CHANGE WE MUST

DECIDING THE FUTURE OF HIGHER EDUCATION

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Changing Higher Ed From the Classroom Up: How the Connected, Peer-Led Classroom Can Model Institutional Transformation

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WHY PEDAGOGICAL CHANGE SHOULD LEAD INSTITUTIONAL CHANGE

Institutional change does not happen overnight. The apparatus of U.S. higher education that we have inherited took nearly 60 years to formulate and implement, and another 100 years to develop to its current state. Although higher education needs to change now, that is not likely to happen any more rapidly now than it did in the period between roughly 1865 and 1925, when educational leaders transformed the Puritan system they inherited into the modern American research university that they deemed to be relevant to the age of the steam engine, the telegraph, and the assembly line. It took decades to design the interlocking features of the specialized, standardized, professionalized, credentialed, and siloed disciplinary forms of knowledge inspired by management theories of the Industrial Age. It will take us at least that long to redesign higher education for the Age of Google. Yet the good news is that, even as we work toward institutional transformation, there is much we can do immediately, in our pedagogy, in our onsite and online teaching, to promote effective, innovative learning designed to prepare students to lead productive, fulfilling,
socially responsible lives. And the even better news is that many of us are doing this already, designing engaged, active, creative new methods for teaching and learning.

In this essay, I will look at ways educators are developing interactive, collaborative pedagogies suitable for the world we live in, and how they enhance those methods by connecting with other creative educators using simple, available commercial or free open-source digital tools. Contrary to all the books and op eds decrying the dismal intransigence of higher education and college professors, thousands of college professors are exploring innovative methods, forms, theories, and research and putting them into practice in classrooms, even as we attempt to change our institutions too.\footnote{Zemsky (2013) argues that people have been calling for change and failing to change for decades but that the calls for education reform rarely focus on actual teaching and on students.} Rather than casting about for venture capitalists outside of higher education to "save" us from ourselves (typically with quite a high price tag), with such hyped "solutions" as massive open online courses (MOOCs), this essay looks at ways many educators are making meaningful change, from the ground up, starting in our courses. I would suggest that by using peer pedagogy and peer activism as foundational models, we can build outward from the classroom (whether onsite or online) to collective, collaborative models of institutional transformation.

**PEER, CONNECTED, ACTIVE, ENGAGED, CONSTRUCTIVIST LEARNING**

The method of instruction that many of us are developing to address the changing requirements of the contemporary world is variously called peer learning, peer-to-peer learning, active learning, dialogic learning, or engaged learning. More recently, the John D. and Catherine T. MacArthur Foundation’s Digital Media and Learning Initiative has adopted the term *connected learning* to underscore the digital or technological aspect of this form of learning, which supports students in finding ways to connect their own informal (often online) interests, talents, and communities to their formal education. In this essay, I will largely be using the term peer learning as shorthand to encompass the many varieties of constructivist pedagogy that educators are adopting in response to the cognitive, epistemological, and cultural challenges and opportunities of the Internet age (Davidson & Goldberg, 2011).

Interest-driven, collaborative, project-based, experientially centered, and always with an eye toward civic or public contribution, peer learning updates thinkers such as John Dewey, Jean Piaget, and Paolo Freire for the Internet age. It is based on the assumption that we now live in an increasingly blurred and fast-changing world, where the binaries that shaped the modernist university during the Industrial Age are being compromised. What is the boundary between labor versus leisure when my mobile device puts both at my fingertips all the time? Where is the line between teacher versus student, expert versus amateur, in a world of Wikipedia, Yelp, or Ask.com? Most of us now routinely take advice from participating online peers, including anonymous strangers without demonstrated credentials, reputation, or disciplinary expertise. There has been a massive social shift in authority, in our assumptions about how we learn, how we obtain valid information, whom we trust, and what constitutes a reliable source. Instead of turning to certified experts, we all now routinely learn things online, including from anonymous strangers, and with more or less success make judgments about what is or is not credible information. Peer learning asks how we can translate those skills to formal education, improving on them to maximize opportunities and minimize dangers.

