MOOC: Crystal Ball for Predicting the Future of Technology in Education?

Discussion about the purpose and value of technology in education is popular these days. From learning management systems, to one-to-one computing, advocates and pundits alike have plenty to say about the changing landscape of learning in the digital age. Although there are numerous push-button topics, one of the most current, and heated, is Massively Open Online Courses (MOOCs). MOOCs are perhaps more applicable to higher education, at least for now, but they are useful as a lens for understanding the way technology is shaping teaching and learning at all levels.

Publications such as the Chronicle of Higher Education and Inside Higher Ed have featured dozens of articles on MOOCs over the last few years. One example from Daly (2013) inquires whether MOOCs will supplement or supplant higher education all together. Another article questions whether higher education administrators are sufficiently concerned when MIT and Harvard invest more money in MOOCs than many institutions have in their endowments. Apparently they are not - since only 12 percent of higher education institutions are planning to offer MOOCs in the near future (Allen & Seaman, 2013). However, low overall adoption should not be equated to minimal impact since each MOOC can serve thousands of students. MOOCs for K-12 students appear to focus on Advanced Placement (AP) courses. This has been the case ever since edX (a MOOC vendor) announced the availability of 27 college preparatory courses (High School Initiative, 2014). Students can take these courses independently, through edX, or their teachers can use course content for instruction. Deploying MOOCs with secondary advanced placement students seems logical, since participants likely possess all the qualities needed for self-directed learning. However, if MOOC completion rates for post-secondary students are used for predicting success for high school students, then there may be some significant challenges to overcome.

Discussion of completion rates and implementation challenges aside, MOOCs are prompting new types of questions, and skepticism, about core beliefs for many educators. Post-secondary faculty are puzzled with colleagues who willingly teach online courses to thousands of students. Challenges such as tuition costs and competency-based credit have opened the door to alternative forms of education that may radically change schooling as we know it, perhaps beginning in post-secondary institutions, with trickle-down to primary and secondary schools. Nevertheless, while technology-driven changes are inevitable, it is less certain whether any benefits will outweigh costs of altering how educators currently ask students to construct knowledge and experience community in face-to-face or even conventional online courses.

Uncertainty is exacerbated by fleeting enthusiasm and indefinite notions of what things actually mean at the nexus of technology and learning. A brief analysis of research shows many educators are enamored with MOOCs, even though few agree on a definition. On the one hand, Cormier et al. (2010) generally describe MOOCs as a way to learn through an assortment of Internet-based technologies. For example, students can collaboratively construct knowledge by learning from others who are part of the same social network (e.g. Twitter, Google+). On the other hand, Downes (2012) differentiates xMOOCs and cMOOCs, indicating most of the MOOCs sponsored by universities are deployed through vendors such as Coursera and edX. Vendor MOOCs are xMOOCs and they are typically structured like conventional online courses (Siemens, 2012). Course materials such as syllabi, textbooks, and assignments are shared as the course begins, and students work through content more or less at their own pace with weekly deadlines to help promote accountability. Like conventional online courses, xMOOCs have specific start-stop dates, and integrate discussion forums or some other type of student-to-student interaction. Unlike online courses, MOOCs using social networks as the method for transmitting information, both student-to-student and instructor-to-student, are almost nonexistent because of the massive number of participants.

The other MOOCs, cMOOCs, are less popular, though they are more representa-
tive of the egalitarian ideals from which MOOCs were originally conceived. The “c” stands for connectivism, which alludes to a theory of learning through digital applications exemplified across Web 2.0 tools such as blogs, wikis and social media (Siemens, 2004). One common difference between x and cMOOCs is how they are facilitated. xMOOCs are typically hosted on vendor platforms such as Coursera or edX and taught by “all-star” professors from ivy-league universities. cMOOCs tend to be led by less-known, but highly-qualified educators using a blog and student-chosen social networking tools. Table 1 shows some other similarities and differences between x and cMOOCs ( Cormier, Siemens, Downs & Kop, 2010).

