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Scholarly and popular discourse about massive open online courses (MOOCs) continues to debate the purpose of MOOCs in higher education. Because such foundational consensus is lacking, *MOOCs, High Technology, and Higher Learning* is distinctive in its use of critical pedagogy as a lens to analyze and assess MOOCs. The result is a timely, critical examination of the emergence and formation of MOOCs that looks backwards as a means to move forward more productively.

The book's author, Robert A. Rhoads, is not a MOOC devotee or even a technology researcher, a fact he acknowledges. He is a sociologist of education intent on introducing skepticism into a movement that has been "defined by its zealous high-tech experimentation" (p. 148). This aim is apparent in his research questions, which problematize the overrepresentation of elite colleges and universities in the production of MOOCs.
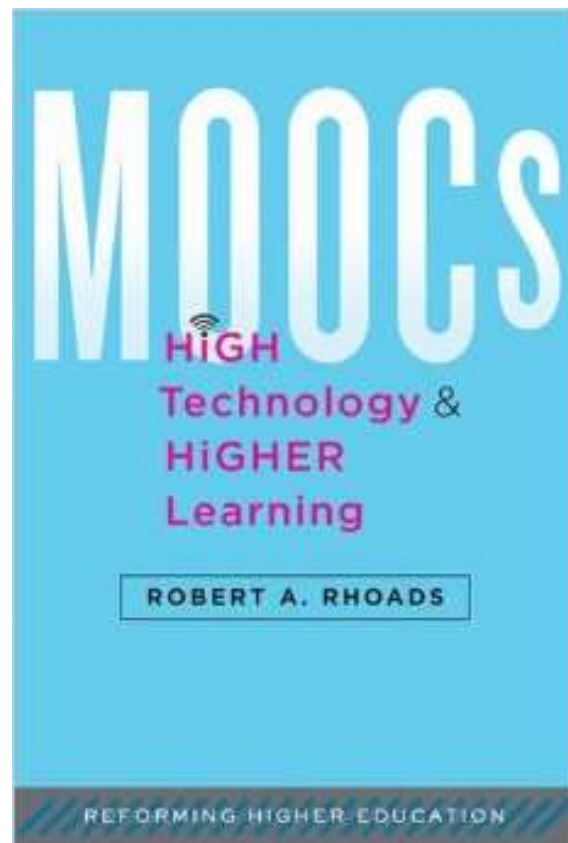
The resulting critique is more than a reprobation of the low completion rates common among MOOCs or the format's potential to exacerbate the digital divide. His critique centers on three themes: diversity, power, and teaching and learning. His focus on these themes is a reminder that novelty does not resolve the deeply entrenched cultural dynamics that produce educational inequity.

He opens with a discussion of the emergence of MOOCs, which for newcomers to the study of online learning provides an instructive history of technology's current role in education. In this opening discussion, Rhoads establishes his use of secondary sources in his analysis. His analytic procedure is neither a systematic review of the literature nor is it based on a clearly articulated methodology for collecting research, blogs, articles, and other artifacts. Rather, Rhoads combines key events in the emergence of MOOCs, for example the partnership between Udacity and San Jose State University, with the available empirical research to support his claims.

This introduction, however, is not simply a linear account of MOOCs but an argument of how four interrelated conditions supported the emergence of MOOCs. Rhoads sees two conditions – Web 2.0 and the open education resources (OER) and open courseware movements (OCW) – as responsible for shaping the vision of teaching and learning in MOOCs. The advancements of Web 2.0 enhanced the online experience and increased networked capabilities. The OER and OCW movements championed the concept of the knowledge commons, an idea most famously executed by Wikipedia, which frames information as collective, co-constructed, shared, and widely accessible.

The economic crisis in higher education and an increased interest in online learning are the other two conditions Rhoads identifies. The funding losses colleges and universities experienced during the Great Recession prompted administrators to seek profits and reduce costs. State legislatures encouraged higher education to pursue online learning as a financially viable learning format. However, profit-making and cost reduction were not the only interests in online learning. Education innovators saw online learning as a way to disrupt current educational models. Rhoads goes on to demonstrate that these complementary and competing interests in online learning united a diverse coalition of students, faculty, policymakers, entrepreneurs, and funders to build and maintain the organizational system that surrounds MOOCs.

