Evolving Toward Significance or MOOC Ado About Nothing?

IF YOU'RE WONDERING what to make of the MOOC explosion of the past few years, particularly its effects in the developing world, you're not alone. The advent of Massive Open Online Courses was accompanied by enormous enthusiasm about their potential to democratize access to high-quality education in poor countries. But it wasn't long before MOOC hype gave way to MOOC hate, or at least intense skepticism, from critics who see these free online classes as poorly tailored to non-Western cultures and even as instruments of neocolonialism.

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A Little Background

To attempt an answer, or to shape the beginnings of an answer, it's worth recapping the recent history of MOOCs. They were birthed in relative obscurity at the University of Manitoba, Canada, in 2008, with a relatively obscurely titled online course, "Connectivism and Connective Knowledge." Within just a few years, MOOCs were thrust into the media spotlight with the emergence of the Big Three—for-profits Udacity and Coursera, and the nonprofit Harvard-MIT collaboration EdX—which remain the dominant players today. While there's no single MOOC model, the classes often feature some mixture of short video segments, quizzes, online discussion boards, and writing assignments graded by peers.

From the start, the global potential of MOOCs was a large part of what made them so captivating. The most intense excitement initially surrounded a 2011 course taught by Sebastian Thrun and Peter Norvig, two renowned computer scientists affiliated with Google and Stanford University who for several years had taught an Introduction to Artificial Intelligence class at Stanford. When the two decided to take their course online and offer it free to students anywhere in the world, they quickly attracted 160,000 students from 190 countries, despite very little publicity. There were famously more students from Lithuania enrolled in the class than they are members of Stanford's entire student body. As Udacity grew, its students organized "meet-ups" to discuss their coursework in hundreds of cities around the world, from Delhi to Accra to Tokyo.

Getting Massive

Since then, other MOOCs have forged ahead on a massive scale. HarvardX has already registered more than 1 million students in 193 countries, which is more than the total number of students that Harvard College has graduated in its 377-year history. Coursera, the largest MOOC provider, now offers free courses from more than 100 universities. Its business model remains uncertain, but it is an attractive enough prospect to have received $43 million in new funding last July, from investors including the World Bank's International Finance Corporation and GVS Capital, which has invested in companies like Facebook and Twitter.

Along with growth has come massive ambition. Thus, Coursera proclaims a vision of the future in which "everyone has access to a world-class education that has so far been available to a select few." And MIT professor Anant Agarwal, president of edX, tells *Forbes* "It is insane. We've created dramatic access to learning for students worldwide." The MOOC booster with the biggest public megaphone is probably *New York Times* columnist Thomas L. Friedman. In a representative column, published in January 2013, he writes with characteristic assuredness that "nothing has more potential to unlock a billion more brains to solve the world's biggest problems"—not to mention lifting people out of poverty and reimagining today's higher education system. Friedman noted that in the eight months since he first visited Coursera, its growth trajectory had been extraordinary: from 300,000 students taking 38 courses taught by a small number of top universities to 2.4 million students enrolled in 214
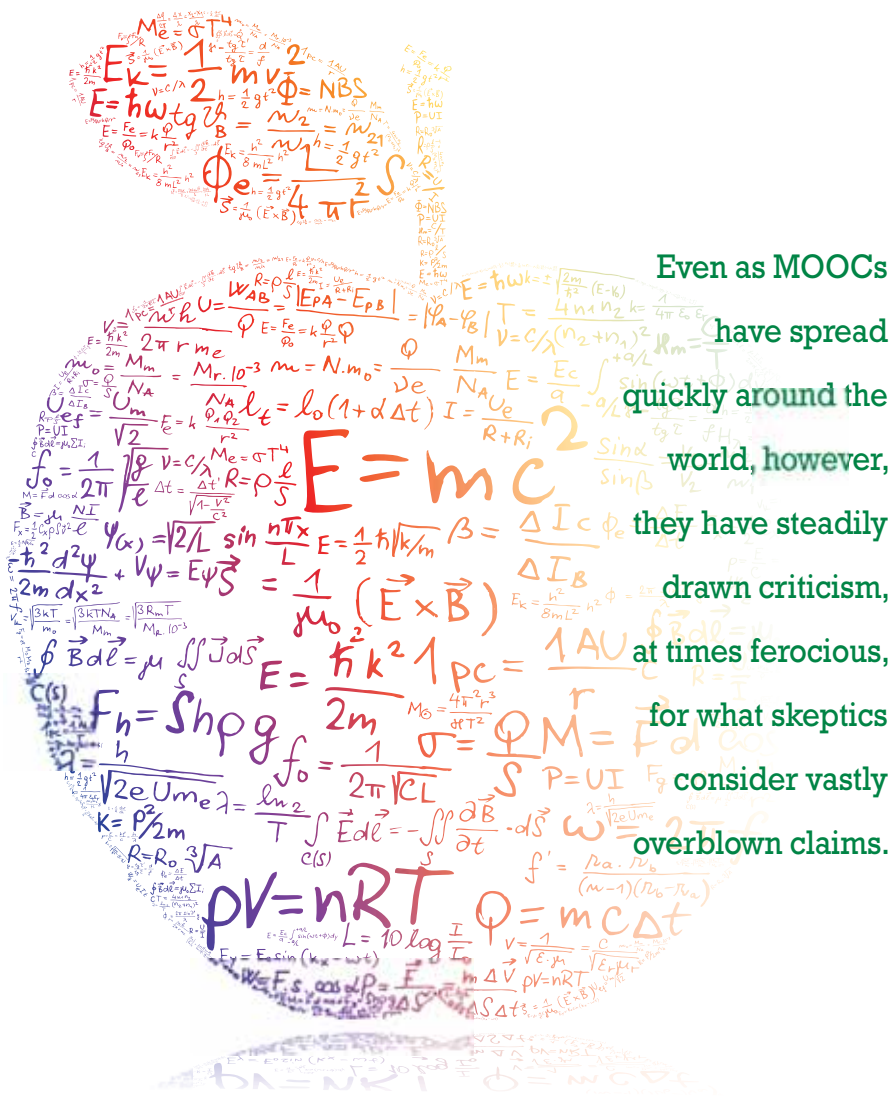
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courses from 33 universities, eight of them outside the United States.

