Guidelines for a Successful MOOC

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While online learning has been gaining momentum for over the last decade, Massive Open Online Courses (MOOCs) have launched online learning into the lime-light of academic institutions. A host of major schools, from the Ivy Leagues to the University of Alberta, have begun seriously examining the MOOC phenomenon by creating a number of pilot courses for students in subjects, ranging from introductory psychology to artificial intelligence, with the premise of open enrolment for anyone with access to a computer. One of the major criticisms facing MOOCs, however, is the lack of quality guidelines and instructor experience can lead to low quality courses that are not worth the time of students, especially when compared to traditional education. As a result, while there have been some very successful MOOCs, there have also been some blunders that hurt the image of affiliated institutions, as well as the MOOC community as a whole. With the help of emerging research and personal experience, this paper will begin by recommending a number of best practices to help those interested in creating or improving their own MOOCs, and conclude with a summary of the recommendations. Ultimately, MOOCs make the most sense when done well, and the following strategies and elements can make your MOOC as effective as possible.

**1. Defining a MOOC**

In order to help understand how to create or iterate on a MOOC, it is crucial that instructors have a solid definition of what it is they are creating. A MOOC can be defined as an online, guided exploration of a specific field of study, open to any interested learners, that utilizes “the connectivity of social networking, the facilitation of an acknowledged expert in a field of study, and a collection of freely accessible online resources” (McAuley, Stewart, Siemens, & Cormier2010, p. 4). MOOCs feature many similarities to traditional courses, such as weekly topic schedules, assignments, quizzes, lectures, midterms, and final exams or final projects, depending on what is appropriate for the course. MOOCs typically have no registration fees or expectations for prior knowledge of subjects; however, some institutions may offer additional accreditation, such as course credit, for a small fee. There is typically an enrollment period and a start date to mark when the next iteration of the course begins. The start date is especially important because it marks when assessment becomes available, and the weekly pacing helps keep learners motivated and involved as a community. A course cannot be permanently available due to the resources required for marking, but the lecture videos and open resources tend to be available for longer periods. Since MOOCs are open to anyone with an internet connection, a single course can expect to have tens-of-thousands of enrolled students (McAuley et al., 2010, p. 11). MIT’s Circuits and Electronics MOOC has had the highest known enrollment numbers at over 150,000 unique users (Hill, 2013).

It is also important to note that all MOOCs are different, and can vary widely in terms of structure, assignments, and time commitment. Some courses may only have a final project that is marked by peers, while others consist purely of multiple choice quizzes, midterm, and final exam. Likewise, some courses may expect 1-2 hours of time commitment a week in order to do well, while others request 8-10 hours in order to better understand difficult concepts. Students typically receive a certificate of completion if they do well enough, and some courses offer certificates with distinction if finishing with higher grades (i.e., 85%). Although MOOCs can vary widely, most tend to fit within this definition with slight variations.

**2. Participating in MOOCs**

One can read all about MOOCs, however, participating in a number of them will give a much better understanding of what can be expected. By participating, prospective instructors can learn first-hand what they enjoyed, what they did not like, and what they would like to bring to future courses. It can be difficult to find the time to commit oneself to a MOOC as a student, but there are a number of useful tips for success. To begin, the introduction materials can be reviewed, and will contain information regarding weekly course structure, expectations from students (i.e., discussion etiquette, weekly time commitment), and assignment deadlines. Because there can be an overwhelming amount of information, such as peer forum posts and/or assigned readings, it is important to pick and choose what is found personally interesting and what will be useful for success in the course. Reading weekly posts or newsletters help keep students on track, since they will contain information regarding deadlines and updates. Prospective instructors should try their best to complete a course and find time to comment on forums and social media to get a feel for how students interact with and experience MOOCs. Participation is important for developing a student perspective and will help future course design cater to a more diverse range of students (Downes, 2011).

**3. Gathering a Team**

Although MOOCs can vary in length (i.e., from 2-16 weeks of course material), successful MOOCs require a collaborative, multi-disciplinary team effort spanning departments such as education, engineering, and psychology. Like most big projects, being able to divide tasks between more people can drastically reduce the time and stress involved in the labour intensive process of MOOC creation, which can easily add up to more than 150 hours when factoring in planning, programming, obtaining permissions for materials, and developing student questions (Davidson, 2013).

In addition to the instructor, members of a MOOC team can include, but are not exclusive to, co-instructors, teaching assistants, instructional technologists, instructional designers, production designers, and researchers. Teaching assistants help regulate and administrate discussions, search for problems that students post on the forums, and report important issues to the instructor or other members. Instructional technologists and designers combine knowledge of education and technology to manage the learning management system through programming and administration, but also help develop and implement assignments, activities, and quizzes in collaboration with the instructor. Production designers deal with audio, video, and editing aspects of a course, ensuring that the instructor is able to be seen and heard as clearly as possible. Lastly, researchers are crucial for gathering and analyzing data on measuring the effectiveness of the course and how well learning objectives are being met.

