

Learning and the Massive Open Online Course

A Report on the ELI Focus Session

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Abstract

On April 3 and 4, 2013, the ELI teaching and learning community gathered for an online focus session on Learning and the Massive Open Online Course (MOOC). This report is a synthesis of the key ideas, themes, and concepts that emerged. This report also includes links to supporting focus session materials, recordings, and resources. It represents a harvesting of the key elements that we, as a teaching and learning community, need to keep in mind as we explore this new model of learning.

MOOCs: Fad or Disruption?

Although MOOCs make up a very small percentage of higher education offerings, their appearance has sparked lively conversation around fundamental topics including teaching, access, learning outcomes, credentialing, cost, learning communities, and more. While skeptics may wonder whether MOOCs are just another educational fad, many argue they are a disruptive force that will lead to significant change in higher education. Clayton Christensen's theories about disruptive innovation note that innovation comes when organizations step outside the existent culture, set up prototypes and experiments, and then harvest lessons that can lead to progress. In this sense, MOOCs have already proven to be a disruptive force, in a constructive way, by prompting the rethinking of current models and practices and by challenging us to think outside boundaries to envision new ways of delivering education.

The ELI focus session considered many dimensions of the MOOC. One is the open channels created for integrating top-quality subject matter into virtually any course: face-to-face, blended, or online. Content that might once have been the sole purview of students in highly selective institutions can be "democratized" via MOOCs to all types of learners anywhere. In fact, some MOOC cases suggest that nontraditional students thrive when such content is used in conjunction with the flipped instructional approach in face-to-face courses. When used in this way, MOOCs may serve as a rich source of content—as a sort of open textbook—offering a variety of media: text, video, simulations, and discussions, all excellent supports for active learning.

The Jury Is Still Out

Overall, research on the impact and value of MOOCs is in its infancy. We need deeper understanding, for example, of the MOOC's role in teaching and learning. One of the advantages of MOOCs is that with enrollment sometimes in the thousands, they act as a sort of innovation test bed and can provide a great deal of data about the online student experience that can be mined and analyzed. The results of these analyses can be used to inform and improve learning in other instructional modes, not just in the MOOC.

The MOOC is quickly evolving. The letters that constitute the acronym describe one basic form, but in practice many variations in size, openness, and delivery mode are emerging. Debating the facets of the MOOC is part of understanding this new model, but discussions about definitions might prove important not so much for any resolution they might reach but because they help us reconsider teaching and learning issues like pedagogy, access, and engagement, among others.

Another area still in question is the financial sustainability of the MOOC. MOOCs offer the possibility of very low or no-cost education. But what is the value of MOOCs to the institutions and organizations that offer them, especially considering the high cost of producing and delivering them?

MOOCs also raise legal questions. Who owns MOOC content, for example, and what rules should govern the use of that content? When students create content as part of a MOOC, who owns that? From the perspective of the professoriate and administrators, how might the world of MOOCs change our assumptions about educational publishing?

MOOCs also raise questions around college credit. Many students don't take MOOC courses for credit, but for those who do, how might that credit transfer to other institutions and in what way—how might MOOCs help students complete college programs? These questions are closely linked to the different motivations and behaviors of students taking MOOCs.

MOOCs are often criticized for their low completion rates—indeed many are below 5%. But the MOOC is teaching us about all the reasons that students engage in the learning process. In many

ways it's a vehicle for just-in-time learning, allowing students to participate at select points in the course and then depart when they've met their goals. We may also learn about the kinds of activities, content, and course designs that motivate students to stay engaged in a course. More important, we may better understand how to measure the success of students against their learning goals, while also responding to accountability requirements. Our measurement systems may need to be more granular than looking at degree or certificate completion.

Disaggregation and Change

MOOCs are forcing evolution in pedagogy, design of learning, and the student experience. Fundamentally, they suggest wholly different approaches to course design and delivery, much of it necessary because of the courses' size. They bring into question long-held assumptions about what even constitutes a course or a part of a course. They alter course development and approval processes—especially who does the developing and approving. They challenge the premise on which course credit is awarded. The very fact that many of the most prominent providers of MOOCs are outside academe prompts us to rethink who has the authority and ability to initiate change in universities.

Much of the reform that takes place in higher education is incremental in nature. Occasionally, however, forces prompt more rapid change, as has technology. The challenge for higher education will be to determine what happens next. Consultant Michael Feldstein, a speaker at the focus session, suggested that MOOCs are “reawakening our imagination” about the academy’s teaching and learning mission. In that context, the ELI focus session program investigated four broad themes:

- Getting a MOOC off the ground
- Weaving a MOOC into campus practice
- MOOC quality assurance and analytics
- Exploring MOOC delivery options

This report is a synthesis of the key ideas, themes, and concepts that emerged and also includes links to supporting focus session materials, recordings, and resources. It represents a harvesting of the key elements that we, as a teaching and learning community, need to keep in mind as we explore the MOOC as a vehicle for learning.

Everything You Think You Know about MOOCs Could Be Wrong

The focus session opened with a presentation by educational technology consultants Michael Feldstein and Phil Hill, who discussed MOOCs at a high level, setting the context for the rest of the presentations. Especially given that MOOCs are a relatively new and fast-evolving phenomenon, how do we sort MOOC facts from fiction and hype? For example, we assume MOOCs to be courses that are massive in scale, open to all, and offered online. But what happens if we start adapting the model to different needs or institutional contexts? How massive do MOOCs need to be? How open? Do they need to be fully online? Do they even need to be courses?