The most striking part of Friedman's vision was his sketch of how people in the developing world could benefit from a combination of world-class professors teaching online MOOC classes and local instructors hired to facilitate learning. He laid out a scenario in which the United States could purchase and install computers in an Egyptian village, then hire a teacher to work directly with students using MOOC material featuring Arabic subtitles.

Some would call this a romantic notion. But just nine months later, the State Department launched a modified version of the idea—a partnership with Coursera in which American embassies worldwide are hosting discussion sessions for students enrolled in MOOCs. Facilitated by embassy employees and Fulbright fellows, these "MOOC Camps" are getting underway in over 30 sites, accord-

ing to *Fast Company,* in countries that include China, India, and Bolivia; among the subject discussed in the regular meetings were engineering, science, English, and U.S. civics.

An Equal and Opposite Reaction

Even as MOOCs have spread quickly around the world, however, they have steadily drawn criticism, at times ferocious, for what skeptics consider vastly overblown claims. For one thing, the majority of MOOC participants already have degrees and live in developed countries, which would seem to undermine the notion that these new educational vehicles are doing much to change longstanding patterns of uneven access to quality instruction.

The figures cited by naysayers are certainly striking. According to a recent University of Pennsylvania survey of more than 400,000 active users of the classes it offers

through Coursera, two-thirds come from the United States and other Organization for Economic Cooperation and Development (OECD) industrialized nations. These 34 countries account for a modest 18 percent of the world's population. Among students registered for edX, just 2.7 percent come from countries on the United Nations list of Least Developed Countries. (To be sure, the list does not include large nations like India and China; Agarwal said earlier this year that nearly half edX's 2 million students come from developing countries.)

The same Penn survey found that 83 percent of students taking its Coursera classes already have two- or four-year degrees (and that about two-thirds of those in developing countries are male). Among edX students, two-thirds already have degrees.

Statistics like these, unsurprisingly, alarm some analysts. "If MOOCs are going to contribute to the democratization of society, they need to reach new learners," said Dag Rune Olsen, a University of Bergen professor of biomedical physics, at a November 2013 discussion at the Norwegian embassy in Washington, D.C. Moreover, he added, though technology is a helpful educational tool, unless used in pedagogically sound ways, it won't by itself be enough to help countries reach their higher education goals. "A fool with a tool is still a fool," he said, according to the *Chronicle of Higher Education.*

Olsen's point about the limitations of technology is widely shared by MOOC critics. Will students really be able to profit from world-class professors, they ask, if instruction is almost entirely one-way? MOOCs' extremely high dropout rates have been widely discussed: just 5 percent of those enrolled in 17 edX classes in 2012 and 2013 earned certificates of completion. Could this reflect second- or third-rate pedagogy, or some other core defect in the online model?

