

MOOCs in the humanities: Can they reach underprivileged students?

Convergence: The International
Journal of Research into
New Media Technologies
1-11

© The Author(s) 2014

Reprints and permission:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/1354856514560311

con.sagepub.com



Suzannah Evans

The University of North Carolina, USA

Karen McIntyre

The University of North Carolina, USA

Abstract

Massive open online courses (MOOCs) have been heralded as a democratizing force bringing higher education to the world's neediest students. But do MOOCs effectively confront the well-documented challenges of online education for underprivileged students? This textual analysis examines MOOC offerings in the humanities and finds that courses are designed for relatively well-prepared students, not underprivileged students.

Keywords

Massive open online courses (MOOCs), online learning, pedagogy

There were still nearly 8 weeks left in the year, but *The New York Times* was ready to make a declaration. It said 2012 was the year of the MOOC, that is, the massive online open course (Pappano, 2012). Four years after the term was coined, MOOCs had burst into the mainstream with the launch of several high-profile university partnerships that brought free, Web-based, university-level courses to any student with Internet access. The dominant provider of MOOCs is Coursera, which claims more than 3 million users since its launch in April 2012. Coursera joined Harvard- and MIT-based edX and Udacity, founded by professors at Stanford, as the early leaders in MOOCs.

'MOOC' has become a buzzword in academic circles. No one yet knows what the long-term impact of MOOCs will be in higher education. The free courses are currently in a growing but volatile phase of development. Since dozens of universities offered their first MOOCs in 2013, with more announced plans to launch MOOCs in 2014 (UNC General Alumni Association, 2013), it

Corresponding author:

Suzannah Evans, School of Journalism and Mass Communication, The University of North Carolina, 389 Carroll Hall, Chapel Hill, NC 27599, USA.

Email: sdevans@live.unc.edu

seems clear that these free, open online courses are going to be part of the academic landscape in the short-term future. MOOCs are a new form of mass communication and therefore a rich field for pedagogical research even in this burgeoning stage.

How will professors adapt to the challenges proffered by online courses filled with thousands of anonymous students? Professors who have already taught MOOCs have not embraced a collective pedagogical point of view. Kevin Devlin, a mathematician who taught the first MOOCs at Stanford, has argued that the open courses, despite their size, have allowed him to return to 'the oldest, and to this day by far the most effective method of education the world has ever known: the one-on-one apprenticeship system' (Devlin, 2013). Meanwhile, George Siemens, a professor at the Center for Distance Education and one of the designers of the first course to be called an MOOC in 2008, accused elite university MOOC providers of adopting 'a regressive pedagogy: small scale learning chunks reminiscent of the heady days of cognitivism and military training' (Siemens, 2013). Furthermore, Siemens has criticized the traditional 'hub and spoke' teaching model in use in many MOOCs, where 'faculty/knowledge [are] at the centre and the learners are replicators or duplicators of knowledge' (Siemens, 2012).

Champions of MOOCs emphasize the democratic achievement of free, university-level education. The *New York Times*' Thomas Friedman has trumpeted MOOCs' potential for closing the chasm between the elite and the needy. Friedman (2013, SR1) wrote, 'Nothing has more potential to lift more people out of poverty – by providing them an affordable education to get a job or improve in the job they have'. This lofty optimism positions MOOCs as a grand remaker of higher education. Whether MOOCs have begun to meet their potential as opportunities for the world's neediest students is an empirical question. This is a new area for research, and scholarship has just begun to address MOOCs and pedagogy; however, scholarship on online and distance learning more generally is well established. Research has suggested that online education may benefit some groups of students while paradoxically exacerbating the 'digital divide' for other students. The digital divide has been defined as the separation between citizens with access to high-speed Internet and those without (The White House Office of Science and Technology, 2013). Now as that gap narrows, the educational digital divide may become redefined as virtual resources become more *accessible* to underprivileged students but are less *effective* than face-to-face resources. Without strong secondary education to prepare them, underprivileged students may not be well served by online higher education.

