Got MOOC?: Getting the Most out of MOOCs for Technical Communication

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As a first year professional technical writer, I found that the skills I had so earnestly cultivated as a graduate student were inadequate to the position I found myself in. I didn't disparage the rhetorical skillset I'd developed through my program, but I became aware of the dearth of technological skills in my repertoire. My supervisor had anticipated a skill gap, as she had encountered a similar situation when she was hired as a technical writer 15 years before me, but the scope of the training I needed was daunting. To address the gap, we worked out a list of required skills and prioritized the list against the needs of current and upcoming projects, and I set to work scouring the internet for information and techniques related to the technical communication and illustration software applications we technical writers needed, the enterprise communication applications everyone in our company commonly accessed, and the specific technologies our engineers and customers worked with in the products we documented.

I quickly learned that the information that was easiest for me to gather and subsequently learn was in-house information. I used company-internal documentation, including wikis and videos created specifically for employee onboarding, to become proficient with customer- and engineer-oriented technologies, and then reviewed YouTube tutorials and chatrooms to bring myself up-to-speed on enterprise technologies. But I was frustrated in my attempts to learn technical communication and illustration software applications. Every option I found for learning the requisite software applications was unsatisfactory: manuals for current software versions are extremely expensive, college courses take too long, and online documentation is incomplete for beginners as it mostly addresses specific solutions for specific problems. I remained frustrated until a friend and fellow technical communicator reminded me

about a site that features technical tutorial videos. I logged into the site, took advantage of a featured 10-day free trial promotion, scrolled through the 25,000+ tutorial videos on Adobe FrameMaker, RoboHelp, FreeHand, and Photoshop, and started to fill in my skill gaps. I became proficient enough in the applications that I was finally able to shoulder some of the two-person workload my supervisor had been handling throughout my initial training period.

In the years since that initial training period, I have yet to go more than a month without needing to turn to one Massively Open Online Course (MOOC) or another for work-specific training. In searching for specific training, I have noted large differences in the quality, availability, and cost between courses, content **providers** (academic or commercial course creators), and **platforms** (websites where MOOCs are hosted and accessed). And though I have put MOOCs to good use in the past, I have also had experiences where I've spent hours navigating platforms and courses with nothing to show for my time. Online searches for MOOC comparison content inevitably result in a surfeit of listicles promoting "Top 10 MOOCs for [search term]" or anecdotal accounts from non-professionals with unclear motives. My overarching questions were, "What are the differences between MOOCs, What MOOCs should I be looking at for different types of information, and What is the perceived and actual value of training or education from different MOOCs?" To answer these questions, this paper outlines the evolution of present-day MOOCs, explores scholarly arguments for and against MOOCs, and provides recommendations using situations where technical communicators can most effectively use MOOCs.

Definition of MOOCs

A MOOC is a *Massive Open Online Course*. Currently, hundreds of providers offer such courses, with each platform (e.g., Stanford University provides courses for the Stanford Online MOOC platform) offering anywhere from hundreds to thousands of courses. While each platform calls itself a MOOC, the implementation of each MOOC platform differs, mainly in the way that "Open" is defined.

Massive denotes a virtually unlimited capacity, making each course theoretically open to millions of students. *Open* can mean available for paying students (open for business), tuition-free courses for anyone, the lack of course pre-requisites, or even open in the way the Open Source Definition proposes for software and digital spaces: free rights to distribute/redistribute, access to sources, freedom to create derivative works, free from discrimination against any persons or groups, free from area-of-usage restrictions, non-restrictive licensing, and platform-agnostic fielding (The Open Source Definition, n.d.). *Online* means that the course requires internet access. *Course* indicates content intended to educate or train.