Another significant way in which the democratization of education promised by MOOC boosters may fall short, detractors maintain, is the assumption that the rest of the world will benefit from what MOOCs are selling. They contend that MOOCs are elitist, even "neocolonial," instruments of Western academic dominance that aren't appropriately tailored to non-Western cultures. MOOC courses, they argue, undermine local institutions and academic traditions.

One vehement critic is Philip Altbach, director of the Center for International Higher Education at Boston College and an influential commentator on global higher education. He observes that MOOC courses are based on the Western academic model, with required readings from the United States and other Western countries, and instructors who are mostly American. "Neither knowledge nor pedagogy is neutral," he blogged recently in the *Chronicle of*

Higher Education, complaining of "academic nationalism," "the hegemony of Western methodologies," and the use of English as the dominant language of MOOCs.

While MOOC producers may have no ill intent, Altbach allows, their model risks harming developing countries: "MOOCs produced in the current centers of research are easy to gain access to and inexpensive for the user, but may inhibit the emergence of a local academic culture, local academic content, and courses tailored specifically for national audiences."

Indeed, other analysts have pointed to what they consider the dangers of ignoring cross-cultural differences when designing

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MOOC courses. Surmounting technological barriers to educational access is not enough, suggests Ghanashyam Sharma, an assistant professor in writing and rhetoric at the State University of New York at Stony Brook. The mission of worldwide online learning will only be meaningful, he argues, if more attention is paid to the vastly different backgrounds, both academic and cultural, that students in the developing world bring to their MOOC studies. In a similar vein, my colleagues Jason Lane and Kevin Kinser of SUNY-Albany have warned of the "McDonaldization of Higher Education," with centralized production of cookie-cutter content for distribution around the world.

It's probably no surprise that the MOOC craze that peaked in 2012 has given way to so much skepticism. "Like any new thing, there's a wave of hype then there's a wave of reaction," former Yale president Richard Levin told *Bloomberg* when he became CEO of Coursera in March 2014. There's no question that at least some of the warnings critics offer about the pitfalls accompanying the spread of MOOCs to the developing world deserve serious scrutiny. But there's ample reason to believe that MOOCs will do more good than harm in the developing world, particularly if they aren't viewed as static creations but as evolving forms of technology-enabled pedagogy.

Some Perspective

MOOC myth-busters aren't wrong when they note that, contrary to some of the hype, non-Westerners with little education from low-income countries make up a distinct minority of students (and, for that matter, that the number of students who complete MOOCs make up only a fraction of the massive number who enroll). But these observations can themselves be misleading.

MOOC enrollments are so large that even, say, a 90 percent non-completion rate can still result in an eye-catching 10,000-plus students with certificates of completion. Moreover, many students counted as drop-outs may never have gotten much past the course registration process, or may have dipped into course offerings without ever intending to complete.

Students' educational backgrounds are similarly subject to interpretations more favorable to the cause of educational access than those offered by critics. While two-thirds of edX course registrants in 2012 and 2013 reported having post-high school education, that still left 222,847 with a high school education or less. The one in three non-OECD users of the University of Pennsylvania's Coursera classes represent more than 130,000 individuals. Even the modest 2.7 percent of edX registrants who came from very poor countries still add up

to more than 20,000 students. It's hard to dismiss figures like these. "These MOOCs are reaching many nontraditional and underserved communities of students, very different from typical students on campuses at traditional universities," said MIT electrical engineering professor Isaac Chuang in a statement when a Harvard-MIT study of edX students was released in January 2014.

What of alleged Western neocolonialism in MOOCs' academic content, institutional affiliation, and pedagogy? Perhaps the first response to such ideologically freighted criticism is that no one is being forced to sign up for MOOCs. Just as Western universities are enormous magnets for students from developing countries who have the means and motivation to attend them in person, online courses from the likes of Stanford and MIT hold significant appeal for long-distance students, even without personal attention beyond meet-ups, discussion boards, and

peer-to-peer grading. Are critics arguing that these students simply don't know what's good for them?

It's fair, of course, to ask whether MOOCs can be effective pedagogically in a range of cultural contexts, from MOOCs' language of instruction to the textbooks they use to the kind of interaction between students and instructors they do or don't promote. But the most useful way to think about MOOCs in the developing world, present and future, is to view them as works in progress: we're in a period of experimentation on a massive scale.

As in the United States, some MOOCs could end up leading to short-term, practical certificates rather than full-blown degrees. Some will end up appealing to learners who are primarily "browsers," akin to library-users or social-network scrollers. For more engaged students, there's growing attention to the efficacy of blended models that make

the best use of high-quality course content, from videos to readings to quizzes and essay assignments, while giving students face-to-face instruction tailored to their own strengths and weaknesses.

