MOOCs and Open Education
A Special Issue of the International Journal on E-Learning

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Preface to MOOCs and Open Education Special Issue: The Power of Four

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In April of 2001, the president of MIT, Charles Vest, announced the establishment of a project for placing MIT course contents on the Web for free. In effect, this announcement started the OpenCourseWare (OCW) movement. Since that time, massive open online courses (MOOCs) and open educational resources (OER) have proliferated on the scene. A flurry of research reports, books, programs, announcements, debates, and conferences related to MOOCs and open education have forced educators to reflect on how these new forms of educational delivery might enhance or even transform education. In response, the four editors of this special issue, Mimi Lee, Curt Bonk, Tom Reynolds, and Tom Reeves, organized a preconference symposium on this topic at the International E-Learn Conference in Las Vegas in October 2013 which resulted in this special issue. This particular article serves as the preface to the special issue.
INTRODUCTION

On April 4, 2001, Charles Vest, then president of MIT, announced the establishment of an OpenCourseWare (OCW) project on his campus (MIT News, 2001). Part of what Vest said was:

"As president of MIT, I have come to expect top-level innovative and intellectually entrepreneurial ideas from the MIT community. When we established the Council on Educational Technology at MIT, we charged a sub-group with coming up with a project that reached beyond our campus classrooms.

I have to tell you that we went into this expecting that something creative, cutting-edge and challenging would emerge. And, frankly, we also expected that it would be something based on a revenue-producing model -- a project or program that took into account the power of the Internet and its potential for new applications in education...OpenCourseWare combines two things: the traditional openness and outreach and democratizing influence of American education and the ability of the Web to make vast amounts of information instantly available."

There are several interesting comments in the above excerpt of his statement. For one, Vest rightfully indicates that the field of educational technology is having a significant impact in university strategic planning. Second, for the most part, in terms of online forms of education, the free and open world won out over the for-profit one. And, third, there are vast amounts of courses and other information resources freely available today from universities and other educational entities that previously were unheard of or deemed impossible. Perhaps even more remarkable, within seven years of Vest’s bold proclamation, content from more than 90 percent of MIT 2,000+ courses was available for anyone in the world to explore and study at any time and from any place with an Internet connection (MIT Press Release, 2007). And explore they did.

Extensive planning, piloting, and financial resources combined with flexible instructional design approaches, highly prominent marketing and communication, and faculty commitment resulted in millions of people browsing or downloading content from the MIT OCW site each month (S. E. Carson, personal communication, January 14, 2014). Clearly, OCW is fulfilling its intention to be a “broad-based movement that would impact knowledge, information and education worldwide” (MIT Press Release, 2007).
OCW was not limited to MIT, however. Instead, other leading universities in the United States such as Johns Hopkins, Yale, Tufts, and Notre Dame quickly joined in the open education movement with their own versions of OCW, as did dozens of other universities around the world (Carson, 2009; Caswell, Henson, Jensen, & Wiley, 2007).

Anyone exploring the Web today will quickly realize that OCW is only part of the open education movement; in fact, there are also learning portals, open access journal articles, open educational resource repositories, and other types of open educational resources (OER) from which to learn. For example, for those interested in Western thought and literature, the complete works of Ernest Hemmingway, Jane Austin, William Shakespeare, Albert Einstein, Mary Shelley, and Charles Darwin, among thousands of other key historical figures, can be accessed and searched online (Bonk, 2009). What is vital to point out is that these learning portals have the potential to shift the balance of power from teachers and content providers to those seeking to learn from them.

MOOCS AND OER: CRITICISMS, ISSUES, AND POSSIBILITIES

Arguably, we are on the cusp of a new age of learner-centered and learner-selected learning. Research is now needed on the motivations, challenges, and successes of those learning from OER, OCW, and other emerging forms of online learning delivery (Bonk, Lee, Kou, Xu, & Sheu, 2015). Realizing this potential will not be easy or automatic. For example, a recent survey (FTI Consulting, 2015) sponsored by the Gates Foundation showed that most faculty members were aware of technological innovations such as OER and OCW, but relatively few were using them in their teaching. Worse, in a study of higher education teaching faculty in the United States, Allen and Seaman (2014) found that most were unaware of what OER even was. And, of those who were aware, most of those surveyed indicated that time to find and evaluate this content was a major barrier to use of OER. At the same time, when presented with the concept of OER, most of these faculty members indicated that would be willing to incorporate OER into their instruction.