Involving research is especially important because online learning has traditionally lacked attention, funding, and data. MOOCs have huge potential to bridge an online learning research gap, and can help us learn about learning. While having a diverse and multi-talented team may not always be realistic due to a lack of resources, you will want to consider asking for help from a number of people possessing such MOOC design skills or else be willing to learn. Never teach alone, and consider bringing in guest speakers, as well as creating video interviews (Siemens, 2012, p. 9).

**4. Using a Quality Rubric**

Prospective MOOC designers should have experience with course development; however, designing a MOOC is different than designing a traditional one. This is not always clear for instructors who follow more rigid, traditional course structures that do not fit well to the MOOC format. As a result, the quality of MOOCs can fluctuate drastically.

To address quality issues, the Quality Matters (QM) Program (www.qualitymatters.org), based in the USA, was created to set a national standard for quality in online courses. It involves a peer review process that utilizes a rubric with eight general standards with detailed scores to measure how well specific course design aspects have been met. Standards include (1) course overview and introduction, (2) learning objectives, (3) assessment and measurement (4) instructional materials (5) learner interaction and engagement (6) course technology (7) learner support, and (8) accessibility (Legon & Adair, 2013, p. 2). Although detailing the rubric is beyond the scope of this paper, there are some notable examples of evaluative dimensions within the standards. These include the following: the instructor needs to clearly set etiquette expectations for discussions and communication, students are asked to introduce themselves to the class, learning objectives are designed appropriately for the level of the course, and that the course accommodates the use of assistive technologies such as closed captioning (Daniels, 2013, pp. 4-5). If a certain score threshold has been met, the course will receive QM Certification. Certification can carry a number of advantages, such as improving an institution’s reputation for quality, standing out when advertising, and reflecting course elements of student and instructor satisfaction developed through research. At the very least, I would suggest that all instructors review the QM rubric, since it offers a broad range of useful design suggestions that are based on student, instructor, and institutional feedback and research.

**5. Active Participation**

One of the main goals of a MOOC is to keep students engaged with the course by using a dialogue, rather than a monologue, in order to create active participants. In his literature review of MOOCs, Dr. Stephen Haggard (2013) defines active participants as “students who fully participate in the MOOC, including consuming content, taking quizzes and exams, writing assignments and peer grading” (Haggard, 2013, p. 27). Additionally, active participants are known to contribute to “discussion forums, blogs, twitter, Google+, or other forms of social media” (Haggard, 2013, p. 27). These students help support a larger global community that is genuinely interested in critical thinking and life-long learning. Planning centralized spaces, such as forums, and communicating often, such as with weekly announcements, helps keep students feeling that the course has a dialogue and that they can interact directly with the instructors (Siemens, 2012, p. 31). Finding or building interactive activities can keep material fresh and varied instead of purely watching video lectures or reading articles. In contrast to multiple choice assessment, learners should also have assignment opportunities to help express and make sense of what they are learning, whether through writing essays and blogs, or creating digital artifacts like audio, images, and videos. Peer assessment must be considered to manage and evaluate these activities.

**6. Peer Assessment**

With tens-of-thousands of students able to enroll in a single MOOC, written or other creative assessment becomes a significant issue - that is, unless the marking power of the many students can be utilized. Peer assessment is the process in which students evaluate each other’s work, typically in the place of an expert marker, and offers a solution to the problem of assessment without having to hire additional teaching assistants (Pare & Joordens, 2008). Peer assessment teaches students critical thinking and evaluation skills, while helping them understand and influence their own grades. Additionally, a purely multiple-choice oriented class can be tedious, and sometimes frustrating for a learner who has more to say about a given topic or question.

In his Introductory Psychology MOOCs, Dr. Steve Joordens uses peerScholar (http://www.peerscholar.com) – an automated online tool that allows instructors to manage assignments, assessment, and results. PeerScholar has three main phases. In the first phase, reading and writing, students access assigned reading and write two short, critical thinking essays based on the arguments from the articles, external sources, and personal experience. They are also given access to critical thinking resources, APA writing guidelines, and other useful writing sources directly available in peerScholar. The second phase, marking, is where peer assessment takes place. Students who participated in the first phase are given access to five random short, critical thinking essays written by their peers and given a rubric to rate each assignment on a scale from 1 to 10. Students are asked to provide positive and constructive comments to justify the mark based on the rubrics. In the final phase, results and feedback, students are given their grades and comments from peers. A student’s mark is calculated from the three middle-most scores, with the highest and lowest removed (Pare & Joordens, 2008). Additional research by Joordens & Pare (2007) found that students tend to perceive their peer assessed grade as fair, with very few requests for re-grading.

To strengthen this argument, Kulkarni et al. (2013) looked at Stanford’s first MOOC to use peer assessment. They used calibrated peer review in which students practice grading with sample submissions and receiving feedback on their marking before grading their peers. They found that 42.9% of assignments marked by students were within 5% of those marked by staff, with 65.5% being with 10%. On average, students spent 13.1 minutes marking per assignment. With subsequent marking, students became more accurate in appraising the work of their peers, when compared to an expert marker like a graduate student (Kulkarni et. al., 2013). Peer assessment is a viable option for MOOCs and should be considered for the benefit for both students and instructors.

