

Guest Editors' Preface to the Special Issue on MOOCs**An Academic Perspective on an
Emerging Technological and Social Trend****George Siemens**

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Higher education is entering a phase of dramatic change and innovation. Mainstream media often present massive open online courses (MOOCs) as both a reflection of the need for universities to undergo a metamorphosis and as a means of forcing a new perspective on digital teaching and learning practices (i.e., [Lewin, 2013](#); [Pappano, 2012](#)). However, university faculty caution that there is not enough research evidence to support widespread adoption. Two significant challenges around the role of MOOCs in higher education are prevalent. First, the discussion on MOOCs to-date has occurred mainly in mainstream media and trade publications. Although some peer-reviewed articles on MOOCs currently exist (e.g., [Fini, 2009](#); [Kop, 2011](#)), the amount of available research is generally limited. One of the goals of this special issue is to attempt to address this lack of peer reviewed literature. Second, the vast research available in online and distance education has been largely ignored by mainstream media and MOOC providers. Paying greater attention to what is already known about learning in online and virtual spaces, how the role of educators and learners is transformed in these contexts, and how social networks extend a learning network will enable mainstream MOOC providers and their partners to make evidence-based decisions in favor of educational reform. Thus, a second goal of this special issue is to highlight this research and provide an historical context for online and distance learning not currently evident in the mainstream media treatment of MOOCs.

This special issue presents a series of peer reviewed articles the guest editors believe will aid in increasing the quality of the research focus across a growing field of research and participation from numerous academic fields. Articles in this special issue contrast theoretical and empirical research related to MOOCs through a careful examination of thematic issues from student perceptions, engagement, and participation to campus leadership and decision-making challenges.

In the opening article, [Milligan, Littlejohn, and Margaryan \(2013\)](#) focus on participation patterns in connectivist MOOCs (cMOOCs) in which learner autonomy and engagement are favored over rote learning. The authors frame their analysis of the [Change11](#) cMOOC as a follow-up mixed-method study examining self-regulated learning behavior within this context. Their findings reveal a split between those who were visibly highly engaged (active learners) versus those who were engaged, yet less visible

(lurkers), with a few passive participants who were challenged by the overarching connectivist nature of the course. Overall, this paper seeks to address the lack of empirical data around cMOOCs by linking their findings of participation patterns to the larger extant literature on self-regulated learning.

The second article, by [Ahn, Butler, Alam, and Webster \(2013\)](#), reports on a study involving the [Peer 2 Peer University \(P2PU\)](#) platform that is intended to promote peer-created, peer-led learning environments. In partnership with P2PU the authors present an analysis of publicly available log-file data, creating a framework in which to describe the overall learning "ecosystem" from a learner-centered, participatory perspective. Although the data analyzed is largely descriptive in nature, it illuminates the potential of frameworks such as the P2PU to provide a foundation in which to examine more critical questions around what motivates students to engage in these types of environments, what kinds of challenges they face in participating in learning in a "massive" way, and what skills are needed to create effective courses that are both designed effectively and scalable.

[Irvine, Code, and Richards \(2013\)](#), in their article, position MOOCs in a broader landscape of increasing learning opportunities for learners. They present a "multi-access" ([Irvine, 2009](#)) framework, arguing that to "connect in any way" is as important for the future of learning as the "anytime, anywhere" mantra. They argue the MOOC movement is distracting leadership from focusing on alternative options for personalization and access to higher education. The framework advocates for merging access modes to promote learner choice and agency.

Next, [Bruff, Fisher, McEwen, and Smith \(2013\)](#) report on the engulfment of a [Machine Learning MOOC](#) offered by [Stanford University](#) into a graduate course on the same topic at [Vanderbilt University](#), offering a perspective on present research on integrating MOOCs with traditional classrooms. This format of "wrapping" MOOCs treats MOOCs as teaching and learning resources that augment teaching practices on campus by introducing learners to world renowned lecturers and global communities while still allowing for local support and guidance.