We need to develop learning skills that respond to the remarkable changes that have already taken place in online interactions.
We also need to be aware of our learning habits and practices (an awareness often called meta-cognition). We need more deep-level reasoning that helps us learn how to learn; how to take in feedback from others; how to adapt to new paradigms; and how to think critically, carefully, and creatively about the technologies we use (including such older technologies as books and pencils, index cards, or Post-it notes). These are all foundational goals for active, engaged peer learning pedagogies.

Peer learning sees education as intimately tied to the goals of society at large and so underscores the importance of the learner’s own contribution to public knowledge and supports re-investment in higher education as a public good. By no means does peer learning preclude contemplation, introspection, theoretical speculation, critical thinking, or solitary working through of a complex idea. On the contrary, peer learning celebrates the full diversity of various ways of knowing and seeks to re-balance and re-integrate the “two cultures” division of the technological from the humanistic. C. P. Snow (1959)—a chemist who was also a novelist—famously attributed that intellectual and educational division to modernity and the scientific revolution. It is time to reunite the two cultures for the Internet revolution of our postmodern age.

**PEER LEARNING IN A CONNECTED AGE**

Our world changed, for all intents and purposes, on April 22, 1993. That is the day the scientists at the National Center for Supercomputing Applications, based at the University of Illinois at Urbana–Champaign, released the Mosaic 1.0 browser for commercial use. Before that, only scientists, universities, the military, and a few corporations had the ability that we now all have: to communicate anything we want to anyone else in the world who has an Internet connection. Even more significantly, there is no editor or pause button to broker what content you make available. That is a challenge we’ve not had before as humans. It is one we have embraced to an extent no one could have anticipated.

By some estimates, Internet use increased by 250,000 times in the year following the release of the Mosaic 1.0 browser. No other invention in human history has spread as rapidly or globally as the Internet. It has changed so many of what seemed like “fixed” ways in which we interact with one another, including our ideas of public and private, our separation of leisure and work. No one could have predicted a generation ago that people would use online tools and services in just about every aspect of their lives, including offering advice, recommendations, and use of their homes, and in giving unsolicited and even anonymous feedback, including to the rich and famous (helpful or trollish).

But simply being the fastest, most globally adopted technology does not make the Internet the source of everything and anything in our cognitive, social, and work lives. A major mistake made by pundits who rail about “the Internet making us ___” (you fill in the blank: distracted, stupid, shallow, lonely, etc.) is in thinking that a major technological change that accelerates the rearrangements of everyday life also changes our emotions, habits, preparation, and accomplishment within those new arrangements. This is technological determinism, or what is sometimes called technocratic thinking; the idea that technology “makes us” other than we as humans are. Technocratic thinking can be technophilic (technology will solve all problems) or technophobic (technology is the cause of all problems).

Peer learning teaches us how to think through, with, and about the affordances of the technology we have inherited. The term affordances was coined by psychologists James J. Gibson and Eleanor Gibson (1977) to help us understand what specific tools, dispositions, or environments enable or disable. The human–computer interface theoretician Donald Norman (1988) later adapted the term
affordance to describe the benefits and drawbacks of humans (with their ranges of abilities and inequalities) interacting with machines (with their ranges of abilities and inequalities). Humans have affordances (we are smart, but we cannot fly). We use tools that have specific affordances to aid us in tasks that are difficult or impossible for us (such as an airplane). Those same tools cannot help us compensate for our own limits in areas for which they were not designed. An airplane cannot solve our calculus homework (although we well might finish our calculus homework on an airplane).

Like all tools, the Internet has affordances—that is, things that it allows or enables to happen. The Internet affords us the ability to communicate anything we wish instantaneously to anyone else with an Internet connection. It does not afford us the ability to communicate wisely. Nor does the Internet necessarily encourage us to understand instantly the complex terms of our participation (how many "terms of use" agreements do you read thoroughly and understand?). It could, had it been programmed to do so. But it doesn’t.

