MOOCs in higher education

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My name is Christopher Hoadley; I'm a faculty member at NYU who has studied technology and learning for 25 years, in fact since before the World Wide Web. My colleague, Ann Marcus, the director of the Steinhardt Institute for Higher Education Policy at NYU sends her regrets due to illness. I've prepared some comments for the committee and I thank the councilmembers for inviting us to participate.

What is a MOOC?

MOOC stands for Massive(ly) Open Online Course. MOOCs provide an opportunity for learners to participate, for free, in an online "class" that typically includes a syllabus, videotaped or streamed lectures, assignments, and discussion groups. They are *massive* because some of the early such courses attracted thousands or tens of thousands of students, largely due to the prestige of the university with which the course was affiliated. Students typically don't get much interaction with a professor or TA, but instead get feedback either via automated grading or discussion groups.

The first MOOC (although not by that name) was offered in the mid-2000s by Professor David Wiley, then at Utah State University. They are *open* because they are typically free to take without credit, although there are important debates about openness; freedom to take the course and use its materials is different from freedom to take and adapt the course materials for your own purposes. Wiley's course explicitly released the learning materials under creative commons licensing allowing reuse and remixing. Companies like Udacity and Coursera are promoting MOOCs as a way to open access to prestigious universities for free, but they actually are to a large extent repackaging the learning materials of prominent universities for their own business purposes and keeping them under copyright. In this way, MOOCs are a way for-profit startups and universities are collaborating to create potentially lucrative educational materials that differ from traditional textbook publishing.

It is debateable as to whether MOOCs are, in fact, courses, because:

- unlike a traditional course in which case there is a strong committment between the teacher and student about what is to be taught and learned, learners in MOOCs typically have no committment at all to learn the course content, nor do teachers typically commit to providing anything but the learning materials.
- they do not provide first hand validation that students know the course content. Certification is one aspect of traditional graded coursework; in this regard they are more like an informal lecture or workshop
- they need not build on or fit into any academically rigorous course of study. Universities and grade schools in the US are accredited by regional accrediting organizations, and in the state of New York, by the state, as having some type of intellectual coherence with stated learning outcomes and educational philosophies.

This is not to say that MOOCs are bad learning opportunities; they are in many cases. But they fall somewhere between a traditional college course and a trip to the library. For instance, I could go online

and download a professor's syllabus. I can go to any branch of the NYPL and get the course textbook and readings. If I'm doing, say, introductory calculus, I could find exercises in the textbook, and probably even an answer key to allow me to check my work; or I might be learning expository writing and form a study group with others who would read and correct my essays. I might be able to find videos on youtube or via interlibrary loan that allow me to watch a professor lecture. But is this a 'course'?

What is and isn't different about MOOCs?

Massive, open education is not new. Some of you may remember that decades ago, NYU sponsored the "Sunrise semester," which was a series of college level course lectures broadcast between 1957-1982 to millions of homes on CBS. In 1957, students could pay $25 per credit hour and actually get credit for the course, sending in their homework assignments and getting feedback and grades by postal mail.

Moving things online adds new opportunities. These include the possibility of more interactive content, communicating in realtime rather than via mail, automated grading or quizzing, and perhaps most importantly, an enhanced opportunity to find peers who are interested in the same subject.

Perhaps the biggest opportunity provided by online education is that for the first time, there is a widely accessible way to access instructional resources like syllabi, problem sets, and sample work.

How are MOOCs changing higher education?

MOOCs have captured the public imagination, especially when they help demystify what type of teaching and learning is going on at elite universities. Higher education professionals are very interested in the MOOC phenomenon, either seeing it as a threat or an opportunity.

Why are universities interested?

There are several reasons higher education professionals are interested in MOOCs.

One reaction relates to whether MOOCs are an existential threat to a university: why would anyone pay tuition if they can get all the courses for free? This concern is largely unfounded, as the differences between low-touch online education and face-to-face higher education are significant. Interaction with knowledgable instructors, certification and grading, and community moderation and curation are all high value aspects of face-to-face and more traditional distance education that can not be provided for free in MOOC platforms.

A second reaction relates to costs. Some universities see MOOCs as a way to reduce costs or increase diversity of offerings by using MOOCs to amplify the reach of their existing instructors. However, there are two problems with this. First, research has shown that online education can be of comparable or higher quality than face-to-face education. But, producing high quality online learning is actually at least as expensive as producing offline quality education. These higher costs are ongoing, as both changes to the course curriculum and to the delivery platforms are quite expensive online (and cheap offline.)

A third, positive reaction relates to access. Arguably the most successful online initiative by a university in the Internet era was the Open CourseWare initiative, which lightly subsidizes the open release of course materials already in use at MIT. This allows those with an interest to access resources from MIT, increases visibility, and allows instructors around the world to borrow from or remix instructional resources developed there. Universities have never before had such a good way to make visible to outsiders what they do in class. Whether viewed as a 'loss leader' or as a form of outreach and service, this sharing is very valuable to the mission of universities to advance knowledge generally.

Why are businesses interested?

One important reason businesses and startups are interested in MOOCs is, as noted before, the creation of valuable proprietary content, in particular educational materials. Controversies from the 1990s have not been settled about, for instance, what types of use of copyrighted materials in online education constitutes fair use, and the current situation is that public and college libraries and students bear the high costs of accessing educational materials that were generally developed by universities and their faculty, often with trivial or no compensation.

A second reason, illustrated by the News Corp subsidiary Amplify, is that educational data mining has the potential to become a lucrative business in the coming years. While the days of profitable proprietary educational content may be numbered (for instance, David Wiley has demonstrated equal or better learning using entirely open-source textbooks in both a high school and a community college in Utah), educational institutions risk being pillaged as sources of important learner data that can then be sold back to them for accountability purposes, sold to learners as part of external certification analysis, or sold for commercial purposes ranging from background checks to marketing.

Why is the public interested?

The most positive aspect of MOOCs is that it rejeuvenates the possibility that learning is under the control of learners rather than teachers. The founding of public libraries was greatly aided by groups such as trade guilds that saw providing access to information as a key step in self-empowerment of the working classes. It's easy to forget that until the 1900s, neither access to universities or libraries was ubiquitous across the country. At that time, learning in guilds and union halls was the default path to practical professional knowledge, not community college courses or state certifications. Sadly, for most of the 20th century we've seen it as an either-or decision between high quality courses in well-regulated colleges and universities, and informal non-credit learning in other venues. MOOCs raise the possibility that we can do both at the same time.

For further reading on the subject, I recommend the excellent bibliography by Michael Trucano for the World Bank's blog on technology in education at http://blogs.worldbank.org/edutech/making-sense-of-moocs-a-reading-list (a shorter URL is http://is.gd/worldbankmoocs)