

The “Promises of Higher Education: Access

Executive Summary

The “promise” that online learning will dramatically expand access to higher education is at the center of the recent push in the MOOC/Online movement. This paper examines research that can help us answer a crucial question: do online courses provide meaningful access to quality higher education for underserved students, who are those most in need of expanded educational opportunities?

Realities of the digital divide (inequities between those who have regular, reliable access to the internet and digital technologies and those who do not) make basic access to online courses much more problematic for some groups. In fact, substantial evidence shows that the digital divide remains a reality for the very students that online promoters claim they want to reach—low-income students, students of color, and academically underprepared students.

Along with a digital divide, there is growing research showing that these same students experience an online achievement gap. While studies show that students, in general, experience reduced performance in online settings, some groups of students—community college, students of color, less well-prepared students—experience significantly higher withdrawal rates and poorer performance than in face-to-face classes.

Research repeatedly demonstrates that online courses work best for students who are academically and technologically well-prepared, mature, and highly motivated. Expanding large online remedial and introductory courses in community colleges and less elite state colleges and universities is misguided at best.

In fact, for most American students, who are increasingly diverse, low-income, and academically less prepared for the rigors of collegiate study, an uncritical rush to “online everything” may, despite the promise, ultimately provide only access to failure.

In her 2012 TED Talk on the virtues of massive open online courses (MOOCs) Coursera co-founder, Daphne Koller, makes her case by arguing that MOOCs will open up never-before imagined access to higher education across the globe.[1] The “promise” that online learning will dramatically expand access to higher education is, in fact, at the center of the recent push in the MOOC/Online movement. But is this really the best approach if we are serious about providing quality higher education to underserved students?

Challenges facing underserved students in the US

Population growth in the U.S. is fastest among communities of color. The Pew Research Center projects that immigrants and their descendants will account for 82% of the US’s growth between 2005 and to 2050.[2]

Unfortunately, access to higher education for these groups is being blocked. The 2012 report “Closing the Door, Increasing the Gap” documents how budget cuts and policy trends in states across the nation have resulted in students being turned away from community colleges. Gary Rhoades writes,

Traditionally, our community colleges have been critical portals of entry to higher education for underserved students. They enroll high proportions of Latino/a, African-American, and Native-American students and high proportions of students from lower-income and working class families. It is these students whose futures are being compromised by recent enrollment and curricular trends that are refocusing community colleges on a narrower range of students and educational goals.[3]

Other persistent challenges facing these students include tuition rates rising above the rate of inflation, a decline in the purchasing power of Pell grants, and lagging completion rates compared to their more advantaged peers.[4] Achievement gaps based on socioeconomic class and race/ethnicity are well-documented.

Furthermore, underserved students frequently need substantial hands-on non-classroom academic support—e.g., financial aid, advising, counseling, and tutoring services.[5] A national survey of chief academic officers in 2010 suggested that academic and financial support, targeted early warning systems, and transition or bridge programs are critical to improving recruitment and retention of at-risk students. [6]

We know from research that underserved students face extraordinary challenges and need a variety of supports to succeed. Yet online course providers target these very students in developmental and introductory level courses at public state universities and community colleges where less affluent and/or less academically prepared students are more likely to enroll. Do these courses really provide meaningful access to quality higher education for underserved students?

Asking the tough questions

While expanded access and greater equity in educational opportunity must be at the heart of any discussion about the future of higher education, access is a complex, even slippery, term.

For access to be meaningful—and not just an empty advertising slogan—students must have a real chance, if they work hard, to succeed in getting a quality education. We cannot simply give them the “promise” of access.

The subprime mortgage crisis is instructive. Problematic loan practices proliferated for years in part because they were conducted in the name of expanding the middle-class dream of home ownership. No one could disagree with that desirable, over-arching goal, of course; and consequently, few questioned the methods being employed by mortgage companies or the huge profits being made. The results of our failure to look behind the rhetoric were disastrous, both for the nation as a whole and for the lives of ordinary people. The disaster for communities of color was especially profound.[7]

We must do better in American higher education.

Meaningful access to higher education must entail more than the opportunity to enroll in a course just as access to the middle-class dream of home-ownership should have meant more than the opportunity to get a loan and move in for a while.

Are we in the process of creating a similar crisis in higher education in the name of “access”? Will “online everything”—courses, programs, MOOCs, online tutoring, online advisors—offer a kind of subprime education for which we will all pay dearly?

