum activity occurs in some courses (e.g., [Duhring, 2013](#)), but not others (e.g., [Somberg, 2013](#)). The large numbers of participants and different time zones almost guarantees there will be other participants online when one person posts a question on the discussion forum; in one course, one of my original postings started a long discussion, whereas another received no responses whatsoever.

I found the fifth and sixth principles (emphasizing time on task; communicating high expectations) missing in all but Course 2. Course 3 was taught in such a "laid-back" style, emphasizing that you need not invest a lot of time in the course. It did not feel like a college course, but more like an adult education class to learn a new hobby. To complete Course 1, one could spend half an hour each week just responding to the quiz questions that tested only factual information. Whereas the low time investment needed is useful for adult learners with busy lives, it also reduced the potential learning one could gain from the course. Course 2 communicated higher expectations and required time, and was indeed similar to a "real" college course, but it was actually the only one I could not officially complete because of the inflexibility of the deadlines. It is possible that in order to increase course completion rates, the instructors of some MOOCs choose to simplify their assessments and to keep their courses flexible. This, however, compromises the perceived "quality" of learning implied by a "Statement of Accomplishment" in those particular courses. Course 3 addresses this by offering two "tracks," one for doing only quizzes, and another for completing assignments in addition to quizzes.

One other factor that lowered "expectations" in the courses was the quality of readings, which I found often to be below those expected in a college-level course. In most courses the readings were optional, and were freely available e-books, government/organizational websites, or newspaper articles. While these were good resources to collect on subject matters that interested the learners, they were often not "scholarly" academic sources of the type usually used in college courses. Online readings were clearly more accessible to the majority of students, and being non-scholarly, also easier to read for the diverse participants than a more specialist journal article. However, few courses even suggested such further reading for those who had a personal interest. Course 4 included scholarly research without overwhelming students by setting an assignment that involved browsing through abstracts of journal articles using a particular subject-specific database. Recent MOOCs I have taken use good-quality open access journals and some give students limited access to an e-book relevant to the course: on a free-to-browse, pay-to-download basis.

The final principle of good practice is respect for diverse talents and ways of learning, and given the diversity of learners in MOOCs, I would truncate this principle to "addressing diversity of learners" in general, which of course is more complex with an intercultural audience who do not all have English as their first language ([Bali, 2014](#)). Whereas all the courses included lecture videos and quizzes, as well as discussion forums, there were other elements of pedagogy to address diverse learners. First, some non-native speakers were happier to read transcripts or lecture slides along with or instead of the lectures. Not all courses provided these, but some students took notes and provided them for others. In courses where assignments provided students opportunities to apply what they learned, this authentic assessment addressed a different learning style besides quizzes. Because discussion forum participation was optional, those who learned well with others could use them, and those who preferred not to, or did not have time, could comfortably opt out, or "lurk" if they chose.

There were two other ways in which to ask whether the courses could meet the needs of diverse learners: First, could a one-size-fits-all course meet the needs of various participants with different motivations? For example, Course 1 focused most weeks on the medical side of the course, whereas a large portion of the participants were interested in the social aspects of the topic (as was evident from forum discussions). In this way, even though the course was not designed to meet the needs of those participants, it provided the community space possible for them to do so independently, albeit tangentially. If MOOCs are to continue being avenues for lifelong learning, flexibility in meeting learner's needs will be crucial to their success.

The second is related to learners from different countries. In some courses, examples focused only on the U.S./West; however, Course 4 explicitly incorporated data from other countries (only around 50% of students were from the U.S. according to the pre-course data published about the course), and encouraged students to use the discussion forums to post examples from their own countries. There

were also many non-native speakers in the courses. As mentioned earlier, some of them preferred to use transcripts or lecture slides rather than listen to lectures in English; reading the discussion forums, one could see that some had used some sort of translation software in order to contribute. Coursera's recent partnership with translation partners may facilitate participation to students for whom studying in English is difficult.

Finally, could the medium address differing access to technology? For students with low bandwidth, the availability of transcripts or lecture slides was an alternative to streaming video. Mini-lectures were often easier to watch than one long lecture. One of the problems with strict deadlines in some courses is that they do not take account of possible cuts in electricity and Internet access in some developing countries. Egypt, for example, has a generally good Internet infrastructure, but occasionally has such cuts ([Bali, 2013b](#), [2014](#)).

The next section further explores higher order learning in MOOCs.

Higher Order Thinking? Bloom's Taxonomy

Bloom's taxonomy has long been used by educators as a guide for developing higher order thinking in their learning outcomes and in the design of learning experiences and assessments ([Krathwohl, 2002](#)). The revised Bloom's taxonomy moves from the lower levels of Remembering (or recall), to Understanding, Applying, Analyzing, Evaluating, and Creating ([Krathwohl, 2002](#)). The revised taxonomy also tackles the development of these higher order skills on four dimensions of cognitive, conceptual, procedural and metacognitive knowledge ([Krathwohl, 2002](#)).