The conditions he identifies provide the context for the formation of cMOOCs and xMOOCs. Like others, Rhoads describes cMOOCs as a continuation of the OER and OCW movements that privilege connectivist notions of education. Germane to Rhoads' discussion of MOOCs is the connectivist rejection of the teacher as the knowledge authority. Pointing to George Siemens' influential work, Rhoads notes that cMOOCs imagine knowledge as existing in the diversity of perspectives and learning as a process of connecting specialized nodes of information.

While Rhoads' own allegiance to critical pedagogy intersects some with connectivism, he acknowledges the limitations of connectivist theory, especially as they relate to diversity. He attributes the limitations and challenges associated with connectivist teaching to the development of a MOOC that extends existing university spaces— the xMOOC. Citing descriptive studies of learning experiences, Rhoads characterizes learning in xMOOCs as attempting to replicate in-person learning through video lectures and computer-assisted exams.

His discussion of the emergence and formation of MOOCs sets the stage for his critical analysis. Operating from Paulo Freire's critical pedagogy and influenced by Michel Foucault's conceptions of power, Rhoads believes that education "ought to play a pivotal role in helping students unmask ways in which forms of power and domination operate to

shape their interactions with the [world]" (p. 4).

Rhoads also uses connectivism in his analysis. This yardstick is a fair measurement for cMOOCs but less so for xMOOCs. Overall, Rhoads' discussion of MOOCs does not fully explore student interest. Across online learning spaces, students name time commitments and falling behind in coursework as reasons for non-completion (Ashby, 2004; Hart, 2012). Additionally, one study found that online learners seek credentials that employers value (Council for Adult and Experiential Learning, 2007). In short, the connectivist project is not likely the force attracting students to MOOCs, and xMOOCs may provide a set of outcomes that do motivate and engage students.

Rhoads' critique is not explicitly organized around the interaction between his four conditions and his discussion of connectivism, but he references these earlier arguments in describing and defending his criticisms. To that end, Rhoads identifies five core problems: diversity, hegemony, faculty labor, pedagogy, and epistemology. These problems are overlapping and are united by the themes of diversity, power, and teaching and learning.

The core problem of diversity is shaped by the varied interests in online learning and connectivism. Early proponents, like Udacity CEO and cofounder Sebastian Thrun, heralded MOOCs as a democratizing agent by virtue of their openness and disruptive capacity. Based on his analysis, Rhoads concludes that cMOOCs and xMOOCs have, in general, failed to have this democratizing effect due to a lack of attention to diversity. Rhoads reports that MOOC enrollees are mostly American, white, and English speakers who are less affected by the digital divide. They also tend to be male and well educated. Drawing from the extant research, Rhoads suggests that the emergent achievement gap in MOOCs might be addressed by better supporting student engagement. He also recommends addressing the learning needs of undergraduates and other less educated students as well as those needing remediation.

Yet, concerns about enrollment and performance are only part of his critique. The limited attention to welcoming diverse student populations and facilitating cross-cultural conversations is, Rhoads contends, a failure to meet an important aspect of connectivist education. Rhoads is careful not to place all the blame with MOOCs. He writes, "The reimagining of teaching and learning from a connectivist standpoint tends to ignore the reality that culture plays a major role in shaping educational environments and that students bring particular cultural backgrounds" (p. 115). Ultimately, the relative uniformity of MOOC learners does not offer a diverse network to engage in connectivist learning.

The work of digital media literacy (DML) scholars has sought to intentionally design learning spaces to address these issues of diversity. These researchers and theorists often work from ideas similar to connectivist and constructivist notions and certainly theories of social learning. Except for a few passing references, the DML literature does not play a prominent role in Rhoads' analysis. This absence is a missed opportunity to share a resource in addressing the problems MOOCs face.