For the purposes of this study, underprivileged students are defined as those who are underprepared academically or financially for higher education or are from areas where access to higher education is limited. This definition is in line with existing research that has identified underprivileged students nationally and abroad. In the United States, underprivileged students have been defined as those living below the poverty line or in low-income areas that lack basic amenities or technology (Bronson, 2012). These students struggle with reading and writing skills and earn low standardized test scores. Internationally, underprivileged students have been defined as those located in remote areas or designated by their local educational authorities as living without basic securities (Kim and Lee, 2011). Students in developing nations have been known to suffer academically. They often leave school at an early age, learn little while in school, and have limited access to higher education (Glewwe and Kremer, 2006).

Literature review

MOOCs represent an unprecedented opportunity for anyone to access university-level courses. On its face, the apparent democratization of education is difficult to dismiss as anything but positive.

However, the literature raises questions about the effectiveness of online learning for underprivileged students. Only a handful of empirical studies have been published about MOOCs, so this study also draws on extant literature about online and distance learning.

Right now, the United States is paving the way for MOOC growth. The three major providers are US based, although they have announced intentions to launch partnerships with international universities (Lewin, 2013). International students have already rushed to sign up for the free classes; one November 2012 estimate said 60% of MOOC students were from outside the United States, and many of these students were signing in from Brazil and China (Regalado, 2012). However, one study has shown that these students may not be from populations historically underserved by higher education, in conflict with MOOC boosters' claims that the courses will reach previously underserved students. In a survey of 34,700 MOOC students in July 2013, researchers found that the overwhelming majority (83%) already had 2- or 4-year degrees and that highly educated users from developing nations where higher education is rare, such as Russia, Brazil, China, and South Africa, were the norm, not the exception (Emanuel et al., 2013). In other words, the wealthiest, most educated citizens of developing nations were likely to take MOOCs rather than underprivileged students. Another study found that 55% of MOOC students who actually completed the courses had master's degrees or higher (Chernova, 2013). Furthermore, a study examining 198 courses offered by Coursera in 2013 found that 45% of courses required students to buy or access additional materials and that 44% of courses had prerequisites or required background in the field (Audsley et al., 2013).

How well are MOOCs working for students? If completion rates are any guide, it seems to be not very well. A July 2013 assessment found that most MOOCs have completion rates below 10%. Courses with automatic grading have much higher completion rates than courses with peer grading, which would be more common in courses in the humanities that require essays (4.6–19.2% completion rates for auto grading, 0.7–10.7% for peer grading) (Jordon, 2013).

Two studies have suggested that high online withdrawal rates may be due to the types of students attracted to online learning rather than the format (Howell et al., 2004; Hyllegard et al., 2008), but given that both those studies predate the rise of the MOOC, it is difficult to draw conclusions about the meaning of high MOOC withdrawal rates without further study. Furthermore, scholars have argued that completion rates are a misleading way to evaluate a MOOC's success (Ho et al., 2014).

Limited empirical data are available about MOOCs, but online and distance learning have been the subjects of scholarship for more than a decade. A major question asked by scholars is whether online or distance learning is helpful to underprivileged students. In 2010, the US Department of Education released a report finding that online learning resulted in better outcomes than face-to-face learning (U.S. Department of Education, 2010) but that study has since been criticized. Many other studies have shown that underprivileged students continue to struggle once enrolled in online courses. A 2011 meta-analysis of 36 studies found that online education might actually hinder progress for low-income and/or underprepared students (Jaggars, 2011), providing evidence for the idea that online education may actually exacerbate the digital divide between these students and well-prepared students.