Contrast that with a recent international study from the OER Research Hub at the Open University (OU) Institute of Educational Technology (de los Arcos, Farrow, Perryman, Pitt, & Weller, 2014) of more than 1,000 educators and nearly 5,000 formal and informal learners. In this study, nearly 80 percent of these educators indicated that they used OER to acquire new ideas and inspiration. It is also important to point out that the more educators used OER, the more likely that they were willing to share resources with others. Notably, most formal learners in this study believed that they saved money from OER. In addition, roughly thirty percent of informal
learners indicated that the use of OER influenced their decision to sign up for a course. The vast majority of OER users, whether formal or informal, adopted these resources to fit their personal needs. Another finding worth noting is that of the types of free and open materials available, videos were the most commonly used.

OER and OCW are just part of the equation. Today, the term MOOCs or “massive open online courses” is part of the everyday lexicon related to the use of educational technology in higher education. It is generally accepted that the MOOC trend started in 2008 in Canada and swiftly spread to the United States and many other parts of the world. In addition to MIT, universities such as Stanford University, Duke University, the University of Pennsylvania, the University of Michigan, the UK Open University, and the University of Edinburgh, were among the key early adapters, all of whom made concerted efforts to conduct research on their MOOCs (e.g., Belanger & Thornton, 2013; Christensen, Steinmetz, Alcorn, Bennett, & Woods, 2013; MOOC@Edinburgh 2013 – Report #1, 2013). At the same time that universities were piloting this ground-breaking form of educational delivery and people within those universities were examining and debating the many MOOC announcements and reports that were appearing, MOOC-related courses and programs, software companies, and governmental initiatives arose to fill in the gap of services that were then needed. Entities such as Udacity, Udemy, edX, NovoEd, Open2Study, FutureLearn, and Coursera were often the focus of stories in both the academic and popular press, although these stories ranged from enthusiastic endorsements (Pappano, 2012) to withering criticisms (Drake, 2014).

Clearly, MOOCs mean different things to different people. For some, MOOCs allow unique opportunities to diversify one’s student base. For others, the emphasis is on the creation of global learning communities that share ideas, resources, and best practices. Still others view MOOCs as a tool for expanding access to education. New acronyms are proliferating, including MOOCs related to connectivist theory (i.e., cMOOCs), MOOCs that seem to focus on the quantity of students or throughput (i.e., xMOOCs), ones that entail insightful experimentations with project- and problem-based learning (i.e., pMOOCs), and MOOCs for professional development such as teacher educators, business executives, or medical personnel (i.e., PD-MOOCs) (Bonk, Lee, Reeves, & Reynolds, 2015b; Laurillard, 2014). And as shown in the article by Shoba Bandi-Rao and Christopher Devers in this special issue, there are now opportunities for MOOCs to address remedial education such as basic reading and writing skills. Still other forms of MOOCs and open education relate to advanced placement needs, job reskilling, and many other niche areas.

Among the criticisms that have been aimed at MOOCs and open education during the past few years is the concern that only a small percent of
those who enroll follow through to the end of the course in spite of the initial registration by tens of thousands of learners. Not everyone agrees that this is a problem, nor what should be done about it if it is a concern. New ideas about the engagement of those who actually show up for the initial weeks of the course have been suggested by Harvard and MIT researchers (edX, 2014), among others.

In addition to retention and engagement concerns, some raise concerns about accreditation and certification from participation in a MOOC (Young, 2015). Still others pose legitimate questions about the assessment of learning from a MOOC or from other forms of open education. As expected, there will be feedback and assessment concerns related to courses that have more than a couple dozen students, let alone thousands or even tens of thousands (Dale, 2014). Where is the evidence that those thousands enrolled in a MOOC have learned something from it? The same question can be raised of self-directed learners who extensively or more casually explore other forms of open education such as OCW and OER. And, just as importantly, who is willing to accept that evidence as proof of some competency or skill? Given such questions, some people are beginning to ponder the forms of assessment and representation of skills attained that would be sufficient and effective for potential employers to accept MOOC training and OER explorations as viable (Alraimi, Zo, & Ciganek, 2015; Hickey & Uttamchandani, in press; Sandeen, 2013).

These are just a few of the pressing issues that MOOCs and more open forms of education have brought about the past few years. New educational ideas and alternatives in this emerging field of MOOCs and open education seem to emerge on a weekly, and at times, daily, basis. Which ones will win out is difficult to tell (for an extended discussion of this topic, see Reynolds, Reeves, Lee, & Bonk, 2015a).