While MOOC providers and “online everything” advocates promise the American dream via access to higher education, we need to proceed carefully. We do all students a disservice if we fail to acknowledge the harsh realities of the digital divide and the online achievement gap beneath the big promise.[8]

The digital divide

The term *digital divide* refers to inequities between those who have regular, reliable access to the Internet and digital technologies and those who do not. Promoters of online courses and MOOCs often act as if the digital divide no longer exists. However, there is substantial evidence that the digital divide remains a reality for the very students that online promoters claim they want to reach— low-income students, students of color, and academically underprepared students.

As of 2012, the United States ranked 14th in the world for broadband access per capita according to data from the International Communications Union.[9] In addition, the U.S. Department of Commerce’s 2011 “Exploring the Digital Nation” report reveals that while more households used broadband internet service (68 percent) in 2011, “demographic and geographic disparities demonstrate a persistent digital divide among certain groups.” The report continues, “lower income families, people with less education, those with disabilities, Blacks, Hispanics, and rural residents generally lagged the national average in both broadband adoption and computer use.” This stands in sharp contrast to the digital access enjoyed by well-educated middle- and upper-class white households.

Highlights from the U.S. Census Bureau’s 2013 “Computer and Internet Use in the United States” report provides even more detailed evidence of the persistent digital divide in our nation:

- In 2011, 76.2 percent of non-Hispanic White households and 82.7 percent of Asian households reported Internet use at home, compared with 58.3 percent of Hispanic households and 56.9 percent of Black households. The report notes that among individuals, “about four out of every ten Blacks and almost half of all Hispanics did not use the Internet in 2011.”
- In 2011, only 56.7 percent of individuals living in households with annual income below \$25,000 reported having a computer in their household. Where Internet use was concerned, about 86 percent of high income individuals reported connecting to the Internet, compared with 49.8 percent of individuals living in households making less than \$25,000.”
- Not surprisingly, the educational attainment of the head of household also has a direct impact on computer and Internet use. For individuals with less than a high school degree, slightly more than half (50.9 percent) reported computer ownership and Internet use.
- Of the 16 percent of Americans reporting themselves as “no connectivity” individuals, respondents were disproportionately old, Black and/or Hispanic, low income, and poorly educated.

The implications of these facts for many students and the “access” online learning offers them are clear.[10]

The MOOC provider, Udacity, recently came face to face with the digital divide in their experiment with math courses developed at San Jose State University. Reasons for the abysmal results are complex, but the reality of the digital divide was certainly among them. As The San Jose Mercury News reported, “It turned out some of the low-income teens didn’t have computers and high-speed Internet connections at home that the online course required. Many needed personal attention to make it through. The final results aren’t in yet, but the experiment exposed some challenges to the promise of a low-cost online education. And it showed there is still a divide between technology-driven educators and the low-income, first-generation college hopefuls they are trying to reach.” [11]

In the face of failures like the Udacity/San Jose State effort, providers of MOOCs as well as online tutoring and student support systems often claim that the “big data” they collect on student experiences in their online programs will provide them with information necessary to continuously improve their product. One wonders how they can possibly be responsive to the educational needs of students caught in the digital divide, who do not persist in online courses or who cannot enroll in the first place?

Students without broadband access or fast, reliable computers lack the basic technology required of the video-heavy MOOC experience. These students are frequently the ones who need greater in-person support (both in the classroom and without) to succeed once they are enrolled. As a result, the for-profit MOOC and other online companies who are targeting underserved students are left with data on the already well-served student and not the students who are most in need of access.

The online achievement gap

Along with a digital divide, there is growing research showing that these same students experience an online achievement gap.

Although online advocates frequently cite a 2010 Department of Education meta-analysis as evidence that online instruction is “just as good as” on-campus instruction, the generalizations we can draw from that study are seriously limited. For instance, researchers at Columbia University note that only seven of the studies focused on semester-length fully online courses. Of those, only one examined the impact on lower-performing students and found that “the lower one-third of students performed substantially better in the face-to-face setting than in the online setting.”[12]

Moreover, results reported in a 2010 study at a large, selective university where students were randomly assigned into online and on-campus sections of a course highlight some striking differences in performance. Among lower performing students, males, and Hispanics, those in the online section scored significantly worse on course assessments than their on-campus counterparts. The study concluded,

...our strongest findings in favor of live instruction are for the relatively low-achieving students, male students, and Hispanic students. These are precisely the students who are more likely to populate the less selective universities and community colleges. These students may well be disadvantaged by the movement to online education and, to the extent that it is the less selective institutions and community colleges that are most fully embracing online education, inadvertently they may be harming a significant portion of their student body.[13]

Other studies demonstrate substantially higher withdrawal rates for community college students in online versus on-campus courses, even after controlling for a variety of demographic factors. This trend can be seen vividly in one study of developmental math courses

where withdrawal rates were two to three times higher in the online sections and in another where completion rates were higher in the on-campus (80%) versus the online (61%) sections.[14]