African American and Hispanic students continue to underperform compared to White students, perhaps because of the lower quality of their primary and secondary educational experiences (Xu and Jaggars, 2013). A handful of studies have looked at the relationship between early education quality and later online education success. In one study, researchers randomly assigned students in a microeconomics course to a live or online-only course that used identical material (Figlio et al.,

2010). Overall, the researchers found modestly better student results from live lectures. However, Hispanic students' test scores were dramatically lower for online video lectures. Male and low-achieving students also performed more poorly when exposed only to video lectures. These students are 'precisely the students who are more likely to populate the less selective universities and community colleges', wrote the authors and, presumably, could be drawn to free and accessible MOOCs. In another study, researchers looked at 500,000 online and face-to-face courses taken by 40,000 students at community and technical colleges in Washington state. The results echoed the above, that is, male students, younger students, African-American students, and students with poorer academic records struggled to adapt to online education (Xu and Jaggars, 2013).

Very few studies have measured online student success by examining whether students continued their education after taking online courses early in their work toward a degree. One analysis of 23 Virginia community colleges found that online students were less likely than face-to-face students to return to the school in following semesters (Jaggars and Xu, 2010). Students who took basic math and English courses online were more likely to struggle in subsequent college-level courses.

Taken together, these studies suggest that the digital divide is indeed growing between well-prepared and underprivileged students. When presented with online-only options, students in groups who have historically struggled to adapt to online education continue to struggle at rates higher than better prepared students. The question, then, is how to design online courses that will better serve the students who need affordable access to higher education the most.

Research suggests that moving away from the lecture model and toward a collaborative learning environment may be helpful for online learning success. One study found that students who valued the Internet as a medium for social interaction were much more likely to finish online courses (Boston et al., 2009). Another study tied 'sense of place' to success in online learning (Northcote, 2008). In other words, online students learn when they feel they are part of a social landscape – a feeling that can arise naturally from brick-and-mortar college campuses but requires diligent effort to recreate online. In addition, online students do best when they have control over their learning process, engage in dialogue, and have support in the form of professorial advising and technical feedback (Coomey and Stephenson, 2001). These findings make the most basic suggestion of all – that online students respond to the same things that students in a classroom do. How to make this happen in a practical way in MOOCs is unknown. Two years after MOOCs became mainstream, it is possible to take the temperature of MOOC development and gauge whether this new technology confronts the challenges of online education or simply brings them to a large new audience.

The present study

Between Coursera, edX, and Udacity, nearly 400 MOOCs were running in March 2013 or had been announced to launch later in the year. This study focused on courses offered in the humanities. Teaching the humanities online invites a different set of issues than science or math. The defining characteristics of humanities may be that they are concerned with uncertainty and paradox of the human condition. The study of the humanities provides a space where 'the expression of differing interpretations and experiences can be recognized and areas of common interest explored' (Maxwell White, 1997: 263).

The purpose of this study was to determine whether the first crop of humanities-centered MOOCs was meeting the democratic potential championed by its biggest supporters as an educational opportunity for underprivileged students. Our general research questions (RQs) were:

- RQ1: What subjects do MOOCs in the humanities offer?
RQ2: What types of students do MOOC professors expect to enroll?
RQ3: What is the extent of student support and interaction in these courses?

Method

This study examined all humanities-centered MOOCs offered by Coursera, edX, and Udacity as of March 31, 2013. However, Udacity did not offer any humanities courses; therefore, this study resulted in a census of 65 humanities courses offered by Coursera and edX. These courses made up 17% of all MOOCs offered from the three leading providers.

The researchers analyzed all course information provided, which ranged from no information at all to a traditional syllabus. Course information was accessed from the main course page of the edX Web site and by filtering the course page by 'humanities' on the Coursera site. Prestigious universities such as Stanford, Duke, and Brown offered many of the courses but some lesser known schools were included as well, such as Mt San Jacinto College in California. Universities outside the United States, from countries such as Denmark, Mexico, and England, offered 40% of the courses. Three courses were in a language other than English, but were translated and remained in the study.

Findings

RQ1: What subjects do MOOCs in the humanities offer?