Suggesting that MOOCs have helped open higher education to new models, educational technology consultants Michael Feldstein and Phil Hill noted that the boundaries that define MOOCs are shifting and will continue to evolve (see Figure 1). The pace of change itself is noteworthy in that the growing presence in the MOOC space of venture capitalists and other for-profit agencies is driving change and innovation around MOOCs at a much faster pace than higher education may be accustomed to.

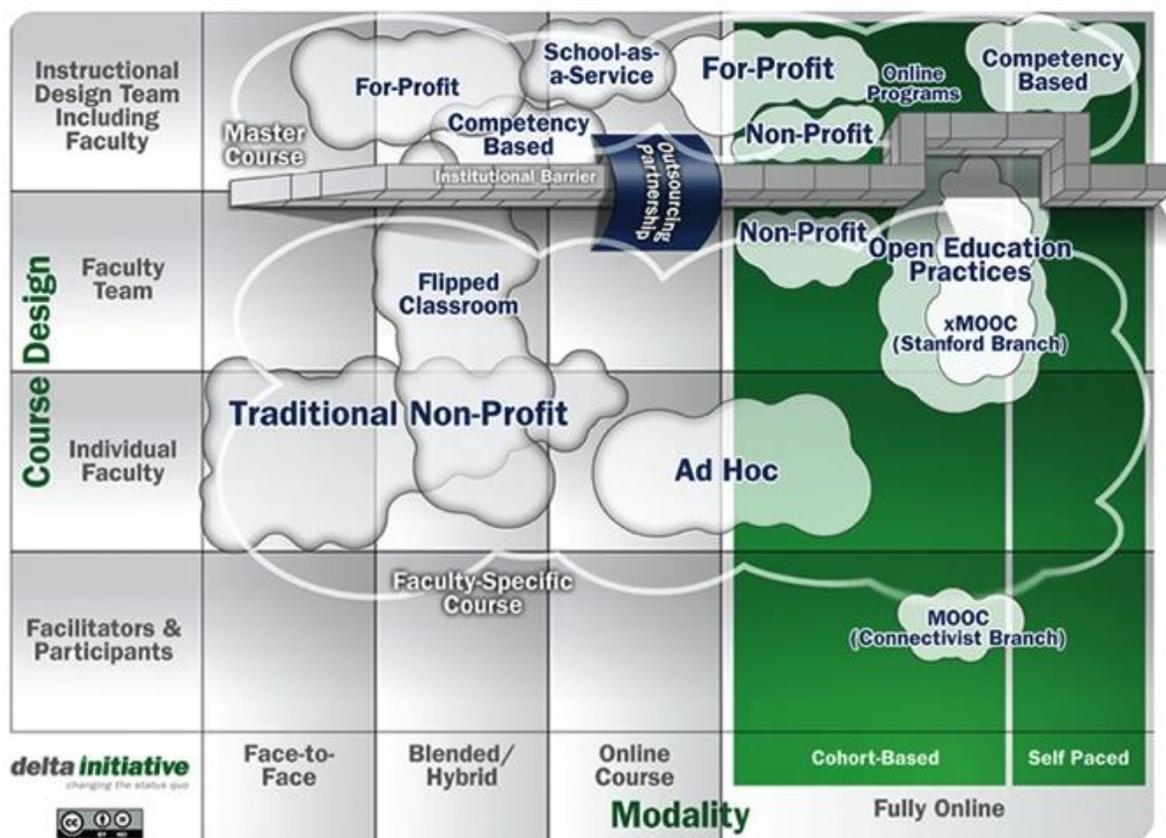


Figure 1. Educational Delivery Models, 2012

The recent history of MOOCs includes the “connectivist” branch, sometimes called cMOOCs, established in Canada around 2008, in which online communities formed, generally outside traditional educational contexts, to address questions of mutual interest. More recently, experts associated with Stanford University and such companies as Coursera and Udacity, as well as Harvard and MIT’s edX initiative, have developed what are sometimes called xMOOCs, developing pathways for distributing content from a central source, such as a professor. Educators and vendors involved with xMOOCs have been working ardently to understand how their models might produce revenue and become self-sustaining, how students would earn credit, and to address such questions as how many students complete MOOC courses and how to authenticate who is taking them.

But MOOCs are fast-evolving in other ways. Recent developments include:

- Non-massive “OOCs.” Harvard, for example, capped enrollment an online course on copyright in the interest of preserving the course’s pedagogical quality. Other schools are beginning to play with the notion that some aspects of a MOOC-like course can be massive, while other aspects are not. San Jose State University, for example, has been piloting courseware with online support groups, but with instructors running classes that add a face-to-face component to a MOOC.
- Non-open “MOCs.” Most MOOCs are not open, in the sense that their content is not provided under a Creative Commons license. Some recommend for-pay textbooks; others could charge fees in the future. You can have an open access course but still charge a fee. The most consistent kind of “open” is open access, which is related to but not the same thing as free.

- Non-online “MOCs.” Some universities use a form of MOOC internally to support a hybrid model of classroom flipping. Campuses with the right network have a logical opportunity to enhance the learning experience in this manner.
- Non-class MOOCs. MOOCs don’t necessarily need to be courses; they can exist as online and project-based communities. In one example, when a university opted not to offer a sequel to an online class, students who took the first section organized a community to continue learning together.

