

**MOOCs: Where From, Where Next?**

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**MOOCs defined**

MOOC is an acronym for *Massive Open Online Course*. MOOCs became a media sensation in 2012 when prestigious US higher education institutions (HEIs) such as Stanford and MIT built IT platforms that allowed them to offer simply constructed courses over the Internet to large numbers of people all around the world.

*Massive* described large numbers of registrants - often over 100,000 per course in those early days. *Open* implied that MOOCs were free and without admission criteria - anyone with an Internet connection could sign up. *Online* meant that access to all learning and assessment material, as well as any interaction with other participants, was through the Internet. *Course* suggested that a MOOC was an integrated learning package with some form of assessment rather than a single learning object or an open educational resource. Until about 2015, however, the only recognition offered to successful MOOCs learners was a certificate of participation. Even when a MOOC covered the same curriculum as a course in the HEI's regular program, students who passed the assessment could not gain credit for use on campus.

**Some history**

These early MOOCs inspired hyperbole in news coverage. Some writers proclaimed a revolution in higher education. Others suggested that MOOCs were the answer to the pressures on access to college in the developing world. Such hype soon proved to be unjustified but by building on earlier developments MOOCs significantly accelerated Internet use across higher education. The current state of play will be examined after tracing this history.

In the late 1800s, after universal postal services made education by correspondence possible in some countries, a few HEIs began offering courses at a distance. This trend accelerated sharply in the 1970s when new institutions dedicated solely to distance teaching at scale, such as the UK Open University (UKOU), combined multi-media learning materials (text, computer software, TV, radio) with sophisticated assessment and support systems to reach tens of thousands of dispersed students.

The next important mutation occurred when online technologies transformed distance learning again two decades later. The UKOU began using what it called computer conferencing in some of its courses in the late 1980s. Whereas distance teaching had previously been largely conducted in the one-to-many mode of broadcasting, having

students online made many-to-many interactions possible as well as allowing institutions to extend their geographic reach and provide students with more rapid feedback.

Early in the 21st century campus-based institutions began to incorporate online learning into regular credit courses. These early offerings, presented without fanfare, were mostly a serendipitous blend of online learning and face-to-face teaching. The diffidence partly reflected awareness of a lack of institutional expertise in online teaching but also the doubts that many academic leaders and faculty still harbored about the credibility of distance education generally.

By 2010 the steady expansion of the Internet gave computer scientists the idea of creating the large-scale software platforms necessary to offer simply constructed learning packages to almost unlimited numbers of people. This stimulated the 2012 wave of US MOOCs that captured the imagination of the news media.

The acronym MOOC had originated in Canada in 2007. It was coined to describe an open online course at the University of Manitoba. *Connectivism and Connective Knowledge* was presented to 25 fee-paying students on campus and 2,300 other students from the general public who took it online free of charge. The course's title evoked its aim, inspired by the vision of Ivan Illich, which was to provide all who want to learn with access to available resources at any time in their lives; empower all who want to share what they know to find those who want to learn it from them; and, finally, furnish all who want to present an issue to the public with the opportunity to make their challenge known. In this spirit all the course content was available through RSS feeds, and learners could participate with their choice of tools: threaded discussions in Moodle, blog posts, Second Life and synchronous online meetings.

The larger-scale MOOCs launched in the US in 2012 adopted a conventional behaviorist instructional model that contrasted sharply with the earlier Canadian approach. Whereas the learners in the connectivist MOOCs (dubbed cMOOCs by early researchers) had, in effect, to construct the course themselves by seeking out online resources, the behaviorist MOOCs (called xMOOCs) followed the curricula of conventional campus courses, presenting the content mostly in series of videos.

MIT's course 6.002x, *Circuits and Electronics*, was an example. It attracted 155,000 registrations from 160 countries with a majority resident in the US, India and the UK. Of these 155,000 learners, 23,000 tried the first problem set, 9,000 passed the mid-term and 7,157 (fewer than 5% of the original registrants) passed the course as a whole. The organizers of these xMOOCs soon found themselves having to defend such tiny completion rates. The leading faculty member observed that while the rate of attrition was indeed high, it would take 40 years for the same number of students to achieve success in the course on the MIT campus.

The publicity generated by these xMOOCs had a powerful impact on other HEIs because the adoption of online teaching by prestigious schools like Harvard, MIT and Stanford, suddenly made distance education respectable. A few HEIs began to offer MOOCs themselves but many more strengthened their commitment to integrating online learning in their regular programs.

### **Recent developments**

From 2014 the world outside North America tuned in to MOOCs. At first a few HEIs, such as Scotland's University of Edinburgh, Australia's Monash University and Switzerland's École Polytechnique Fédérale de Lausanne offered MOOCs through the two main US MOOCs platforms, Coursera (which still accounts for nearly half of all MOOC learners worldwide) and edX. But soon new MOOC platforms appeared as HEIs created alliances for this purpose. In 2015 FutureLearn, now a worldwide consortium of over 100 organisations put together by the UKOU, achieved a record of 440,000 registrations for a single session of a MOOC on English-language tests taught by the British Council. Three factors inspired and facilitated the diversification of MOOC platforms.