Our first RQ sought to describe the current state of the humanities in MOOCs. Humanities can be defined by what they are not, that is, 'empirical', 'hard', 'natural' sciences like physics or mathematics that can be tested or studied using the scientific method. Instead, humanities are the subjects that can be parsed, discussed, and reimagined; they are history, philosophy, literature, religion, art, language, and more. Humanities represent just 8% of all college degrees, although they are more common in elite schools; they comprise 31% of degrees from liberal arts colleges and 15% from research universities (Geiger, 2009). In recent decades, humanities have been under attack for being 'elitist . . . immoral and impractical' (Elkind, 1997: 15), a stereotype that has stuck since a time when a classical higher education was available only to upper-class Europeans. Still increasing numbers of students earn degrees in the humanities each year (Geiger, 2009).

Our review showed that a minority of MOOCs from the big three providers were humanities focused, but the percentage of all MOOCs that were humanities focused (17%) was on par with the percentage of students at research universities that earn degrees in the humanities (15%); this makeup of courses reflects the fact that research universities have been the leaders in providing MOOCs. Coursera listed 61 of 331 (18.4%) courses as 'humanities'. EdX had no humanities subsection, but we considered 4 of 31 courses (12.9%) to be humanities focused because they reflected traditional humanities courses at institutions and their subject matter was consistent with the common understanding of humanities courses as relating to the meaning and purpose of the human experience (Proctor, 1998). Of the 23 courses offered, Udacity, meanwhile, had no courses that could be considered in the humanities.

The topics covered in humanities-focused MOOCs hewed closely to classic university humanities courses. Topics included ancient Greece, English composition, history, film studies, rhetoric, mysticism, and philosophy. The most common topic categories were philosophy and law

(19 courses), music and arts (13 courses), and history (11 courses). Rooted in the brick-and-mortar of universities like Stanford, MIT, Harvard, and other top universities that provided professors and material for courses, MOOCs in the humanities reflected the offerings of a research university.

RQ2: What types of students do MOOC professors expect to enroll?

Who is the MOOC student? Anyone can enroll in the free online courses. Our examination found that 80% of professors noted that students required no previous background knowledge or experience aside from English proficiency. These course pages commonly included a description such as 'No background is required; all are welcome!' However, our study showed that the same course descriptions that included everybody-is-welcome appeals often qualified those statements by including specific abilities expected of students. For example, one Greek and Roman mythology course description said 'No special background is needed *other than the willingness and ability to synthesize complex texts and theoretical material*' (emphasis added).

Similarly, professors assigned challenging reading for students to understand and discuss. One Harvard professor who taught a course on the 'critical analysis of classical and contemporary theories of justice' listed no prerequisites but assigned reading by Aristotle, Immanuel Kant, and other philosophers that students may find challenging. Other professors who encouraged people of all abilities to enroll expected their students to read material including Homer's *Odyssey* or books about Islamic constitutionalism. Many course descriptions did not list reading assignments, which precluded a student's ability to evaluate the course content for suitability.

In addition to implying a certain level of ability through the type of coursework described, professors paired their everybody-is-welcome appeals with specific levels of education or experience they expected of students. In fact, 82% of course descriptions mentioned some type of expectation of student preparedness, but 80% of those course descriptions also listed no prerequisites, potentially creating confusion about what professors actually expected of their students. Of the 82% of course descriptions that mentioned student preparedness, 13% said enrolling students should have high school-level experience, 25% said students should have college-level experience, and 11% recommended their courses for postgraduates such as scientists, educators, or government officials.

Not only did 20% of humanities MOOC professors state that their students should have some college experience or imply a similar level of knowledge through the difficulty of assigned readings, professors also expected students to have high-speed Internet access and disposable income. Almost all courses examined in this study involved a video component, and students from low-income homes or in developing nations are less likely to have an Internet connection strong enough to support video playback. While 77% of citizens in the developed world had Internet access at home in 2010, just 28% of citizens in the developing world did, according to the United Nations (International Telecommunication Union of the United Nations, 2013). Access to the Internet is divided further along socioeconomic lines. In the United States, just 4 of 10 homes with incomes below US\$25,000 had wired Internet access in 2010, compared to 93% of homes with incomes above US\$100,000 (Crawford, 2011). Lower income homes, as well as African Americans and Hispanics, are less likely to have access to high-speed Internet (U.S. Department of Commerce, 2011).