One way to think about course content is as a continuum between pieces of a course an instructor posts online to a full course. MOOCs may evolve in the direction of locally sourced courseware that competes more directly with traditional publishers’ offerings.

With this introduction, the focus session shifted to presentations and discussions on four specific dimensions of MOOCs.

Focus Session Resources

- “Everything You Think You Know about MOOCs Could Be Wrong,” Michael Feldstein and Phil Hill, Ed Tech Consultants and Analysts, MindWires. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p85jn6fb0qc/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Getting the MOOC Off the Ground: What You’ll Need to Deploy

Faculty Perspective: Teaching the Humanities to Humanity

Peter T. Struck shared some of his experiences teaching the Coursera MOOC “Greek and Roman Mythology.” He noted he had taught more students through one Coursera course than he has taught face-to-face in over 10 years, and he takes away mixed lessons about MOOCs. For example, he wonders whether the medium of MOOCs and online learning is good for intellectual work. Observing that the online environment is effective for short bursts of exploration, he questions how well it works for long-form, open-ended questions that allow us to explore ideas over an extended period of time. He cited Clifford Naas’ suggestion that multitasking is a euphemism for distraction. “The things I value most in the humanities might not survive this new medium,” Struck says.

Struck described some of the limitations of teaching in the online environment—for example, the need to offer multiple-choice quizzes rather than essay questions and fewer opportunities for student writing. Peer-reviewed writing is fine for certain applications, he suggests, but is not as good for high-stakes evaluation. He continues to reflect on the effects of online learning on the lecture format, when the typical 50-minute lecture must be truncated to 12 minutes or less in order to fit the online medium, suggesting the jury is still out on that question.

Still, Struck says that his experience in the online environment has changed his teaching in the sense that it has encouraged him to question his approach to pedagogy—“it has made me recalibrate, reanalyze, and re-ask whether I’m [teaching] the right way,” he said. Online learning, he says, is allowing us to “question everything” about pedagogy and “scrutinize our teaching...and that’s a great thing.” The MOOC format “challenges us in useful ways,” he added.

Focus Session Resources

- “Faculty Perspective: Teaching the Humanities to Humanity,” Peter T. Struck, Director, Benjamin Franklin Scholars, Associate Professor, Classical Studies, University of Pennsylvania. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p8ib1cqolmb/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Designing and Implementing MOOCs That Maximize Student Learning

Amy Collier said MOOCs present unique course design challenges. Students in MOOCs may have more varied educational, professional, linguistic, and cultural backgrounds than students on campus. They may have different motivations for taking the course; many, for example, treat MOOCs as discrete online learning opportunities, as opposed to part of progress toward a degree.

As reported by Seth Anderson, Duke University created a faculty resource for teaching in MOOCs. The suggested process starts with traditional course design principles, such as identifying course learning objectives. For MOOCs, however, the design must also address unique challenges, such as the large number of students in a MOOC and their varied backgrounds and range of expectations. Faculty must also consider how they can build a cohesive learning community in an asynchronous learning environment. Moreover, designers must consider practical ramifications of building a large-scale online course, when even a small error—such as asking students to enroll in a Google document discussion that cannot accommodate all the students in the class—can have magnified impact.

They recommended three broad strategies for designing a MOOC course:

- Provide clear, explicit communication about exactly what students need to do to succeed in the course.
- Deliver information consistently each week.
- Help students build a supportive learning community. Make sure the online forum is used well to offer a place for students to connect, construct, and make meaning.

In terms of organizational and logistical challenges, Cassandra Horii outlined a strategy of coordinated support for the design of MOOCs. She said processes and offices involved may be different from those that campuses traditionally rely on, perhaps mandating new cross-campus workflows. Moreover, she said, with MOOCs, the design process needs to happen earlier than in traditional course design. Professors may need much more time crafting ways to engage students in MOOC course content. Among other practices, Caltech has found it useful to link all the offices on campus that need to be involved in MOOC design and execution.

Focus Session Resources

- “Designing and Implementing MOOCs That Maximize Student Learning,” Seth Anderson, Academic Technology Consultant, Duke University; Amy Collier, Director for Technology & Teaching, Office of Vice Provost for Online Learning, Stanford University; Cassandra Volpe Horii, Director of Teaching and Learning Programs, California Institute of Technology. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p5qcqcbtuwf/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Weaving the MOOC into Campus Practice

MOOCs for Credit: Current State of the Art

The American Council on Education (ACE) has a long-standing course review and credit recommendation service, which normally applies to formal learning that does not take place on a university campus. ACE is completing a pilot project to adapt its existing service to MOOCs and recently approved five MOOC courses for credit recommendations. Cathy Sandeen described the association's recent efforts to formally recognize student achievement in MOOCs.

Sandeen summarized the different channels that lead to the award of course credit, including credit by examination and course review as well as newer forms, such as student portfolio review and the awarding of digital “badges” that recognize particular student competencies. She suggested that a focus on credentialing is particularly important today given that the United States needs to graduate more students.

ACE received a grant from the Bill & Melinda Gates Foundation to conduct work related to credentialing, including the pilot-testing of a credit review of five Coursera courses (the initiative was later expanded to include other Coursera courses and some from Udacity). During the review, faculty content experts with online teaching expertise, as well as psychometricians, looked at such criteria as the course curriculum, learning outcomes, exercises and assessments, the level of student interaction and engagement, and efforts to authenticate student enrollment. Four courses received recommendations for the awarding of undergraduate credit; the fifth course was recommended for pre-collegiate credit. Acceptance of the credit is at the discretion of an institution, much as is the case with transfer credit.