My own research into the cognitive and attentional benefits of peer learning fits within the ecology of other quantitative and qualitative research designed to address the affordances of the Internet by transforming the affordances of the Industrial Age design of modern education. I am referring to scholars such as Danah Boyd (2014), Mizuko Ito (2013), Elizabeth Losh (2014), Howard Rheingold (2012), and others who advocate a peer learning that pays particular attention to what are often called digital literacies. These literacies include cognitive, critical skills that we can develop to understand what is happening with our data—for example, when we send it up to what is called, all too innocently, "the cloud." Digital literacies enhance the affordances of the Internet in both directions: They supply the creative and technical skills that allow us to maximize the Internet’s affordances and the critical thinking skills that allow us to consider and, where possible, minimize the potential risks. But rather than just be admonitory—a harangue or a jeremiad, the tone too frequent among technophobic pundits—peer learning insists that students learn to practice digital literacies, to build websites, to blog on Tumblr or Instagram, and even to learn to code to understand digital architecture in order to use it well and wisely. Peer learning helps students find the appropriate tools, methods, and partners to enable and enhance their own learning.

Peer learning is rooted in another assumption that marks a difference from either traditional hierarchical approaches or new technocratic solutions that imply that one single tool or learning management system will really transform education. A hierarchical structure implicitly and explicitly assumes that the chief asset in the room is a predefined body of content as determined by a professor whose expertise has been certified by past professors who have tested him or her and awarded the credentials to test and certify his or her students. The ultimate goal in this structure is earning the grade and then the credential, and the educational experience is structured institutionally to that goal.

Peer learning is rooted in some of the real-world, experiential learning methods characteristic of medicine, engineering, architecture, or studio art and music, where the goal is to move beyond the mastery of content to create something new—an invention, a work of art or music, a new building, or a treatment for a patient, often in a collaborative process where one learns by doing. For example, in art, music, and architectural practice, the studio crit or design studio crit is a cornerstone, with students learning early on to display their work in public and learning how to accept and build upon the feedback they receive.

Connected learning similarly underscores the importance of iteration and of learning how to learn: that is, learning how to
give and receive constructive feedback, use it to take a project closer to excellence, and then use the collective analysis of one's peers to improve still further. For professors, this requires restructuring the classroom's closed unidirectional architecture into a format that allows everyone to contribute to, and take full advantage of, assets beyond those possessed, predetermined, and assessed solely by the professor.

The mutual mentoring model of peer learning has some points in common with the traditional post-medical school internship or residency model known as "See one. Do one. Teach one." Students learn not just content but also learn how to examine their own learning practices and convey their lessons learned to others (King, 2002). To the medical school mode, peer learning adds a fourth condition: "Share one." Rather than writing a final research paper read only by the professor, a goal for learning in a digital age is sharing one's skills or ideas beyond the classroom. The research suggests that this method helps students to replicate and apply what they learn in one class in other situations (De Lisi, 2002). There is also a civic dimension to this aspect of peer learning. I call it a public contribution to knowledge, where students evaluate the work they produce and decide which of their skills, ideas, or insights might be relevant to others. Thinking through how what one learns can be applied beyond the immediate classroom is a skill that will serve students in the future, sometimes even pointing to career paths they might not have anticipated.

A CLASSROOM EXPERIMENT IN PEER LEARNING

In spring 2013, I taught a small graduate seminar on 21st Century Literacies: Digital Knowledge and Digital Humanities (Twitter hashtag: #21C) with students from Duke University, the University of North Carolina, and North Carolina State University. My students ranged from a PhD student in Computer Science to an MFA student in Experimental Documentary Media Arts. As with most of the classes I've taught for the past decade, this was a peer-designed, student-led class in which we experimented with an array of online tools to collaborate on coauthored multimedia documents, coding, and design projects. When I had to be away from class for one session to attend the annual Digital Media and Learning Conference, I arranged for the students to "attend" the conference virtually, via Skype, Google Drive document sharing, and a live Twitter feed. This seemed a logical extension of our class practice and purpose. And, to my mind, it was a success.

Imagine my surprise when I returned to the physical classroom only to discover that the students had mutinied in my absence. They had met on their own and decided collectively, without my guidance, that they no longer wanted to follow the collaboratively written class constitution we had drawn up during the first class. Nor did they wish to abide by our cosigned class scope-of-work contracts. In my absence, they had come up with an entirely new syllabus for our course.

