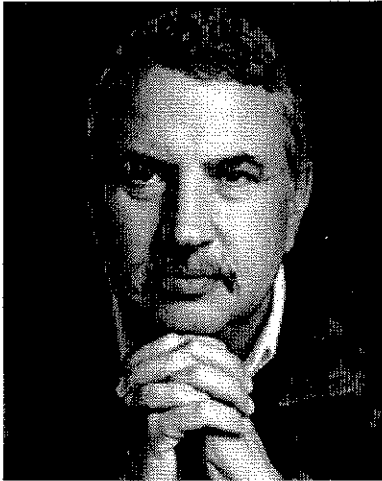# The Professors' Big Stage

By THOMAS L. FRIEDMAN Published: March 5, 2013 429 Comments

I just spent the last two days at a great conference convened by M.I.T. and Harvard on "Online Learning and the Future of Residential Education" — a k a "How can colleges charge $50,000 a year if my kid can learn it all free from massive open online courses?"

You may think this MOOCs revolution is hyped, but my driver in Boston disagrees. You see, I was picked up at Logan Airport by my old friend Michael Sandel, who teaches the famous Socratic, 1,000-student "Justice" course at Harvard, which is launching March 12 as the first humanities offering on the M.I.T.-Harvard edX online learning platform. When he met me at the airport I saw he was wearing some very colorful sneakers.

"Where did you get those?" I asked. Well, Sandel explained, he had recently been in South Korea, where his Justice course has been translated into Korean and shown on national television. It has made him such a popular figure there that the Koreans asked him to throw out the ceremonial first pitch at a professional baseball game — and gave him the colored shoes to boot! Yes, a Harvard philosopher was asked to throw out the first pitch in Korea because so many fans enjoy the way he helps them think through big moral dilemmas.

Sandel had just lectured in Seoul in an outdoor amphitheater to 14,000 people, with audience participation. His online Justice lectures, with Chinese subtitles, have already had more than 20 million views on Chinese Web sites, which prompted The China Daily to note that "Sandel has the kind of popularity in China usually reserved for Hollywood movie stars and N.B.A. players."

O.K., not every professor will develop a global following, but the MOOCs revolution, which will go through many growing pains, is here and is real. These were my key take-aways from the conference:

Institutions of higher learning must move, as the historian Walter Russell Mead puts it, from a model of "time served" to a model of "stuff learned." Because increasingly the world does not care what you know. Everything is on Google. The world only cares, and will only pay for, what you can do with what you know. And therefore it will not pay for a C+ in chemistry, just because your state college considers that a passing grade and was willing to give you a diploma that says so. We're moving to a more competency-based world where there will be less interest in how you acquired the competency — in an online course, at a four-year-college or in a company-administered class — and more demand to prove that you mastered the competency.

Therefore, we have to get beyond the current system of information and delivery — the professorial "sage on the stage" and students taking notes, followed by a superficial assessment, to one in which students are asked and empowered to master more basic material online at their own pace, and the classroom becomes a place where the application of that knowledge can be honed through lab experiments and discussions with the professor. There seemed to be a strong consensus that this "blended model" combining online lectures with a teacher-led classroom experience was the ideal. Last fall, San Jose State used the online lectures and interactive exercises of M.I.T.'s introductory online Circuits and Electronics course. Students would watch the M.I.T. lectures and do the exercises at home, and then come to class, where the first 15 minutes were reserved for questions and answers with the San Jose State professor, and the last 45 were devoted to problem solving and discussion. Preliminary numbers indicate that those passing the class went from nearly 60 percent to about 90 percent. And since this course was the first step to a degree in science and technology, it meant that many more students potentially moved on toward a degree and career in that field.

We demand that plumbers and kindergarten teachers be certified to do what they do, but there is no requirement that college professors know how to teach. No more. The world of MOOCs is creating a competition that will force every professor to improve his or her pedagogy or face an online competitor.

Bottom line: There is still huge value in the residential college experience and the teacher-student and student-student interactions it facilitates. But to thrive, universities will have to nurture even more of those unique experiences while blending in technology to improve education outcomes in measurable ways at lower costs. We still need more research on what works, but standing still is not an option.

Clayton Christensen, the Harvard Business School professor and expert on disruptive innovation, gave a compelling talk about how much today's traditional university has in common with General Motors of the 1960s, just before Toyota used a technology breakthrough to come from nowhere and topple G.M. Christensen noted that Harvard Business School doesn't teach entry-level accounting anymore, because there is a professor out at Brigham Young University whose online accounting course "is just so good" that Harvard students use that instead. When outstanding becomes so easily available, average is over.

