REPORT

An Academic Policy Framework for Technology-Mediated Content

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I. Introduction

In this report, we recommend a set of policies regarding governance, conflicts of interest, conflicts of commitment, and intellectual property to guide academic institutions in developing ways to create and promote technologically-mediated content. These policies are intended to encourage innovation in the development of new educational technologies by creating incentives for both institutions and their faculty to produce new scholarly materials in support of teaching and learning. We address these policies in the context of three relationships that technologically-mediated content involves: (1) the relationship between a third-party platform and the academic institution as consumer and as producer; (2) the relationship between the institution and its faculty; and (3) the relationship between faculty and third party institutions.

We fear that without adequate policies, the development of potentially interesting and valuable new educational technologies will be stifled by uncertainties as well as possible tensions between the roles of faculty and administration. In articulating policies, we look to prior practices of colleges and universities in addressing similar issues. These prior practices have the great virtue of having been tested repeatedly across many situations in many different institutions. They are also familiar to both faculty and administrators. Institutions should step away from these practices only with clear reason to do so. That said, there will be circumstances where it will be necessary for institutions to depart from prior practice. These circumstances are likely to arise either because of the scale of university investment in the creation of digital educational content, or when such content empowers faculty to reach students well beyond the boundaries of a traditional campus. These circumstances will require new understandings to ensure that both the institution and its faculty have the right incentives to invest in the creation and use of these new materials on a sustainable basis.[1]

A. Why is there a Conflict over Technology-Mediated Content?

Depending upon one's perspective, online education (or more precisely, technology-mediated education) is either the savior or the scourge of higher education. Proponents of the technology focus on the continually-rising cost of education and see a problem desperately in need of a solution, and they believe that they have found one. They argue that technology-mediated education promises increased access, improved learning

[1] The authors offer special thanks to William G. Bowen, Kevin M. Guthrie, Catharine Bond Hill, Robert W. Iuliano, Martin Kurzweil, and Michael S. McPherson for their helpful comments on a draft of this report.

outcomes, and at least the hope of bending the cost curve of higher education. Advocates believe new educational technology will grant online access to high-quality, low-cost college courses taught by the very best faculty to students throughout the world. Students, whether enrolled in degree programs or not, will be able to take these courses at their convenience, thus granting access to adult learners and others who currently cannot afford to go to college full time.[2]

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Skeptics raise the basic question of whether delivering education via technology improves educational outcomes at all and are also concerned that online education may permit a small number of institutions to dominate higher education.[3] Skeptics also fear that MOOCs and comprehensive Artificial Intelligence-based adaptive courses will give rise to an educational monoculture as a handful of star faculty produce electronic versions of standard courses thus displacing faculty employed locally. Rather than staff and teach these courses on campus, less-advantaged institutions will simply purchase electronic versions of courses from other universities or from other content providers. Furthermore, these skeptics fear that rapid development of online education may further lead to stratification of educational opportunity. Those who can afford it will attend traditional institutions where students engage regularly with faculty on campus. Others will be relegated to inferior, online versions of the same curriculum with little direct faculty contact and, for the minority of undergraduates today attending residential

[2] We recognize that there is a range of technology-mediated content types. For purposes of this paper, we are focusing primarily on Massive Open Online Courses ("MOOCs"), although the policies articulated also apply to artificial intelligence-based adaptive course as well as to hybrid/blended courses, which typically have limitations on scale and require synchronicity for when students participate in them. We thank Martin Kurzweil for noting the variations in technology-mediated content available.

[3] See Di Xu and Shanna Smith Jaggars, "The Impact of Online Learning on Students' Course Outcomes: Evidence from a Large Community and Technical College System," *Economics of Education Review* 37 (2013): 46–57, http://dx.doi.org/10.1016/j.econedurev.2013.08.001 (finding that community college students do significantly worse in online courses than in face to face courses). See also OECD, "New Approach Needed to Deliver on Technology's Potential in Schools," Sept 15, 2015, http://www.oecd.org/education/new-approach-needed-to-deliver-on-technologys-potential-in-schools.htm) (new OECD study finds that "even countries which have invested heavily in information and communication technologies (ICT) for education have seen no noticeable improvement in their performances in PISA [Programme for International Student Assessment] results for reading, mathematics or science" among grade school and secondary school students).

colleges, still less of the co-curricular life common in most residential colleges and universities. These students most likely would lose access to the meaningful personal networks created in college that are valuable throughout life, and that are often best built through shared in-person experiences.[4]

Advances in educational technology are testing some long held beliefs as well as placing pressure on traditional relationships in higher education.

While it is far too early to determine who has the better side of this debate, advances in educational technology are testing some long held beliefs as well as placing pressure on traditional relationships in higher education. For example, traditionally, individual faculty have overseen the development of new courses. The responsible faculty member assembled the syllabus and readings, prepared lectures and presentations, organized recitations, and determined how to test students to see if they had mastered the material. In this traditional world, a faculty member typically owned the copyright for his or her teaching materials. Moreover, the course was taught to students enrolled on campus by the institution employing the faculty member. Furthermore, what actually went on inside the classroom was largely opaque to the outside world including the administration.

B. Why Are Technology-Mediated Content and Online Course Development Different?

Technology-enabled education inevitably entails the creation of new content that has the potential for being used across multiple institutions. In that sense, these digital materials might be thought of as the digital successor to traditional textbooks, which are created with the intent that they will be adopted at many institutions. Yet, technology-enabled educational content differs from textbook creation in key ways. While the publication and distribution of traditional textbooks requires the participation of third parties, the act of authoring a textbook is still the exclusive responsibility of the authors (with some contribution from editors, publishers, and research assistants.) By contrast, the very act of "authoring" technology-enabled educational materials typically requires substantial,

[4] We note that while this would be the case in the context of MOOCs and self-contained adaptive learning courses, it need not be the case in the context of courses that blend traditional teaching and technology-mediated resources, which involve more personal interaction.

integrated resources that go beyond those required for an individual faculty member to author a textbook.