Focus Session Resources

- “MOOCs for Credit: Current State of the Art,” Cathy Sandeen, Vice President, Education Attainment and Innovation, American Council on Education. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p6d15jbk59m/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

What's In It for Us? The Benefits to Campus Courses of Running a MOOC

How can universities leverage MOOCs to benefit their campus classes and their course development processes? Jason Mock offered insights about how MOOCs can impact pedagogical innovation and improvement. Working on six Coursera courses, the University of Illinois at Urbana-Champaign finds the incentives for institutions to engage in the MOOC space include opportunities to enhance brand reputation, a chance to engage in pedagogical innovation, and even a motivation to change the world through community outreach (see Figure 2).

Mock suggested that MOOCs offer a powerful environment for campus experimentation in learning design, as well as opportunities to compare hypotheses between traditional and online course delivery. At Illinois, this experimentation takes many forms, from collaboration with other universities that are engaged with Coursera to experiments within courses, such as an instructor who collaborated with colleagues to create an open textbook for a MOOC that was then offered to students in traditional courses. Videos created as MOOC course material can be viewed outside class by students in traditional courses, leaving more class time for discussion.

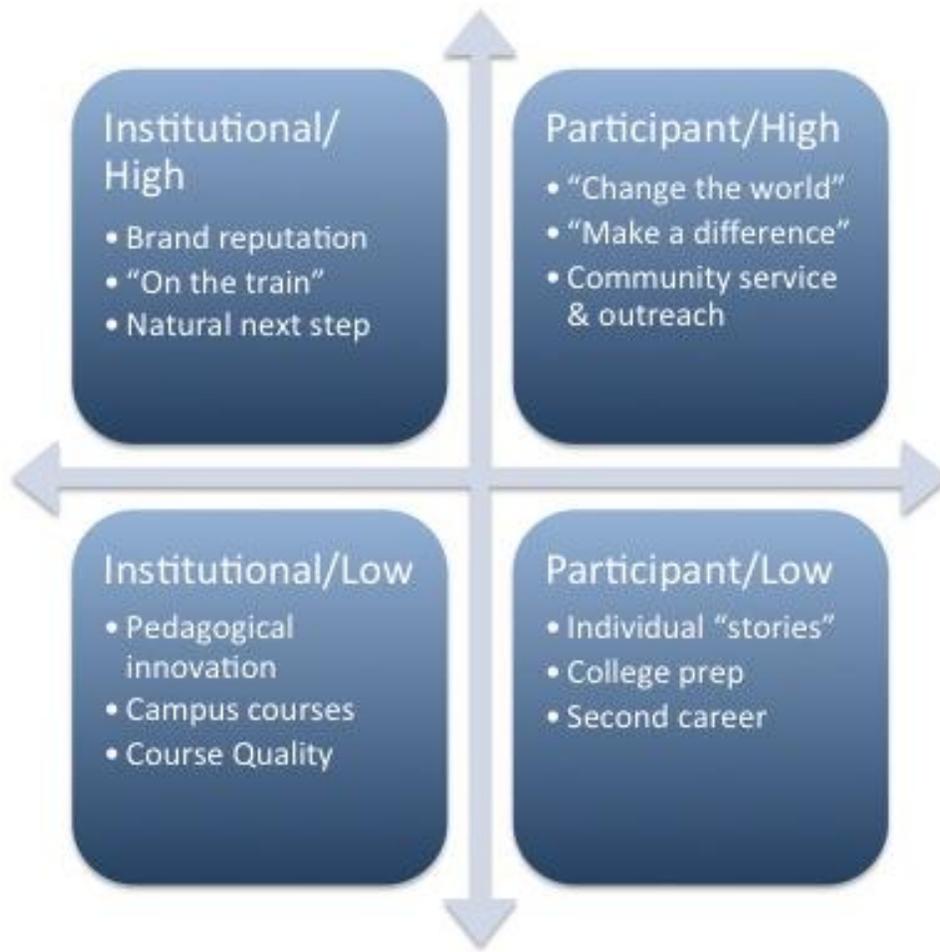


Figure 2. MOOC Motivations

Lessons learned from MOOCs can be applied to traditional courses as well. Mock said MOOCs offer the chance to learn through experimentation but then make corrections fairly rapidly. He said campuses should recognize there is no single way to design a MOOC, but rather multiple pathways can lead to good results. Similarly, he said course designers working on MOOCs also need to recognize that students who take MOOCs have many different reasons for doing so. MOOCs should not be thought of as mere mirrors of what takes place on campus. Illinois also understands the power of crowd-sourcing ideas and other input from MOOC students. Such input can tell a professor, for example, where he might need to focus additional attention within a course.