More recent research focuses on the experience of large numbers of two-year college students in the Virginia and Washington community college systems. Several key findings should give pause to institutions pursuing MOOCs in community colleges:

- Withdrawal rates were roughly twice as high in fully online courses;
- Regardless of academic subject of the course, demographics, or academic background, students performed more poorly in a fully-online course than in a face-to-face course;
- Students with stronger academic background had only a small dip in performance, while more poorly prepared students had a larger dip;
- Performance gaps (e.g., between white students and students who are members of minority groups) tended to widen in online courses.[15]

Clearly, it is not enough to just promise increased access to higher education through online learning. It is critical to understand what works and for whom. The studies above indicate that, in online learning, there are significant lags in performance for poorly prepared students, males, and students of color.

Again, the story of Udacity's experiment at San Jose State University is a cautionary tale. The abysmal pass rates in the courses should not have been a big surprise.[16] Had planners reviewed the research they might, in fact, have questioned whether their format was pedagogically suited for the targeted underserved and struggling students. As Sara Melnick of the National College Access Network pointed out in commenting on the experiment, "...giving more students access to college classes is not enough.... They are more likely to graduate if they have academic support and involvement in campus life." [17]

Research on online teaching and learning also tells us what can improve the chances of student success. Studies show that faculty and nonacademic interaction with students in distance education courses play a critical role in student performance by fostering student-instructor and student-student connections and by creating a sense of community and social presence. [18]

For students of color, academically underprepared, low income, or first generation college students, social interaction is particularly important. One study of California community college courses found that while all students in the online courses paid an "online penalty," Latino students paid the highest price with both lower grades and higher withdrawal rates. The study noted that instructor-student interaction and social presence were key factors shaping Latino students' online experiences.[19]

While the lack of social interaction can hurt students, other research suggests that having an affirming and supportive process initiated by faculty and others can foster academic development, especially for low-income, first-generation college students.[20]

Elisabeth Barnett for example, found that for white, black, Hispanic, and Asian community college students, faculty validation made students want to be more integrated into the institution and, particularly for Hispanic students and for women, to persist in college. Manifestations of faculty caring, she demonstrated, positively affect students' progress and persistence in an ethnically diverse community college setting.[21]

Finally, huge online courses—especially MOOCs—are problematic because they rely on peer and machine grading. This is especially problematic for underprepared students who are less likely to be in a position academically to share constructive feedback with their peers and who are less likely to benefit from the computer-scored adaptive assessments or robo-graded essays that do not provide the feedback needed for improvement and for the development of effective critical thinking skills. Tutoring can help; but again, online tutoring programs are not as effective as in-person tutoring.[22]

Access to what? Access for whom?

Distance education in various forms—written correspondence, radio, television, computer, Internet—has existed for well over a century in this country. We have learned a great deal about what works and what doesn't. Real access for underserved students must take into consideration the digital divide and the online achievement gap. It seems self-evident that before we offer online courses to any of our students we must know that they have the technology and expertise to benefit from the experience. Furthermore, instructors must be able to devote attention and to respond to their students in both academic and non-academic ways. Huge courses that inhibit faculty-student interaction and the creation of a sense of community do not work for underserved students.

Research repeatedly demonstrates that online courses work best for students who are academically and technologically well-prepared, mature, and highly motivated. Expanding MOOCs and online student support services for remedial and introductory courses in com-

munity colleges and less elite state colleges and universities is misguided at best.

In fact, persisting in this direction can be expected to exacerbate the achievement gaps that already exist and could further cement America's tiered higher education system. We risk creating a system in which the rich on-campus college experience is reserved for the elite while we herd first-generation, low-income students into massive online courses. And we seem prepared to do this even though the value of these courses is questioned by many of the faculty who teach them, by college administrators, and by employers. [23] Students certainly know the difference between a face-to-face class and an online one. [24] As one student from the Udacity experiment commented, MOOCs "feel like a hand-me-down education—"Here, watch this video." [25]

The dangers of a two-tiered system make the "online everything" providers' rhetoric about bringing higher education to the masses particularly chilling. For most American students, who are increasingly diverse, low-income, and academically less prepared for the rigors of collegiate study, an uncritical rush to "online everything" may, despite the promise, ultimately provide only access to failure.

ENDNOTES

[1] Daphne Koller, "What We're Learning from Online Education." Koller's talk has been the source of some controversy. For criticism of her representation of access to higher education in South Africa, for instance, see "Vocational Education in South African;" Ry Rivard, "The World," Ghanashyam Sharma, "A MOOC Delusion: Why Visions to Educate the World are Absurd"; Jason Lane and Kevin Kinser, "MOOCs and the McDonaldization of Global Higher Education"; and Tony Bates, "What's Right and What's Wrong about Coursera Style MOOCs."