**7. Iterative Feedback and Openness to Change**

The student audience will have many other time obligations, and “[w]hen working online, students frequently have problems scheduling their work and managing their time” (Joosten, 2013). It is crucial to allow flexibility in course design, and to be open to change in order to address inevitable problems that students will experience. For example, in Dr. Anderson Smith’s Introduction to Psychology as a Science MOOC (2014) the weekly quiz deadlines changed three times, from a few days to an entire week, in order to accommodate the limited weekly time frames of some students, especially those in developing countries. For some, power may only be available a few days a week or require travelling long distances in order to access a computer with internet connectivity. By actively communicating, students will suggest ways that the instructor can improve the course as well as their teaching. A good practice for gathering iterative feedback involves the use of pre-course, mid-course, and post-course evalutation to survey students. Instructors and researchers can gain valuable feedback regarding student demographic information, reasons for taking the course, expectations, suggestions, and comments of the course design. Additionally, blogging thoughts and reflections help students open up and make more detailed comments about the strengths and weaknesses of a MOOC (Siemens, 2012, p. 36).

**8. Financial Sustainability**

At the end of the day, academic institutions require financially sustainable MOOCs that either directly or indirectly create revenue or cut costs in some way. Sir John Daniel (2012) mentions some of the monetization strategies that Coursera, a popular MOOC learning management system, suggests as potential business models. They include the following:

* Certification (students pay for a badge or certificate)
* Secure assessments (students pay to have their examinations invigilated (proctored))
* Employee recruitment (companies pay for access to student performance records)
* Applicant screening (employers/universities pay for access to records to screen applicants)
* Human tutoring or assignment marking (for which students pay)
* Selling the MOOC platform to enterprises to use in their own training courses
* Sponsorships (3rd party sponsors of courses)
* Tuition fees. (Daniel, 2012, p. 5).

Additionally, MOOCs create assets which can be used interchangeably in other courses or in subsequent iterations of the MOOC. There are also indirect ways in which universities benefit, such as media exposure and online advertisement. Many institutions are beginning to recognize the importance of building and maintaining a digital image or branding, and it is important that MOOCs reflect the high quality of teaching that they offer with traditional courses. MOOCs can also free up classroom space, allowing for more efficient building usage. Instructors may also wish to utilize open educational resources (OERs) to reduce costs associated with using materials from publishers. It is worth noting that some publishers may let instructors use materials for free, with the belief that they will sell more books with the exposure to new readers (Daniel, 2012). It is up to the instructors to compromise with their affiliated institution in order to budget appropriately; however, even modest MOOCs can work well.

**9. Promotion and Advertisement**

MOOCs have had a lot of success in utilizing social media for promotion and advertisement, with courses attributing their high enrollment in the tens-of-thousands to the viral spreading of information via hashtags, blogs, and discussions. Any one course can utilize a unique hashtag, for example, the University of Edinburgh’s E-Learning and Digital Cultures MOOC used #EDCMOOC, and Steve Joorden’s Introductory Psychology MOOC used #cognitivecannibals to get students to build excitement and spread the word of their courses. Used primarily on twitter, interested students can search by common hashtags to find and begin discussions with other interested learners in the same course. Social media offers one of the quickest, cheapest (practically free), and easiest ways of spreading the word for a course. Of course, traditional ways can work for instructors as well, including spreading through word of mouth by students and colleagues, as well as conference presentations (Siemens, 2012, p. 35). The rise in media attention in popular magazines and newspapers may also be a big contributor to the quick rise of MOOC popularity (Webley, 2012). Articles like these help popularize the leading MOOC platforms (i.e., Coursera, Udacity, and edX) and funnel interested students to these few sites where they can search for upcoming course offerings. Thus, there is a lot of inherent promotional value in using one of the leading MOOC platforms in order to reach the highest number of students possible.

**Summary**

Although MOOCs and MOOC research are still in their infancy, we are already seeing courses that are doing online education the right way. At the very least, MOOCs have proven to be a catalyst for academic institutions to consider establishing an online presence, and providing quality education to students who could previously only dream of it is an incredible feat. I hope these recommendations have not only shed some light on some current trends in effective MOOCs, but have also peaked your interest in terms of course direction or participation. Surely, reading about and participating in MOOCs is a great way to start. Gathering a team and utilizing a development framework, such as a quality rubric, will keep content creation organized and on track. Encouraging active participation by communicating with learners, and varying assignments in ways that utilize peer assessment, can greatly increase the quality of a MOOC. Of course, affiliated universities require the course to be financially viable, and so ensuring high course enrollment through promotion and advertisement to reach the highest number of students possible is beneficial to both institutions and instructors. Be prepared to use feedback to improve a course, direct change, and grow the body of research. Ultimately, there is immense value with how MOOCs can contribute to the building of an online learning community that promotes a culture of life-long learning and critical thinking. MOOCs can be extremely rewarding, and now is the time for both instructors and students to get on board.

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