Focus Session Resources

- “What’s In It for Us? The Benefits to Campus Courses of Running a MOOC,” Jason Mock, Instructional Designer, College of Liberal Arts & Sciences, University of Illinois at Urbana-Champaign. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p2q8d9yz5wt/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Who Are Our Students? Bridging Local and Global Learning Communities

MOOCs are changing our conceptions of learning communities. For example, when Vanderbilt University opened two MOOCs during the first week of March 2013, it added more than 170,000 new students to the university's community. Derek Bruff discussed how the learning community located physically at the university is interacting with, learning from, and contributing to the global learning communities provided by Vanderbilt's MOOCs. This interaction and experimentation takes several different forms:

- *“Wrapping” courses around MOOCs.* A professor in a graduate-level course in machine learning “flipped” his course by having his students participate for 10 weeks in a relevant Stanford MOOC, supplemented with weekly class meetings and additional readings. During the last four weeks of the semester, students focused on hands-on projects.
- *Hosting MOOC meet-ups.* Trying to combine local and global learning communities, the university experimented with on-campus meet-ups designed to get local students to interact with the online community.
- *Using MOOCs as professional development opportunities for undergraduate and graduate students.* The university's experimentation with MOOCs created an opportunity for a student to research and report on common practices in MOOCs and develop a resource guide, for example, and for a computer science student to mine data about student experiences in MOOCs.

The students in Vanderbilt's MOOCs constitute more students than have enrolled on campus during the course of the university's history. While they are not paying tuition, their presence matters, and it is sparking new thinking about expanding the university's mission beyond the traditions of enrolling students and granting credit. Research is continuing about that expanded role.

Focus Session Resources

- “Who Are Our Students? Bridging Local and Global Learning Communities,” Derek Bruff, Director, Center for Teaching, Senior Lecturer, Mathematics, Vanderbilt University. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p22u5an6law/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Using an Open-Source Platform to Meet Online Learning Goals: An Introduction to Class2Go

As universities dive deeper into online learning and MOOCs, what role can a platform play in meeting online learning goals? As part of a complex multiplatform strategy, Stanford University discovered that developing and using the Class2Go open-source platform created new possibilities for online learning and provided freedom to experiment with a variety of online learning models. The university will draw on lessons from this experimentation as it transitions to work with edX to develop an open-source web platform for online courses. Meanwhile, its experience with Class2Go suggests several insights for universities as they make their own decisions about online platforms, either alone or in conjunctions with other platforms.

An open-source framework democratizes online learning tools for colleges and universities. Benefits include control over branding, the capability to add features in response to faculty design needs, and the ability to share content with other universities (e.g., for wrapped MOOCs) on the university's terms.

Signing up with a provider such as Coursera helps bring students to your institution's courses. This is a relatively easy way to increase enrollments without explicit marketing. For-profit platforms have a vested interest in creating their own online user community, however, which has some downsides for universities. For one, students who take a course on an open source platform may not feel the same affinity for the university as would their on-campus peers. An institution may be more comfortable with its ownership of its relationship with a student in the context of an open-source platform. In terms of monetization of content, an open source platform may give a university greater share of revenues.

Focus Session Resources

- “Using an Open-Source Platform to Meet Online Learning Goals: An Introduction to Class2Go,” Amy Collier, Director for Technology & Teaching, Office of Vice Provost for Online Learning, Stanford University; Jane Manning, Director of Platforms and Class2Go Product Owner, Office of the Vice Provost for Online Learning, Stanford University. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p6ajts936fg/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

MOOC Quality Assurance and Analytics

Backgrounds and Behaviors of MOOC Participants and Implications for Faculty

In spring 2012, the first MIT/edX MOOC, “Circuits and Electronics” (6.002x), was open to students around the world. To help faculty members and designers improve MOOCs and strengthen the use of online materials in residential courses, researchers from MIT and Harvard worked under an NSF grant to analyze data generated by the course, including scores on homework, labs, and exams; discussion board posts; and the results of a survey given to course completers.

One key finding is about the diversity of participants in MOOCs, which presents both challenges and opportunities. There were 194 countries represented in the first edX MOOC, creating a student peer group of unprecedented size and variation. They brought a notable range of educational backgrounds and levels of course knowledge and content expertise, along with significant linguistic diversity. Diverse students may watch course content at different speeds or may access content in different forms. Students may also find ways to connect with peers from very different backgrounds.

Professors have to adjust to magnified practical considerations, such as different time zones, different social norms for participating in a class, and students who may elect to group themselves according to language. Other challenges may include how to structure content for students who show wide variance in how well they are prepared for a course.

It's been estimated that it can take 100 hours for a faculty member to create a MOOC (some find that it takes much longer). Faculty members interested in MOOCs need to consider how the MOOC will compare in content to its analog on-campus course, how a MOOC would be staffed, the relative strengths and weaknesses of the MOOC technology, how they can accommodate the diversity of students in MOOCs, and how they can assess student performance.

Focus Session Resources

- “Backgrounds and Behaviors of MOOC Participants and Implications for Faculty,” Andrew Ho, Assistant Professor, Harvard Graduate School of Education, Harvard University; Lori Breslow, Director, MIT Teaching and Learning Laboratory, Senior Lecturer, MIT Sloan School of Management, MIT; Jennifer DeBoer, Postdoctoral Associate for Education Research, MIT Teaching and Learning Laboratory, Harvard University. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p6ickgishnd/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Multiple Lessons Learned from Implementing MOOC Environments at San Jose State University

San Jose State University piloted an approach to using MOOC content to augment traditional course content. Ellen Junn shared details about how the university first partnered with edX on a “flipped” course in circuits and electronics that included 80% of its material online—content provided by edX in consultation with SJSU faculty, augmented with two 75-minute in-class meetings per week in which students worked in small groups. The course yielded dramatic improvements in student learning: The pass rate rose from 59% for students in the typical large-lecture version to a 90% pass rate for students in the flipped course. The key takeaway, Junn says, is that “when you combine high-quality content from a MOOC provider in concert with a flipped model in which students are doing more active learning, you have significant improvement in student performance.”