The New York Times

February 18, 2013

The Trouble With Online College

Stanford University ratcheted up interest in online education when a pair of celebrity professors attracted more than 150,000 students from around the world to a noncredit, open enrollment course on artificial intelligence. This development, though, says very little about what role online courses could have as part of standard college instruction. College administrators who dream of emulating this strategy for classes like freshman English would be irresponsible not to consider two serious issues.

First, student attrition rates — around 90 percent for some huge online courses — appear to be a problem even in small-scale online courses when compared with traditional face-to-face classes. Second, courses delivered solely online may be fine for highly skilled, highly motivated people, but they are inappropriate for struggling students who make up a significant portion of college enrollment and who need close contact with instructors to succeed.

Online classes are already common in colleges, and, on the whole, the record is not encouraging. According to Columbia University's Community College Research Center, for example, about seven million students — about a third of all those enrolled in college — are enrolled in what the center describes as traditional online courses. These typically have about 25 students and are run by professors who often have little interaction with students. Over all, the center has produced nine studies covering hundreds of thousands of classes in two states, Washington and Virginia. The picture the studies offer of the online revolution is distressing.

The research has shown over and over again that community college students who enroll in online courses are significantly more likely to fail or withdraw than those in traditional classes, which means that they spend hard-earned tuition dollars and get nothing in return. Worse still, low-performing students who may be just barely hanging on in traditional classes tend to fall even further behind in online courses.

A five-year study, issued in 2011, tracked 51,000 students enrolled in Washington State community and technical colleges. It found that those who took higher proportions of online courses were less likely to earn degrees or transfer to four-year colleges. The reasons for such failures are well known. Many students, for example, show up at college (or junior college) unprepared to learn, unable to manage time and having failed to master basics like

math and English.

Lacking confidence as well as competence, these students need engagement with their teachers to feel comfortable and to succeed. What they often get online is estrangement from the instructor who rarely can get to know them directly. Colleges need to improve online courses before they deploy them widely. Moreover, schools with high numbers of students needing remedial education should consider requiring at least some students to demonstrate success in traditional classes before allowing them to take online courses.

Interestingly, the center found that students in hybrid classes — those that blended online instruction with a face-to-face component — performed as well academically as those in traditional classes. But hybrid courses are rare, and teaching professors how to manage them is costly and time-consuming.

The online revolution offers intriguing opportunities for broadening access to education. But, so far, the evidence shows that poorly designed courses can seriously shortchange the most vulnerable students.

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February 25, 2013

Secrets to Success in Online College Learning

To the Editor:

A few counterpoints must be made in response to your Feb. 19 editorial "The Trouble With Online College."

First, not all online learning can be characterized as failing its students. The online learning company Udacity, for instance, is running a pilot program for remedial students at San Jose State University, and so far only 20 percent of them have dropped the class, much below the rate of 50 percent for similar online offerings.

This can be attributed to a superior pedagogy. Udacity provides top-notch professors, active tutorials that engage the student and live helplines for students who get stuck. When more digital learning providers adopt this quality of instruction, outcomes will improve as well.

Your editorial also doesn't mention that, in contrast, more than 40 percent of students who enroll in a four-year college do not graduate within six years. The average student debt burden is around $25,000, and the unemployment/underemployment rate for 2011 graduates was more than 50 percent.

To give the impression that brick-and-mortar courses offer an unquestionably superior product is disingenuous. As the public becomes more aware of the underperformance of higher education (and so holds it more accountable for its output), it becomes more likely that online alternatives will supplant or replace much of what goes on at traditional colleges and universities.

WILLIAM J. BENNETT
DAVID WILEZOL
Washington, Feb. 21, 2013

Mr. Bennett, a member of Udacity's advisory board, was education secretary in the Reagan administration. The writers are the authors of the forthcoming book "Is College Worth It?"

To the Editor:

You condemn an entire medium instead of focusing on the failure of those in the cited studies. The implied assumption is that if community and technical colleges in Washington and Virginia can't make online education work, then no one can.

At the University of Phoenix, our significant online and information technology capacities have created systems that identify when students are struggling with course work and steer them toward remediation, reducing the attrition rate cited in your editorial.

As you point out, online education is booming. Rather than shun it, we must embrace and improve it, acknowledging that this medium will provide the best opportunity to bridge the widening skills gap.

MARK BRENNER
Phoenix, Feb. 22, 2013

The writer is senior vice president, external affairs, of the Apollo Group, parent of the University of Phoenix.

The New York Times

March 2, 2013

Keeping an Eye on Online Test-Takers

By ANNE EISENBERG

MILLIONS of students worldwide have signed up in the last year for MOOCs, short for massive open online courses — those free, Web-based classes available to one and all and taught by professors at Harvard, Duke, M.I.T. and other universities.

