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MOOCs and Technology to Advance Learning and Learning Research

The MOOC and the Genre Moment

by Michael Feldstein

Editor's Introduction

In order to determine (and shape) the long-term impact of MOOCs, we must consider not only cognitive and technological factors but also cultural ones, such as the goals of education and the cultural processes that mediate the diffusion of a new teaching modality. This paper examines the implicit cultural assumptions in the "MOOCs and Technology to Advance Learning and Learning Research Symposium" and proposes an alternative theory of diffusion to Clayton Christensen's disruptive innovation model as an illustration of the complexity that these assumptions hide.

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Candace Thille's introduction to this symposium starts with the observation, "If you were only reading the popular press you would think that higher education is experiencing a sea change." She then posits three possibilities for what MOOCs could turn out to be: (1) a tsunami, (2) a bubble, or (3) something else. After providing some history of MOOCs she arrives at the point of the symposium, which is to discuss (a) models of effective pedagogy; (b) design of the technology; (c) limits of the technology; (d) business models; and (e) collection, ownership, and use of the data. The implication seems to be if those five issues can be sufficiently explored, then her opening question can be answered. She ends her piece thusly: "The key will be in asking the right questions and leveraging the technology to support learning, research on learning, and higher education's core mission."

But what would it mean for MOOCs to be a "tsunami," and how would the MOOC phenomenon being a tsunami relate, for example, to models of effective pedagogy? Does "higher education's core mission" include the educational goals that MOOCs may be most effective at achieving? And if not, what educational goals might we care about that are not part of higher education's core mission? From the very first sentence of the writings in this symposium, we find ourselves thoroughly entangled in cultural phenomena and, perhaps more importantly, goals. For example, when we can talk about models of effective pedagogy, we have to ask ourselves, "Effective to what end?" In physics, one never asks, "What is the purpose of angular momentum?" The problems we study in the field of education are different, and not just because education is an applied science. With engineering, we may choose which theories of physics are relevant to building a suspension bridge, and we may also address social questions like the tradeoff between taxpayer cost and impact of the bridge's size on commuter convenience. But those social questions are nothing like asking how to foster a society in which

adults of all ages have both the cognitive tools and the economically practical opportunities to learn new job skills. Or become informed participants in a democratic society. Or enrich their emotional lives through higher learning. There is no Kuhnian paradigm that can provide a neat and generally agreed upon framework for achieving these important but difficult-to-define objectives. Dr. Thille has proposed a research agenda that we hope will help us to achieve those objectives. But the causal link between getting answers to research questions and accomplishing the practical enterprise of improving education is culturally mediated. Without an understanding of that mediation, we risk both asking research questions that will not help us achieve the larger goals and missing important additional research questions about the mediation itself that could mean the difference between success and failure in the larger societal project.

And so, with apologies to the Association for Computing Machinery, I shall undertake here a decidedly unscientific exploration of the messy human context into which our scientific inquiry is embedded and reflect on how that context does and should shape our collective research agenda.

How Cultural Assumptions Infect the Research Agenda

Generally, when we talk about MOOCs as potential tsunamis, we are also implicitly talking about Clayton Christensen's theory of disruptive innovation. According to Christensen, a new market entrant disrupts the dominant product when (a) the dominant product has reached a point of maturity in its lifecycle where its developers are mainly adding specialty features that only high-end customers care about, and (b) the new entrant is a cheaper and simpler (but not necessarily better) solution. Applied to education, the argument is that colleges have passed the point where they are adding new features to their products that are useful to most of their customers (a.k.a. students) and are mostly now competing for the most lucrative customers by adding high-end features (like climbing walls). According to the theory of disruptive innovation, a new product that could simply and inexpensively provide a subset of the features that traditional college schooling provides would be a "better" product, and we would know that it is "better" because an overwhelming majority of consumers of the old product would flock to the new one. According to Christensen, this process usually happens quickly and decisively once it starts. So we have both a theory of value and a theory of cultural change here.

If we buy this notion of a "better" education, then we might construct a MOOC research agenda that focuses on the degree to which MOOCs are able to achieve some of the attributes

that we think are important measures of success for traditional schooling. Completion is a good example. Completion is important to measure if you think that getting students to cover a certain amount of material is an important feature of a "good" course. Unsurprisingly, words like "completion" and "persistence" appear frequently in the proposals and even the titles of many of the successful proposals in the 2013 MOOC Research Initiative grants funded by the Bill and Melinda Gates Foundation.[1]

But what if your model for the kind of "good" education that a MOOC can provide has fundamentally different characteristics than the typical college course? And what if "completion" is a characteristic that is not relevant to your model? The early MOOCs to which Dr. Thille refers in her introduction, often called "connectivist MOOCs" or "cMOOCs", have educational goals that are framed in direct contrast to the traditional methods and goals of schooling. In his seminal paper "Connectivism: Learning As Network Creation," George Siemens writes,