MOOCs recruit students in various ways. Some MOOCs use prestigious Higher Education Institution (HEI) partnerships or commercial marketing to draw students (Schmid, 2015), while other MOOCs offer free or particularly interesting courses. When asked why they selected a specific MOOC, students replied that "all of the given reasons were important reasons why they enrolled in the course: it was relevant to the field of study, teaches skills useful in a career, they can earn a credential, the course is offered by a prestigious university, it will be fun, [and] they are curious about online courses" (Schmid, 2015). Each MOOC platform (e.g., Coursera, Udacity,

Lynda.com, edX) decides what qualifies as a course. While some programs follow the brick-and-mortar quarter or semester schedule, other programs allow students to drop-in and drop-out at will. Also, some courses are built to match the breadth and depth of their brick-and-mortar counterparts, while other courses are built around series of 5-10 minute lectures with short quizzes.

Evolution of MOOCs

Relatively regular and inexpensive internet access in the mid to late 1990's allowed higher education institutions to begin using databases and networks to store, collaborate on, and distribute instructional materials. From 2002 to 2008, HEIs packaged courses and placed the content in online spaces and then opened online courses to enrolled students as supplements or replacements for lower-division courses (de Freitas, 2015; O'Connor, 2014). Bringing content online allowed HEIs to broaden their reach and offer distributed learning to both traditional students and students that could not attend physical courses while also slightly lowering the density of in-demand physical classes (Baggaley, 2014).

In 2008, MIT decided to bundle and publish several courses under the MITx (x for extension) label to allow MIT students to view course materials freely (de Freitas, 2015). Later, MITx reached a critical mass and exceeded the available storage space, prompting MIT to join with other universities and form edX (which currently hosts the former MITx program). It was also in 2008 when "the term MOOC was coined […] by Dave Cornier" (Manallack, 2016). From 2008 to 2012, several other HEIs (such as Stanford, Harvard, and UC Berkeley) as well as several commercial organizations (including Udacity and Lynda.com) also bundled course materials and

placed them online. As a result, the programs with the highest visibility hosted hundreds of thousands of visitors each month, and prompted “a headline in the New York Times [which] proclaimed [2012] to be ‘The Year of the MOOC’” (Ehrlich, 2013). The heightened level of attention in 2012 combined with commercial organizations encroaching on academic domains also launched the current debates for and against MOOCs (Baggaley, 2014; de Freitas, 2015; Ehrlich, 2013; O’Connor, 2014).

MOOC Debates

Scholarly debates about MOOCs include, but are not limited to, arguments about MOOCs’ *structure*, *spread*, and *purpose*. *Structural* arguments focus on whether or not MOOCs have the capability of presenting education effectually when traditional brick-and-mortar frameworks are removed (Baggaley, 2014; Banerjee, 2014; Colbran, 2014; Crosslin, 2016; Snyder, 2012). When instructors are unable to interact with students and provide meaningful and immediate feedback, they may lose the ability to perform within traditional academic pedagogies (Baggaley, 2014; Colbran, 2014; Snyder, 2012). When students lack the immediacy, focus, and structured learning environments provided by brick-and-mortar HEIs, they may lose focus and motivation to perform well, if at all (Banerjee, 2014; Crosslin, 2016). Proponents of MOOC structures acknowledge some growing pains but insist that the structure can be effective for students if the pedagogical approach includes connectivism (education as a process of pattern recognition and network connections), where students can learn as much through peer interactions as through traditional instructor-to-student(s) interactions (Crosslin, 2016; Ehrlich, 2013; Snyder, 2012).

Arguments focused on the *Spread* of MOOCs highlight the potential benefits and pitfalls of globalizing courses (Colbran, 2014; Crosslin, 2016; de Freitas, 2015; Snyder, 2012). Though supporters declare that MOOCs offer a solution for students worldwide who drastically need access to education, critics warn against simply sharing content that was originally constructed for American students, expressing concerns about the ethics of exposing these students to modalities and perspectives that may offend other cultures (Crosslin, 2016). Other MOOC critics suggest that unethical commercial organizations which run MOOCs are capable of taking advantage of students and that MOOC instructors and content creators must take partial responsibility for this (Snyder, 2012). Supporters of MOOCs suggest that, though these ethical dilemmas are worthy of discussion, the potential impact of free and open education would more than offset any harm, while also arguing that the systemic gating of knowledge by HEIs has caused similar ethical issues (Colbran, 2014; de Freitas, 2015).