Issues of diversity operate at the macro level, too. MOOCs are overwhelmingly created by Western colleges and universities. Rhoads and others liken this dominance to a form of cultural hegemony. The dominance of a few institutions reveals how existing power structures in higher education and the world are replicated in the MOOC landscape.

The emergence of MOOCs following the Great Recession amplified these power dynamics. Higher education administrators at primarily state schools along with their legislators viewed MOOCs as a money saving activity – a viewpoint that Rhoads finds deeply flawed. Yet, the development of MOOCs for this purpose redefines the work of academics.

Faculty labor becomes commodified into a discrete product that, in in the case of xMOOCs, can be easily reproduced. For the faculty members who are creators, this raises questions of intellectual property. (Although in the spirit of the knowledge commons, researchers should willingly forego any claims on intellectual property in exchange for status.) For faculty at institutions who are primarily consumers of MOOCs, faculty labor is potentially deskilled to the role of a "glorified teaching assistant," answering questions and grading assignments.

Because the creation of MOOCs requires resources, Rhoads observes that MOOC creation is dominated by faculty at elite colleges and universities. This instance of hegemony is one that limits faculty contributions to a few well resourced "superstars." Rhoads finds this especially dangerous in disciplines open to interpretation and those with dialectical traditions. He adds that the continuation of this hegemony will make public institutions less competitive than their private peers and diminish the value of the degrees these public colleges and universities offer.

The intersection of Web 2.0 technologies and connectivist pedagogies frame Rhoads' final set of problems, which are related to teaching and learning. Web 2.0 technologies allow MOOCs to become truly massive, which threatens the commitment to fostering learning through networks. Given the sheer enrollment numbers, xMOOCs have defaulted to static designs. Rhoads describes teaching and learning in xMOOCs as an example of Freire's "banking concept of education" where the teacher deposits knowledge to students who are empty vessels. This approach diminishes opportunities for learners to interact with peers and faculty let alone engage in the connectivist-style learning. Conversely, the available research does not allow Rhoads to present a compelling picture of connectivist learning in cMOOCs. Regardless of students' learning needs, Rhoads argues that the critical literacies needed to

participate in connectivist education are absent in both MOOC forms.

Rhoads' critique reveals one final problem: The empirical evidence surrounding MOOCs, particularly xMOOCs, is piecemeal and not yet compelling. He writes:

> There is no strong evidence that xMOOCs are an improvement as substitutes for face-to-face courses. There is also no research that has adequately examined the implications of displacing faculty at under-resourced colleges and universities from the role of lecturer to the role of discussion leader. Furthermore, there is no research that adequately examines the overall impact on students and a student body when they are required to take an [xMOOC] as a substitute course (p. 120).

Rhoads' skepticism is not borne of anti-MOOC sentiment but founded on limited evidence.

In addition to setting a more comprehensive research agenda, Rhoads offers some "practical considerations" that are aligned to his themes of diversity, power, and teaching and learning. Of these, the considerations related to power and faculty are most urgent as these are likely the most divisive. He calls for a broad coalition of faculty to discuss intellectual property and professional practice in order to collaborate with higher education administrators to develop clearer policies and allocate resources to support MOOC development. He also encourages faculty to lead the development and study of online pedagogies to strengthen teaching and learning in MOOCs.

Rhoads seems resigned to the continued presence of MOOCs in the education landscape, but his arguments invite resistors and skeptics to more fully engage in the development of MOOCs so that they lead to democratic, equitable, diverse, and meaningful learning. Rhoads calls upon MOOC entrepreneurs and proponents to

work from a more compelling evidence base in the production and reproduction of MOOCs. These arguments shift the focus away from technology in education to the important work of delivering on the promises of education.

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About the Reviewer

Kimberly Austin is an assistant professor at Relay Graduate School of Education in New York, NY. She has published on digital media and technology in formal and informal learning spaces. Her current research examines learners' perceptions of iterative design in xMOOCs. Austin completed her doctoral studies in sociology at the University of Chicago. She holds a M.A. in sociology from the University of Chicago and a B.S. in journalism from Northwestern University.

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