But when those students take the final exam in calculus or genetics, how will their professors know that the test-takers on their distant laptops are doing their own work, and not asking Mr. Google for help?

The issue of online cheating concerns many educators, particularly as more students take MOOCs for college credit, and not just for personal enrichment. Already, five classes from Coursera, a major MOOC provider, offer the possibility of credit, and many more are expected.

One option is for students to travel to regional testing centers at exam time. But reaching such centers is next to impossible for many students, whether working adults who can't take time off to travel, or others in far-flung places who can't afford the trip.

But now eavesdropping technologies worthy of the C.I.A. can remotely track every mouse click and keystroke of test-taking students. Squads of eagle-eyed humans at computers can monitor faraway students via webcams, screen sharing and high-speed Internet connections, checking out their photo IDs, signatures and even their typing styles to be sure the test-taker is the student who registered for the class.

The developing technology for remote proctoring may end up being as good — or even better — than the live proctoring at bricks-and-mortar universities, said Douglas H. Fisher, a computer science and computer engineering professor at Vanderbilt University who was co-chairman of a recent workshop that included MOOC-related topics. "Having a camera watch you, and software keep track of your mouse clicks, that does smack of Big Brother," he said. "But it doesn't seem any worse than an instructor at the front constantly looking at you, and it may even be more efficient."

Employees at ProctorU, a company that offers remote proctoring, watch test-t... screen sharing and webcam feeds at offices in Alabama and California. Proctor... an agreement to proctor new credit-bearing MOOCs from Coursera, including and evolution offered at Duke and one in single-variable calculus at the Univer...

Pennsylvania.

MOOC students who want to obtain credit will be charged a remote-proctoring fee of $60 to $90, depending on the class, said Dr. Andrew Ng, co-founder of Coursera, based in Mountain View, Calif.

Other remote proctoring services offer different solutions. At Software Secure in Newton, Mass., test-takers are recorded by camera and then, later, three proctors independently watch a faster-speed video of each student.

Compared with services where proctors are monitoring students in real time, this combination of recording first and viewing later "gives greater latitude for the institution to adjust the timing of exams to whenever they want," said Allison Sands, Software Secure's director of marketing. The cost is now $15 per exam.

Employees at ProctorU say they are well-versed in the sometimes ingenious tactics used to dodge testing rules. "We've seen it all," said Matt Jaeh, vice president for operations. "After you've sat there a while watching people, the patterns of behavior for normal people versus the people trying to sneak in a cellphone to look up information are very clear."

Each proctor can monitor up to six students at a time, watching three side-by-side camera feeds on each of two screens. If a student's eyes start to wander, the proctor gives a warning via videoconferencing software, just as a classroom monitor might tell students to keep their eyes on their own papers. For an overwhelming majority of people, that warning suffices, said Jarrod Morgan, a co-founder.

With the system in place, "cheating usually isn't a problem," he said. But if it does occur, ProctorU follows the rules of the institution giving the exam. "Some schools ask us to cut off the exam on the spot if there's a suspicious incident," he said; others ask that the exam be continued and the incident reported.

Beyond the issue of proctoring, MOOCs are also addressing the problem of making sure that credit-seeking test-takers are the same students who enrolled in the course. In that effort, Coursera is offering a separate service, called Signature Track and costing $30 to $99, that confirms students' identity by matching webcam photographs as well as pictures of acceptable photo IDs.

Students also type a short phrase, which is analyzed by a software program. It takes note of the typing rhythm and other characteristics, like how long the keys are pressed down. Then, when a student submits homework or takes a test, the algorithm compares a bit of new typing with

the original sample. (And if you've broken your arm, there's always your photo ID.)

Online classes are hardly new, but earlier courses typically didn't have to handle exam proctoring on the scale required for vast MOOCs. The University of Florida in Gainesville, for example, has long offered many programs for students studying far from the campus, with some monitoring done by ProctorU, said W. Andrew McCollough, associate provost for teaching and technology.

Now the school has set up its first MOOC, on human nutrition (enrollment 47,000), and is working on four others, all through Coursera. The question of proctoring is being debated, he said, as faculty members worry about academic integrity amid the growth of open, online classes. "They don't want any fooling around," he said. "But as we get more experience and evidence, the faculty are getting familiar with ways technology can replicate a classroom experience."

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The New York Times

March 12, 2013

California Bill Seeks Campus Credit for Online Study

By **TAMAR LEWIN**

Legislation will be introduced in the California Senate on Wednesday that could reshape higher education by requiring the state's public colleges and universities to give credit for faculty-approved online courses taken by students unable to register for oversubscribed classes on campus.

If it passes, as seems likely, it would be the first time that state legislators have instructed public universities to grant credit for courses that were not their own — including those taught by a private vendor, not by a college or university.