In a world enabled by technology, a typical course available on the platforms Coursera and EdX is likely to be put together by a team including one or more faculty responsible for the content, a producer, an instructional designer, a web designer, multiple camera and sound operators, editors, and software developers. The investment required to do this well can be substantial.[5] As Stanford President John L. Hennessy has noted, creating these new digital teaching materials may require that schools "be willing to spend probably millions of dollars to really do a high quality course and develop it really well but if that course can be repurposed to hundreds or even a thousand institutions then we could afford to make that kind of investment in the quality of the course materials."[6]

The materials at issue can include high quality videos, as well as assessments, adaptive pathways through the assessments, and even data associated with the adaptive pathways. Even the initial component of this, high-quality digital material that can operate on an online learning platform—which will be the focus of the recommendations set forth in this report—can require extensive investment.

And that is just to focus on the creation of content. Content could just be posted to YouTube, but there is every reason to think that content will be made available through technology platforms and tools, whether those be widely-used learning management systems (LMSs) or new course platforms like Coursera, edX and Udacity. Building platforms of this sort requires extensive investments. And building something akin to an online learning market—where content could be curated, mixed and matched and readily assembled into a tailored digital textbook for a particular course—would require additional investments beyond those made in more traditional LMSs.[7]

Once created, an online course may be offered to students multiple times on the same campus, or offered to students at other campuses. Technology thus makes it possible for faculty to "teach" at multiple institutions without physically being present (and

[5] While this describes how courses available on EdX and Coursera are produced, other platforms, such as Khan Academy, offer more stripped down courses. In addition, this level of production is specific to MOOCs; a "flipped" hybrid course, for example, need not require as much production, Moreover, this model may not persist for MOOCs. Much the way web design has evolved from HTML coding to SquareSpace, one can envision the existence of a "drag and drop" online course platform that would enable a single instructor to create a MOOC with reasonable production quality more or less on their own. We thank Martin Kurzweil for this observation.

[6] John L. Hennessy, "Information Technology and the Future of Teaching and Learning," The 2015 Atwell Lecture, The American Council on Education, 97th Annual Meeting (Mar 15, 2015),https://www.youtube.com/watch?v=QLLMLG-jqxc.

[7] See Kevin M. Guthrie, "Online Learning Markets: Institutional Challenges," blog post, Ithaka S+R, Sept 15, 2015, http://sr.ithaka.org/blog-individual/online-learning-markets-institutional-challenges.

potentially to earn revenue with each such virtual course offering). Furthermore, what occurs in the electronic classroom is visible to all. A poor teaching performance in a traditional classroom is likely to be confined to only those students present in the class that day, though even that may spill online via social media or sites like RateMyProfessor.com. By comparison, in a world dominated by social media, a poor teaching performance in an online course risks damaging the reputation not just of the instructor, but of the institution itself.

With online courses, administrators also have the capacity to monitor faculty response to individual students and even compare how quickly instructors respond to student inquiries. This capacity to monitor may raise questions of privacy and faculty autonomy. The flow of information created during an online course will be extraordinarily extensive and quite different from the information available in traditional in-person courses. This data flow will raise privacy issues for both students and faculty but will also create real opportunities for assessing the effectiveness of particular approaches to teaching.

The scale of the resources going into the creation of these materials and the complexity of the effort will understandably lead institutions to create policies to ensure that faculty and others will want to participate in the creation and use of these materials on a sustainable basis. Faculty and institutions will be reluctant to invest either the time or the resources needed to create these materials without knowing first who owns, controls, and will benefit financially from the adoption of these new educational materials, and who has authority to decide when and how these resources are to be either created by faculty members or used in teaching.[8]

Traditional textbooks have been one way for faculty members to influence the intellectual development of their fields and therefore a way that universities have been able to contribute to education and scholarship as well as to achieve prominence. Online courses have the potential to do the same in the future. And as more courses move towards a hybrid format in which in-class education is mixed with more extensive use of online materials, institutions will still be able to offer a distinctive experience through the interactions that students attending those institutions are able to have with faculty at those institutions. Taking a class using Paul Samuelson's economics textbook was never a particularly good substitute for actually taking a class with Samuelson and that likely will remain the case even as educational materials migrate into mediated educational resources (though it is possible that technology could even enhance even the best "live"

[8] Indeed, by way of contrast with the textbook analogy, while universities may have a press publishing academic journals and research monographs, most university presses aren't publishing textbooks at the scale of a McGraw-Hill or Wiley. Producing mediated educational materials will put universities squarely into the digital textbook publishing world.

presentation through such features as pause and rewinding capabilities, and ability to inject Q&A opportunities and the opportunity for bi-directional engagement.)[9]

Apart from considering technology-mediated education as the digital successor to traditional textbooks, there are many ways in which online course production and delivery depart from traditional practices for course development. Traditionally, when faculty are assigned to teach a course for the first time, they will often turn to colleagues for advice. It is efficient to examine how others have approached the same material. How was the material organized? What readings were employed? What problem sets or papers were assigned? What exercises were used to evaluate performance? It is common for colleagues to share syllabi, class notes, exercises and the like. These colleagues may be from one's home institution or elsewhere.

The point is that collegial traditions dictate that faculty share their approach to pedagogy quite openly and ask for little, if anything, in return. In addition, faculty may search available online resources, such as Massachusetts Institute of Technology's Open CourseWare website. In fact, OCW was created precisely to share open course materials with the intent and thought that those materials would be widely used.

A new professor may never use these materials directly; however, it is comforting just to have these resources and to be able to refer to them. Over time, while most professors will find their own path through the material and develop their own approach to its presentation, the influence of others who have taught similar courses previously may remain. Anyone who teaches a particular subject recognizes that they are stepping into a pre-existing flow of ideas regarding how to teach the material to new students. And in time, a new professor will come to recognize that they have a responsibility to help others who follow them to also get started.