Arguments about the *purpose* of MOOCs differ substantially between commercial industries and academic institutions. MOOC critics claim that commercial MOOC providers focus only on monetary gain and cater mostly to students who only enroll to satisfy a casual interest. MOOC supporters, however, are excited about the prospects of MOOCs' peer-to-peer emphasis and self- and employment-motivated learning that market forces demand (Baggaley, 2014; Colbran, 2014; de Freitas, 2015; Snyder, 2012). MOOC critics express concerns about the future of HEIs and the ability of such institutions to continue providing quality education in the face of the unsatisfactory quality and unparalleled quantity of MOOCs being offered by commercial organizations (Baggaley, 2014; Snyder, 2012). Critics are similarly concerned about the fast rise of and firm political support commercial providers have received, portending a

decline in academic scholarship and the financial livelihoods of students who receive this fast-food version of an education (Baggaley, 2014). Meanwhile, MOOC proponents argue that MOOCs provide an opportunity to bring students to education at the point of interest, rather than the point at which students feel financially or socially required to attend (Colbran, 2014; de Freitas, 2015). Proponents also seek to go beyond education with the MOOC format to allow peer-to-peer instruction, immediate alumni reach-back, and continuing education while (rather than prior to) maintaining full-time employment (Colbran, 2014).

Moving Forward from MOOC Debates

MOOC supporters value low-cost, open-source, wide-access educational opportunities while MOOC critics value rigorous academic environments with professional-quality course materials and ethically-motivated policies for students and instructors. These are valid and worthy positions, but the pedagogical conversation around MOOCs has not yet progressed to the point where MOOC supporters and critics acknowledge one another's philosophical frameworks and address counterpoints to those frameworks with evidentiary, rather than anecdotal, support. While MOOCs mature pedagogically and begin to develop established forms, their benefits and shortcomings become more apparent.

Classifying MOOCs into four categories, where each category fulfils a particular set of common technical communication needs, illustrates the range of needs that MOOCs can positively address. Each category (HEI provider pay MOOCs, commercial provider pay MOOCs, HEI provider free MOOCs, and Non-Profit provider free MOOCs) lists the most prestigious MOOCs from that category and contains information about shortcomings as well as benefits.

HEI provider pay MOOCs

Technical Communication students which are not particularly short on money and see value in professional certificates, will be primarily interested in pursuing MOOCs from higher-prestige colleges that provide certificates of completion, “not as a replacement for traditional courses, but as a means of acquiring additional education and advanced training” (Semenova, 2016). These MOOCs often offer a few free courses, so students can shop around for a course series that meets their educational goals. The most prestigious MOOCs in this group are Coursera, Udacity, and Stanford Online. Coursera maintains academic partnerships with Princeton University, Arizona State University, University of Maryland College Park, and University of Illinois at Urbana-Champaign. Udacity maintains academic partnerships with Georgia Institute of Technology, and San Jose State University as well as corporate partnerships with Google, Salesforce.com, Facebook, Cloudera, Nvidia, Autodesk, and Cadence. Stanford Online exclusively hosts content provided by Stanford University. All three MOOCs offer fully credentialed courses, which may or may not be transferrable to traditional institutions, with pricing based on certificate type and course duration. The shortcomings of these MOOCs include a lack of instructor engagement and frequent schedule conflicts. Some courses feature less instructor involvement in student development and the literature emphasizes that “the success of MOOCs [depend] on the degree to which faculty members are involved in the entire process” (Snyder, 2012). Students also face potentially difficult time requirements as some MOOC instructors require live sessions based around their own time constraints, possibly in far distant time zones (Park, 2015).