One MOOC professor required students to find and watch weekly films that were available from vendors like Netflix or Amazon. Underprivileged students may be unable to access these films, not just for financial reasons but because streaming services are not always available outside the

United States. In addition to obtaining films, two instructors required their students to have digital cameras, and one 'strongly suggested' that students buy several books. Other instructors posted suggested reading that included books priced in excess of US\$100.

Our second RQ asked what types of students MOOC professors expected. Our review revealed a contradiction between the underprivileged students that MOOCs could aim to serve and the more privileged students whom professors expected to sign up. Only one course in this study mentioned that it was meant for 'underprepared students'. Based on our review, the student whom MOOC professors expect should be able to speak English, possess at least a high-school education or other college preparation and often beyond, be able to synthesize knowledge, have access to high-speed Internet, and, in some cases, have the ability to purchase materials.

RQ3: What is the extent of student support and interaction in these courses?

Sebastian Thrun, one of the founders of Udacity, has said student engagement will be the hallmark of successful MOOCs because lectures are 'boring' (Carr, 2012). Research has suggested that instructors who create the most effective online learning environments do so by fostering student engagement (Brinthead et al., 2011), which can be attained in large part through interaction, both among students and between students and instructors. Based on the widespread support for student engagement in online learning, the researchers in this study evaluated humanities MOOCs for their levels of interactivity. We found that 28% of course descriptions mentioned some type of communication between students or with professors.

All course descriptions which referred to communication (28% of the courses examined) mentioned some form of peer-to-peer communication. They included activities such as peer editing, interviews, discussion forums or other 'virtual meet-ups', and social networking such as Google hangouts. A less specific description said students would have 'an opportunity to participate in the classroom activity'.

Just seven courses, 11% of all humanities MOOCs, mentioned student-to-faculty communication, which is considered 'paramount in fostering student engagement' in online learning (Brinthead et al., 2011). Three of these courses, or 5% of the courses examined, suggested students could interact with instructors through live webcast sessions or other forums. One course said students could play video games with their professor. One mentioned 'weekly live dialogues' without elaboration. One course said students could submit discussion questions that the professor may choose to address. One instructor said students were welcome to give him feedback to help with a book he hoped to write, an interaction that arguably supported the professor more than the student. No courses mentioned virtual office hours or other ways students might get help. However, one writing course dedicated its first week to 'becoming a successful online learner', which included a tutorial on how to navigate the Web site and strategies for success in online courses.

Our third RQ sought to describe what, if any, student support was available in humanities MOOCs. The data are limited in that they are based on course descriptions that might not accurately reflect the amount of interaction available in these courses. Professors who did not mention student interaction or support in their course descriptions might actually provide it, and vice versa. Still course descriptions are helpful indicators of what students should expect and, like a syllabus, may be considered a contract with the students. Overall, 72% of the courses examined failed to foster student engagement in the form of peer-to-peer or peer-to-professor communication. This review of course descriptions shows that the one-on-one mentoring style championed by Stanford's Kevin Devlin is not happening in the majority of humanities MOOCs.

Discussion and conclusion

The appeal of the MOOC is in its scale and directness in reaching thousands of students, including those who previously have lacked access to higher education. Coursera's mission statement explicitly notes that one of the company's goals is to increase access to higher education worldwide. Yet, as this study has shown, MOOCs in the humanities have not yet addressed some of the long-standing problems of online education, namely, that the students who most need access to free, alternative higher education may not be best served. In fact, our study shows that MOOCs in the humanities appear directed at a specific, relatively well-positioned, self-motivated student. Rather than breaking the mold of higher education, MOOCs in the humanities appear to recreate elite university course offerings designed for an elite student. This is in line with Emanuel's finding that in developing nations, MOOC students were likely to be from the wealthiest and most educated sectors of society (Emanuel, 2013). The course materials are geared toward these students.

