

MOOCs and the Library: Engaging with Evolving Pedagogy

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Abstract:

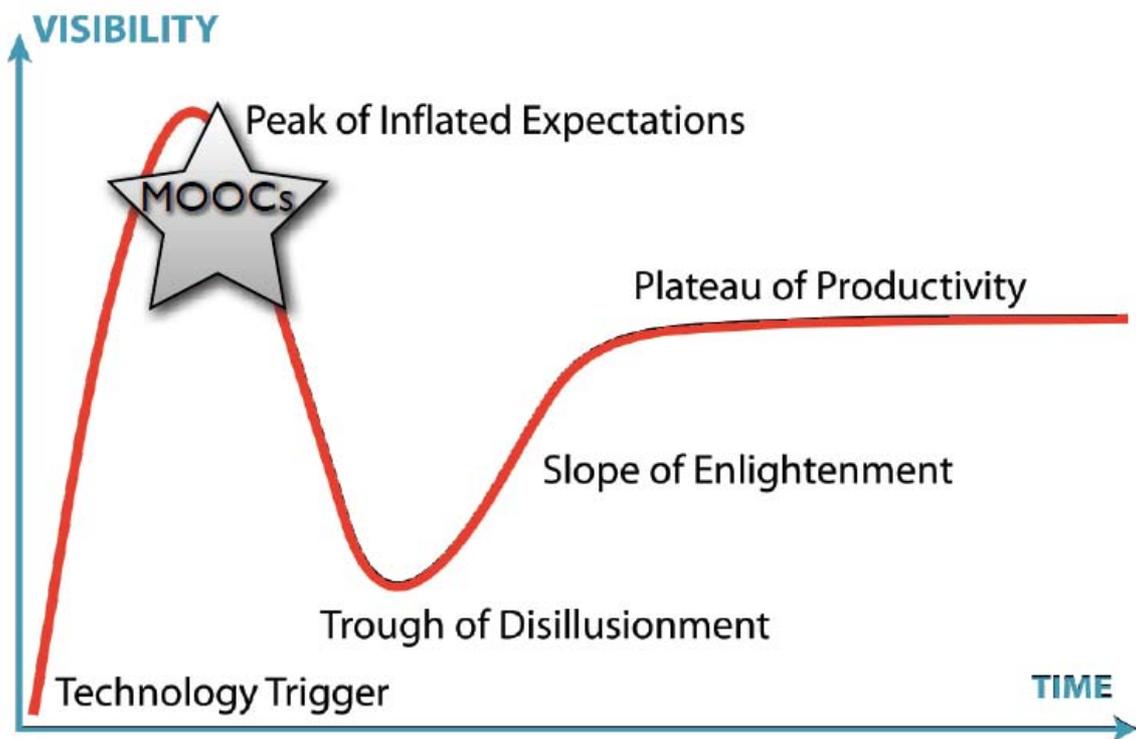
The emergence of the Massively Open Online Course, or MOOC, has been a topic of considerable analysis and discussion in academic circles in recent years, and is not infrequently mentioned as a disruptive technology in higher education. As Stanford University has been prominent in the development of MOOC platforms, both the university as a whole and the Stanford University Libraries have a particular interest in understanding the potential for and impacts of this platform. This paper briefly outlines the emergence of MOOCs within the context of online learning tools and distance learning, looks at how Stanford University as a whole, and the Stanford Libraries in particular, are integrating these technologies in their pedagogy.

Keywords: MOOCs; online learning; flipped classrooms; copyright

1 OVERVIEW

Online learning, which has been evolving since the advent of the Internet, has taken a dramatic turn in the past two years with the emergence of Massively Open Online Courses, or MOOCs. MOOCs are the newest chapter in a long history of developments in distance education and online education, and they incorporate and enable a variety of methodologies from this history. What sets MOOCs apart is their dramatically larger scale, and, at least in early days, the significant media attention they've received. The platform is regularly cited as a disruptive technology in education, and interest in the platforms, as well as speculation on its potential to change higher education, remains high. In fact, a number of commentators have indicated that on or about late 2012, MOOCs were at the Peak of Inflated Expectations on the Gartner Hype Cycle¹.

¹ See eg: http://www.huffingtonpost.com/dennis-yang/post_4496_b_287779.html ; <http://navigatehighed.com/moocs-near-the-peak-of-inflated-expectations/> ; and <http://www.vwer.org/2013/pondering-moocs-and-the-hype-cycle>.



The Gartner Hype Cycle via Wikimedia.org

It is in this context that universities and academic libraries are now investigating the ways in which this technology can serve to advance their missions. As the technology reaches this inflection point, and is subject to further criticism in the Trough of Disillusionment, the true advantages, disadvantages, and opportunities to evolve pedagogical methodologies begin to be understood.