These interactions occur naturally within an institution and across institutions in a framework of professional collegiality and norms. As a result, it is unusual to hear discussion about copyright and ownership, or about conflicts of interest or conflicts of commitment arising as a result of such collegiality. In the pre-digital world, no one asked whether copyright in the syllabus was held by the professor or their home institution. Instead the syllabi and other materials were simply *shared* in the flow of know-how that is an essential and integral part of the great collective enterprise of education. And that sense of sharing continues today, though the movement of syllabi and course materials

[9] Some faculty fear that a few elite institutions may come to dominate higher education as lectures produced by these institutions become commodities. But we note that institutions that place a premium on teaching may be well positioned to provide the supplementary hands-on learning experience required to turn online content into truly useful pedagogy.

online has undoubtedly made individual professors and institutions more sensitive to the copyright issues associated with teaching materials.[10]

For example, in a physical classroom, there are significant ways that fair use enables use without rights holder permission. By contrast, if a professor includes a substantial clip from the documentary *The Hunting Ground* in teaching Title IX, the law is much less clear whether the use is protected. And if it is not, it is also not clear who is liable for the infringement: the professor, the university, or the platform provider; and that is without taking into account possible indemnification rights and obligations.[11] And, although arrangements can differ across academic institutions, faculty members are frequently understood to own the copyright in their class materials, such as course syllabi and class notes as well as textbooks that they write in the course of their duties. That said, again as part of the norms of teaching, a professor would be expected to have a collegial responsibility to share these class materials with colleagues at his or her home institution (and, as suggested, would be thought a cad if he or she declined to share them with others at different institutions).[12]

Online courses may raise distinctive issues in this setting. In a traditionally taught subject, course materials typically are created without significant incremental resources supplied by the academic institution. Often, a professor may only receive course release time to develop a new subject. By contrast, as we have noted already, online courses often require substantial incremental investment often by a team of content and tech professionals. And while it is possible to produce online content more simply,[13] online courses are becoming increasingly sophisticated. For example, Science & Cooking: From Haute Cuisine to Soft Matter Science offered through HarvardX on edX—has production

[10] With the movement of many of these materials online, norms and the institutional arrangements in this area are clearly evolving. For example, MIT's Open CourseWare uses a Creative Commons license which establishes the rules under which the materials can be used (for example, allowing sharing and adaptation of materials but barring commercial use of those materials and requiring continuing attribution of the materials to MIT). See MIT Open Courseware Creative Commons License (online at http://ocw.mit.edu/terms/#cc) Systematic sharing of the sort represented by MIT's OCW effort is undoubtedly expensive, and while each activity that an academic institution undertakes need not be separately self-funding, MIT needs to pays it bills just like any other enterprise does. It would not be surprising if OCW was ultimately sustained on a fee-based licensing system. Given the disparity of investment between a spontaneous exchange of syllabi among faculty and a robust institutional platform for syllabi and other course materials, it is understandable that issues regarding copyright and conflicts of interest and commitment could arise. We are grateful to our colleague, Kevin Guthrie, for this insight.

[11] We are grateful to Robert Iuliano for this observation.

[12] But see Joe Karaganis and David McClure, "What a Million Syllabuses Can Teach Us," *The New York Times*, January 24, 2016, http://www.nytimes.com/2016/01/24/opinion/sunday/what-a-million-syllabuses-can-teach-us.html, noting that "Some faculty members treat their syllabuses as trade secrets, others are happy to post them online."

[13] For example, the Bloomberg School of Public Health at Johns Hopkins offers a nine course data science specialization on Coursera that consists simply of audio voiceovers of standard classroom lecture slides.

values that border on the Spielbergian with an investment of substantial resources beyond what any individual faculty member could bring to the course.[14] Again, Stanford President John Hennessy puts the likely investment required for high-demand courses as in the "millions."

II. Contexts and Framing Principles

A. What are the Important Contexts for Mediated Content?

The development of digital educational content, especially content that is created with the intent that it be used or usable by a broad set of educational institutions, typically involves negotiation of three types of relationships each of which can give rise to specific challenges. We analyze each of these relationships separately:

1. *Online platform provider and the school as producer or consumer of educational content*

Most colleges and universities that create digital educational content for use by a broader audience do so on one of a number of online platforms, such as Coursera, edX, 2U, NovoEd, and others. These platform providers also act as the distributor of content to end users, either to individual learners in the case of Massive Open Online Courses (MOOCs) or to other colleges and universities that may adopt entire courses or parts of courses created by other institutions. Typically, the relationship between a platform provider and an institution as either content generator or content consumer is governed by a negotiated contract.

2. *Faculty member with primary responsibility for creation of digital course content and his or her home institution*

Faculty members' employment relationships with their home institutions are governed by a variety of instruments. In cases of unionized faculty, a collective bargaining agreement will define the relative rights and responsibilities of faculty and administration. In a non-unionized environment, faculty may have individual employment agreements (or simply letters of appointment) that often exist in a context where broader policies are laid out in a Faculty Handbook. The latter usually has been created through some process of shared governance. To our knowledge, very few of these

[14] Marcella Bombardieri, "Harvard Goes All in for Online Courses," *The Boston Globe*, May 18, 2014, https://www.bostonglobe.com/metro/2014/05/17/behind-harvard-explosion-online-classes-flurry-lights-camera-action/BybPhkyfX59D9a7icmHz5M/story.html.

contracts and agreements have anticipated the kinds of issues likely to be raised by an extensive program to develop significant online educational content.

3. *Faculty member and outside third parties including publishers, for-profit education providers, other academic institutions, and other contractors who may be interested in distributing online content more broadly*

Many faculty enjoy opportunities to engage in compensated relationships with third parties even when employed nominally full time by their home institution. For example, faculty write novels, plays and textbooks, give invited lectures, consult, serve on corporate boards, start companies, treat patients and may even teach on a limited basis elsewhere, all subject to rules that limit their outside professional activities (often to a day per week of outside professional activity).[15] Furthermore, other rules governing conflict of interest and conflict of commitment may further limit outside professional activity. Precisely because digital educational technology permits a faculty member to teach without physically being present, new educational technologies may test these traditional understandings.

Each of these relationships may raise the questions noted above, regarding allocation of intellectual property rights between faculty and the institution, potential conflict of interest and conflict of commitment, shared governance, and academic freedom. Accordingly, we examine each relationship described above in each of these contexts (or through each of these conceptual lenses) with an eye toward recommending principles and policies that we believe are broadly applicable to a wide set of institutions.