When Todd Watson, an IBM executive, wanted to brush up on corporate finance, he turned to Coursera. He wrote on his personal Web site:

I could now return to revisiting my finance love and spend a little more deliberate time learning it from the ground up, this time over the course of 16 weeks and at no cost to myself or to I.B.M. (other than by taking a little of my time). (Watson, 2013)

But Watson, a successful businessman who had already earned a master of business administration degree does not represent the underprivileged student that MOOCs could be reaching, at least not in the Thomas Friedman conceptualization of people around the world who never had access to higher education now taking courses from top universities.

The scale of MOOC enrollment creates an unprecedented challenge for professors who desire to address the problems of online education head on. But the logistics of providing support for underprivileged students have proven knotty, even utilizing social media and interactivity allowed by technological advances. Courses in the humanities face a special challenge because they are much more likely to require essays or other critical thinking exercises that may not be best evaluated by a computer program. Peer grading has been cited as one solution to this issue. In practice, however, it has proven difficult. At a face-to-face meet up with MOOC students, for example, a University of Michigan professor asked how the peer grading process had worked. One student reported that he'd spent his time correcting the grammar of non-English-speaking students (Kolowich, 2012).

George Siemens has argued that the next step for MOOCs is to move away from video lectures into an interactive space where technology fosters connections between learners in a space where knowledge is generated in all corners (Siemens, 2012). But as the University of Michigan example shows, there is nothing straightforward about shared learning among students who may have nothing in common aside from the fact that they signed up for the same free course. Open dialogue and interactivity across nations sounds like a utopian dream, but as the research has shown, online students do best when they are well prepared by primary and secondary education. Sixty percent of MOOC students may be 'self-starters from knowledge-hungry nations like Brazil and China' (Regalado, 2012). But the MOOCs described in our study do not appear to be serving these students. As Beth Rubin, director of SNL Online at the School for New Learning at DePaul University, wrote in a letter to the editor of *The New York Times*, 'Generally only the driven, self-motivated and organized students who already have strong basic skills succeed [in MOOCs]. This has the likely effect of increasing, rather than decreasing, the digital divide' (Rubin, 2013:

A22). Simply put, the underprivileged students from both the United States and the developing world may not yet be ready for MOOCs as currently conceived, and the availability of free online higher education may best benefit those who have already earned advanced degrees. The for-profit nature of Coursera, in particular, may mean that free courses will not remain the norm for MOOCs. In early 2013, Coursera introduced 'signature track' courses that cost up to US\$90.

It does not appear that the makeup of humanities MOOCs will change drastically in the immediate future. Elite research universities are twice as likely as the next tier of universities and colleges to be offering MOOCs or planning to offer them (Allen and Seaman, 2013). These elite universities are the same ones that have largely failed to recruit the most talented students from low-income households despite stating their intentions to do so (Leonhardt, 2013). Far from democratizing higher education, elite institutions may instead be reaffirming divisions between affluent students and the rest of the crowd. Sebastian Thrun, the Stanford professor who founded Udacity and was an early champion of MOOCs, has gone further in his assessment of the effectiveness of MOOCs. In December 2013, stung by low completion rates despite tweaking his course offerings, Thrun announced that Udacity would abandon MOOCs and focus instead on corporate training. Thrun said:

We were on the front pages of newspaper and magazines, and at the same time, I was realizing we don't educate people as others wished, or as I wished. We have a lousy product. It was a painful moment. (Chafkin, 2013).