This scenario is feared by many traditional educators who object to peer-learning practices. If you give students the proverbial inch, won't they always take a mile? If students lead the way, won't they lose respect for expertise and authority? Won't the result be a decline in standards? These are valid questions with a long history. At the foundation of the 19th century's compulsory, public education movement is an implicit idea that the purpose of education is to transmit an authorized body of content from teacher to student. The rationale for developing high-stakes end-of-grade summative testing is to provide external, objective measurement that content

7 | See Davidson et al. (2013), especially Chapter 1 and the Appendix, for a detailed analysis of how one begins a course with a collaboratively written "class constitution" and an analysis of contract grading as a peer learning practice.
has been acquired. Those concerns pervade higher education as much as they do K–12, reinforced by our emphasis on test scores (SATS on the way in to college and GREs, LSATS, or M-CATS on the way out). The unstated fear in letting students take charge is that they will aim too low, and we will have abdicated our responsibility as experts, mentors, and teachers. The implicit binaries here are the modernist ones of student versus teacher, tyro versus expert, and ignorance versus knowledge.

I hasten to add that, in the case of #21C, the binaries did not pertain. Indeed, my student uprising turned into one of the most inspiring events of my educational career. What my students had decided to do, in my absence, was to heart the connected learning goal of the voluntary acquisition of knowledge as a public good in a democracy. Instead of writing individual research papers to be read by me, they proposed writing and publishing a book, a guide to peer-to-peer pedagogy that others might learn from. By the time I returned from the Digital Media and Learning Conference, they had used Google Docs to design a table of contents and had rebuilt the syllabus for the remaining weeks of the course around the production of this book. The students had volunteered to each write a chapter of the book on a specific topic and to lead class discussion on that topic to gain ideas and feedback for their chapter. And they made a courageous promise: If they did not deliver an entire book manuscript at the final exam time, that would constitute a failure to meet their contract for the course and so they would fail the course. In short, they set the stakes for collective, collaborative learning far higher than I (or any responsible teacher) would ever set.

I am not sure what I would have done if final exam day had rolled around and some chapters from their book had been missing or poorly executed. Fortunately, I did not have to cope with the problem because they turned in a finished manuscript, beautifully designed by one of the MFA students in the course. We

hired a professional copy editor to regularize the style details and, within weeks, had published Field Notes for 21st Century Literacies: A Guide to New Theories, Methods, and Practices for Open Peer Teaching and Learning (Davidson et al., 2013) in an open-access format on hastac.org. They divided up responsibilities and published the final product in multiple additional formats: as an editable Google Doc, in a version that could be annotated on the popular commercial site Rap Genius, on Github (a web-based hosting service used by open-source programmers and developers), and as a physical book through Amazon’s self-publishing imprint CreateSpace.com, all issued via a Creative Commons NonCommercial-ShareAlike 3.0 Unported License. They also advertised it on Facebook and designed a Twitter campaign to inform people about its availability. The project management skills they learned by carrying through their ideas to publication in this array of technical, commercial, and open spaces will serve them well in all future endeavors. By November 2014, 15 months after publication, Field Notes for 21st Century Literacies had some 15,900 unique visitors and had been or was planned to be adopted as a text in 2014–2015 courses at Brown, Duke, Stanford, Yale, the University of Wisconsin, Schoolcraft Community College, and the Graduate Center at The City University of New York.

Is this experiment replicable? My answer is a decisive, informed yes. Although students’ taking it upon themselves to write a book together about peer learning was the most dramatic result I have seen in a class, I have had success with radical forms of student-led learning for over a decade now. To date, I have never had students fail to set the bar higher than I would have proposed in a conventional class. For example, in an undergraduate class, team-taught with behavioral economist Dan Ariely, on the methodologies of social science and the humanities, our final assignment was for students to take the topics of the course; do their own empirical experiments, qualitative surveys, and interpretative analyses; and
then rebuild the course for the general public. They designed what they called a "SPOC" (self-paced open course) that was (as they said in one of their headings for it) "Student Led. Future Driven" (Davidson & Ariely, 2013).