The university partnered with Udacity, with funding from the Bill & Melinda Gates Foundation, to have SJSU faculty create three MOOC-like courses in math, algebra, and statistics that are particularly challenging to some students. The goal was to pilot for-credit versions of MOOCs. Enrollment was not “massive,” but rather was capped at 100 students. Not free, the courses were priced at a modest \$150.

SJSU used the same student learning outcomes for the new courses as would be used for any campus course, integrating *a priori* assessments and evaluation. To help ensure success in developing the courses, the university provided training and compensation for the faculty, carefully deciding which courses to migrate to MOOC form and creating clear processes and communication channels for course development.

SJSU learned to be clear about the central goal of the new courses and to understand the differences between face-to-face courses, online courses, and MOOCs, considering all stakeholders in the process and aligning institutional resources. It was important to clarify business strategies for the new courses and plan for their sustainability, as well as to address relevant legal issues and marketing and communications considerations.

Focus Session Resources

- “Multiple Lessons Learned from Implementing MOOC Environments at San Jose State University,” Ellen Junn, Provost and Vice President for Academic Affairs, San Jose State University. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p2kk6zum6s6/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Digging into MOOC Mania: One Investor’s Key Research Questions and Approach

Are MOOCs a good tool for learning? MOOCs are in their early stages, and there is still much to be learned about them. Regardless, it is evident that MOOCs create an inherently interesting opportunity to catalyze institutional conversations—about quality, access, accountability, and teaching and learning, for example, or even about the future of higher education itself. The Bill & Melinda Gates Foundation is working to define and answer key research questions in this area.

Viewing MOOCs as a disruptor for change, the Gates Foundation is interested in driving scaled adoption of MOOCs for introductory and remedial content and competencies; in learning how MOOCs might serve low-income young adults; in supporting research on the efficacy of MOOCs; and in driving the evolution of MOOCs toward improved higher quality, improved pedagogy, and improved authoring/integration support.

The foundation is interested in five broad research areas: student learning outcomes; learning design; cost, performance, and learning analytics; policy and system impact; and alternative or expanded MOOC formats. Among several lines of inquiry, the foundation seeks answers to several key questions:

- What data need to be captured about MOOCs in the context of the advancement of learning?
- What are the purposes and designs of different types of MOOCs and various instructional models?
- For which students, courses, and contexts are MOOCs effective, and where are they not?
- How rich and deep is the learning from MOOCs?
- Which components of MOOCs drive impact for target learners, and what additional supports need to be added online or face-to-face?
- What is the nature of the faculty role, time commitments, and work conditions for MOOCs versus face-to-face and traditional online models? Which faculty members are well suited for MOOCs?
- What are the costs and barriers for development? Local customization? Implementation?
- How can MOOCs serve broader goals of both students and institutions?

The foundation plans an announcement soon about support for a MOOC research program and is also thinking about ways to make data about MOOCs more broadly available.

Focus Session Resources

- “Digging into MOOC Mania: One Investor’s Key Research Questions and Approach,” Anh Nguyen, Senior Program Officer, Postsecondary Success Team, Bill & Melinda Gates Foundation; Stacey Clawson, Senior Program Officer, Postsecondary Success Team, Bill & Melinda Gates Foundation. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p4cd5ura6cm/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Assessing the Efficacy of Third-Party MOOCs in Hybrid Instruction

MOOCs are creating an abundance of content and resources heretofore unavailable. There is a growing body of evidence that suggests students can learn as well or better through hybrid courses that draw on MOOC content and that those courses offer cost savings. At the same time, administrators and faculty are generally not convinced there is a sufficient supply of high-quality course materials available for such courses, nor that quality assurance systems are in place—realities that constitute barriers to more widespread adoption of hybrid courses using MOOC content. Rebecca J. Griffiths discussed ongoing research to learn more about these issues.

MOOCs were originally designed for a public audience, not for use in hybrid courses in institutional settings. With support from the Bill & Melinda Gates Foundation, ITHAKA S+R partnered with the University of Maryland to explore how MOOCs can be used in hybrid courses in institutional settings. The research questions are straightforward: Can MOOCs be used to improve student outcomes? What models of adoption exist, and what are the potential benefits and challenges of each? What implementation challenges must be addressed? What can be learned about cost savings?

To answer these questions, ITHAKA S+R is conducting experiments incorporating MOOCs into hybrid courses across the University System of Maryland. Half will be controlled tests involving large gateway courses where side-by-side comparisons of hybrid sections versus face-to-face sections can be made. For example, a philosophy course at Frostburg State University will integrate course materials from an introduction to philosophy course at the University of Edinburgh. The other half will be anthropological case studies that will document the experience of instructors and students in lower-enrollment courses. Cost analyses will be conducted across both sets of the research design.

Focus Session Resources

- “Assessing the Efficacy of Third-Party MOOCs in Hybrid Instruction,” Rebecca J. Griffiths, Program Director, Online Learning, ITHAKA S+R. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p5ae7n8qs98/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

International Perspective: The MOOC and Campus-Based Learning

For the place-based institution, how might the redesign of course delivery for MOOCs prompt the examination of the campus physical learning environment? Phillip D. Long shared insights on these questions from the University of Queensland.