The African Example

In Africa, where 93 percent of the college-aged population is not in college, a range of MOOC and MOOC-like ventures are serving students with blended learning classes aimed at expanding opportunity. One is Kepler, a nonprofit university program launched in Rwanda last year, which combines open-source online lectures with in-person classroom instruction. In a persuasive defense of the merits of MOOCs in the developing world, Jamie Hodari, cofounder of Kepler, declares, "MOOCs aren't being used to replace African educators—they're a tool to help instructors engage more actively with students in class." Nobody complains when a Nigerian professor teaches an economics class using a textbook written by a UC Berkeley professor, Hodari reasons in a *Slate* article, and in a blended model using MOOCs, when students watch online lectures by the same Berkeley professor, they can spend class time on active discussion of the most difficult concepts.

Rather than promoting standardization, there's good reason to believe that MOOCs will lead to a much greater variety of educational forms in the developing world. Again, Hodari puts it well: "What happening in African higher education right now isn't a slow march toward a monolithic experience dictated by American universities. It's a flourishing of new ideas and novel combinations of educational content and classroom experience. Some will fail; others will yield exciting results."

Finding the most appropriate technology for reaching learners in developing countries will also be a challenge for MOOC providers. Where broadband internet connections are often hard to access, mobile phones could be the best way to reach a critical mass of students. Africa may again be the best proving ground. De-

velopment expert Guy Pfefferman notes that 25 million Africans had mobile phones in 2001—a number that jumped to 280 million by 2013.

Against this backdrop, in February 2014 edX announced a partnership with Facebook to create a project called SocialEDU. The idea of the pilot program, which will start in Rwanda, is to go beyond today's MOOC technology to build a mobile platform that capitalizes on readily available and inexpensive mobile devices. Content, provided by edX, will be free. Facebook will handle the app and create the kind of mobile learning environment that Kim and many others believe will be crucial 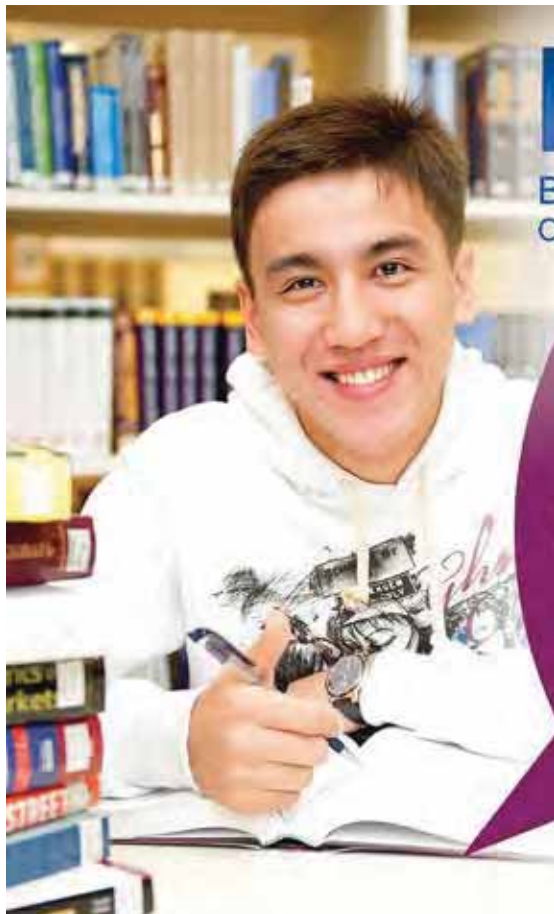to take free, high-quality course offerings to scale in the developing world. In the words of Joshua Kim, a Dartmouth College technology expert and blogger, the venture "will mark the beginning of an era when the tech world finally woke up to the edtech potential of the developing world."

The combination of expanding educational aspirations, greatly improved technology, and more creative pedagogy will inevitably lead to more global experimentation with MOOCs, naysayers notwithstanding. Sure, it's easy to deflate the over-the-top rhetoric that has characterized the advent of MOOCs. But the developing world has much to gain from this new educational era.

Still Evolving

It should be no surprise that wealthier, better-educated people have dominated the first waves of MOOC enrollment. After all, the personal computer and internet revolutions started with elites before gradually transforming broad swaths of society. When educational opportunities are insufficient, however, new vehicles for instruction should be welcomed. MOOCs will surely need to evolve and improve to serve students more effectively. But the standard for new forms of higher education shouldn't be whether they are perfect. It should be how they compare to the highly imperfect alternatives faced by many students—particularly in the world's poorest countries. **IE**

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