A course that tests learning only through quizzes is unlikely to promote deep learning. I have experienced multiple choice questions that test higher levels of thinking, but in Courses 1, 3, and 4 the questions basically tackled the first two levels of Bloom's taxonomy: remembering and understanding, and mostly on the cognitive dimension, with occasional conceptual knowledge. Testing "recall" (remembering) in an online quiz is meaningless, as previously noted. But how far can a well-designed multiple-choice question encourage, or show, deep reflection? This is where the assignments come in.

In Course 3, there was a weekly assignment to "apply" what we learned by "creating" something of our own, and then we were to review the work of at least five peers and "evaluate" it according to the instructor's criteria. The assignment tackled the procedural dimension of learning, while the peer review process involved some level of metacognitive learning.

Course 4 assignments required students to reflect and "analyze" an aspect of their everyday life based on the week's topic, using guiding questions with open-ended answers. These assignments tackled the conceptual and metacognitive dimensions of knowledge. Despite the learning benefit one could gain from these assignments, there was no peer or instructor feedback.

Outside the "planned"/"designed" learning experiences above, students in discussion forums were able to interactively engage in higher order learning. In Course 1, students focused on some seemingly factual information provided in the weekly lecture and conducted further literature searches to look for contradictory evidence; they then discussed how their personal experiences contradicted the evidence shared in the course. Learners responded to each other and questioned the credibility and logic used in other posts.

A different course I observed (but did not participate in) directly targeted the development of critical thinking, both because of the subject matter (controversial), and because the videos showed the instructor conducting critical real-life discussions with students in a lecture hall. However, learners in the MOOC could only observe, not participate directly in, such discussions.

Overall, I found it surprising that Course 1 seemed to completely ignore the promotion of any kind of learning beyond the lowest levels of Bloom's taxonomy. While some F2F university courses are conducted in this manner, I was very disappointed to find this extended to a MOOC from a reputable university.

Discussion

Generalizations regarding the potential of MOOCs for learning are not helpful to truly understanding what happens inside MOOCs. Each MOOC is different (though not necessarily unique), and each cohort is different, for example, in the extent to which discussion forums are utilized ([Somberg, 2013](#)). I have

shown some variations in the pedagogies used in xMOOCs, and also shown ways in which some courses attempted to promote good pedagogy.

Being "massive" and "open" are the challenges unique to MOOCs, as opposed to other online courses: The result is a potentially very large participant population with diversity of age, experience, culture, language, preparedness, and motivation. However, if instructors continue to design MOOCs as they would design their regular F2F courses, or even non-massive/non-open online courses, they fail to maximize potential learning for the greatest number of students, because it means they are not putting the students at the center of the learning experience. Both the "massive" and "open" aspects pose obvious challenges to designing and delivering online courses, but they also offer unprecedented opportunities for enriching the learner, and also teacher, experience.

Good practice I have gleaned includes encouraging peer-to-peer interaction in discussion forums and peer assessments. This encouragement of peer interaction is central to social constructivist views of learning ([Anderson & Dron, 2011](#)), but is more important in MOOCs where the large number of students prevents close interaction with instructors ([Stewart, 2013b](#)), and the diversity of students offers opportunities for further learning. Although previous research ([Bali & Ramadan, 2007](#)) recommends limiting numbers of students in online discussion forums, the case for MOOCs is different, as discussion forum participation is usually not required; information overload is still possible, but something that some (but not all) learners can eventually deal with ([Morrison, 2013](#); [Mak et al., 2010](#)) as they realize they need not participate in discussions unless they wish to. However, one important problem with discussion forums and peer assessments is the occasional need for some kind of facilitation to avoid alienation and promote a safe learning environment. Although community participants can intervene, this may not be sufficient or timely. Netiquette guidelines (as suggested by [Butcher & Wilson-Strydom, 2013](#) for online courses) may be the minimum needed. Similarly, peer reviews have variability in quality and courtesy ([Heidebrink, 2013](#); [White, 2013](#)), and clear guidelines there might also be appropriate. More complex issues in discussion forums relate to emergent power dynamics caused by differences in participants' capacities to articulate themselves eloquently due to language skills, cultural capital from previous online learning experiences, or higher content-knowledge, for example, as well as a devaluing of the value of silence and lurking as avenues for learning ([Gulati, 2004](#)).

Those who design and teach MOOCs also need to consider the balance between encouraging course completion and offering deep, critical learning. Some aspects of encouraging completion, such as keeping deadlines flexible, are helpful; however, providing overly simple assessments, such as quizzes, tests only recall, shows very low expectations, and makes a MOOC too distant from a "real" university course to be taken too seriously. Some consideration to how to develop higher order thinking and deep learning approaches to MOOCs is needed. The courses I took (and others I have observed) had examples of assignments that required students to apply what was learned and to reflect deeply and analyze one's own personal experience. However, Course 1 did not. The course mentioned earlier that shows F2F discussion between the teacher and students offered one way of modeling critical thinking in practice to students. However, this should be taken further by encouraging MOOC participants to think critically in assignments and in discussion postings.