B. Policies Governing the Development and Use of Technology-Mediated Educational Resources

Four key aspects of the relationship between colleges and universities and their faculty merit attention regarding technology-mediated content. In each area, existing norms and policies have served institutions well and can be adapted for environments where technology mediated education may play a role. These existing norms and policies have derived from principles grounded in incentivizing the production of scholarship and enhancing teaching and learning, principles that underlie the policies we set forth in the context of technology-mediated educational resources.

[15] Robert Iuliano notes that the rationale for allowing faculty to pursue outside professional activities on a day a week basis is that such professional engagement may actually enhance a faculty member's capacity to teach by bringing valuable experience into the classroom.

1. *Intellectual Property and Data/Privacy Practices*

Academic institutions frequently establish rules regarding ownership and use by faculty members of copyrighted materials or patent inventions created by those faculty members. That universities do so is hardly surprising given that creating new ideas, inventions and works is one of the defining activities of academic institutions. Institutions also manage university trademarks and also may informally reach out to faculty members when faculty images are being used in university promotional materials.

Technology-mediated content will raise many IP questions. Who owns or controls the intellectual property represented by these new technology enabled courses—the faculty, the institution, or some combination? What about third-party content utilized in the course, such as embedded videos and images? Who should be responsible if the rights of third-party owners of content are breached? Once created, what rules or principles should govern modification of future editions of such courses? What should be the respective role of the faculty and the institution in approving such modifications? How should use of the university name and the university brand be managed? (Note that the courses may have a longer life than the employment of the responsible faculty member.) How should revenue created by these courses be split among the relevant parties?

Technology-mediated education also will raise issues regarding data privacy. Online education offers the promise of personalized learning with content that adapts to the learning needs and pacing of particular students. But making that work means tracking student responses quite carefully as they work through the material, almost as if the software could watch a student read a book word by word. The data generated through these interactions could be seen as a valuable asset accessed by either the school or the platform provider and could raise privacy issues under the Family Educational Rights and Privacy Act (FERPA).[16] There is a very real risk that this data, which could be enormously valuable in informing more effective pedagogy, could become privatized.

2. *Conflict of Interest and Conflict of Commitment Principles*

The rights of an academic institution vis-à-vis a faculty member are frequently framed in terms of conflicts of interest and conflicts of commitment. To define the terms (but to simplify substantially), a conflict of interest arises when a faculty member is undertaking

[16] Steve Kolowich, "The New Intelligence," *Inside Higher Ed*, Jan 25, 2013, https://www.insidehighered.com/news/2013/01/25/arizona-st-and-knewtons-grand-experiment-adaptive-learning; see Curriculum Delivery Agreement dated as of January 28, 2011 between the Arizona Board of Regents and Knewton, Inc. (allocating in Section 6.5 exclusive ownership of usage data to Knewton and designating in Section 9.9 Knewton as an "other school official" for purposes of FERPA).

an outside activity such that there is reason to believe—or it might reasonably appear that—his or her judgment on a matter within the scope of his or her faculty duties are clouded because of his or her role in the outside activity. A conflict of commitment is separate from the idea of a conflict of interest and is thought to arise when a faculty member is engaging in outside activities where the time and energy devoted to those activities interferes with his or her obligations to the institution as a faculty member.

Technology-mediated content will raise a number of conflict-related questions. Should faculty be free to develop such courses independently of the colleges and universities that employ them? Under what circumstances might faculty whose online courses are being offered by a competing institution or other third party run afoul of traditional conflict of interest or conflict of commitment policies?

3. *Governance*

Responsibility for decision making for major policy issues (but especially the curriculum) is shared between faculty and administration in most colleges and universities. For example, while faculty typically have primary responsibility for development of the curriculum, it is the administration that allocates resources that permit faculty to teach (e.g., classrooms, laboratories, TAs, etc.) In each institution, these lines of authority are drawn differently and on at least some issues, also involve the boards of trustees. What policies should govern the creation or the purchase (or outsourcing) of specific online courses or parts of the curriculum to other institutions or content providers? Who decides: the faculty, the administration or the board? And in the case of the faculty, what rights are reserved to the faculty collectively versus a faculty member individually?

4. *Academic Freedom*

Academic freedom is one of the defining features of colleges and universities in the United States. It isn't an absolute notion and it is often tested in difficult circumstances, but a broadly-shared conception of freedom of thought and speaking regarding academic research and teaching has been a cherished principle of academic life. Moving towards technology-mediated content and education will almost certainly raise new contexts in which conceptions of academic freedom will be tested. To take just one example, the technology of mediation generates a stream of information about interactions between instructors and students and among students. At what point does administrative monitoring of what goes on within the electronic classroom become intrusive and a threat to academic freedom? Similarly, should the faculty collectively (or the administration) be able to require (or forbid) a colleague to utilize a particular form of educational technology to teach his or her class?

III. Analysis of the Three Contexts and Key Areas

A. The relationship between the platform provider and the institution

The relationship between the platform provider and the academic institution—with the academic institution as producer of the content or as consumer—most certainly will be documented in a contract, the terms of which are likely to have bearing on issues concerning intellectual property, conflicts of interest and conflicts of commitment, governance, and academic freedom.

Colleges and universities routinely enter into contracts in ways that do not raise the issues noted above. For example, they contract for IT, construction, and legal services and rarely are these contracts subject to consultation and review by the faculty. It would be difficult to operate an institution of almost any size if every such contract were subject to comprehensive faculty review. Of course, these are contracts for inputs into the academic enterprise that most faculty members will regard as outside the core activities of the academic institution. Schools needed pencils in 1915 and an email system in 2015 but neither will naturally be thought to be the peculiar domain of the faculty. As the matter being considered moves closer to the core academic mission, faculty members should play a more substantial role even if that means only being consulted and offered a chance to express views. For example, at least some faculty members are likely to have strong views on the software that manages the online library catalog, even if they are not professionally-trained librarians.[17]

Contracts between an academic institution and an online course platform come even closer to the core academic mission. What role should faculty members play in these? For example, at Amherst and Duke, faculty votes effectively ended efforts by those schools to move forward with relationships to produce online courses.[18] In other cases,

[17] As the library example suggests, there may be any number of situations, such as in connection with a university's real estate development plans, in which contracts governing operational matters do lead to faculty engagement, even for issues not directly related to the academic curriculum.

