MOOCs: A College Education Online?

Although it has given rise to jokes about cows and an outfielder for the 1986 New York Mets, MOOC is actually an acronym for Massive Open Online Courses. Depending on whom you ask, they point the way to the future of higher education, the end of higher education as we know it, both, or neither.

Currently offered by several distinguished universities through consortia such as Coursera, edX, or Udacity, MOOCs are free online college courses, designed by academic rock stars and “attended” by hundreds of thousands of students from around the world. Colleges rarely grant academic credit for MOOCs. The reward for completion is the satisfaction of acquiring new or necessary information and skills, and connections with students who share your interest. In some cases, for a fee, students also may obtain a certificate or letter of completion.

By providing free access to anyone with an Internet connection, MOOCs facilitate the dissemination of knowledge to unprecedented numbers of people.

Professors are learning a great deal from MOOCs. Armed with massive amounts of data about the “classroom” performance of students, they can adjust lectures, course material, and examinations to improve comprehension, both online and on campus.

MOOCs also have promotional value for participating colleges and universities. It’s one thing to brag on a website about brilliant faculty. It’s another when tens of thousands of people experience their brilliance firsthand, with the college’s name attached.

The vast enrollments that provide these benefits—the sharing of knowledge, feedback from huge numbers of students, widespread publicity—also create problems. While professors have found ways to promote discussions and collaborative learning among students, we have not yet figured out how to monitor exams to protect against cheating or plagiarism, how to answer students’ questions, or how to identify and assist those who are struggling.

Successful MOOC participants are self-motivated and hold themselves accountable for watching lectures, completing coursework, and fulfilling all requirements. But they are also rare: the completion rate for the first MOOC, a course on artificial intelligence offered by Stanford in 2011, was 13 percent.
Nor have universities crafted a viable business model for MOOCs. Udacity gets some revenue from corporations, including Google, for developing high-level, specialized courses. For a fee Coursera provides potential employers with the names of high-achieving students. In both cases some of the money is returned to participating institutions, but, at present, it is insufficient to cover the costs of course development.

Those costs are considerable. A good MOOC employs many tools, including blogs, online discussion boards, Twitter, tagging, and document sharing (to say nothing of teaching assistants). The heart of the course, old-fashioned talking heads, is delivered via video. When done well, the production is complicated, time-consuming, and expensive. When done poorly, it is unwatchable.

Another source of concern is whether MOOCs can be effective in all subject areas. Dominated at the moment by courses in mathematics, computer science, and engineering, MOOCs may be ill-equipped to teach students to write and express themselves or to provide the hands-on experience of working in a lab. Few are pitched at the introductory or remedial level that would provide economically disadvantaged or poorly prepared students a bridge to higher-level academic work.

Cornell University, which expects to join a MOOC consortium soon, has already dipped an institutional toe in the water by offering a “mini-MOOC” on feeding infants and young children, developed jointly by our Division of Nutritional Sciences and UNICEF. The results were instructive. Organizers expected to enroll about 200 people. They registered 3,800 students from 150 countries, most of them employees at universities and nongovernmental organizations in the developing world. More than 900 people from 104 countries, or 24 percent of registrants, successfully completed the course. Eighty percent of them rated it “excellent” or “very good.”

This is a promising example of outreach work, but what about the impact of MOOCs on traditional colleges and universities and their on-campus students? Although it’s early days for MOOCs, we believe they have the potential to enhance pedagogy on our campuses. Professors may well assign MOOCs as homework, for example, and then build on the information in them through more in-depth and interactive discussions in the classroom. This has been referred to as “flipping the paradigm,” so that the classroom is used for interaction, not passive absorption of the professor’s insights.

We strongly believe, however, that MOOCs should not replace a residential undergraduate experience for young men and women able to afford it or who qualify for financial aid. The intellectual and developmental impact on students who live and learn together cannot be replicated by online classes, even if they solve the problems of scale. Susan Holmes, a professor of statistics at Stanford, puts it well. “I don’t think you can get a Stanford education online,” she said recently, “just as I don’t think that Facebook gives you a social life.”

We wonder as well, with our tongues halfway in our cheeks, whether seventeen-year-olds will want to spend four years, or three, or even two living with mom and dad and staring at a computer screen.

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