> The connectivist view that learning is a network creation process significantly impacts how we design and develop learning within corporations and educational institutions. When the act of learning is seen as a function under the control of the learner, designers need to shift the focus to fostering the ideal ecology to permit learning to occur. By recognizing learning as a messy, nebulous, informal, chaotic process, we need to rethink how we design our instruction. Instruction is currently largely housed in courses and other artificial constructs of information organization and presentation. Leaving this theory behind and moving toward a networked model requires that we place less emphasis on our tasks of presenting information, and more emphasis on building the learner's ability to navigate the information (i.e. connectivism) [1].

In this view of education, the value is not in the students' accumulated store of knowledge but in the development of their skills to acquire or construct it. A course is an "artificial construct" in that it is defined by the amount of content covered and, presumably, mastered by the students. In the connectivist philosophy of education, the amount of content that is presented to the students is not important. Therefore, it's not clear that MOOC completion is even a topic that is worthy of study if your view of a "good" education is a connectivist view. This is partly a social question, and it is not a new one. Is it more important for students to know the answers, or is it more important for them to know how to find the answers? In giving out the research grants, the Gates Foundation may not have had a position on this question. They may have

[1] For a list of the proposals, see http://www.moocresearch.com/mooc-research-initiative-grants-awarded.

been asking a question more foundational question like, "What kinds of educational goals are MOOCs good at achieving?" But to the degree that funders and other societal stakeholders *do* have positions on which educational goals are most important, we cannot craft a research agenda that will further those goals absent an explicit conversation about what they are.

The Structure of Educational Revolution

To the degree that we are studying education for the purpose of improving education, the cultural dimension matters not only because we need to know what "improvement" would look like but also because we need to know how to make it happen. Christensen's theory of disruptive innovation suggests that we can bring about massive change in our education system simply by building a simpler, cheaper product. I would like to offer one alternative model that illustrates why we should not simply assume such a naïve theory of cultural change.

When I was an undergraduate, I had a music history professor by the name of Rob Kapilow who had a unique framing device—a shtick, really—for explaining art and how it changes over time. He called it "the genre moment." There is a point in any murder mystery, for instance, when the detective gathers all of the suspects in the room and reveals who did it. It is the handful of moments such as this one by which we recognize a story as a member of a genre of murder mysteries. And we have expectations about those moments, based on our familiarity with the genre. "The butler did it." When these expectations are fulfilled, then we have a more or less stock work in the genre. On the other hand, when the work invokes those expectations and then deftly delivers a surprise, when the creator deliberately bends but does not violate our expectations of the genre moment, we have art. Somewhere at some point, somebody wrote the first novel in which the butler didn't do it. That moment of surprise was imitated by other crime fiction writers and eventually became the new genre moment. Today, we expect the detective to surprise us with the answer to the question, "Who dunnit?" Part of the pleasure of the genre is anticipating that moment and trying to guess what the answer will be. One can imagine a different sort of murder story without this device. We might think of it as a kind of morality play, which has different pleasures attached to it—the pleasure of seeing justice served, for example. The point is art exists in the interplay between fulfilling our expectations and thwarting them.

This way of framing provides a model for how MOOCs might impact education that is quite different from disruptive innovation. In Kapilow's model, a course could be best thought of as a kind of cultural artifact with a specific expected shape to it—an opus in 39-minute movements,

rich in genre moments. There is the moment when the professor hands out the syllabus. The moment of anxiety before the big paper is due. The interminable moment of the long, long lecture. And so on. In this model, what makes a course "good," according to the students, teachers, and other stakeholders and observers is more akin to what makes a novel good than it is to what makes a consumer product good. In Christensen's model, I may embrace a MOOC because it has the few features I'm looking for (e.g., subject coverage) at a lower price while requiring less effort from me. But in the Kapilow model, the complexities of the class are not just features or bugs in a product; they are markers in a narrative. If too many of those cultural markers are changed or removed, what results may not be perceived as a simpler product so much as a confusing and frustrating story. Igor Stravinsky's *The Rite of Spring* was famously booed at its debut. Over time, it gained critical acclaim, to the point where Stravinsky was criticized in his later career for not being as bold as he was in his early works. Practitioners of the "flipped classroom" often tell similar stories of students who revolt when suddenly they are expected to talk and work in class rather than just listening to the instructor lecture. In some cases they, like Stravinsky, are able to change cultural expectations over time and get students to embrace the new experience. In other cases, not so much. Given Kapilow's framing device, it is worth revisiting the differences between cMOOCs and the later courses arising out of the Stanford and MIT strain of MOOC design (often referred to as "xMOOCs"). One difference between these two models is that the latter have received massive media attention and funding, leading to increasingly widespread adoption by universities, while the former have not. There are a number of different explanations one could give for this. One possibility is that xMOOCs align with productive business models in ways that cMOOCs do not. Another is that xMOOCs more closely fit the characteristics of a Christensonian disruptive innovation. Or maybe xMOOCs have superior pedagogical characteristics or superior technology.