First, the MOOC concept began to be interpreted in a wider variety of ways, provoking the comment that the meaning of every letter in the acronym MOOC was now negotiable. By 2015 there were an estimated 4,200 MOOCs on offer worldwide and more people signed up for MOOCs in 2015 than in the first three years of the xMOOC movement combined.

The second driver of the diversification of MOOC platforms was the multiplication of social media and web-based information systems. As MOOCs became shorter and simpler and the average numbers per course declined it was no longer necessary to provide all elements of each MOOC on a single software platform. Learners could now, for example, be directed to YouTube for videos, to Facebook for interaction with other students, and to various URLs for other resources. The worldwide recruitment publicity that MOOC consortia could generate for their members' courses became as important an element of their value proposition as the software platform itself.

Third, as explored further below, the proportion of MOOCs offering formal assessment and credentials increased steadily. From 2017 FutureLearn offered a range of postgraduate degrees in partnership with Australia's Deakin University, the first time that a MOOC provider had offered multiple degrees, fully online, entirely on its own platform. Such formal assessment and credentialling has its own IT requirements.

This third trend also explains shifts in the importance that different regions of the world accord to MOOCs. In the immediate aftermath of the 2012 media frenzy European interest in MOOCs looked like just another example of other countries imitating North American innovations. By 2015, however, the European Higher Education Area seemed

to provide more fertile ground for the growth of MOOCs than the US. In that year the number of US HEIs having a MOOC or planning to introduce them began to decrease from an already low base, while a survey in Europe showed that the proportion of HEIs working on MOOCs had jumped from under 60% to over 70%.

Several reasons explain why European HEIs feel comfortable with MOOCs. Unlike US HEIs they do not believe that credentials for MOOC completion will cause confusion with higher education degrees. Europe is doing more experimentation with different types of MOOCs, each with a specific rationale. The presence of the European Credit Transfer Scheme in Europe, which provides a sound base for recognition of credentials across institutions and borders, is also helpful.

Relevant too are the significant differences in funding systems for higher education, with European HEIs having more government funding as well as additional funding for MOOC projects from the European Commission. This is related to the public service philosophy and standards commonly found at European HEIs. MOOCs are not so much a way of combatting the increasing costs of education as a useful tool for overcoming institutional and nation-state barriers in an increasingly globalized and networked education world.

For these reasons most European HEIs think that MOOCs are a sustainable method for offering courses as well as an important way to learn about online pedagogy whereas most US HEIs do not subscribe to either of these propositions.

### **Where next?**

A decade after the first cMOOC and five years after the xMOOC frenzy how have perspectives on MOOCs changed? How are institutions addressing the financial and organisational challenges of paying for the development and delivery of MOOCs when they offer them free? What subjects and levels of education attract the most interest?

The basic dilemma remains the tension between the desire to make knowledge the common property of humankind (UNESCO, 2012) and finding a business model that supports it. As MOOC consortia multiply, providers are addressing this challenge in different ways. Some now emphasise the notion of knowledge as common property by licensing their MOOC materials as open educational resources, whereas others retain a proprietary model. While the sale of participation certificates has generated more income than originally anticipated, the certification of credits, diplomas and degrees probably offers a more secure long-term income as well as encouraging the public take MOOCs more seriously. HEIs also use MOOCs to attract students to their regular courses, for which they receive tuition fees.

The target audiences and topics for MOOCs have evolved significantly. The early MOOCs were supply driven, as enthusiastic faculty sought to take their favorite campus courses to a wider public. This continues, but there is also growth in demand-driven

courses to serve particular communities (e.g. for carers of people with dementia - University of Tasmania; Strategies for Successful Ageing - University of Newcastle; Academic Integrity - University of Auckland). Not surprisingly, such demand-led courses often achieve significantly higher completion rates than the earlier MOOCs. At the same time the focus is broadening away from higher education as countries like India realize the potential of MOOCs for providing basic training to very large numbers of agricultural workers. The Commonwealth of Learning and partners have launched a series of MOOCs for development, including a *MOOC on MOOCs*.

Finally, while the number of HEIs offering regular courses fully online or in blended formats is very much greater than those engaged in MOOCs, the once sharp distinction between the two approaches to online teaching has blurred as MOOCs have diversified. Offering a few MOOCs can help an HEI to gear up for a more intensive use of online learning in its regular programs, not least by catalyzing the two major organisational changes that a substantial commitment to online learning requires. These are greater use of teamwork in the production of courses and a larger role for the institution itself in supporting the administrative and technological systems needed to ensure consistency, continuity and quality assurance.

### **Further Reading**

Illich, Ivan (1971). *Deschooling Society*. Marion Boyars, London and New York

UNESCO (2012). UNESCO World Congress, Paris OER Declaration.

<http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/what-is-the-paris-oer-declaration/> accessed 2016-12-23