"We want to be the first state in the nation to make this promise: No college student in California will be denied the right to move through their education because they couldn't get a seat in the course they needed," said Darrell Steinberg, the president pro tem of the Senate, who will introduce the bill. "That's the motivation for this."

Despite doubts about the measure from some faculty members, signs point to the proposal's passage after refinements to the legislative language, which is currently more outline than details. Democrats control the Legislature, and Gov. Jerry Brown has been a strong proponent of online education as a means to reduce college costs.

In part because of budget cuts, hundreds of thousands of students in California's three public higher-education systems are shut out of the gateway courses they must pass to fulfill their general education requirements or proceed with their major. Many are forced to spend extra semesters, or years, to get degrees.

Under the legislation, some of the eligible courses would likely be free "massive open online courses," or MOOCs, like those offered by providers like Coursera, Udacity and edX; others might come from companies like Straighterline, which offers low-price online courses, or Pearson, the educational publishing and testing company.

"This would be a big change, acknowledging that colleges aren't the only ones v[...] college courses," said Burck Smith, the founder of Straighterline. "It means ret[...] college is."

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According to Senator Steinberg, a Democrat from Sacramento, the state's 112 community colleges each had an average of 7,000 enrolled students who were on waiting lists, and at the 420,000-student, 23-campus California State University, only 16 percent of students graduate within four years, in part because of the difficulty in getting the courses they need.

"It's almost unthinkable that so many students seeking to attend the public colleges and universities are shut out," said Molly Corbett Broad, the president of the American Council on Education. "I definitely expect it to spawn serious deliberations within the faculty, but these would be the basic courses that perhaps faculty gets the least psychic reward from teaching."

In a way, the legislation has a head start: Last year, in an effort to bring down textbook costs, Mr. Steinberg won passage of a law requiring free online textbooks for the 50 most popular introductory college courses, and in the process created a faculty panel — three members each from the University of California, California State University and the community college system — to choose materials.

The new legislation would use that panel to determine which 50 introductory courses were most oversubscribed and which online versions of those courses should be eligible for credit. Those decisions would be based on factors like whether the courses included proctored tests, used open-source texts — those available free online — and had been recommended by the American Council on Education. A student could get credit from a third-party course only if the course was full at the student's home institution, and if that institution did not offer it online.

Despite the element of faculty control that would be built into the process, it is not likely to sit well with faculty.

"I think it's going to be very controversial," said Josh Jarrett, a higher education officer at the Bill and Melinda Gates Foundation, which finances research on online education. "The decision to award credit has been one of those solemn things that the faculty hold very dear. But it could be a catalyst for widespread change, driving community colleges where they turn away a lot of students to move quickly to put more of their own courses online, and charge tuition, to keep their students from taking the courses elsewhere."

The trend to use educational resources available free online is moving at a gallop, nationwide. This week, the University of California, Irvine, announced that it was making its chemistry videos and lectures available free online — albeit not for credit. And David Wiley, a pioneer of online education, started a new company, Lumen Learning, to work with colleges shifting toward open-source textbooks and to create degree programs that would use only open-source materials.

In putting together the new legislative proposal, Mr. Steinberg worked with Dean Florez, a former California Senate majority leader who is the president of the 20 Million Minds Foundation, which works for open-education resources. Mr. Florez said that the online courses would supplement — but never supplant — the classes taught at California's public colleges, so that students would not be delayed by bottlenecks. His own son had to wait three semesters at Santa Monica Community College to get into a math class he needed, he said.

But Lillian Taiz, the president of the California Faculty Association, said that she thought it was too soon to conclude that online classes from third-party providers were a good substitute for the classes at state institutions.

"This whole online thing is not well-vetted yet," she said. "There's a sort of mania for massive online courses right now, but there's no good evidence that they work for all students."

"What's really going on is that after the budget cuts have sucked public higher education dry of resources," she continued, "the Legislature's saying we should give away the job of educating our students."

Other higher education leaders were more open to the idea, including Mark Yudof, the president of the University of California.

"I'm O.K. with credit for online, actually. I'm flat-out optimistic about it, as long as our faculty has the chance to massage it appropriately," he said. "They might want to add recitation, or assessment or discussions groups, but assuming they accept it, I think it's fine. We're getting ready to put online 30 courses developed by our own faculty, mostly introductory general education courses, and it's possible that people at other institutions would use those."

The chancellor of the California State University system, Timothy P. White, was also cautiously supportive.

"Demand exceeds capacity on every one of our campuses," he said. "This is really about increasing our capacity with the existing resources. It isn't a challenge to professors' autonomy, or something that would mean cutting the work force. We have to find a way to do better at meeting the growing demand, and if there's a better way to do things, why not? We need innovation, but we also need quality, and the devil's in the details."