But it is also possible that this difference exists for reasons that have nothing to do with business models, pedagogy or technology. Perhaps the xMOOCs have captured the popular imagination partly because they play with the genre moments of the course. What if the lecture were actually a video? What if it were only ten minutes long? In some ways, these are small changes, but they seem to have fired the collective attention mechanism of academia and the society at large. The type and magnitude of the changes seem consistent with Kapilow's model. They are large enough to get our attention but not so large that the changes seem utterly alien and without context or precedent. Connectivist MOOCs, on the other hand, are not playing with the genre moment of the course, because connectivists reject the conventional course as a valid or interesting genre. In fact, they sometimes position MOOCs in opposition to the whole concept of traditional schooling. cMOOC proponent Stephen Downes writes:" [T]he point of the

MOOC… is, precisely, to make education available to people who cannot afford pay the cost to travel to and attend these small in-person events. Having one instructor for 20-50 people is expensive, and most of the world cannot afford that cost..." [2]. Downes goes on to say that MOOCs were not designed to serve the missions of the elite colleges and universities. "They were designed to undermine them, and make those missions obsolete" [2].

Given this framing, it is not surprising that academics would have difficulty situating themselves in relation to cMOOCs. Where is the traditionally trained, career college professor in Downes' vision of education? What would that person do? For that matter, it is an unfamiliar model to most people who have had conventional schooling.

Whatever the virtues of a connectivist MOOC, it does not have the same social markers as schooling, which is often read in our culture as being synonymous with education. This may be one reason why connectivist MOOCs are seldom discussed in broader conversations about MOOCs and the future of education. They are too far outside of cultural expectations to be understood as relevant.

In contrast, xMOOCs are close enough to the current state of the course genre that critics know how to respond to them. For example, in an open letter to Professor Michael Sandel, the author of an edX MOOC, the philosophy department faculty at San Jose State University complains if edX-style MOOCs become the norm as the backbone for university courses, "…then two classes of universities will be created: one, well-funded colleges and universities in which privileged students get their own real professor; the other, financially stressed private and public universities in which students watch a bunch of videotaped lectures and interact, if indeed any interaction is available on their home campuses, with a professor that this model of education has turned into a glorified teaching assistant" [3].

It is interesting the faculty expressed their concern about the future of education literally in terms of changing roles. The professor becomes a teaching assistant. Students become videotape watchers. It's like the class that we already know, only worse.

This kind of negative faculty reaction to Stanford/MIT-style MOOCs is becoming increasingly common, despite the fact that the connectivist MOOCs are much more explicitly targeted at radically changing the faculty role. One could argue that the reason the SJSU philosophy department responded to edX and not George Siemens is that Sandel's MOOC was adopted by SJSU while Siemens' was not, but that only pushes the question up a level. Why do we not see schools like SJSU adopting connectivist-style MOOCs in volume? Why is there no edX, Coursera, or Udacity for connectivist MOOCs? There is no reason why a business model couldn't be

developed for such an entity. But neither universities nor venture capitalists have demonstrated strong interest or even public awareness of the possibility. cMOOCs simply do not seem to be on their minds.

If this analysis is correct, then it may not be sufficient to have good pedagogical, technological, business, and intellectual property models in order to produce the kind of educational reform or "improvement" (whatever that may mean) that one desires. More generally, whether or not you believe that the genre moment is ultimately a model of cultural change that offers compelling predictive power, we need to have some model of cultural change if we want our research agenda to have a practical impact on education. If the causal relationship between building a solution and having that solution get adopted is any more complicated than "build a better mouse trap and the world will beat a path to your door", then we also need to think about whether anybody will buy our particular mouse trap, regardless of how good it is. Educational reform is notoriously difficult to achieve at scale. A study of MOOCs or any other educational innovation that ignores the challenges of adoption, including the cultural challenges, could become academic in the worst sense of the word.

When Dr. Thille asks whether MOOCs turn out to be a tsunami, a bubble, or something else, she is effectively asking what kind of story we are crafting together as a society. What do MOOCs mean to us? How do they change the world for the protagonists that we care about? If we want the scientific study of education to be useful and meaningful, then I think we need to take that question very seriously.

About the Author

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