Perhaps because of the frustration so many have toward standardized testing, an increasing number of educators, parents, informal learning institutions, and students themselves are embracing peer learning as an alternative pedagogical model. Most notably, for a decade now, the MacArthur Foundation has supported the Digital Media and Learning Initiative where, throughout K–12, peer-learning principles have been incorporated with success. We have found that engaged, connected learning works exceptionally well in the most disadvantaged economic and social environments. In fact, in over 100 projects in 20 countries supported by Digital Media and Learning Competition grants, we have found peer learning to succeed where other programs have failed (Grant, 2014). Among the most renowned are the experiments conducted by Sugata Mitra (2013), who focuses in particular on lower caste girls in rural, regional South Asia. His Hole-in-the-Wall project places computers in "kiosks," almost like ATMs, and invites kids to learn together, without actual teachers guiding the process. The results have been nothing short of inspiring.

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8 | The MacArthur Foundation's Digital Media and Learning Initiative (n.d.) explores "how digital media are changing the way young people learn, play, socialize, and participate in civic life. The goal is to make education more powerful for all students by creating more opportunities for more youth to engage in learning that is relevant to their lives and prepares them for success in school, the workplace, and their community."

9 | The Digital Media and Learning Competitions are supported by the John D. and Catherine T. MacArthur Foundation and administered by the Humanities, Arts, Science, and Technology Alliance and Collaboratory (HASTAC; hastac.org), a network of educational innovators that I cofounded in 2002.

as documented in his TED talk on "child-driven education" (Mitra, 2010), which won the 2013 TED Prize and has been viewed more than 2 million times.

WHAT INSTITUTIONAL LEADERS CAN LEARN FROM PEER-TO-PEER PEDAGOGICAL PRACTICES

If higher education is to change institutionally and systemically, change needs to come from within, from those who have the most to gain and the most to lose: professors and, especially, students. Peer learning in the classroom, where students are given responsibility for designing and implementing class goals, can be embraced as a model of institutional change. And here is more good news: This, too, is happening. Everywhere, there are new networks, new connected courses, and new grassroots movements toward educational change, often occurring in and around the traditional structures of the university.

Certainly that is the case with the innovative learning network that I and other scholars cofounded in 2002. While we have hardly had the worldwide impact of Facebook, we now have over 13,000 registered network members in the Humanities, Arts, Science, and Technology Alliance and Collaboratory (HASTAC; hastac.org). This ad hoc project began with small gatherings at several universities—notably Duke University, the University of Washington, Stanford, and the University of California Humanities Research Institute. Then, in 2004, we came together for our first international conference at the National Science Foundation to think about an alliance across our disciplines, conjoining the academy and the worlds of online peer learners, technology innovators, and technology designers. We had no ambition other than to make a space on the Internet where anyone could contribute ideas about new ways of teaching and learning that were better suited to the iterative methods and crowdsourced affordances of the World Wide
Web. Since then, HASTAC has become one of the most trafficked, interactive, and complex academic peer-to-peer websites and social networks on the web. At this writing, the Organization of American States is working to build a Latin American version of HASTAC, primarily for educators communicating in Spanish and Portuguese.

HASTAC quickly became an alliance of those cutting-edge thinkers in all fields who thought more expansively than many of their peers about the educational transformations our world demands. The technology leaders who joined included John Seely Brown, Larry Smarr, Alan Blatecky, and other household names in the history of the Internet. These distinguished computational scientists rejected the idea that the humanities, arts, and social sciences were somehow "soft" or "inferior" to technology. Rather, they embraced the fact that the Internet provided a platform for such revolutionary new ways of being in the world that we needed a new set of digital literacies to understand its social, economic, and technical complexities. Equally, the humanists who came to the first HASTAC meeting saw technology not as "against the humanities," but as a complex new tool to use, to study, and to innovate with in the classroom and in research.

