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REFLECTION

MOOC rampant

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In 2012–2013, the massive open online course (MOOC) approach has been accepted by universities around the world, and outsourcing companies have been launched to provide the infrastructure for it. Current press and blog coverage of the MOOC trend is examined and the range of reactions to it, most of them enthusiastic. MOOCs vary in their massiveness and openness, and in the extent to which they are courses; and a wide range of MOOCs is emerging under different names. These include xMOOCs, in which course content is defined by the course designers, and cMOOCs featuring information generated by the students. The origins of the MOOC are examined, and its implications for the educational institutions that have specialized in distance education previously.

Keywords: massive open online course; MOOC; instructional design; learner autonomy; MOOC evaluation; gee-whiz

Introduction

In the past, mainstream educators were quick to suggest that distance education (DE) provides an impoverished and impersonal style of education (e.g., Noble, 2002; Robertson, 1998). Yet, traditional universities across North America, Australia, Asia, and Europe are adopting the massive open online course (MOOC); so presumably they think they will now do the job better. How they will achieve this is an open question; for there is no such single entity as a MOOC, and multiple definitions of it are proliferating. It is even misleading to refer to the concept by a single name. In general, however, MOOCs tend to be simpler and more impersonal than previous forms of online education: no teachers; no supervision; no fees nor entry requirements; the only equipment required being the computers purchased by the students; thousands of students in a single course; students teaching each other; students grading each others' work. Books remain available, albeit e-ones, provided by a profitable new industry for the publication of MOOC materials. In some forms of MOOC, students are encouraged to network with one another instead of with a teacher. Otherwise, judging by the MOOC's rapid international adoption, it is the most easily implemented form of education ever invented.

A typical MOOC is made possible by outsourcing agreements between the educational sector and external providers of multimedia MOOC materials. Udacity was founded in February 2012 by a Stanford University computing professor (DeSantis, 2012a; Wikipedia, 2013d). By April 2013, the company was offering 24 courses, with 90,000 students registered in its first two classes alone. Coursera was

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launched in April 2012 by two other Stanford computing professors. By June 2013, Coursera had agreements with 70 higher education partners including Stanford and Princeton (Wikipedia, 2013a). The MOOC platform edX was launched in May 2012 by Harvard University and Massachusetts Institute of Technology (MIT), led by an MIT computing professor (Wikipedia, 2013c). edX offered its first seven courses in October 2012, one of them with 53,000 student registrations (Classroom in the cloud, 2012); and by June 2013, it was serving 28 partners (edX, 2013). Press and blog coverage about MOOCs has burgeoned similarly. In the 6 weeks before this article was written (mid-March 2013), Google Alerts identified over 400 new MOOC-related items. Some were negative about MOOC experiences, using terms such as disaster, calamity, chaos, fiasco, mob rule, and MOOC honeymoon (e.g., Martinez, 2013; Morrison, 2013a, 2013b; Santos, 2013). By mid-May 2013, when the current article was being proofread, the fast-moving MOOC debate had divided faculty members at two of its birthplaces, Harvard and Stanford, over issues including fears that the commercialization of MOOCs would cause faculty members to lose their intellectual ownership of course content (Berrett, 2013; Peralta, 2012). Other writers have given well-balanced summaries of MOOC pros and cons (e.g., Gettler, 2013; Hartman, 2013; Zellner, 2013); and optimistic support has come from notables such as Friedman (2013) in *The New York Times*. Most coverage in early 2013 was enthusiastic about the MOOC trend, being widely syndicated press releases by the MOOC companies and announcements by major universities about MOOCs they planned to offer. The prevailing mood throughout has been the "gee-whiz," Postman's term (1996, p. 40) for the uncritical hype that accompanies new technologies.