The article by [Waite, Mackness, Roberts, and Lovegrove \(2013\)](#) is a case study that explores the potential triggers for active participation in a MOOC from the perspective of learners. From the lens of social constructivism, connectivism, and community of practice theories, participation in the [First Steps in Learning and Teaching in Higher Education \(FSLT12\)](#) MOOC revealed three major themes among active participant learners: navigational challenges, transformative learning, and reciprocal relationships. This case study presents an application of a theoretical approach where "as learners transcend the steps in their understanding [and] attempt to gain mastery in their discipline ... they ... oscillate between new and old understandings" (p. 210). The experiences of expert and novice learners in this context will be instructive to learning designers, especially in light of the learner skills and attributes needed in distributed (networked) learning environments.

[Marshall \(2013\)](#) adopts a systemic view of MOOCs, exploring the role of leadership and strategy formation to address structural challenges in education. Porter's (1985, 2008) Five Forces are used to analyze change and detail the need for strategic response to counter "the natural tendency of threatened organizations to retrench and adopt conservative and self-protective strategies that collectively can cause an industry to stagnate" (p. 224).

[Stewart's \(2013\)](#) article provides a theoretical foundation in which she argues that "new literacies are not merely the doing of the same old things with new technologies," especially as "networked participation may become more powerful at a massive scale than in a conventionally sized online course" (p. 229). Stewart further targets the binary views of MOOCs (as either a revolution in education or the privatization of education) and posits that MOOCs can be viewed as catalysts invoking a mindset of participation and active engagement into higher education. She frames the increased participation of learners in the educational process as a literacy, where MOOCs might "expose large sectors of society to new literacies and meta-level processing around the idea of learning as a communicative practice" (p. 236) As a result of the current approach in the mainstream media to focus on the idea of MOOCs as "technology-led theory of social change," as a society we are in danger of being lulled while "the power of the technology to act is assumed, and the power of social and human factors ... are left out of the conversation" (p. 231).

[Lombardi \(2013\)](#) provides an assessment of the choices and challenges, particularly in relation to identity, that universities face in confronting significant change. Her paper provides insight into the questions large research universities must address in partnering with MOOC providers.

Finally, [Scholz \(2013\)](#) finds positives in an area where many pundits have raised concerns or fears: the threat of MOOCs to liberal arts colleges (LACs). Scholz suggests that a significant benefit of new technologies in education is the potential to "provoke LAC faculty to think more deeply about learning, exploring new approaches, and reviving sometimes staid teaching techniques" (p. 249). She concludes her paper by encouraging LACs to use MOOCs as an opportunity to assist learners in lifelong learning.

In spite of the enormous amounts of data generated by MOOCs, analysis of this data has not clearly reflected this issue. In many instances, the MOOC discussion centers on small populations and the application of existing frameworks to MOOCs. The attempt to understand MOOCs through a systemic and sociological lens needs to be augmented through analysis of large data sets generated when tens, or even hundreds, of thousands of students engage in an online course.

The papers in this special issue reflect the collective grappling, in academia and society, of the role of MOOCs in relation to existing educational systems. Given the relative newness of open online courses, conceptual and philosophical papers are to be expected. We expect that larger data sets and data mining techniques will grow in prominence over the next several years. For academics, it will be important to continue a sharp focus on how MOOCs influence those aspects of education that are not easily quantified: social learning, equity, exclusion, diversity, and systemic (societal) impact.

For educators, the current constellation of change pressures and emerging trends represent both exciting opportunities and significant concerns. The exciting opportunity revolves around increasing access to learning, creating new models of learner-driven pedagogy, and raising opportunities for global classrooms. The concerns center on the challenges of learning at this scale: how effective are automated assessments? Will those learners most in need of support be overlooked? What becomes of the professoriate?

While the future of higher education is still murky, the importance of educators embracing active experimentation cannot be understated. A scientific perspective on emerging technological and social trends is required in order to assess the experience of learners and the impact on society and higher education institutions. This special issue is an attempt to apply a research mindset to a narrative that has largely been framed by anecdote and opinion.

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