

## ***Foreword to the Special Section on Massive Open Online Courses***

### **MOOCs – Evolution or Revolution?**

**Sir John Daniel**

Are massive open online courses (MOOCs) a revolution in higher education? The news media have asked this question ever since the first wave of xMOOCs hit the headlines in 2012. The answer is no, for two reasons. First, higher education does not do revolutions. Second, MOOCs do not fulfill the core function of higher education.

Universities have indeed changed substantially over the centuries. For instance, their locus of internal control has steadily migrated. The [University of Oxford](#) had its medieval origins when students, some expelled from the University of Paris for rowdy behavior, rented houses and then hired scholars to teach them. Gradually, the governance moved from the students to these scholars with whom, in some ancient universities, it has remained. Elsewhere, the locus of control has moved to academic administrators or even governments. But this has been a gradual process. Academe never sent an ancien régime to the guillotine.

Three of the major developments in higher education, two in the 19th century, one in the 20th century, seemed revolutionary at the time, but from today's perspective are simply parts of an evolutionary process. In the early 1800s, Wilhelm von Humboldt urged that universities be more liberal and research focused than previously. Seminars and laboratories started to evolve because Humboldt envisioned university education as a student-centered activity of research. He expressed this by stating that "the university teacher is thus no longer a teacher and the student is no longer a pupil. Instead, the student conducts research on his own behalf and the professor supervises his research and supports him in it" (quoted in Clark, 2006, p. 333)

Later in the 19th century, the [Morrell Act](#) created the [land-grant colleges and universities](#) in the United States. The Act enjoined these new institutions to focus on the teaching of practical agriculture, science, military science, and engineering, although without excluding classical studies. It was a response to the industrial revolution and changing social class. Although this mission contrasted with the historic practice of higher education to focus on an abstract liberal arts curriculum, it was not a revolution. Most land-grant colleges became large public universities that today offer a full spectrum of educational opportunities.

In the 20th century there was talk of revolution when the U.K. [Open University \(OU\)](#) was launched. By the 1960s, the blending of technologies had begun to offer universities a rich communications environment. At the foundation ceremony of the OU in 1969 its Chancellor, Lord Crowther, captured this by saying:

The world is caught in a communications revolution, the effects of which will go beyond those of the industrial revolution of two centuries ago. Then the great advance was the invention of machines to multiply the potency of men's muscles. Now the great new advance is the invention of machines to multiply the potency of men's minds. As the steam engine was to the first revolution, so the computer is to the second. ([Crowther, 1969](#), para. 11)

This was a revolution in the communications environment, but not in higher education, per se. The famous statement that the [Carnegie Council on Policy Studies in Higher Education](#) made over three decades ago is still true today:

Taking, as a starting point, 1530, when the Lutheran Church was founded, some 66 institutions that existed then still exist today in the Western world in recognizable forms: the Catholic Church, the Lutheran Church, the parliaments of Iceland and the Isle of Man, and 62 universities ... They have experienced wars, revolutions, depressions, and industrial transformations, and have come out less changed than almost any other segment of their societies. (Carnegie Council on Policy Studies in Higher Education, 1980, p. 9)

Higher education does evolution, not revolution. MOOCs are a significant moment in that evolution, less for MOOCs themselves than for the trends they have initiated and accelerated. The traditional functions of universities are teaching, research and service. The papers in this special section of JOLT show rather

nicely how MOOCs touch on all three aspects of this mission without being fully aligned with any one of them. In particular, a vital element of the teaching function of universities is to assess students' learning and award credentials to those students who meet the criteria. Credentialing is the most important power that societies give to their academic institutions. Most MOOCs do not lead to credentials and therefore lie on the margins of mainstream higher education. However, they are stimulating some important thinking and action on a diversity of themes that are well illustrated by the papers in this collection.

[Fournier, Kop, and Durand \(2014\)](#), the authors of the first paper in this special section, have attempted research on the connectivist MOOCs (cMOOCs), which blazed the MOOC trail several years before the media took an interest in the phenomenon. cMOOCs follow the principle enunciated by Humboldt, namely that "the student conducts research on his own behalf and the professor supervises his research and supports him in it" (quoted in Clark, 2006, p. 333). As papers in this issue note in relation to MOOCs generally, some learners take to this readily, others find it more difficult. Jeffrey Young (2013), who has reported regularly on MOOCs for the U.S. [Chronicle of Higher Education](#), found the cMOOC that he took "confusing." In MOOCs generally, many students look for more guidance than the courses usually offer.