2 DISTANCE LEARNING, ONLINE LEARNING, AND MOOCS

Pedagogical tools designed to move instruction outside of the physical classroom date back at least to the 1900s and the advent of the correspondence course. The long list of popular distance and online learning programs that followed include the CBS series Sunrise Semester², the UK's Open University³ and MIT's OpenCourseWare⁴. Universities have been active in this area, and exploring MOOC-like technologies for some time. For example, after taking part in testing the iTunes U pilot program in 2005, Stanford became one of the first

² http://en.wikipedia.org/wiki/Sunrise_Semester

³ <http://www.open.ac.uk>

⁴ <http://ocw.mit.edu>

universities to offer access to course materials through the digital repository when the service was launched in 2007⁵. MOOCs came to prominence in the summer of 2011, when a Stanford course on artificial intelligence attracted 160,000 students from around the world, garnering headlines⁶. MOOC platforms leverage many of the pedagogical tools developed in and for those earlier distance learning programs, but they are set apart from those programs by the massiveness of student body engaged in each individual class, as well as the strictures of maintaining openness of the content of the program.

MOOCs most frequently include video lectures, online readings, and problem sets that are seen throughout distance learning programs. In addition, they leverage interactive user forums, which were developed in online discussion forums such as Reddit, to allow students to build community, share questions, learn together, grade one another's work, and teach one another. This kind of interaction is central to the MOOC experience, where students of necessity will have more interaction with each other than they possibly can with an instructor.

While MOOCs are making the headlines, some of the most interesting discussions around MOOCs relate to application of pedagogical tools. The concept of the flipped classroom, for example, is not new, but the arrival of MOOCs has drawn attention to the concept, and it is being more regularly integrated both inside and outside of the MOOC environment. Flipped classrooms have been facilitated for some years by Stanford's primary course management system, CourseWork. Inquiries to the CourseWork team make clear that interest in this capability has grown significantly in the past few years. In panel discussions, Stanford faculty have shown more interest in these blended environments than in MOOCs that, by their nature, reach out to a larger audience than their local students.

Peer grading is another tool that has gained recognition as a pedagogical tool from the MOOC spotlight. Keith Devlin, a Stanford professor who has taught a popular MOOC on mathematical thinking, describes the student grading experience this way:

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http://appleinsider.com/articles/12/04/03/stanford_open_university_surpass_50m_downloads_on_itunes_u

⁶ Waldrop, M. Mitchell; Campus 2.0; Nature, vol 495, p. 160

It's like learning to ride a bike; there's only one way to learn: Get on, fall off, get on, fall off, until it clicks. In math, that click usually happens only when you're a grad student grading papers."⁷

Peer grading is integral to the MOOC platform, where it is an efficient way to provide feedback on massive quantities of student work. However, the concept is readily implemented into a flipped classroom environment or a blended course, and in that setting, every student gets to have the experience of the grad student grading papers, where things suddenly click.

3 MOOCS AT STANFORD AND STANFORD LIBRARIES

Stanford faculty, notably Andrew Ng, Daphne Koller, and Sebastian Thrun, were instrumental to the development of MOOC platforms⁸. Ng posted free lecture videos for engineering courses before developing MOOC tools to scale up the system, Kohler was interested in exploring the flipped classroom concept, and Thrun, who spent time at Google, wanted to harness the global audience. Given its role in the birth of the MOOC, it is not surprising that Stanford as an institution is actively exploring the potential of online learning tools.

The emergence of MOOC platforms was supported and encouraged by a string of experiments around online learning that Stanford has undertaken. These have included the development of the Stanford Education Program for Gifted Youth, an online education system that has evolved into the Stanford Online High School; as well as the establishment of Stanford on iTunes (iTunesU) and a Stanford YouTube channel broadcasting lectures and campus presentations. Other experiments include Stanford CourseWare, broadcasting Stanford engineering courses; at the ClassX interactive lecture series. After years of experimentation, the university has recently established a Vice Provost for Online Learning (VPOL)⁹ with the lofty goal of “unleashing creativity and innovation in online learning” by supporting the three core areas of the online learning process: pedagogy, production, and platform. Having a centralized resource to support online learning is encouraging more faculty to explore the pedagogy, and is also addressing some of the not-insignificant production issues around MOOCs. Elsewhere in the university, the School of Education is

⁷ <http://news.stanford.edu/news/2013/may/online-teaching-forum-053113.html>

⁸ Waldrop, M. Mitchell; *Campus 2.0*; Nature, vol 495, p. 160

⁹ <http://online.stanford.edu/>

actively exploring education's digital future (<http://edf.stanford.edu/>), and the Computer Science department continues to evolve online learning platforms.

With the VPOL in place, the Stanford Libraries engagement with MOOCs takes on a different tone than it might in other institutions that don't have that central resource. Nevertheless, the libraries are active in support of online learning. These activities fall into four broad categories: copyright, media, learning management, and training.