Yet very little about the MOOC is actually new, and plenty of lessons are available about how to implement it. DE institutions have two decades of online experience, and have identified the pros and cons of a wide range of pedagogical approaches. Collaborative and learner-centered learning, for example, by which the students coach each other, can have disruptive interpersonal effects (Stelzer & Coll-Reilly, 2010) and need careful instructional design and supervision (Abrami & Bures, 1996; Barkley, Cross, & Major, 2005; Gilbert & Driscoll, 2002); and instructional design principles for a range of media have been available for 100 years. Bagley (1911) recommended 16 principles of efficient instruction, 15 of which were retained in the guidelines by Chu and Schramm (1967) on how to design educational television. In 2003, this list of principles was reduced to nine in the "universal instructional design" (UID) principles of Scott, McGuire, and Shaw (2003). These three lists share nine somewhat obvious guidelines, including the need for straightforward and consistent instruction, teacher flexibility, and tolerance for student error; and they all stress the importance of teacher–student interaction, although the UID set no longer stresses the need for the teacher to provide the students with feedback and knowledge of results, nor the importance of active, motivated learning, nor the need to accommodate cultural differences in one's teaching – an odd omission for a set of *universal* design principles. The 2003 list also omits the earlier emphases on collaborative, learner-constructed learning, possibly owing to the difficulties of implementing it. Only the 1911 list mentions the need to communicate high expectations to the students.

The gee-whiz advocates of the MOOC are certainly aiming to communicate high expectations. Their Web sites (e.g., https://www.edx.org, http://wwww.theweu.com) display the smiling faces of students like the happy tillers of the land in old agit-propaganda. Otherwise, MOOCs seem to be following none of the educational

principles upheld for a century. Teacher–student interaction and feedback are out, and collaborative learning is in, despite its problems. In the recessionary era, politicians and institutional administrators have apparently needed little encouragement to ignore age-old educational principles, dispensing with pedagogy, lecture rooms, and even teachers in placing the responsibility for learning squarely on the shoulders of the student (or, to use today's argot, the learner). Robertson (1998) lamented this trend in *No More Teachers, No More Books*; and Noble (2002) criticized the rise of the DE digital diploma mills as he saw them, their operations dictated, he claimed, by commercial interests. The writer subsequently observed both of these writers being angrily denounced in the DE institution at which he worked, where agreeing with anything they had to say seemed like heresy. This was partly for good reason, for many DE teachers had developed caring, thoughtful approaches that gave the students a fine educational experience even at a distance. But other teachers had not; and DE practitioners as a whole, possibly recognizing that DE was vulnerable to criticism, hesitated to upset the applecart by acknowledging that any such criticism might be justified.

But Noble and Robertson both foresaw the MOOC era accurately. Noble (2002) described a 1997 agreement between the University of Colorado and Real Education Inc., which committed the university to requiring faculty members to create online course materials to which the university would have exclusive rights. The University of California in Los Angeles and Berkeley, Noble indicated, had already signed similar agreements. Noble saw surprisingly little faculty opposition to the threats to intellectual property these involved, and suggested political and financial reasons for this. At the time, it was easy to dismiss Noble's concerns as sensationalist, for he certainly described the situation in lurid terms: "As if by instinct," he said, "people are lining up "correctly" (while) administrators intent on maintaining the lucrative industrial connection discipline, isolate, or eliminate those few who refuse to go along" (p. 110). In 2007, Real Education, by then renamed eCollege Inc., was bought by Pearson, the world's largest educational publisher (Wikipedia, 2013b). In 2012, Colorado State University became the first university to award formal credit to students who complete MOOCs (Mangan, 2012); and the University of Virginia president nearly lost her job because the trustees felt she was not pursuing lucrative MOOC opportunities quickly enough (Daniel, 2012; DeSantis, 2012b). So Noble's warnings no longer seem sensationalist at all.