[18] Ry Rivard, "EdX Rejected," *Inside Higher Ed*, Apr 19, 2013, https://www.insidehighered.com/news/2013/04/19/despite-courtship-amherst-decides-shy-away-star-mooc-provider; Ry Rivard, "Duke Faculty Say No," *Inside Higher Ed*, Apr 30, 2013, https://www.insidehighered.com/news/2013/04/30/duke-faculty-reject-plan-it-join-online-consortium. Note that the faculty objections at both Amherst and Duke were rooted in part in a belief that online education threatened traditional

such as at Arizona State University or Wesleyan University, central administrators appear to have moved more unilaterally notwithstanding faculty dissent.[19] As the Amherst and ASU cases suggest, different institutions will have different expectations for faculty engagement over such a contract.

Contracts between an academic institution and an online course platform come even closer to the core academic mission. What role will faculty members play in these?

A key issue on platform-institution contracts will be whether the content will be used externally or internally in the academic institution. And this is the key distinction between contracts in which the academic institution is acting as a content producer and a situation in which the institution is acting as a content consumer. Those raise quite different issues and we will discuss them separately.

1. *Academic Institution as Content Producer*

Academic institutions will enter into contracts pursuant to which they agree to deliver content to online education platforms. The content itself could consist of integrated courses or could have more modular components that in turn could be used separately or combined with other materials into courses that might be delivered online or in person. The contract between the online education platform and the university could be either non-exclusive or exclusive, meaning that the university is or is not free to enter into similar contracts with other platforms.

An academic institution may commit to providing a fixed number of online courses over a particular period of time with those courses being intended almost exclusively for external consumption, either by unaffiliated learners or by students at other academic institutions. Although these types of external uses of online courses can be controversial in the academic community, we believe, consistent with the textbook model, that individual faculty members should have broad freedom to create this type of content.

residential education. Thus the objections were less to the potential contract with the platform provider than with the overall direction of the university.

[19] Steve Kolowich, "The New Intelligence," *Inside Higher Ed*, Jan 25, 2013, https://www.insidehighered.com/news/2013/01/25/arizona-st-and-knewtons-grand-experiment-adaptive-learning. A demonstration of the teaching approach is available at https://students.asu.edu/mathcentral/video.

And consistent with that, academic institutions should have broad authority to facilitate this type of content creation.

To date, much of the pushback against this position by some members of the academy has focused on how the use of online courses may reduce opportunities for in-person teaching at schools that embrace online courses. Individuals holding that view want, in turn, their own schools to limit production of online courses, even if that means blocking fellow faculty members from producing online content. The hope seemingly is that if each school adopts this position, schools that want to embrace online courses will be cut off at the source.

There are a number of problems with this view. It seems unlikely that technology-mediated content could be blocked fully, and were schools to consider explicit agreements among schools to withhold content, those agreements would almost certainly raise antitrust issues. But the more fundamental problem is that this seems to be largely focused on the consequences of the technology for professors without much consideration on what the technology means for students.

Even within relatively well-to-do countries like the United States, educational opportunities are hardly evenly distributed.

There can be little doubt that technology-mediated content creates new opportunities for students around the globe to access educational opportunities that simply don't exist in their home, physical environments. But even within relatively well-to-do countries like the United States, educational opportunities are hardly evenly distributed. That is a statement about both geography and economic resources. It seems far too early in the era of technology-mediated content to conclude that it can't offer meaningful benefits to students. And in a time of ever rising educational costs, the most significant potential benefit might result from improving faculty productivity given how a single online course can reach many more students than a class taught in-person. Of course, this is precisely why some faculty oppose creation of new online educational resources – because they fear it may reduce employment opportunities for the profession.[20]

[20] Robert Iuliano also points out that the emergence of a dominant online provider might also have the undesirable consequence of producing ideological uniformity in the teaching of certain subjects.

What principles should govern the degree of faculty engagement around contracts between education platforms and colleges and universities? Some, but certainly not all, such contracts entail substantial commitment of institutional resources as a condition of the contract.

Contracts may commit an institution to providing a minimum number of courses, but these new online courses will almost certainly be outside of the existing teaching obligations of faculty. The institution will have to figure out how to fulfill its obligations under the contract. It will probably do so in reliance on the notion that some faculty early adopters will be eager to participate and that it can encourage faculty members to participate. Contracts of this sort will typically create an option for participation of faculty who are interested in experimenting with new educational technologies.

These contracts will likely facilitate the desires of some members of the faculty and a push for broader faculty involvement in screening these contracts may very well reflect a division in the faculty itself. Where substantial differences of opinion exist among the faculty, wise administrators will seek to consult faculty to surface issues prior to moving forward. That said, it would be unfortunate if a small but vocal group of faculty could prevent others from experimenting with new educational technology simply by claiming a right of the faculty to approve a contract that facilitated such experimentation.[21]

A stronger case for faculty engagement can be made if an institution contemplates hiring special faculty for the specific purpose of producing online content. Faculty are frequently involved in decisions regarding broad new educational and research initiatives.[22] They traditionally (and appropriately) participate actively in the hiring and promotion process for their colleagues. We believe faculty have a stake in who stands in front of a camera teaching (in a very visible and public way) on behalf of an institution. Similarly, to the extent that a contract contemplates that online courses will be offered for academic credit at another institution, the faculty have an appropriate role to play in reviewing online credit bearing offerings as they would any other new course offered for credit.

[21] We would expect these contracts to evolve over time as well as the use of mediated content changes. Most online courses so far have been constructed as free-standing complete courses, but we could easily imagine that a more piecemeal approach might evolve, where instructors would be able to construct courses from modules or components of courses and contacts between institutions and faculty members can either facilitate or hinder that process.

[22] Some academic institutions that have moved aggressively into online education have done so by creating new, separate and largely siloed initiatives. See, for example, Southern New Hampshire University (www.snhu.edu/online-degrees). While a freestanding effort that is not perceived to encroach upon the prerogative of an existing school or department may face less scrutiny than a comparable initiative created within an existing school or department, an initiative that effectively replicates through technology the offerings of a traditional department or school ought to be subject to review by that department or school.