When it comes to the open education movement and new forms of learning delivery, we clearly remain seated in the “Wild Wild West” of learning. Bang; another idea related to MOOCs and open education is offered. Along the way, open education--like most educational innovations--has accumulated numerous proponents and opponents. With mounting debates on MOOCs and open education, it is time to pose substantive questions. For instance, what are the potential benefits, drawbacks, and obstacles for faculty members, instructional designers, and learning managers as well as their organizations and institutions engaged in developing and implementing MOOCs and OER across educational sectors, be they in the K-12 field or working with adult learners in higher education, corporate training, or government settings? In addition, as apparent in a seemingly endless array of research articles and news reports, probing questions continue to be asked about the sustainability and financial viability of most MOOCs and open educational resources. This special issue was designed to address many of these key concerns and issues.
THE POWER OF FOUR

Throughout the editorial process for this special issue, we did, indeed, ask many such questions. Oftentimes, in this wild and wooly age of online learning, we barely had time to reflect on solutions to one problem before a couple more issues would arise. For nearly two years now, we have teamed up to decipher the prevailing literature on MOOCs and open education as it was published. Each of us has had our perspectives on what is a significant project or finding. Not too surprisingly, such collaborations have been central to new discoveries and innovations since the start of the early days of computing.

To highlight this point, in his most recent book, "The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution," Walter Isaacson (2014) provides a thrilling account of how the digital revolution came to be. As he illustrates in each enticing chapter of this book, when one probes deeply into the monumental advancements in computing technology during the past two centuries, it is clear that timely innovation and creative sparks of genius did not suddenly emerge from highly secluded or hermit-like situations. Solitary pursuits were not the common spark for creative insight. Instead, innovation was more often the result of collaboration and the pooling together of an assortment of advances and incremental steps. Isaacson notes that it is the ability to work in teams that often allows for people to display creativity or mold something unique into existence. For Isaacson (2014), “an invention, especially one as complex as a computer, usually comes not from an individual brainstorm, but from a collaboratively woven tapestry of creativity” (p. 84). In effect, Eureka moments may actually be more evolutionary than revolutionary.

In such partnerships, serendipitous and opportunistic partnerships are formed which enable something distinctive and valuable to develop and then be cultivated. For instance, in describing the partnership of Ada Lovelace and Charles Babbage, Isaacson (2014) argued that it led to a famous scientific publication back in 1843. This translated article in Scientific Memoirs includes a series of notes by Ada Lovelace which are, in effect, what many deem to be the first computer program. Some 100 years later, during the 1940s, J. Presper Eckert and John Mauchly built what is considered the first modern computer, the ENIAC. A similar partnership was formed when Paul Allen and Bill Gates spent their free time and many late nights practicing coding during middle school, high school, and college in the late 1960s and far into the 1970s. And so it is with many of the ideas found in this special journal issue as well the events that led to it. As you will discover, several unique partnerships were formed in the writing of the articles that appear in this special issue.
Of the seven other pieces that appear here in addition to this preface, six involve teams of two. In his book, “Powers of Two: Finding the Essence of Innovation in Creative Pairs,” Joshua Wolfe Shenk (2014) uses rich storytelling to highlight the power of pairs of individuals to push each other to new heights, often by sparking creative insight and bringing about something novel or unique. He suggests that there are six common stages of these creative and highly productive teams, including: (1) the conditions that led to their initial meetings, (2) the forming of their joint identity, (3) the taking up of distinct and enmeshed roles, (4) finding an optimal distance and space to cultivate distinct ideas and experiences, (5) the ability to strike a balance between competition and cooperation of the pairs, and (6) the final phase of interruption when they lose that balance and the team is driven apart (Latson, 2014). In explaining these phases, Shenk discusses the pairing of Pablo Picasso and Henri Matisse, Steve Jobs and Steve Wozniak, James Watson and Francis Crick, John Lennon and Paul McCartney, and myriad other such creative pairs. Like Isaacson’s (2014) gripping “The Innovators” book, as well as his biography of Steve Jobs before it (Isaacson, 2011), the series of stories in “The Powers of Two” combine to tell a valuable tale about the types of processes and partnerships that lead to creative insight, valuable product inventions, and new forms of artistry.

Sometimes, however, the most productive teams are larger than two. Such is also the case of this special issue. We, the team of four editors for this special issue on “MOOCs and Open Education” for the International Journal on E-Learning (IJEL), have collaborated on a series of projects for more than seven years now. On Monday October 21, 2013, the four of us (Curt Bonk from Indiana University, Mimi Lee from the University of Houston, Tom Reynolds from National University, and Tom Reeves from the University of Georgia), coordinated a special one-day preconference symposium focused on “MOOCs and Open Education around the World.” The event was held at E-Learn 2013 in Las Vegas and was sponsored by the Association for the Advancement of Computing in Education (AACE). The response was quite positive, as over 100 people attended the symposium. The final result of this event is this special journal issue as well as an edited book published by Routledge (Bonk, Lee, Reeves, & Reynolds, 2015a).