The many-headed Hydra

The adoption of the MOOC has been hastened by the rapid publishing speed of its germination medium, the so-called blogosphere. The new generation of self-styled theorists and philosophers in the blogging community proclaimed the coming of the MOOC and gave it its name. The act of naming may also have aided its adoption by giving the impression that a new and significant idea had been born, whereas all that has really happened is that solid educational principles have been replaced by a mass communication model with very few principles (Bates, 2012; Hartman, 2013). The invention of the MOOC is commonly attributed to two Canadian bloggers, Siemens and Downes, although, to do them justice, neither of them invented the MOOC itself, and Downes (2012) has since described their influences by earlier course designers including Couros (2007) and Wiley (2007). Nor do Downes or Siemens appear to have invented the MOOC term. That honor is claimed by a third

Canadian, Cormier (2008), who came up with it to describe a Siemens and Downes course (2008). The term MOOC has also been attributed to Alexander (2008), who blogged about the same course a few weeks later. But Downes and Siemens did promote the term volubly through their blogs (Downes, 2008–2013; Siemens, 2008–2012), in asserting that massive courses of this kind can succeed as long as the participants *connect* with one another – connectivism being the buzzword they had devised (Downes, 2004–2012, 2005; Siemens, 2005, 2005–2012) to draw attention to principles developed previously by scholars including Bandura (1977), Bruner (1961), Vygotsky (1934/2012) and, in the specific context of networked technologies, by Pask (1975).

The early MOOC advocates may not have foreseen that their quirky term would rapidly be seized upon by political and corporate interests for the benefit of massive online publishing and distribution opportunities. Siemens (2012) has since distanced himself from the MOOC concept in many of its present forms, suggesting that a distinction should be made between xMOOCs, involving mere "knowledge duplication," and cMOOCs in which knowledge is created by "connected" learners. Meanwhile, other variants on the MOOC term are emerging like many-headed Hydras. The venomous Hydra of Greek legend grew two heads for every one that was severed (Leadbetter, 1997); and MOOC proponents have reacted to criticisms of their schemes by tweaking them with new acronyms: the MOOLE, for example (Holton, 2012); the MOOC 2.0 (World Education University, 2013); the UniMOOC (UniMOOC-Tec, n.d.); and the identity-confused micro-MOOCs (Bartoletti, 2012) and mini-MOOCs (Glader, 2013). The latter two variants seem particularly tenuous – somewhat apprehensive of criticism for being a MOOC at all, and seeking to preempt it by implying that their MOOCs are really only quite small ones. Wiley (2012), author of the open-if-not-massive course that inspired the MOOC term (Wiley, 2007), offers examples indicating that the acronym is misleading anyway, and that its only accurate aspect is the fact that all MOOCs are online, like the majority of other modern DE courses:

- Many MOOCs are massive but not open (e.g. http://www.udacity.com/legal/)
- Many MOOCs are open but not massive (e.g. http://learninganalytics.net/syllabus.html)
- Many MOOCs try very hard not to be courses (e.g. http://cck11.mooc.ca/how.htm).

"I hate this term," writes Wiley (2012). "The MOOCs which are 'massive but not open' pose a special threat to the future of OER [open educational resources], but no one seems to be paying attention." It is alarming how quickly bandwagons, and the muddy terms they pick up on the way, can run out of control.

Early MOOC evaluations have yielded mixed results. Fini et al. (2008) reviewed Wiley's 2007 course at the University of Utah positively. They stated that it had a good pedagogical approach and use of OER, and that it "could be a real opportunity for universities. In this way, they might open their courses at a very low cost … It offers a working example of a new way for professional development courses and lifelong learning" (p. 238). Fini (2009) also analyzed student reactions to the Connectivism and Connective Knowledge (CCK08) offered by Siemens and Downes at the University of Manitoba from September to November 2008. He