RECOMMENDATIONS

- **Governance**: *Academic institutions should have broad authority to enter into contracts with online course platforms under which the institution will provide courses to the platform*. Those contracts may be a key way in which the institution expands its offerings and exposes new students to the intellectual approach of the school. And these contracts will typically facilitate the efforts of individual faculty members who want to create these new video textbooks. That said, if special faculty are being hired for the specific purpose of producing online content, faculty consultation would be appropriate if that would track the institution's existing governance rules for hiring new faculty to teach offline. At a time when the market for such content is evolving at a dizzying pace, institutions often must make relatively quick decisions to join specific consortia. To not decide, or to postpone a decision pending a lengthy review process is to functionally pass on the opportunity. All of this may mean that faculty governance norms will need to evolve given the need to move faster in decision-making, recognizing as we have noted before that different institutions will have different expectations regarding the appropriate level of faculty engagement.[23]

- **Governance**: *Faculty should participate in review of contracts with online course platforms as they would for similarly scaled resource commitments*. Consistent with our overall approach of fitting online course arrangements into well-understood preexisting institutional arrangements, in those institutions where faculty participate in the budget process, it would be appropriate for institutional resources commitments for mediated-content creation to be reviewed in the same way that faculty participate in other budget decisions of comparable scale.

- **Governance:** *Faculty should have a role in approving courses that their home institution will allow to be offered for credit at other institutions*. Defining course quality and the extent to which a particular course is or is not made available for credit is a central way in which faculty participate in institutional governance. That role should operate equally for courses offered for credit inside or outside of the home institution of those faculty members.

[23] William G. Bowen and Eugene M.Tobin suggest exactly this in their recent work: "In an increasingly digital environment, the major decisions regarding curricular structure require a modernized conception of shared governance. . . . Decisions of all kinds concerning online technologies must rely heavily on faculty expertise, but they must also reflect institution-wide decisions concerning facilities, scheduling, "pricing" (tuition and financial aid), and obligations to meet the needs of various sub-sets of potential students – including, especially, low – and moderate – income students, and students from otherwise disadvantaged backgrounds," in *Locus of Authority: The Evolution of Faculty Roles in the Governance of Higher Education* (Princeton and New York: Princeton University Press and ITHAKA, 2015), 175.

- **Governance:** *In entering into contracts under which an academic institution commits to providing content for use by external learners, the academic institution should seek to enable faculty members to pursue their interests in creating content for external use*. With or without direct faculty involvement in these decisions, we would expect academic institutions to be sensitive to the ways in which contracts between an institution and an online platform can shape or limit the opportunities available to faculty members. We would expect academic institutions to be careful about the kinds of promises that they undertake and to ensure substantial amounts of flexibility for faculty given the overall level of uncertainty that exists at this stage of technology-mediated education. At the same time, institutions should have broad freedom to ensure that the courses they create for a content platform for use by external learners have consistent production values and that that content in the aggregate represents the institution in a compelling way.

- **Intellectual Property:** *Institutional norms that prevailed prior to the digital era should continue to guide the use of the institutional brand and the ownership of the content as between the platform and the institution*. Academic institutions should have broad authority in structuring arrangements between the institution and the platform when the institution is providing content for the use of external learners.[24] These arrangements are likely to receive strong scrutiny internally at an academic institution, as one of the core roles of these institutions is certifying that students have met a particular standard and then attaching the institution's imprimatur on those students through diplomas and other certificates bearing the institution's name. Again, institutions have sorted these issues offline and the norms that have prevailed there should naturally carry-over to their online activities.

2. *Academic Institution as Content Consumer*

In other cases, academic institutions will act as consumers of content from education platforms. The university may plan to use the purchased or licensed content to change the way in which it teaches that content locally. Those changes might include the creation of teaching modules to be plugged into courses or the teaching of courses in a hybrid format involving video lectures and more limited in-person sessions. This type of internal use of an online course is likely to raise central questions about the definition of the curriculum and the requirements that need to be met for the granting of a degree.

[24] We address the IP arrangements between faculty members and institutions in Section III.C. below and we deal with data and privacy issues in Section III.A.2. below.

This approach raises a different set of issues regarding governance, academic freedom, and intellectual property and how a university chooses to staff its offerings. Traditionally, schools and departments enjoy great flexibility in how they staff courses with a mix of tenured, untenured, and non-tenure track faculty. And universities might move down a similar path with regard to decisions about which courses to teach locally which courses to outsource. Schools may be buyers in some cases and sellers in others. For example, Harvard Business School has essentially outsourced its basic accounting course to an individual who has taught accounting at Brigham Young University.[25] And recently Yale and Harvard have reached an agreement under which Yale students will take a version of Computer Science 50, a successful introductory computer science course at Harvard. Yale students will watch live lectures or recorded lectures from a distance with local sections and office hours offered at Yale.[26]

Most enterprises face buy-vs.-build decisions. Which parts of what they deliver will they produce on their own—build—and which parts will they outsource to third parties? Over time, colleges and universities have changed how they approach important campus functions such as food services, book store operations, email, and dormitory management, in many cases moving towards a model of outsourcing those functions to third parties. And they have done that within the context of the current governance framework for universities although we note some of these decisions have provoked substantial controversy. For example, on many campuses students and faculty have protested the outsourcing of janitorial services and sought, better working conditions for janitors. But we could be moving to an era where the buy-vs.-build decision comes more directly to teaching.

It is important to separate out the question of who is assigned responsibility for teaching a particular class from how that class is taught once it has been assigned to someone. The original assignment question may raise questions of university governance but is unlikely to trigger questions of academic freedom. Notions of academic freedom in

[25] Courtney Boyd Myers and Clayton Christensen, "Why Online Education Is Ready for Disruption, Now," TNW, Nov 13, 2011, http://thenextweb.com/insider/2011/11/13/clayton-christensen-why-online-education-is-ready-for-disruption-now/, (describing outsourcing to Norman Nemrow); see also About Us page, Business Learning Software, Inc., http://www.businesslearningsoftwareinc.com/aboutus; Jeffrey R. Young, "When a Flipped-Classroom Pioneer Hands Off His Video Lectures, This Is What Happens," *The Chronicle of Higher Education*, Jan 7, 2015, http://chronicle.com/article/When-a-Flipped-Classroom/151031/.