The principle that separates HASTAC from almost all other academic professional associations is peer learning. Anyone can register on the site, and anyone can contribute as long as it is respectful and relevant. An 18-year old undergraduate can write a compelling blog and claim the attention of thousands of people. The intellectual leadership of HASTAC comes disproportionately from HASTAC Scholars, undergraduate and graduate students who have been nominated by their professors and who share their own ideas and research and also become the "eyes and ears" of their institutions, representing local ideas, events, and topics on the open hastac.org website. More than 1,000 graduate and undergraduate HASTAC Scholars have been sponsored by 197 colleges and universities from several countries, and they have sponsored a number of HASTAC Forums each year on topics including Academic Publishing in the Digital Age, Visualization and Mapping, Queer and Feminist New Media Spaces, Race After the Internet, and Democratizing Knowledge.

Beginning in 2006, HASTAC became the administrators and mentors for the Digital Media and Learning Competition supported by the John D. and Catherine T. MacArthur Foundation. Although higher education and lifelong learning have been included in some of the competitions, much of the effort crosses the gap between higher education and K–12 educators. Over the past 5 years, this competition has awarded $10 million to more than 100 projects—including games, mobile phone applications, virtual worlds, social networks, and digital badge platforms—that explore how technologies are changing the way people learn and participate in daily life.

The commitment of HASTAC to K–12 learning acknowledges a central fact that is rarely addressed by pundits: Education reform must start with higher education. When a college education is regarded as essential to being middle class, parents simply will not do anything that will hamper their kids’ opportunities to go to college. If colleges require high test scores, then “teaching to the test” will still be embraced, even by those who know its shortcomings, with impacts on curriculum, diversity, creativity, and risk taking. Unless college changes its criteria and standards for admission, then K–12 will continue to shape itself de facto as preparation for that system. The stakes for higher education transformation, in other words, could not be higher.

WHY MOOCS ARE NOT ENOUGH

An open, peer-learning network such as HASTAC may seem on the face of it to be something like a MOOC. Both are about learning, and both occur mostly online. In fact, as a pedagogical model, the two are
almost diametrically opposite. In HASTAC’s open, online network, communication is many to many. Those consuming the content are also creating it. There is no top-down determination of what does or does not count as learning or about the direction learning should take. As long as members are respectful of one another and contribute content relevant to HASTAC’s broad mission of “Changing the Way We Teach and Learn,” anyone else can take it up.

By contrast, in a MOOC, whether sponsored by well-financed for-profit or nonprofit companies or sponsored by elite, private universities, the content is delivered, from the MOOC to the participants, in a one-to-many broadcast model. Coursera, for example, negotiates with prominent institutions to have their top professors record lectures and make the lectures available online free of charge. Interactive Internet technology is the medium for HASTAC and for MOOCs, but the pedagogical message is different. An open network provides a platform for participation; a MOOC delivers content to participants.

Writing as I am in fall 2014, it is hard to remember that the New York Times declared 2012 to be the Year of the MOOC. The media were saturated with hype about the “disruptive” power of MOOCs. Structurally, there is no way that replicating the most rigid model of learning could truly disrupt academe, and it didn’t. Nor did MOOCs live up to the original hype as the best way to save colleges millions of dollars, bring down costs for parents, and help eliminate student loans. To date, millions of corporate and taxpayer dollars have been invested in MOOCs, but there is no evidence that any college has saved operating costs and reduced tuition because of a MOOC. Nor have MOOCs disrupted traditional higher education, except perhaps around the periphery.

Yet I am not ready to write off MOOCs. I like the entrepreneurial spirit that models an ability to admit a mistake and try a new direction. I also believe it is worthwhile for students, faculty, and administrators to work out cooperative agreements across institutions that help each become aware of its own strengths and limitations. And leveraging the strengths of different institutions for the public good has potential as a model for disturbing institutional silos and modeling institutional change.10

MOOCs have another potential value. They have already changed the conversation about general liberal arts education being “irrelevant.” It is significant that, when college courses are offered free and conveniently, literally millions of people take them, not for vocational skills but for greater knowledge. Perhaps the single greatest benefit of MOOCs is revealing how vital deep, serious research and learning across fields are to people’s lives (Selingo, 2014).