reported students' positive reactions to the course's daily digest of information, and varying opinions about the time-consuming array of social media tools made available to them and the wide-ranging quality of the online displays. Mackness, Mak, and Williams (2010) reported that CCK08 students praised its goal of student "autonomy," but felt that autonomy was less important when course instructions were needed. "I felt like some guidance would have helped," wrote one student. "Freedom is great, but this course was all over the place. There was no one place to follow the latest thinking on any one subject" (p. 269). Reporting that only 14% of the participants completed the course, Mackness et al. stated that students were "swamped" by the massive amount of information in its discussion forums – over 1000 entries in the "Introductions" forum alone, posted by 560 of the course's 2200 + participants. Mackness et al. also reported student comments about the "appalling behaviour" and "patronising, teachery posts and actions" that can occur when online courses are unsupervised. Their evaluation concluded that "whilst connectedness was afforded by technology, it did not necessarily ensure interaction" (p. 270). Similar reactions have been reported to the course's successor, CCK11 (LaBonte, 2012). In general, it seems that encouraging students to network with one another via, for example, social media is a useful idea in principle, but not recommending ways for them to do this may make the task difficult.

The Utah and Manitoba courses of 2007 and 2008 have since been removed from their university servers, but readers can still judge the merits of these and the 2011 Manitoba course with the assistance of web.archive.org (Siemens & Downes, 2008, 2011; Wiley, 2007): the structure, instructions, and resources of the courses all preserved together with personal information about the students (e.g., names, e-mail addresses, and forum postings) – not a good practice, and forbidden by the Government of Manitoba *Freedom of Information and Protection of Privacy Act* since 1997.

A similar watershed period occurred in China during the 2000s, providing further warnings about MOOC practices. In 2003, a decision was taken to outsource university courses to external providers known as "online colleges" (Chen, Wang, & Chen, 2010). By 2005, over 6000 off-campus centers had been established to cater to online students' demands, over half of which were independently operated by 69 DE institutions. The outcomes were reported by Chen and Wang (2010) following a survey of 533 urban and rural students and faculty members. University teachers complained that they had no contact with the e-colleges, and no role in the appointment and monitoring of their instructors. Of the e-colleges, 70% "had never conducted any DE research, and … their managers did not understand its importance. The remaining 30 per cent claimed to have conducted such research, though did not seem to attach importance to it" (p. 122). Although some of the colleges established internal quality assurance methods according to ISO 9000 standards (International Organization for Standardization, n.d.), only 20% of them provided their teachers with any training; and the quality of online education across China to date has been inconsistent and indeterminate.

Few of these problems come as a surprise to online teachers who have studied their students' reactions to online education for a decade or more. The *International Research Review of Online and Distance Learning* contains over 60 evaluation studies by my own students of the pros and cons of online methods (Educational Access & Accessibility, n.d.). One of their warnings in particular comes to mind (Carter, 2009):

Educators and policy-makers face the increasing costs of infrastructure with dwindling resources. A situation is created in which data are simply "pushed" into communication channels, while communication itself is not necessarily improved. In large populations particularly, the technology is maximized while human contact is minimized, and isolation and psychological distance are amplified.

Do the ex-computing sciences professors who have established the main MOOC-providing companies know or care about the previous guidelines and warnings? According to Holton (2012):

> Especially disturbing is that *none* of the major MOOC providers have hired *anyone* trained in instructional design, the learning sciences, educational technology, course design, or other educational specialties to help with the design of their courses. They are hiring a lot of programmers and recruiting a lot of faculty, who may have various motivations for participating in these open education experiments. To their credit though, edX, backed by $60 million from MIT and Harvard, is hiring one person to help with course development.

This lack of concern for instructional design can also be seen in statements by Cormier, the Web services manager who started it all. In describing his ideal cMOOC, Cormier (2010) suggests that its lack of systematic design may even be deliberate:

> The course is distributed, and all these blog posts and discussion posts, video responses, articles, tweets and tags … are mostly not found in one central location, but rather all over the internet in different pockets and clusters. There's no right way to do the course, no single path from the first week to the last … and only you can tell in the end if you've been successful.