Two years after MOOCs hit the mainstream, however, it is too soon to write off the revolutionary potential of MOOCs entirely. The current study is limited in scope. New MOOCs are added to the course rolls at Coursera, edX, and other providers every day, and course descriptions on these sites are limited in what they reveal about instructor expectations and class format. While course completion rates are just one way to measure online course success – and, it has been argued, a misleading one (Ho et al., 2014) – correlations between completion and the incorporation of student engagement and support systems would be enlightening; unfortunately, a thorough database of completion rates from MOOC providers is not currently available. In-depth studies on the workings of individual MOOCs will be needed in order to fully understand whether this new format for higher education can meet its potential as a game changer for underprivileged students. Future research should focus on how professors can better serve these students.

Acknowledgments

The authors wish to thank Anne Johnston. This study was conceived, and an early version written, in her pedagogy course at the University of North Carolina, Chapel Hill.

Funding

This study was not funded by any outside organization or foundation.

References

- Allen IE and Seaman J (2013) *Changing Course: Ten Years of Tracking Online Education in the United States*. Babson Survey Research Group and Quahog Research Group, LLC.
- Audsley S, Fernando K, Maxson B, et al. (2013) An examination of Coursera as an information environment: Does Coursera fulfill its mission to provide open education to all? *The Serials Librarian* 65(2): 136–166.

- Boston W, Ice P, Diaz SR, et al. (2009) An exploration of the relationship between indicators of the community of inquiry framework and retention in online programs. *Journal of Asynchronous Learning Networks* 13(3): 67–83.
- Brinthaupt TM, Fisher LS, Gardner JG, et al. (2011) What the best online teachers should do. *Journal of Online Learning and Teaching* 7(4): 515–524.
- Bronson J (2012) Human rights education for underprivileged high school students. *Peace Review* 24(1): 46–53.
- Carr N (2012) The crisis in higher education. *MIT Technology Review*, 27 September.
- Chaffkin M (2013) Udacity's Sebastian Thrun, godfather of free online education, changes course. *Fast Company*, December 2013/January 2014.
- Chernova Y (2013) New study sheds light on free online courses. *Venture Capital Dispatch*. Available at: <http://blogs.wsj.com/venturecapital/2013/07/31/new-study-sheds-light-on-free-online-courses/> (accessed 7 January 2014).
- Coomey M and Stephenson J (2001) Online learning: It's all about dialogue, involvement, support, and control – according to the research. *Teaching & Learning Online* (37–52). London: Kogan Page Limited.
- Crawford SP (2011) The new digital divide. *The New York Times*, 3 December, SR1.
- Devlin K (2013) Let's Teach the World. In: MOOCtalk. Available at www.mooc-talk.org (accessed 1 April 2013).
- Elkind D (1997) The arts and humanities in postmodern education. In: Walling DR (ed) *Under Construction: The Role of the Arts and Humanities in Postmodern Schooling*. Bloomington, IN: Phi Delta Kappa Educational Foundation, pp. 7–24.
- Emanuel E, Christensen G, Steinmetz A, et al. (2013) Online education: MOOCs taken by educated few. *Nature* 503(7476): 346.
- Figlio D, Rush M, and Yin L (2010) Is it live or is it internet? Experimental estimates of the effects of online instruction on student learning. Cambridge: National Bureau of Economic Research.
- Friedman T (2013) Revolution hits the universities. *The New York Times*, 27 January, SR1.
- Geiger R (2009) Taking the pulse of the humanities: higher education in the humanities indicators project. *The American Academy of Arts and Sciences* 1–15.
- Glewwe P and Kremer M (2006) Schools, teachers, and education outcomes in developing countries. *Handbook of the Economics of Education* 2: 945–1017.
- Ho AD, Reich J, Nesterko SO, et al. (2014) HarvardX and MITx: The first year of open online courses, Fall 2012–Summer 2013. *HarvardX and MITx Working Paper No. 1*.
- Howell SL, Laws RD, and Lindsay NK (2004) Reevaluating course completion in distance education. *Quarterly Review of Distance Education* 5(4): 243–252.
- Hyllegard D, Heping D, and Hunter C (2008) Why do students leave online courses? Attrition in community college distance learning courses. *International Journal of Instructional Media* 35(4): 429–434.
- International Telecommunication Union of the United Nations (2013) ICT facts and figures. Available at: <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> (accessed 16 July 2013).
- Jaggars SS (2011) *Online Learning: Does it Help Low-Income and Underprepared Students?* New York: Columbia University, Teachers College, Community College Research Center.
- Jaggars SS and Xu D (2010) *Online learning in the Virginia Community College System*. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Jordan K (2013) MOOC Completion rates: the data. Available at: <http://www.katyjordan.com/MOOCproject.html> (accessed 16 July 2013).
- Kim J and Lee W (2011) Assistance and possibilities: analysis of learning-related factors affecting the online learning satisfaction of underprivileged students. *Computers & Education* 57(4): 2395–2405.
- Kolowich S (2012) Learning from one another. *Inside Higher Ed*, 30 August.
- Leonhardt D (2013) Better colleges failing to lure talented poor. *The New York Times*, 16 March, A1.
- Lewin T (2013) Universities abroad join partnerships on the web. *The New York Times*, 20 February, A18.
- Maxwell White L (1997) The humanities. In: Gaff J and Ratcliff JL (eds) *Handbook of the Undergraduate Curriculum: A Comprehensive Guide to Purposes, Structures, Practices, and Changes*. San Francisco: Jossey-Bass, pp. 262–279.