[26] Meg P. Bernhard, "Yale Faculty Approves CS50 Venture; Harvard Mum," *The Harvard Crimson*, Nov 9, 2014, http://www.thecrimson.com/article/2014/11/9/yale-faculty-approves-cs50/; Meg P. Bernhard, "Harvard Approves Joint Yale CS50 Venture, Malan Says," *The Harvard Crimson*, Nov 26, 2014, http://www.thecrimson.com/article/2014/11/26/cs50-yale-harvard-approves/. Unsurprisingly, some students are questioning whether Yale is underinvesting in creating its own local computer science resources. See Peter Jacobs, "Yale Computer Science Students Say the School Has 'Ceded the Battle' to Harvard and Stanford," *Business Insider*, Mar. 2, 2015, http://www.businessinsider.com/yale-computer-science-petition-2015-3.

teaching typically are raised by what is seen as intrusion into the manner in which a particular course is taught.[27]

Universities could choose which courses to produce locally and which they should license from outsiders. A university could choose to allocate its local teaching and research resources to a handful of areas and seek to achieve excellence in those areas. At the same time, the university might conclude that it would be quite difficult to maintain a standard of local excellence in all areas and that it would serve its students better if it relied on other institutions to teach those classes.

The current leading teaching model is to have teaching produced locally and that brings with it the need to sustain locally the full set of intellectual activities associated with teaching specific content. That means having a local intellectual community in that subject area with the corresponding local teaching and research resources. It isn't easy to build these intellectual communities. Often there will be a mismatch between student demand for particular subjects (for example, instruction in a particular foreign language) and the resident intellectual resources of the institution. In the past, smaller academic institutions near each other have formed consortia to coordinate their offerings to give their students access to resources that can be shared effectively.[28] The sharing of online resources can operate in the same way without the strong constraints driven by the need for geographic proximity when resources are being shared in physical space.[29] The Council of Independent Colleges Consortium for Online Instruction is currently testing a model to extend the course offerings of its member institutions.[30]

[27] See Bacow, Kopans & Picker, "Innovation in Teaching and the Freedom Teach," Ithaka S+R, last modified 19 December 2014, http://dx.doi.org/10.18665/sr.24987, supra note xx.

[28] Examples of consortia include the Five College Consortium in the Connecticut River Pioneer Valley (Amherst, Hampshire, Mount Holyoke, Smith, University of Massachusetts at Amherst); the Tri-College Consortium in the Philadelphia suburbs (Haverford, Swarthmore, and Bryn Mawr); and the Claremont Colleges (Claremont McKenna, Harvey Mudd, Pitzer, Pomona, and Scripps). Schools that are close together physically can engage in rich sharing arrangements, but they do need to make careful assessments of what courses will be entitled to credit and also to assess the net burdens of those arrangements.

[29] That said, it would be a mistake to assume that this can be done simply, as the failure of Semester Online demonstrated. Dian Schaffhauser, "2U's Next Chapter Following the Demise of Semester Online," *Campus Technology*, May 27, 2014, http://campustechnology.com/articles/2014/05/27/2us-next-chapter-following-the-demise-of-semester-online.aspx. Schools are often eager to export their courses to other schools but are not correspondingly eager to import classes. But given the potential cost savings, schools are likely to experiment to see if an acceptable sharing structure can be found. See Jack Grove, "Global Credit Transfer," *Inside Higher Ed*, Jan. 7, 2016, https://www.insidehighered.com/news/2016/01/07/6-universities-around-world-plan-pilot-credit-transfer-online-courses).

[30] See Jessie Brown and Deanna Marcum, "CIC Consortium for Online Humanities Instruction: Evaluation Report for Second Course Iteration Treatment," Ithaka S+R, last modified 15 September 2016, http://dx.doi.org/10.18665/sr.284106.

RECOMMENDATIONS

- **Governance:** *As a general rule, a decision to use technology-mediated content internally within an academic institution on a for-credit basis should be the province of the faculty collectively*. While the decision to enter into a contract for the production of online course materials should rest within the prerogative of the administration, we believe outsourcing of teaching—that is, where the institution is the consumer of online course material—falls largely within the prerogative of the faculty. In every institution that we know, faculty must certify that students have completed the necessary requirements for a degree. Accordingly, faculty also determine whether students will be granted transfer credit towards a degree for coursework done elsewhere. In making the latter decision, faculty will usually inquire whether the material covered is comparable to what is taught on campus, and whether it is taught at a comparable level of rigor. Logically, the same review and same principles should be applied to any course that might be outsourced through the use of technology.[31] This appears to have been the case at Harvard Business School for its accounting course and at Yale prior to offering the Harvard Computer Science course. Our understanding is that multi-campus consortia operate under similar rules. Agreements to utilize digital content from a third party, whether another institution directly or an online platform provider, should be subject to similar faculty scrutiny.[32]

- **Data/Privacy:** *Academic institutions should have full rights to use the data associated with technology-mediated content and will need to take steps to preserve student privacy with regard to those data*. Contracts between academic institutions and online platform providers could raise conflicts between the school and students regarding data privacy. We believe that academic institutions should insist in their negotiations that the aggregate data remain available for broader research and that appropriate measures be taken to insure the privacy of individual students.

[31] While we believe the decision to utilize externally generated online content should rest largely with the faculty, we don't think the administration is without a voice in such decisions. For example, faculty should not be able to call on resources to purchase expensive online content from third parties without the normal administrative scrutiny associated with other resource allocation decisions. Similarly, the faculty should not be able to exercise a veto over the use of online content simply to preserve faculty employment locally. The type of faculty review we contemplate should focus on the quality of the material being imported to determine whether it meets the educational standards of the institution. Academic leaders whether they be department chairs, deans or provosts should also have a voice in such decisions, but the voice of the faculty should carry substantial weight.