The Ben Johnson effect

Downes (2012) has commented wryly on the progress of the bandwagon he helped to launch: "I was not surprised at all that once [the MOOC format] proved successful it would be adopted by the Ivy League (who would receive credit for its 'discovery') because this follows a well-established pattern in our field." It is a well-established pattern that has affected Canadians before. From Marshall McLuhan (1964) onwards, there have been numerous examples of Canadian newsmakers who have attracted global attention without much attention being paid to their country of origin. Occasionally, the reverse has happened and Canadians have been swift to disavow themselves of a national achievement – in the 1988 Olympics, for example, when Canadian sprinter Ben Johnson won the gold for the 100 meters. That this was a Canadian achievement was inescapable, and Canadians were quick to bask in its glory (CBC/Radio-Canada, 1988). But when Johnson was later stripped of his medal for doping, the Canadian media just as quickly remembered that he was born a Jamaican (CBC/Radio-Canada, 2012). In years to come, the Canadians who gave the MOOC its first push off the starting block may remind each other ruefully that the ideas they promoted so vigorously got away from them. Or maybe they should be grateful that the initial credit for it is getting away from them: because, despite Downes' (2012) suggestion that the MOOC format has proved successful, the jury is very clearly still out.

In years to come, the MOOC may be hailed as an educational redeemer, or as an ugly symptom of the general educational slide. If the proverbial hits the fan, and the massive online course is ultimately disgraced, will the universities and colleges of the world pass the buck back to those whose little acronym gave it legitimacy? Alternatively, if the MOOC's design and delivery problems are ironed out, and it is a triumph, will fingers be pointed at the early MOOC enthusiasts for another reason – for pulling the rug from under the feet of the original DE institutions, and destroying their market? For the public will by then be in the position of choosing between MOOCs offered by Athabasca and Phoenix, or by Harvard and Stanford. Answers to these questions should not take long, for an advantage of the open blogging medium is the instantaneous availability of user reactions to new methods, pro and con, as in the case of the student evaluations reported in this article. As Daniel (2012) points out:

> Actors from the media through student groups to educational research units will be publishing assessments of xMOOC courses. These will quickly be consolidated into league tables that rank the courses – and the participating universities – by the quality of their offerings as perceived by both learners and educational professionals.

This quality control process has begun already with the listing of 200 current MOOCs at OpenCulture (2006–2013) and MOOC-List (n.d.); and it will help to make future MOOC providers accountable to instructional principles.

Meanwhile, one can be sure that new terms will continue to multiply to help new providers lay claim to the MOOC phenomenon. Would Massive University Course with Open Resources (MUCOR) capture the imagination as well as MOOC has done? Or Massive Online Universal Learning Diploma (MOULD)? Or A Massive Online Educational BA program (AMOEBA)? To MOOC advocates, this preoccupation with self-propagating biological organisms will be annoying – although they should be reminded that going viral these days is regarded as an achievement. To me, these acronymic alternatives to MOOC seem quite appropriate, reflecting organisms that multiply, spread, and infect the world with astonishing speed, and not necessarily in a good way. As my mother used to say, "I'm just glad I won't be around to see it!"

A classical reference seems to sum up the MOOC confusion pretty well:

Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world (…)
Surely some revelation is at hand;
Surely the Second Coming is at hand. (…)
And what rough beast, its hour come round at last,
Slouches towards Bethlehem to be born?
    "The Second Coming," by W. B. Yeats, 1921 (cited in Finneran, 1996, p. 187)

Notes on contributor

Jon Baggaley is a psychologist who has taught at universities in Liverpool, Newfoundland, Quebec, Alberta, and most recently at World Wide Education (WWEDU) in Austria. He is grateful to his professors at the University of Sheffield for the academic values they taught him. Baggaley's latest book, *Harmonizing Global Education: From Genghis Khan to Facebook*, was published by Routledge (2011), and his satirical videos at http://www.youtube.com/jonbaggaley have not yet gone viral.

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