Commercial provider pay MOOCs

Currently employed technical communicators with limited time available for learning technical or software skills, who only want to pick up technical aspects without rhetorical foundations and do not require certification, will be interested in commercial providers such as Lynda.com and Udemy. Lynda.com and Udemy both offer free sample videos, but require payment for full site access. Primarily situated as subscription services (e.g., 30 day, 60 day, 90 day subscriptions), both MOOCs often use free trial periods as incentives to gain new subscribers. Both MOOCs offer in-depth technical content but offer very few certifications. The shortcomings of these MOOCs include ethical considerations and the quality of instruction. Run by private commercial organizations, these MOOCs don't have the same student protections required by HEIs. Specifically, corporations have little consideration for ownership of student work in comparison to HEIs, where "assignments reflect the ideas supplied by their teachers, [but] the act of expressing those ideas in their own words in some tangible form (such as a blog post or assignment) creates a copyrighted work owned by the student" (Marshall, 2014). HEIs also have guidance for "(a) avoiding harm to the subjects, (b) participant consent, and (c) respecting the construction of individual identity and their privacy and/or anonymity" (Marshall, 2014). Technical communicators should be aware that shorter education time and lower out-of-pocket costs may look like better value than what is available through HEIs, but without accreditation or peer-review the "'better value' does not mean better quality: just acceptable quality combined with other valued features such as price or convenience" (Sharrock, 2015).

HEI provider free MOOCs

Technical communicators preparing for additional education at a traditional institution will be interested in MOOCs like edX and FutureLearn. EdX maintains academic partnerships with MIT, Harvard University, Boston University, UC Berkeley, Kyoto University, University of Queensland, IIT Bombay, Dartmouth College, and Universidad Autonoma de Madrid. FutureLearn maintains academic partnerships with University of Birmingham, University of Edinburgh, King's College London, and Trinity College Dublin. Both edX and FutureLearn primarily offer free courses, but they do have a few fee-based certificates available. In either of these MOOCs, users can take courses in multiple areas, or they can select courses from HEIs that they are interested in attending full-time later. The shortcomings of these MOOCs include variable student populations and required technologies that can be complex to learn and expensive. Users may have difficulty completing coursework in these MOOCs if they have difficulty in relating to peers which range “from the ages of 8 to 95, [from] almost every country in the world, [having] qualifications ranging from elementary school certificates to doctorates and [vary] enormously in their motivations” (Park, 2015). Users may find group learning difficult when some students “only wish to acquire basic knowledge and skills without concern for credit [while others expect] to develop higher order skills” (Park, 2015). Some courses in these MOOCs also feature complex software environments where “many learners, especially novices, would be confused by being presented with so many options” including “electronic pens and screen-captured videos to explain the concepts and procedures in [a] MOOC” (Park, 2015).

Non-Profit provider free MOOCs

Technical Communication students that are interested in broader introductory-level information and that do not require certification will be most interested in Khan Academy. Situated as a Non-Profit Organization, all Khan Academy courses are free and the organization actively pursues partnerships with technology education programs like Code.org's Hour of Code initiative. Additionally, Khan Academy actively encourages its users to drop in and out of courses and to experiment with taking courses they find interesting. Potential shortcomings of MOOCs like Khan Academy are a lack of academic rigor, "canned" courses, and high attrition rates. Less-experienced students often need explicit education to reinforce "the avoidance of plagiarism [if students] are not to learn poor habits that may result in serious consequences for their reputations in the future" (Marshall, 2014) which is not present in Khan Academy. MOOCs like Khan Academy also tend to "feature light student workloads, minimal contact with professors and modest assessment tasks" (Sharrock, 2016) with "quizzes, short writing tasks, and pretaped video lectures" (Rice, 2013) while also featuring levels of attrition where 90 per cent or more students fail to complete courses (Semenova, 2015; Sharrock, 2016).