BEYOND THE MOOC

Motivated by the potential to use the MOOC structure to see if the form could be turned into a more learner-centered interactive platform, I taught what I called a meta-MOOC in Spring 2014 on the History and Future of Higher Education. Duke University, where I was a professor, had an agreement with Coursera, so I offered the MOOC via that platform. We supplemented the traditional MOOC structure in many ways. First, HASTAC arranged a “FutureEd” year to build out and build upon the MOOC, with more than 80 official partners at institutions around the world. Each site watched the

10 MOOCs did not invent collaborative, cross-institutional course offerings. In fact, in 2006-2007, HASTAC mounted an “In/Formation Year” in which 17 universities took on shared topics for open courses, online workshops, and webinars and orchestrated an academic year of coordinated, cross-university courses and programming with a new topic each month, all available to students and the public. The courses and themes were: In Common, Innovation, Integration, Interface, In Community, Interplay, International, Infrastructure, Injustice, and Invitation.
MOOC in a face-to-face setting, often as part of a traditional course or seminar. They played off and amplified the content of the MOOC by offering their own webinars, workshops, and hackathons. The linkages went from Schoolcraft Community College to Harvard, from New York City to Otara, New Zealand. We linked the activities across more than a dozen existing scholarly networks, such as the Coimbra Group eLearning and eTechnology, a task-force of 40 European universities. More than 20,000 students registered for the MOOC worldwide and connected outside the MOOC on a variety of social media, often in ingenious ways. For example, a group of 80 deans of students from all over the United States watched the MOOC each week and then held a weekly online “coffee hour,” complete with pastries, where they discussed how the week’s content might be remixed for their own local sites. A group of presidents of independent colleges did the same. Meanwhile, I taught a face-to-face course on the History and Future of Higher Education in partnership with courses on similar topics being taught at Stanford, Harvard, and UC Santa Barbara. Students in the onsite class at Duke worked as “Teaching Assistants and Wranglers” in the MOOC, finding ways to engage the MOOC participants in a variety of research activities designed for active, engaged, multicultural peer learning. One project was building a crowdsourced online collaborative timeline of educational innovation worldwide that stretched from ancient Mesopotamia to some imagined future; in another, students in my onsite class asked what it would mean to “create higher ed from scratch” and crowdsourced some 200 questions to ask about the purpose of a university. They went on to create three different model universities (with their own T-shirts even). And the face-to-face students reported on all this activity twice a week in the Chronicle of Higher Education (2014). Not incidentally, the core textbook used in this class that turned a MOOC into an interactive experience was the student-created Field Notes for 21st Century Literacies.

To do that requires the extra kinds of efforts at peer learning that our meta-MOOC strove for. And that is happening too, although, unfortunately, the independent faculty-driven networks are not making the cover of Time magazine. In 2013, for example, two senior scholars in media studies, Anne Balsamo, one of HASTAC’s cofounders and a dean of the School of Media Studies at New School, and Alexandra Juhasz, professor of Media Studies at Pitzer College, began FemTechNet (http://femtechnet.newschool.edu/the-network/). They countered the MOOC structure with what they called a distributed open collaborative course (DOCC). Dozens of scholars who were teaching courses on women and technology linked their syllabi, peer-to-peer activities, panels, and videos. They also mounted a Wiki-Storming group of talented technology educators who added quite literally dozens, if not hundreds, of entries about women and technology, removed prejudicial or sexist language from existing entries, and worked with Wikipedia to establish a special WikiProject Feminism to re-evaluate certain standards that were biased against women.

At the Graduate Center, City University of New York, I have been recruited to direct the Futures Initiative, a program designed to train the next generation of college professors, museum and lab directors, and others as innovators of pedagogical and institutional change. Graduate Center students teach approximately 7,700 courses (with enrollment of about 200,000 students) annually in the CUNY system. Because of this distributed teaching and learning structure, we have been able to design a program that supports graduate students who are learning the best ways of teaching diverse undergraduates.

In spring 2015, I taught the inaugural Futures Initiative course, Mapping the Futures of Higher Education, with the former Graduate Center president and interim chancellor of the CUNY system,
William P. Kelly. We accepted 12 graduate students earning advanced degrees in nine different fields (from chemistry to classics) who were either teaching or directing programs at nine CUNY campuses. We reached more than 350 undergraduates and designed a website that linked all the students in all the courses. Rather than a MOOC, this course combined face-to-face and online learning and enhanced it through a digital community.