[2] Jeffrey Passel and D'Vera Cohn, "U.S. Population Projections: 2005-2050."

[3] Gary Rhoades, Closing the Door, Increasing the Gap."

[4] John Witte, Barbara Wolfe, and Sara DaHill-Brown, "Is University of Wisconsin Education Becoming More Elite? A Partial Answer."

[5] Although this paper focuses on online instruction, there is a growing group of online vendors moving into student services. The Campaign for the Future of Higher Education encourages research and analysis on how this process develops for such services as student advising, financial aids, and learning assistance.

[6] "Community College Retention and Recruitment of 'At-Risk' Students."

[7] Mary Fernandez, "Study Finds Disparities in Mortgages by Race."

[8] For further discussion of the facts behind the rhetoric of online higher education, see "The 'Promises' of Online Higher Education: Profits" and "The 'Promises' of Online Higher Education: Reduced Costs" from the Campaign for the Future of Higher Education.

[9] "ICT Facts and Figures."

[10] For further discussion of the bandwidth divide, see Jeffrey Young, "'Bandwidth Divide' Could Bar Some People From Online Learning." For a discussion of data caps and how the costs that result could make online education out of reach for many, see Benjamin Lennett and Danielle Kehl, "Data Caps Could Dim Online Learning's Bright Future."

[11] Katy Murphy, "San Jose State's online college course experiment reveals hidden costs."

[12] Shanna Smith Jaggars and Thomas Bailey, "Effectiveness of Fully Online Courses for College Students: Response to a Department of Education Meta-Analysis."

[13] David Figlio, Mark Rush, and Lu Yin. "Is it Live or is it Internet? Experimental Estimates of the Effects of Online Instruction on Student Learning."

[14] See Deborah Martin Blackner, "Prediction of Community College Students' Success in Developmental Math with Traditional Classroom, Computer-based On-campus and Computer-based at a Distance Instruction using Locus of Control, Math Anxiety and Learning Style" and Carol Zavarella, "Computer-based Instruction and Remedial Mathematics: A Study of Student Retention at a Florida Community College."

[15] Shanna Smith Jaggars and Di Xu. "Adaptability to Online Learning: Differences Across Types of Students and Academic Subject Areas."

[16] Ry Rivard, "Udacity Project on Pause."

[17] Katy Murphy, "San Jose State's online college course experiment reveals hidden costs."

When Udacity and the San Jose State University administration announced improved results in the second iteration of the course, questions were quickly raised about the comparisons being made.

Phil Hill, for instance, a well-known expert in and advocate of e-learning, for instance, commented, "The student populations between these three groups are completely different, to the point where other comparisons, such as passing rates or completion rates, should not be made." In fact, 53% of the students in the second round of courses had a college degree; none in the first round had a degree. Students in the second round of courses were also allowed to drop the course after the regular deadline.

[18] Melinda Mechur Karp, "Toward a New Understanding of Non-academic Student Support: Four Mechanisms Encouraging Positive Student Outcomes in the Community College" and Shanna Smith Jaggars and Di Xu, "Adaptability to Online Learning: Differences Across Types of Students and Academic Subject Areas."

[19] Ray Kaupp, "Online Penalty: The Impact of Online Instruction on the Latino-White Achievement Gap."

[20] Laura Rendon, "Validating Culturally Diverse Students: Toward a New Model of Learning and Student Development."

[21] Elizabeth Allanbrook Barnett, "Validating Experiences and Persistence Among Community College Students."

[22] Linda Price, John Richardson, and Anne Jelfs. "Face-to-face versus online tutoring support in distance education" and John T. E. Richardson, "Face-to-Face Versus Online Tutoring Support in Humanities Courses in Distance Education."

[23] Indeed, while online course providers press for legislation allowing them into the state university "marketplace," it is revealing that 72% of professors from Penn, Princeton, Duke, and Stanford who created their own MOOCs do not believe their students should get formal course credit from their ivy league campuses (Steve Kolowich, "The Professors Who Make the MOOCs"). Even college and university administrators in a recent Gallup poll have expressed great skepticism about them (Scott Jaschik, "MOOC Skeptics at the Top.") See Karin Fischer, "The Employment Mismatch" for research on employer preferences.

[24] See "The Adult Higher Education Consumer 2012: Which Way Now" for survey research suggesting that students prefer in-class experiences.

[25] Katy Murphy, "San Jose State professors fire back at online class offer."

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