Summary

MOOCs as an educational practice continue to mature and best practices are unevenly applied across platforms. Current researchers are unable to reach a consensus about the benefits of MOOCs and scholars remain in doubt about the affect MOOCs will have on academic institutions. Given the academic debates and the presence of hundreds of MOOC offerings available to potential students, it's difficult to decide on whether or not to use a

MOOC and, if so, which MOOC. In approaching MOOCs from a new perspective that acknowledges a variety of student needs and desired outcomes, it is possible for technical communicators and technical communication students to find value in MOOCs. Currently employed technical communicators and technical communication students, when equipped with information about categories of MOOCs and their characteristics, can effectively navigate MOOC spaces to increase their job performance, prepare for further education, transition into workplaces, or broaden domain-specific information.

References

Baggaley, J. (2014). MOOC postscript. *Distance Education, 35*(1), 126-132. doi:10.1080/01587919.2013.876142

Banerjee, A., & Duflo, E. (2014). (Dis)Organization and Success in an Economics MOOC. *The American Economic Review, 104*(5), 514-518. Retrieved from http://www.jstor.org.ezproxy.library.ewu.edu/stable/42920989

Colbran, S., & Gilding, A. (2014). MOOCs and the Rise of Online Legal Education. *Journal of Legal Education, 63*(3), 405-428. Retrieved from http://www.jstor.org.ezproxy.library.ewu.edu/stable/42898387

Crosslin, M., & Wakefield, J. (2016). What's Cooking in the MOOC Kitchen: Layered MOOCs. *Techtrends: Linking Research & Practice To Improve Learning*, *60*(2), 98-101. doi:10.1007/s11528-016-0036-5

Ehrlich, Heyward. (2013). Poe in Cyberspace: Poe MOOC Blog. *The Edgar Allan Poe Review, 14*(2), 237-243. doi:10.5325/edgallpoerev.14.2.0237

de Freitas, S. I., Morgan, J., & Gibson, D. (2015). Will MOOCs transform learning and teaching in higher education? Engagement and course retention in online learning provision. *British Journal Of Educational Technology, 46*(3), 455-471. doi:10.1111/bjet.12268

Manallack, D. T., & Yuriev, E. (2016). Ten Simple Rules for Developing a MOOC. *Plos Computational Biology*, *12*(10), 1-4. doi:10.1371/journal.pcbi.1005061

Marshall, S. (2014). Exploring the ethical implications of MOOCs. *Distance Education, 35*(2), 250-262. doi:10.1080/01587919.2014.917706

Massive open online course (n.d.). Retrieved April 21, 2017, from https://en.wikipedia.org/wiki/Massive_open_online_course

O'Connor, K. (2014). MOOCs, institutional policy and change dynamics in higher education. *Higher Education, 68*(5), 623-635. doi:10.1007/s10734-014-9735-z

Park, Y., Jung, I., & Reeves, T. C. (2015). Learning from MOOCs: a qualitative case study from the learners' perspectives. *Educational Media International, 52*(2), 72-87. doi:10.1080/09523987.2015.1053286

Rice, J. (2013). What I Learned in MOOC. *College Composition and Communication, 64*(4), 695-703. Retrieved from http://www.jstor.org.ezproxy.library.ewu.edu/stable/43490787

Schmid, L., Manturuk, K., Simpkins, I., Goldwasser, M., & Whitfield, K. E. (2015). Fulfilling the promise: do MOOCs reach the educationally underserved?. *Educational Media International, 52*(2), 116-128. doi:10.1080/09523987.2015.1053288

Semenova, T., & Rudakova, L. (2016). Barriers to Taking Massive Open Online Courses (MOOCs). *Russian Education & Society, 58*(3), 228-245. doi:10.1080/10609393.2016.1242992

Sharrock, G. (2015). Making sense of the MOOCs debate. *Journal Of Higher Education Policy & Management, 37*(5), 597-609. doi:10.1080/1360080X.2015.1079399

Snyder, M. (2012). State of the profession: much ado about MOOCs. *American Association of University Professors*, *98*(6), 55.

The Open Source Definition. (n.d.). Retrieved April 14, 2017, from https://opensource.org/docs/osd