To date, UQ has a very small footprint in blended online learning using MOOCs. Australian educators have watched with great interest as MOOCs began to gain traction, recognizing that MOOC technology may be changing the context for higher education, offering more pervasive access to education, richer media, and data to mine about learning. The value proposition of MOOCs might be that they develop pedagogically high-quality learning and rich media content that can leverage reusable learning design patterns and tools in a modular form.

UQ is not interested in becoming an online environment for millions of people, but rather in leveraging the experience its students can have with students around the world in a flipped classroom model. That would likely mean changing the way the campus uses its physical space. UQ has begun to experiment with space designs that reflect these values, shifting large lecture format classes into more learning-friendly environments, which have been well received by students. The university has also started to partner in MOOCs with edX. Long says these strategies refactor how learning on

campus takes place, put more effort into learning design in the online context, and move away from the notion of classrooms as little boxes to create and expand what are essentially “professional practice spaces.”

Focus Session Resources

- “International Perspective: The MOOC and Campus-Based Learning,” Phillip D. Long, Director, Centre for Educational Innovation & Technology, The University of Queensland, Australia. Full session video recording and presentation materials: <http://educause.adobeconnect.com/p8b7ti2l8gi/>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Exploring MOOC Delivery Options

MOOC Provider Panel: Coursera, Academic Partnerships, Instructure, edX

Representatives of several major providers of MOOCs and online educational services offered their perspective on the current state of play in MOOCs and how they might evolve by addressing several key questions that were prioritized by focus session attendees.

How do you think the MOOC will evolve over the next two years?

The consensus was that it is hard to say, given that MOOCs are still in the early days of their evolution and still in an experimental phase. Certainly more campuses will be moving forward to figure out their own strategies around MOOCs. Looking ahead as MOOCs expand, however, a broader conversation about teaching and learning is evolving. For example, how does participation in discussion forums influence learning? How does putting students in the role of instructor influence learning? Broader cultural questions may also come into play, such as “What is a class?” We will likely see more technological innovations and tools for engaging learning communities.

How do you see the MOOC transforming learning in online and other delivery modes?

MOOCs are pushing the conversation about pedagogy and learning. Faculty are starting to do more thinking about how we teach well for MOOCs and serve their very diverse audiences, and about how to integrate MOOC content into face-to-face courses. A lot of thought is going into the best methods for online teaching and learning. There is also a focus on how learning communities interact in the context of MOOCs. More broadly, MOOCs are becoming a focal point for important institutional questions, such as the role of MOOCs in student access, success, and degree completion and, on the administrative side, their role in campus cost containment.

How do you see intellectual property and ownership issues evolving, considering that some institutions are using each other’s course content via MOOC providers?

MOOCs have opened the door for more open and flexible sharing of content and pedagogical approaches. But given that every institution has its own culture, each will have to determine its own policies and practices around sharing of content through MOOCs. Generally speaking, ownership of content will continue to need to be negotiated. Who owns that content? Is it affected by federal laws? Can it be used for research? A related conversation, and one that institutions may not have fully anticipated, concerns the treatment of student-generated content.

In your courses, how can you ensure that students' work is their own? Is there a way to structure courses to address this concern?

There is an ongoing need in every MOOC to make academic rules clear from the onset. This is especially important for student-generated content. This will be more of an issue in MOOCs that generate college credit. Vendors are experimenting with technological tools that address this question. Coursera, for example, has started a pilot called “signature track” in which a certificate tied to a webcam photo and keystrokes verifies student identity as they go through a course.

Matriculated students enjoy full support from their institution's library. How can a MOOC provide similar support to the many thousands of students enrolled in the MOOC, the majority of whom are not enrolled at the institution that is offering the course?

Some MOOCs have tried working with publishers to provide part of a resource for free along with an opportunity to buy the full item. There is a role for libraries, but it is hard to envision how library resources can be provided for free. One partial solution might be that university consortia work with librarians to see what can be offered across a consortium. Down the road, libraries might get more directly involved in MOOCs.

Do you think the learning that takes place in a MOOC is on par with that of a face-to-face course?

This may be an apples-to-oranges comparison. We have to ask why a student is taking a course. In a MOOC, people are often learning for learning's sake. In an institutional course, even online courses, it's most often for a credential or credit of some kind. Learning can take place in a variety of settings. Online learning and live learning have their respective strengths. Online learning, for example, is good for mastery learning.

Some critics suggest that the MOOC is a “retreat” to the old transmission course model. How can course designs address this criticism?

Students can learn in many different ways. In contrast to the transmission model—with the big lecture hall and the professor speaking and the students passively taking notes—MOOCs can be more interactive, with short videos, activities, quizzes, and lots of interaction in discussion forums and sometimes in face-to-face meet-ups. Students and instructors in MOOCs are looking for a high level of interactivity. They aren't looking to be just receivers or transmitters of information. So MOOC vendors are looking at how to engage students beyond just watching a lecture. One of the signature elements in edX courses, for example, is learning sequences, very short sessions interspersed with problem sets and virtual labs, with channels for immediate feedback from students.

Some providers feel that peer review of student work is a sufficient replacement for feedback from an expert like a faculty member or a TA. Would you agree?

The short answer is yes, peer review in MOOCs is working quite well. The peer review approach gives students the opportunity not only to write an assignment but also to read an assignment contributed by another student, and this method demands that students be quite familiar with certain topics. But we need to ask, are we doing peer review so students can learn, or for formal assessment? The prior application is fine, but the latter is questionable.

