

What Campus Leaders Need to Know About MOOCs

An EDUCAUSE Executive Briefing

- » MOOCs (massive open online courses) are courses delivered over the web to potentially thousands of students at a time.
- » While MOOCs have captured the interest of many, the business models and return on investment are still evolving.
- » Currently most MOOCs rely on traditional lecture approaches; students must self-organize study groups or discussion.
- » Institutions may experiment with MOOCs as a brand extension; others must determine how MOOCs fit their instructional portfolio.
- » MOOCs may catalyze new approaches to credentialing.

Massive open online courses—MOOCs—are online courses that are free and open to anyone, with essentially unlimited enrollment.

How MOOCs Work

MOOCs are online courses where lectures are typically “canned,” quizzes and testing are automated, and student participation is voluntary. They attain large scale by reducing instructor contact with individual students; students often rely on self-organized study and discussion groups. An alternative model allows students to vote on which questions should rise to the professor’s attention (e.g., Coursera). edX encourages students to rely on each other, awarding “Karma points” to students who correctly answer other students’ questions. As points accrue, students’ roles can expand, e.g., to a teaching assistant.

Initial MOOCs have often been from disciplines that lend themselves to quantitative assessment, such as engineering, computer science, and math. However, MOOCs are becoming applicable to all fields as the platforms enable assessment methods such as peer review. MOOCs generate massive quantities of data about learner behavior, which can be used to understand cognitive growth and how to improve instruction. Some platforms may evolve from course-delivery systems toward adaptive learning platforms—systems that personalize the experience based on the learner’s performance.

MOOCs embody a convergence of technology and culture that is creating new energy around

The New Players

MOOC Platforms

Coursera: A Stanford spinoff focusing on elite institutions and faculty. Major university partners include University of Virginia, Duke University, University of Pennsylvania, and University of Illinois.

edX: The Harvard, MIT, and Berkeley collaboration to offer the best of all three institutions free online.

Udacity: Disseminates select MOOCs in partnership with individual professors. Founded by ex-Stanford professor Sebastian Thrun after his MOOC went viral.

Udemy: Allows anyone to create and offer a course, whether free or for a fee.

Adaptive Learning Platforms

While not MOOCs, [Knewton](#) and [Khan Academy](#) offer massively online material. As students work, these platforms track and correlate data generated—from time of day to clicks and response patterns—to personalize instruction. Ultimately all platforms may use data to adapt instruction to the learner.

e-learning. On the technology side, the tools enabling web-based instruction are more effective and reach greater scale than ever before. E-learning technologies that are widely used in MOOCs include:

- High-quality indexed video
- Data capture and analytics
- Delivery platforms that combine the qualities of social networking sites like Facebook with the content delivery, discussion, and grading functions of the traditional learning management system

From a cultural perspective, communication, collaboration, and knowledge discovery via the web have become commonplace. Sites like TED, Khan Academy, iTunesU, and YouTube, which house rich collections of instructional material, have paved the way for MOOCs.

The Current Value Proposition

Education Access

MOOCs provide access to education on a massive, international scale. Currently, most students who enroll in MOOCs are internationals and/or professionals rather than enrolled college students. This balance may shift as institutions develop models for integrating MOOCs into students' educational pathways. MOOCs provide instruction, but they also highlight the institution by featuring renowned professors. MOOCs can be used as primary or supplementary course material for instructors who wish to weave them into their curricula.

Experimentation

MOOCs represent an experiment in education that attracts talented instructors, technologists, and entrepreneurs. Many institutions are experimenting with MOOCs to inform instruction for large undergraduate courses. Commercial MOOC partners host sophisticated application platforms that mine click-stream data, which can be used to refine adaptive systems and tutoring algorithms that enhance learning effectiveness.

Brand Extension

MOOCs can extend the institution's reach and reputation internationally. Particularly among elite research institutions, MOOCs have become a way of enhancing the institution's brand and signaling innovation. Successful professors can gain a global following, building their own reputation—as well as the institution's—and creating new opportunities for collaboration.

What Remains to Be Seen

Business Model

There is no standard business model for how MOOCs will generate revenue. Venture capital and philanthropy have funded platform providers such as Coursera and edX. Currently, institutions and MOOC platform providers each bear their own costs and split any future revenue. Revenue opportunities include:

- **Data mining:** Sell student information to potential employers or advertisers.
- **Cross- or up-sell:** Course materials (e.g., videos) are freely available, but ancillary services like assignment grading, access to the social networks, and discussions are fee-based.
- **Advertising model:** Courses have named sponsors.
- **Tuition model:** Students pay the originating institution for course credit.
- **Spin off/licensing model:** Sell the course, parts of the course, or customized versions of the course to institutions or businesses for their internal use; license institutional use of the MOOC platform itself.