<table>
<thead>
<tr>
<th>xMOOC</th>
<th>cMOOC</th>
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<tbody>
<tr>
<td>Massive enrollment</td>
<td>Massive amounts of content</td>
</tr>
<tr>
<td>Open – no prerequisites</td>
<td>Open – everything (e.g. no password, no prerequisites, entirely open platform)</td>
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<tr>
<td>Asynchronous and synchronous</td>
<td>Asynchronous and synchronous</td>
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<tr>
<td>Focus on independent learning</td>
<td>Focus on collaboration</td>
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<tr>
<td>Example <a href="http://www.class-central.com/">www.class-central.com/</a></td>
<td>Example <a href="http://www.mooc.ca/courses.htm">www.mooc.ca/courses.htm</a></td>
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Table 1. Comparison of x and c MOOCs

In comparison to cMOOCs, xMOOCs are generating much more interest, probably because of their connection to high-profile schools, and snappy vendor platforms.

Nevertheless, Daly (2013) also suggests xMOOCs are more than just sophisticated combinations of celebrity instructors with high-tech software. One goal of xMOOC is to democratize education by permitting anyone to participate, or at least those with devices and an Internet connection. Were it not for survey research showing some actual outcomes hinting at accessibility, skeptics could dismiss claims of democratizing outright. Yet, a recent study concluded that over 74 percent of MOOC participants appear to reside outside the United States, which suggests some headway in terms of accessibility (Kolowich, 2012). Indeed, most of those enrolling in a MOOC live in Brazil, Great Britain, India or Russia (Kolowich).

Sharing superior content is another goal. In its most rudimentary form, this means video recording in-class sessions for sharing online. In other cases, the courses include expensive animations and edited videos. Edwards (2012) estimates that MOOCs from Coursera and Udacity cost $15,000 to $50,000 to produce, money that K-12 institutions could not match, even if they raided textbook budgets.

A third xMOOC goal, probably the most abhorrent to many educators, is to make money. Several MOOC vendors are for-profit companies. The trouble is, MOOC developers have yet to settle on a system for making a buck, at least for now. Moreover, the profit problem is contrary to the principles of access and opportunity. Even greater tensions emerge when looking for ways to link MOOCs with student achievement, much less using them to improve the social and moral dimensions of learning environments.

Every educational innovation addresses a problem, and surely, there are plenty of challenges to overcome. This is true things. And I think it would be interesting ‘if credentials could be earned based on what you know and not on where you acquired that knowledge’” (Mossberg, 2012).

Muddled is putting it mildly. Some suggest we are on the horizon of significant education change in terms of using digital technologies for teaching and learning. Those with experience in K-12 are already familiar with this, at least on the periphery of their work. New models for teacher and principal evaluation may incorporate collection of evidence using digital portfolio systems, such as eVal. Common Core tests, including Smarter Balanced, are computer adaptive. Many states, including Washington, are rolling out digital certification systems. Cynics may judge these changes with apprehension, although it is easy to understand why. These technologies are sure to facilitate more elaborate accountability measures, not the least of which will be linking student test scores to teachers, schools and districts.

Technology on the periphery tells about education policy, but MOOCs are a potential bellwether in terms of using classroom pedagogy. While planning, assessment, instruction, and reflection will continue to serve as broad domains for understanding teaching, new points of emphasis are rapidly becoming part of the accepted landscape.

Some ideas which have entered everyday educator vernacular include techniques for transitioning curricula into digital formats, blending face-to-face with online activities, facilitating interactions through social media, and sharing assessments and related outcomes for growth, among many others (Breslow et al., 2013).

Whether MOOCs persist has yet to be seen. They may disappear, like so many other teaching innovations. However, the questions they raise are sure to occupy the attention of many educators, both now, and in the future. P-20 teachers and administrators will answer these questions for themselves using a variety of approaches. Surely, whatever solutions are settled upon will be creative and multifaceted, and technically more complex than either cMOOCs or xMOOCs. While there is no crystal ball for predicting the future of technology in education, one thing is certain: Technology is an increasingly important facet of teaching and learning.
References
Daly, J. (2013). Will MOOCs supplement or supplant higher education? EDTECH Focus on Higher Education. Retrieved from http://www.edtechmagazine.com/higher/article/2013/01/will-moocs-supplement-or-supplant-higher-education

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