One of the tricky things about peer review is the context. What purpose is it serving? It can be misused and confusing to the student. It is important to help students understand what it is to do peer review. This is especially important in a cross-cultural setting. Most instructors have not conducted peer assessment before and need to be attentive to challenges like writing a rubric. A careful framework must be developed. Some vendors are piloting approaches to that.

Do you think that current learning technology tools are sufficient to support MOOCs?

This is a challenging question. Obviously the technologies have been sufficient to start the MOOC movement. But ongoing innovations will be needed, and it will be important to ensure that those innovations are driven by a focus on teaching and learning. In a sense, the innovations will never be finished. Clearly the tools can get better, and they will. Crowdsourcing may play a bigger role in design of such tools.

Do you have any inkling of a funding model for MOOCs? Does anybody?

Vendors are experimenting with different models. One charges \$50–60 to verify students' identity and is starting to offer career services that match companies with students. Another is experimenting with the idea of fees for the reuse of course materials. A third is working on revenue-sharing agreements with its institutional partners. Ideally, models will be found that control or lower tuition costs while increasing the quality of education.

Focus Session Resources

- “MOOC Provider Panel: Coursera, Academic Partnerships, Instructure, edX,” Relly Brandman, Course Operations, Coursera; Barbara Truman, Vice President, Learning Technologies, Academic Partnerships; Rebecca Petersen, Research Director, Online Learning, Content & Development, edX; Maria H. Andersen, Director of Learning and Research, Instructure. Full session video recording and presentation materials:
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.

Mapping Your Institution's MOOC Strategy: Questions for Campus Conversations

Today, many colleges and universities seek to better understand MOOCs. Many are working to map a strategy to integrate MOOCs into their educational program. Drawing from the presentations during this focus session, the questions that follow are designed to help institutions frame their discussions around MOOCs.

Understanding the Landscape

- How well does your institution understand the complex dimensions and forms of MOOCs, and what more does it need to know?
- What aspects of MOOCs might be most useful to your institution and why?
- What needs or challenges might your institution hope to address by using MOOCs?
- How can MOOCs contribute to or optimize learning? How well does your institution understand this dynamic, and what else does it need to know in this regard? Is the learning that takes place in a MOOC on par with a face-to-face course?
- What are the economics of MOOCs? How would your institution pay for a MOOC? How might it generate income from MOOCs?

Getting the MOOC Off the Ground: What You Will Need to Deploy:

- How does teaching using MOOCs differ from traditional classroom teaching? How well does your institution understand those differences?

- What do professors need to know about MOOCs? How well does your institution support faculty to be successful in delivering learning online?
- Given that content development for online learning differs from traditional course development, how well is your institution structured and equipped to support content development for online learning? Do policies and practices adequately integrate the many campus functions that contribute to online content development?

Weaving the MOOC into Campus Practice

- In what ways could you envision weaving MOOC participants into the traditional campus community? How do you see MOOCs transforming learning in online and other delivery modes? How do you think MOOCs might evolve over the next two years?
- What different kinds of instructional design expertise would your campus need if it chooses to shift from more traditional online education to MOOCs?
- If your campus shifts to wider use of MOOCs, what implications would that have on space design and allocation?
- Matriculated students enjoy full support from their institution's library. How can a MOOC provide similar support to the many thousands of students enrolled in the MOOC, the majority of whom are not enrolled at the institution that is offering the course?
- Some critics suggest that the MOOC is a “retreat” to the old transmission course model. How do your course designs address this criticism?

MOOC Quality Assurance and Analytics

- What are the best measures for the effectiveness of MOOCs and hybrids in promoting learning?
- Is your institution considering granting credit for MOOCs? If so, what criteria would it apply when making such decisions?
- Is your campus thinking about “flipping” more classes to include MOOCs or MOOC content? How might that change how assessment of student learning is conducted?
- Some providers feel that peer review of student work in a MOOC is a sufficient replacement for feedback from an expert like a faculty member or a TA. Would you agree?

Exploring MOOC Delivery Options

- What opportunities might you see at your institution in using content created originally for MOOCs in other venues, such as face-to-face or blended courses?
- What would be the advantages and disadvantages for your campus to work with an open-source platform to deliver not just MOOCs but also other kinds of online courses and educational experiences?
- Considering that some institutions are using each other's course content via MOOC providers—an uncommon practice in higher education—how would your campus address relevant issues of intellectual property and ownership?
- In your MOOC courses, how can you ensure that students' work is their own?

Focus Session Content and Related Resources

ELI Focus Sessions (<http://www.educause.edu/eli/events>) generate a significant amount of content around their themes. We encourage the reuse of this content, which often includes discussion questions, thematic scenarios, speaker recordings, and readings to conduct and facilitate campus events.

Content for the 2013 Online Spring Focus Session on learning and the MOOC can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session>. Below are additional resources, including a reading list and discussion guides.

- *Learning and the MOOC* resource list, including websites, reports, articles, and research: <http://tinyurl.com/elimooc>.
- *Learning and the MOOC Discussion Questions and Activity Workbook, Day 1 and 2*: <http://www.educause.edu/eli/events/eli-online-spring-focus-session/resources/participant-resources>.
- Presentation slides and resources for all sessions can be found at <http://www.educause.edu/eli/events/eli-online-spring-focus-session/program/online-recordings>.
- Focus Session Learning Commons (for all ELI focus sessions): <http://elifocus.ning.com/>.