Who Is Offering MOOCs?

Primarily offered by high-prestige name-brand universities, MOOCs are often taught by high-profile faculty on popular and diverse topics. The list of American institutions offering MOOCs is growing exponentially. New institutions jump into MOOCs seemingly every week. To date, 22 of the institutions listed in *US News'* top-25 best-colleges rankings for 2013 offer MOOCs or similar free offerings, including Harvard, Princeton, Yale, Columbia, MIT, Stanford, Duke, University of Pennsylvania, Cal Tech, Dartmouth, Northwestern, John Hopkins, Brown, Rice, Notre Dame, Vanderbilt, Emory, UC Berkeley, Carnegie Mellon, UCLA, and University of Virginia. Prestigious schools in Canada, Europe, Asia, the Middle East, and Australia also are offering or planning to offer MOOCs.

Pedagogy

Today's MOOC presents largely traditional instruction: lecture segments (often video), readings, and quizzes. The MOOC instructional paradigm works best for self-directed learners. Typically, only a fraction of enrolled students complete the course, and an even smaller subset (e.g., 5 percent) pass. However, options are likely to expand as MOOC pedagogy and technology matures.

Issues to Consider

Intellectual Property

Copyright clearance can be costly. Institutions are currently responsible for clearing copyright and for copyright violations when they partner with commercial MOOC providers. Copyright management of course materials can pose a

challenge. For example, educational fair-use claims are unlikely to hold when courses are open, and few can afford to license content when students number in the hundreds of thousands. Also, traditional institutional practices toward scholarly works might not apply because MOOCs may represent a significant university co-investment, potentially involving a substantial, ongoing infrastructure contribution.

Terms and Conditions. The “terms and conditions” of commercial MOOC companies require close scrutiny. Some commercial MOOC platforms have highly proprietary terms and conditions that claim ownership of course content and prohibit sharing or remixing of material. Not all MOOCs should be assumed to be “open.”

Identity and Credit

If credit is to be offered for a course, the identity of the student becomes important. While enrollment can be open, the student cannot be anonymous. The use of testing centers or other proctoring arrangements is one answer. Technology solutions that model the “fingerprint” of an individual’s online behavior or monitor the student and surrounding environment are another.

Open Courses, Credits, and Degrees

As new models for access, learning, and certification become more common, institutions will face decisions about course credits and degrees. Students already have access to courses from many providers, but not all are accepted for credit or count towards a degree. MOOCs are catalyzing exploration of alternative credentialing systems, including certifying prior knowledge. How MOOCs fit in an institution’s degree program is still being determined.

Three Questions Leaders Should Ask

Why jump on the MOOC bandwagon?

Possibilities include: for outreach and experimentation, to extend the brand, and to gain institutional experience with emerging forms of instruction. Ultimately MOOCs may become a source of revenue to drive down costs while opening access to learning.

Credit for MOOCs

Most MOOCs are offered as noncredit courses. While some American universities award “badges” or certificates of completion, to date only Colorado State University’s Global Campus has agreed to provide students full transfer credit toward a CSU bachelor’s degree for an introductory computer science MOOC. They must earn a “certificate of accomplishment” from Udacity, the company supporting the course, showing that they passed, and then pay \$89 to take a proctored examination also offered by Udacity through a secure, physical testing center.

What is our institutional capacity to deliver a MOOC?

MOOCs require investment. Whether the MOOC is self-hosted or offered through a commercial platform, integrated course support is required. Support requirements include:

- Technical (e.g., videography, editing, graphic design)
- Instructional (e.g., instructional design, teaching assistant support)
- Library (e.g., resource discovery, copyright clearance)

Institutions intending to self-host MOOCs will need a sophisticated, highly scalable LMS-like platform, the ability to effectively market the courses, and the capacity to offer technical system support remotely and at scale.

Where do MOOCs fit into our institution’s e-learning strategy?

MOOCs should fit in the overall portfolio of course offerings. Do they complement or substitute for current course models? And if MOOCs are not an option, will faculty with stature, confidence, and teaching experience go outside the institution to offer a MOOC?