The story of our collaborative efforts began earlier than 2013, however. Five years prior, in fact, we organized a preconference symposium at the same conference and in the same city, but on a different topic; namely, E-Learning in Asia. Interestingly, that symposium also resulted in a special journal issue that was simultaneously made available as a print-on-demand book (Bonk, Lee, & Reynolds, 2009). At that time, we were a team of three—Curt Bonk, Mimi Lee, and Tom Reynolds. Unexpectedly, Professor Tom Reeves from the University of Georgia appeared at the gathering and
asked to help out. In the end, he wrote the capstone piece to that special journal issue and book (Reeves, 2009) and recapped the day’s events at the symposium. It was akin to one of those magical moments in life when the fourth member of a group appears just when needed (i.e., it was our Ringo Starr moment).

There is just something to be said for what teams of four people can accomplish that teams of two or three cannot. To recap, since 2008, we have run two successful preconference symposia, edited two special issues of this journal (one of which became a book; see Bonk, Lee, & Reynolds, 2009a, 2009b), and edited a comprehensive book (Bonk et al., 2015a). We have also helped organize the annual International E-Learn Conference run by AACE and create a new conference called Global Learn.

Our collaboration has been a rich and exhilarating experience. We have learned much together including a vast array of information about e-learning practices in Asia as well as how MOOCs and OER are being accepted and implemented today in many corners of the world. Editing this special journal issue is a case in point—we garnered new insights into the field of MOOCs from each round of editing and review. There is much happening each day in this space. Accordingly, as you will discover, some of it in the pages to follow.

**OUR SEARCH INTO MOOCS AND OPEN EDUCATION**

As we explored the literature on MOOCs and open education during the past few years, it was apparent that e-learning continues to proliferate globally, though in the United States, the pace of growth has begun to level off (Allen & Seaman, 2015; Kelley 2015). We also became aware that minimal attention has been placed on how individual regions of the world and particular countries are taking advantage of technology-enabled learning such as MOOCs. The possibilities for transformational change in developing and underdeveloped countries is widely accepted, but we had to ask ourselves, what is the reality? There is also an implied acceptance that e-learning, including MOOCs, is impacting young as well as older learners around the planet. But is this actually supported by evidence?

The four of us were aware that the emergence of new forms of blended learning (Horn & Stacker, 2015; Staker & colleagues, 2011, Staker & Horn, 2012) as well as the arrival of MOOCs and other forms of OER have made e-learning front page news across all continents and societies. When planning the preconference symposium, MOOCs, in particular, were repeatedly praised by the news media (Pappano, 2012) and yet were coming under increasing scrutiny (Dale, 2014; Hollands & Tirthali, 2014). With the preconference symposium, book, and this special issue, we sought to document what was indeed happening in various parts of the world as well as in different educational sectors and across different types of learners.
Given the proliferation of new digital forms of informal and formal learning, the four of us became aware of the increasing need to better understand how people in various regions of the world were implementing MOOCs and OER. As we read the waves of news reports and research studies (e.g., Gasevic, Kovanovic, Joksimovic, & Siemens, 2014; MOOC Research, 2014), we realized that educators, researchers, politicians, and countless others wanted to grasp what the outcomes of these initiatives are and how they can be improved. What also became clear to us is that MOOCs and MOOC-like derivatives as well as open education resources, projects, and initiatives have caused institutions and organizations to grapple with seemingly never-ending issues—such as those related to instructor roles in teaching a massive class (see article from Sarah Haavind and Cynthia Sistek-Chandler (this issue), accreditation and credentialing for those who complete it, quality standards of the content offered or embedded, innovative forms of assessment, and learner motivation and attrition.

In response to the above issues and other concerns, the preconference symposium that we held in October 2013 in Las Vegas explored and probed unique implementations of MOOCs and open education across regions and nations. The event also focused on the various opportunities as well as the dilemmas presented for these new forms of technology-enabled learning. As noted in the introductory article of this special issue by Mimi Lee and Tom Reynolds (see next article), the symposium participants spoke about their different delivery formats, the interaction possibilities that they witnessed, their unique grading schemes, and their current as well as projected business plans, among many other issues and concerns. Naturally, they also discussed the MOOC and open education trends in their respective locales. They also shared key research directions and findings and provided suggestions and recommendations for the near future. As such, it was quite a fascinating event.

Again, none of this would have been possible without extensive planning, thinking, discussion, and collaboration. As a team of four, we each had unique opportunities to think and share ideas about MOOCs and open education. We hope that you feel at least part of the experience the four of us went through during the past couple of years as you read through the articles in this special issue. We may not have been “massive” in our numbers, but we were certainly open and online throughout much of the process that led to this issue. Enjoy this one small take on MOOCs and open education as detailed in the articles of this special issue.
References


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