This was a special challenge for Jen Ross and her colleagues, who reflect on MOOCs from the standpoint of teachers and their academic identity ([Ross, Sinclair, Knox, Bayne, & Macleod, 2014](#)). They noted the overwhelming "outpouring of elation and relief" (p. 64) from participants when the course leaders finally did a video broadcast, commenting that "*this* was seemingly what many had been waiting for: an embodied, authoritative, and recognizably 'teacherly' moment" (p. 64, emphasis in original). The absence of such moments in the purest cMOOCs, which even downplay Humboldt's precept that "the professor supervises [the learner's] research and supports him in it" (quoted in Clark, 2006, p. 333), is very challenging to some participants – and is meant to be.

The most memorable presentation that I heard in 2013 was a talk by Stephen Downes, the philosophizing of cMOOCs, at the Entretiens Jacques-Cartier in Lyon, France (see [Downes, 2013](#) for slides and audio of the presentation). He said that the aim of a cMOOC is the creation of a temporary and bounded event that allows for engagement between communities that would not normally associate with each other. Everybody starts afresh and is freer because it is temporary. There is interaction between communities that might not otherwise happen. What is important in a connectivist course is not the course content.

Given the distinctiveness of this approach, it is appropriate that there is now a new term to describe it. In their paper on striking the right balance between facilitation and self-determination, [Beaven, Hauck, Comas-Quinn, Lewis, and de los Arcos \(2014\)](#) give us the word *heutagogy* to describe an experience that requires plenty of learner maturity and autonomy with rather little instructor control and structuring. They posit a hierarchy that has pedagogy at its base and rises through andragogy to heutagogy. These authors also suggest that a category of task-based MOOCs should be added to the usual descriptors of network-based MOOCs (cMOOCs) and content-based MOOCs (xMOOCs).

The paper by [Fournier et al. \(2014\)](#) reveals that cMOOCs present challenges to researchers just as great as those they pose to learners. Fournier and her co-authors had to work with "large, incomplete, and dispersed data sets" (p. 12) and, in common with much research on MOOCs generally, they were able to gather detailed feedback on the learner experience from only a tiny fraction of the 1,600 participants in the course they studied.

[Saadatmand and Kumpulainen \(2014\)](#) encountered the same challenge in their reflective research on cMOOCs. Noting how technology has lowered the threshold for engagement in informal learning they observe that "online learning in higher education is moving towards open sourcing" (p. 17). They conclude that despite the many advantages that the MOOC model offers, the fundamental question is still the concept's applicability to formal education. For this reason, "more research should be done on the viability, credibility, and accessibility of MOOCs for all types of learners," and "MOOC organizers and educators must be held accountable for orienting students on how to learn within the MOOC" (p. 26).

The issue of effective learner orientation is not only an issue for MOOCs. In their *Guide to Quality in Online Learning*, [Butcher and Wilson-Strydom \(2013\)](#) emphasize that, in all online courses, students attach particular importance to the transparency and availability of information about the structure of the course and the flexibility it provides. [Bali \(2014\)](#) emphasizes this point strongly in her paper, which gives an interesting account of her experience as a learner in a variety of MOOCs. She took four [Coursera](#) MOOCs and "dropped in" on several others, with the aim of evaluating MOOC pedagogy based on

approaches often used to evaluate conventional higher education, rather than distance learning. For this she drew principally on Bloom's taxonomy and Chickering and Gamson's (1987) Seven Principles of Good Practice in Undergraduate Education. She was surprised by the variability of the expectations that the MOOCs she took made on learners. Some attempted to encourage higher order thinking but quizzes simply testing recall were more common. Rarely did courses take advantage of the potential for student interaction: "forums were not mediated, nor were 'netiquette' guidelines provided ... and so there were instances of tension and even rudeness among students in several courses" (p. 48). She argues that "offering a MOOC that neither intentionally develops higher order thinking, nor promotes student interaction, is shortchanging the participants, and providing nothing like a true college education" (p. 52). However, she also concludes that "connectivist approaches are unlikely to be widely used in existing traditional university courses in the short term" (p. 45).

The interesting papers in this issue of JOLT provide yet more evidence that MOOCs have stimulated greater reflection about the purposes and pedagogy (or andragogy/heutagogy) of higher education than any other phenomenon in recent times. MOOCs have also given a tremendous boost to the development of online learning generally. The challenge now is to combine the lessons of MOOCs with the standard practices of open, distance, and online learning in order to offer, at scale, courses and programs that lead to credible and useful credentials. Most MOOCs still rely on a small institution-based team of overworked (and often overwhelmed) instructors and assistants desperately trying to provide some order to a complex operation. This approach is not sustainable.

Offering rigorous credit courses at scale is perfectly possible, but it requires the implementation of teaching and learning systems based on the well-tried principles of division of labor, economies of scale, and specialization. Taking this approach will solve the other major problem with MOOCs, which is the absence of a viable business model for the universities involved. Students expect to pay for credit courses but the fees required to sustain this type of online learning system can be much lower than before.

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