![Visualization of Mapping the Futures of Higher Education course by Kalle Westerling](image)

The course explored new methods of peer learning and teaching, interdisciplinary research collaborations, experiential learning, new digital tools, and public (online) contributions to knowledge. It also addressed the role of the university in society, especially public education in the United States, in a stressed time where, nationally, we have seen declining support for public education, leading both to a student debt crisis and a professorial crisis of adjunct or contingent labor practices. The student-led, student-designed course created a space in which graduate students could share ideas about digital technologies in the classroom, innovative ways to evaluate learning, the risks and rewards of student-centered pedagogy, and the real-life challenges and barriers faced by students beyond the classroom. While some students were initially technological novices (and even skeptics), by the end of the course many saw that digital platforms could help advance their pedagogical goals. In addition, the graduate students worked all semester toward their final project, the CUNY Maps of New York (http://futures.gc.cuny.edu/maps/), a series of visualizations that illustrate what public higher education offers the public—and vice versa.

**CONCLUSION: INVESTING IN THE FUTURES OF HIGHER EDUCATION**

One reason institutional change is happening slowly is that it usually does. The institutional apparatus of higher education that we have inherited has been evolving since the late 19th century—hardly a sprint! But there is another reason for conservatism as well: Even those professors who recognize the need for change grow skeptical when the drum roll for change emanates so loudly from the for-profit sector, and in the aftermath of decades of systematic defunding of higher education. When the accusation that professors are “intransigent” and that higher education is “inefficient” comes after decades of declining support for public education and for government-sponsored research, it is not surprising that many academics are suspicious that the real motive behind the call for “disruption” and “change” is really the profit motive—not a concern for improving
the quality of the education being delivered. Two professors in the University of California system, Christopher Newfield and Michael Meranze, have been forceful, for example, in documenting the litany of calls for change alongside the cutbacks to what Newfield (forthcoming) has dubbed “lowered education.” As Aaron Bady and economist Mike Konczal (2012) note, “For every $1,000 of personal income in California, the state invested only $7.71 for higher education in 2008, about 40 percent below the $12.86 invested as late as 1980.”

What can we do to ensure that higher education is not forever “lowered,” to use Newfield’s pointed term? First, we need to reinvest in higher education as a public good. You cannot expect a bleeding and compromised system to also be boldly inventive. We need the influx of funding into higher education that MOOCs and other for-profit ventures have experienced in recent years. Second, we need more attention to peer learning and institutional change inspired by students and educators. Third, paying attention to peer learning means working to deregulate and destandardize higher education and thereby reverse a 30-year trend toward greater bureaucracy and regimentation in the way we award credentials and certify accreditation. Fourth, while we are waiting for these enormous changes to happen (however slowly), universities, right now, can begin to invest in more “edge” programs, to use John Seely Brown’s (n.d.) term, such as the ones I’ve described in this essay.11 We can also begin to support those professors who successfully push ideas to their limits, inspire students, and help us all think, teach, and dream more creatively and boldly.

Institutional change may be slow. Pedagogical change can happen now, as long as institutions are willing to allow for creativity and innovation where it matters most, in onsite and online classrooms that embody the deep, relevant practices that make peer learning vital not just to higher education but also to the world we live in now. In giving students responsibility and agency for their own pedagogical success, now, we are supporting them not just in content acquisition but also in practicing the most valuable skills for our time. To quote John Dewey, “Cease conceiving of education as mere preparation for later life, and make of it the full meaning of the present life” (1893, p. 660). We can ask no more of higher education.

11 See also Thomas & Brown, 2011.


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CHANGING HIGHER ED FROM THE CLASSROOM UP: HOW THE CONNECTED, PEER-LED CLASSROOM CAN MODEL INSTITUTIONAL TRANSFORMATION


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WHAT THE SCIENCE OF LEARNING INDICATES WE SHOULD DO DIFFERENTLY


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