Although these conclusions were reached by comparing my personal experience to the traditional models of Bloom and Chickering and Gamson, [Guàrdia et al. \(2013\)](#) gleans some overlapping best practices based on learner's views, including the importance of emphasizing collaboration and peer assessment, as well as improving quality criteria to promote critical thinking. Their research, however, seems to have focused more on cMOOCs (given the hashtags they used for finding learner views, and the fact that students were tweeting in the first place, something often central to learning in cMOOCs). Therefore, they also included best practices related to emphasizing social networking, and the need for clearer course plans and learning outcomes: The latter is usually quite clear in xMOOCs; the former not utilized enough in xMOOCs, but can be used to enhance peer interaction.

Not every course needs to follow all the best practices of Chickering and Gamson, but there needs to be some consideration of where these good practices fit into the subject matter and learning outcomes of the course, particularly in relation to developing higher order thinking. It is important to provide students with the space to engage with beneficial learning opportunities ([Barnett & Coate, 2005](#)), but these opportunities need to first be accessible to these students.

A limitation of this paper is its reliance on my personal reflections, without triangulation. As a faculty developer, I rarely, if ever, evaluate a course without taking feedback from learners. However, this paper

was written centered on my personal reflections for several reasons: First, I had ethical concerns regarding publicly available data related to MOOCs and was unsure how to get permissions; and second, I wished to publish my reflections as soon as possible given the sparseness of scholarly literature on MOOCs at the time. I tried to include voices of other learners by including reflections and reviews of MOOC participants (e.g., [Haber, 2013](#); [Heidebrink, 2013](#); [Morrison, 2013](#); [Somberg, 2013](#); [White, 2013](#)) where their views supported, contrasted, or extended my own. I also tried to provide "thick description" so that readers could imagine what it might have been like to participate in each of the courses I included in this study.

Having said this, the purpose of this position paper was to contrast the pedagogies across different MOOCs, to benefit others from my reflections on the MOOCs I participated in, and to offer a possible way of evaluating their quality based on traditional approaches used in higher education. Since xMOOCs are positioned as massive options for traditional campus-based courses from elite universities, it would seem appropriate to evaluate them based on traditional criteria used in higher education. This is not to say that such an evaluation gives the full picture of the pedagogical value or potential of MOOCs: They may require additional quality measures.

Possibilities for extending this research include incorporating learner and instructor views, either from MOOCs the researcher participates in or by systematically researching public reviews of MOOCs. Another potential area of research may be to investigate cultural issues in MOOC participation, focusing on learners in developing countries and issues of technological and linguistic access.

Conclusion

In some ways, the benefit of MOOCs lies not in the way they are designed, nor in what the instructor "assigns" participants, but rather in the spaces for engagement made possible by the course. It lies in the flexibility of pathways and options for lifelong learning to occur ([Bali, 2013a](#); [Kitsiri, 2013](#)). An instructor may not necessarily intend to develop critical thinking or to promote interaction among students, but it can still happen in the MOOC. However, offering a MOOC that neither intentionally develops higher order thinking, nor promotes student interaction, is shortchanging the participants and providing nothing like a true college education. While cMOOCs offer richer possibilities for learner interaction without the need for constant teacher presence, [Siemens \(2006\)](#), the key figure behind connectivism, recognizes that most educators remain unaware of the potential of technology to transform society. Having worked with university faculty for ten years, I recognize that it remains likely that most traditional university faculty would be uncomfortable relying on social networking should they decide to offer online courses, given that some MOOC instructors have little experience teaching online at all. Beyond technical skill, instructors may feel unable to incorporate new technologies into their existing teaching philosophy, or at a deeper level, unable to imagine possibilities of new technologies modifying their teaching philosophies into ones that are less and less teacher-centered and give more control to learners – "too many educators fail to understand how technology is changing society" ([Siemens, 2006](#), para. 10). There is evidence of a growing interest in technology by the large number of teachers who have reportedly participated in cMOOCs ([Ross et al., 2014](#)), but these are probably still small in proportion to the teaching population.

It must also be noted that not all learners are comfortable with alternative, connectivist approaches to learning, as it requires a high degree of technical competence, autonomy, and a strategic approach to information overload ([Mackness et al., 2010](#)). The large number of mature MOOC participants would suggest variability in technical skill. I believe that MOOC instructors/designers need to review the pedagogical challenges of teaching a MOOC and consider whether they are able to provide good pedagogy as a start, and from there, to explore the many possibilities offered by contemporary educational technologies that suit their learners and their own teaching philosophies.

It is possible that we need to move beyond traditional approaches to evaluating college courses when attempting to evaluate quality of MOOCs. But until then, the designers of xMOOCs can do better if they focus more on promoting deeper learning than on designing easy assessments that encourage course completion. The current trends may help improve completion rates in the short term, but harm the reputation and potential of MOOCs in the longer term.

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Acknowledgments

This paper has benefited from the feedback of the peer reviewers and editor, as well as from early comments by Dr. Aziza Ellozy and advice from Dr. Gihan Osman. The author would like to thank them all for their support.



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