- Means B, Toyama Y, Murphy R, et al. (2010) Evolution of evidence-based practices in online learning: a meta-analysis and review of online learning studies. Washington: US Department of Education.
- Northcote M (2008) *Sense of Place in Online Learning Environments*. Melbourne: Australian Society for Computers in Learning in Tertiary Education.
- Pappano L (2012) The year of the MOOC. *The New York Times*, 2 November, ED26.
- Proctor R (1998) *Defining the Humanities: How Rediscovering a Tradition Can Improve Our Schools*. Bloomington: Indiana University Press.
- Regalado A (2012) The most important education technology in 200 years. *MIT Technology Review*, 2 November.
- Rubin B (2013) Online courses: possibilities and pitfalls (Letter to the editor). *The New York Times*, 28 January, A22.
- Siemens G (2012) What is the Theory that Underpins our MOOCs? In: ELEARNSPACE, June 3. Available at: <http://www.elearnspace.org/blog/2012/06/03/what-is-the-theory-that-underpins-our-moocs/> (accessed 16 July 2013).
- Siemens G (2013) Group Work Advice for MOOC Providers. In: ELEARNSPACE, March 10. Available at: <http://www.elearnspace.org/blog/2013/03/10/group-work-advice-for-mooc-providers/> (accessed 16 July 2013).
- The White House Office of Science and Technology and The National Economic Council (2013) Four years of broadband growth. Available at: http://www.whitehouse.gov/sites/default/files/broadband_report_final.pdf (accessed 16 July 2013).
- UNC General Alumni Association (2013) Carolina joins MOOC partnership with Coursera. Available at: <http://alumni.unc.edu/article.aspx?sid=9453> (accessed 16 July 2013).
- U.S. Department of Commerce (2011) *Exploring the Digital Nation: Computer and Internet Use At Home*. Washington: US Department of Commerce.
- Watson T (2013) One Big MOOC. In: TurboTodd, February 18. Available at: <https://turbotodd.wordpress.com/2013/02/18/one-big-mooc/> (accessed 16 July 2013).
- Xu D and Jaggars S (2013) *Adaptability to Online Learning: Differences Across Types of Students and Academic Subject Areas*. New York: Columbia University, Teachers College, Community College Research Center.

Author biographies

Suzannah Evans is a PhD student in the School of Journalism and Mass Communication at the University of North Carolina, where she studies environmental and political communication.

Karen McIntyre is a PhD candidate in the School of Journalism and Mass Communication at the University of North Carolina. Her research interests include media processes and effects with a focus on constructive journalism.