3.1 Copyright

Like many academic libraries, SUL serves as a campus resource for copyright information and education. Online learning generally, and MOOCs in particular, raise complicated copyright issues, and OCLC research indicates that both that clearing rights for MOOCs can take hundreds of hours per course, and that many university libraries are being pulled into that work¹⁰. At Stanford, the VPOL provides some support for copyright clearance efforts. However, in an effort to move past the extensive clearance process, the libraries have implemented a partnership with SIPX (www.sipx.com). SIPX allows users of MOOC platforms as well as the libraries CourseWork learning management system to access material through library licenses, and to purchase materials not available through a license. A review of MOOC courses compared to CourseWork courses shows that they use a much more limited selection of readings and resources, and this seems to be a limitation of the requirement of openness in the MOOC platform. This may lead to MOOC versions of courses being seen as inferior to their less open counterparts.

While the Stanford Libraries have not been active in copyright clearance for MOOCs, other schools have, and, while the work is extensive, some are seeing opportunities in the work. Kevin Smith of Duke has noted that fair use is being reinterpreted in the context of MOOCs and online study. In an online roundtable session¹¹ he made two general observations: people are more cautious about Fair Use in the MOOC context, primarily due to the size of the "classroom; and MOOCs offer new opportunities to evolve relationships with publishers and copyright owners, because of the level of visibility that they offer. He notes that he has personally seen examples in which a professor recommends a book and then sales spike

¹⁰ <http://hangingtogether.org/?p=2666>

¹¹ <http://www.academicimpressions.com/news/how-will-moocs-affect-fair-use-and-copyright-compliance>

because of the MOOC. It's potentially a marketing windfall for a publisher, who might initially be put off by the idea of making content particularly open.

Stanford Libraries are very active in copyright education on campus, and the rise of MOOCs has necessitated new educational tools. This year, in its annual copyright reminder to campus, SUL worked with the general counsel's office to integrate guidelines and recommendations in regard to online learning. Those guidelines can be found here: <https://library.stanford.edu/using/copyright-reminder/stanford-online-course-guidelines>

Also noteworthy to the Stanford experience of MOOCs, though by no means unique, has been a renewed need to clarify ownership of pedagogical materials produced on campus. Stanford has clarified its policy to ensure that faculty know that, in the same way they hold copyright to their research papers, they hold rights to their teaching materials, and are able to publish them on MOOCs and other online learning systems. At the same time, there has been concern at the campus level to ensure that faculty do not find their teaching materials locked into a particular MOOC platform because of copyright concerns.

3.2 Video & Media

Because of their heavy reliance on video lectures, MOOCs along with more blended online learning tools create tremendous demand for media support. Estimates vary, but it is clear that multiple hours of filming and video editing are required to produce a single video lecture, and preparing a MOOC class can easily take 6 months. Faculty who wish to move their classes online, frequently require assistance with creating or editing the video that is usually central to the course. At Stanford, the majority of that support and expertise is being provided through the Vice Provost for Online Learning. However, the libraries, through the Academic Computing team, have for some time provided support to students and faculty with video, and support for MOOC related video is a part of that service. In addition, the libraries support an Academic Technology Specialist program, in which staff are embedded in a department to provide technical support for academic projects. Those staff are increasingly being called on to provide support for MOOC development.

3.3 Learning Management Systems

SUL manages CourseWork, the largest learning management system on the Stanford campus. Determining the future of this system as MOOC platforms expand is a key issue for SUL. For the moment, Coursework is clearly a well used and desired resource. In the spring quarter of 2013, CourseWork supported 1,523 courses at Stanford, where the MOOC platforms Coursera and Venture Lab supported a combined total of only 19. Looking back at the past year, CourseWork supported 4,249 courses, while the four MOOC platforms on campus supported a combined total of 46.

In spite of this extensive use, the growing use of MOOC platforms will inform the development of CourseWork, which is a local implementation of Sakai. SUL has recently initiated a project to upgrade the CourseWork system, and that work is informed by developments in MOOCs.

3.4 Training and Promotion

While MOOCs are now debated as a tool for supporting higher education broadly, they are clearly an effective tool for implementing skills training, continuing education, and user instruction. Within the Stanford libraries, staff have attended MOOCs on advanced Google searching, and gone on to share that knowledge with other staff in lunchtime. The model has been very well received, and is expected to be applied to other skill-based programs. That model is clearly applicable in a wide variety of continuing education environments, and seems a likely focus of MOOCs going forward.

In addition, MOOC content can serve as an effective promotion tool for a school or program. Clearly the success of Stanford's Computer Science MOOCs has drawn attention to the department, and has become a point of pride. However, it is not only academic courses that can serve in this capacity. One participant in a SUL-sponsored panel on MOOCs noted the importance of putting up MOOC content that "you are proud to see on the platform". This may not be college-level courses. Public health training tools are a good example.

3.5 The Future

While MOOC platforms are popular, disillusionment is showing, and the business model for sustaining the platform provider organizations remains unsettled at best. The full impact of

these technologies on the academic landscape will not be known for some time, but they have already had some impacts, bringing new attention to pedagogical tools and methodologies, and providing a basis for discussion of issues from copyright to use of media tools. Libraries can and must engage as both participants and drivers in the use of online learning tools.