[32] We note that extensive outsourcing may raise accreditation issues. At some point, there must be enough content produced and consumed locally to justify the awarding of a degree. Many institutions have residency requirements specifically to ensure that students who graduate from an institution have spent enough time at the institution to justify receiving a degree.

B. The Relationship between the Faculty Member and the Home Institution

As we have suggested above, new materials will be at the core of mediated teaching. While there are probably hundreds of thousands, if not millions, of video lectures available online (which are nothing more than recordings of traditional lectures delivered in classrooms), those materials don't begin to take full advantage of the educational opportunities created by mediating technology. Those technologies should promise greater personalization of materials along with multiple tracks of content for different students.

1. Intellectual Property

What limits the terms that can be established between a university and a given professor for the creation of these materials? Universities contract with faculty members in other contexts. Are there good lessons to be learned from those situations?

In many universities, the common understanding is that faculty members will be treated as the authors for copyright purposes and thus will be the copyright holders. (Whether that is actually the case is more complicated and depends on the operation of copyright's work-made-for-hire doctrine). But creating videos will frequently be a team production and that instantly makes applying the copyright law more complex. Are there good reasons to substitute a different copyright understanding for videos created under these circumstances? If, as seems likely, more explicit contracts are introduced, what will best practices look like? Who will hold final decision authority with regard to the use of the videos and do the shape of those contracts raise issues of academic freedom?

Current faculty contracts over IP rights at their home institutions typically track one of two paths. As noted above, for copyright, conventional practice is that faculty members are the authors of the works that they create and are the copyright holders, be that an obscure work or a work that generates significant royalties (say a leading textbook like Samuelson's economics text or a bestselling book like *Freakonomics*). In contrast, patents that emerge through faculty work using university resources are often assigned to the university, though getting the precise mechanics of that can matter as the 2011 Supreme Court case involving Stanford made clear.[33] Universities frequently address patents and the obligations of faculty members to assign those patents back to their home institutions in offer letters and other documents. And university-professor

[33] Board of Trustees of the Leland Stanford Junior University v. Roche Molecular Systems, Inc., 131 S.Ct. 2188 (2011).

dealings regarding patents typically call for some sort of reasonable division of the royalties associated with the patents.

Cost recovery presumably will reflect local practices. Academic institutions typically don't try to attach costs for some centrally provided resources—say a library—to actual use. There is no thought that if undergraduates studying history use the library more than undergraduates studying economics that the budding historians (or their department) should somehow be charged more. Similarly, students in the sciences are rarely charged differential tuition to compensate for the increased costs of instruction resulting from the need for expensive teaching labs. Some schools may choose to provide tools and resources for the support of the creation of mediated materials centrally on an uncharged basis. But schools also may look to cost recovery directly from the mediated materials themselves given the resources that may be required to create the materials as well as the potential for generating new revenue by marketing these resources to other institutions.

These issues are likely to be contested on campuses given the new context.[34] Many faculty members will have a copyright model in mind pursuant to which faculty members typically are treated as owning the copyright and royalties are kept by the individual faculty member in full. Faculty members in the sciences may be more open to a typical patent arrangement in which patent royalties are commonly divided one third to the faculty inventor, one third to the faculty member's home department or school and one third to the institution centrally. Given the likely scale of investment in mediated materials, we expect arrangements will move towards cost recovery and some form of royalty sharing.[35]

And how should rights be determined regarding the use of online materials after the relationship between a university and the faculty member has changed? For example, what happens when a brilliant lecturer whose lectures have been digitized for posterity is no longer employed by the university? Book publishing contracts typically address issues about the reuse of materials after the death of the author, but here similar questions would arise when a professor switches schools or exits teaching entirely. For example, if the professor is hired by a competing institution, does he or she have the right to continue to use his digital materials at the new institution? Can the prior institution continue to offer the online courses after the faculty member is gone? Who controls

[34] See, e.g., Collin Binkley, Who owns the research: Ohio State or faculty? The Columbus Dispatch, Mar 23, 2015 (online at http://www.dispatch.com/content/stories/local/2015/03/23/who-owns-it-osu-or-faculty.html).

[35] And of course those arrangements may shape the type of content created. Simple online materials consisting of voice-overs and PowerPoint slides can be created with very few university resources.

modification of the material once the faculty member is no longer employed by the institution? What types of attribution are appropriate?

Contracts with textbook publishers frequently address rights regarding future or derivative editions of a particular work. The contract might speak to the right of the publisher to repurpose the work, using the author's name, or to produce future editions under the author's name. Should we expect contracts regarding lecture videos to look like those contracts or are there reasons for those contracts to allocate rights differently? Contracts regarding online lectures might implicate the types of names, images and likeness issues that have been at stake in the recent NCAA litigation as well as issues regarding the use of university trademarks.[36] There are other important differences between the situations and terms that might be common in contracts written by for-profit publishers but may be inappropriate for arrangements regarding online courses. For example, textbook publishing contracts frequently set forth a series of warranties in which the faculty member/author warrants a variety of conditions, such as whether the material in the textbook is subject to copyright claims or is libelous, defamatory or otherwise violative of applicable law.

RECOMMENDATIONS

- **Intellectual Property:** *Academic institutions need to have sufficient rights in mediated-content to ensure that resources will be provided to create and sustain that content*. IP arrangements between home institutions and faculty teaching online courses should seek to accomplish a number of ends simultaneously. In contexts where a home institution has made a substantial investment of resources in the course that institution will almost certainly want broad rights to use and update the online course materials going forward. Those rights will likely include the right to further uses of the course, in whole or in part, even if the faculty member doesn't have an ongoing role in those subsequent uses or modifications. Institutions may be reluctant to make meaningful investments in online materials if individual faculty members hold a veto over subsequent uses. Similarly, the institution will want to recover production costs from any revenues generated by sale or licensing of the content to other institutions or third parties.

- **Conflicts:** *Traditional conflict rules should not limit a faculty member after s/he departs an institution*. At the same time that an institution wants to be able to recover production costs, individual faculty members need to be able to develop and disseminate ideas in ways that are consistent with ways that have

[36] The antitrust litigation is O'Bannon v. National Collegiate Athletic Ass'n, 7 F.Supp.3d 395 (N.D. Calif. 2014), currently on appeal to the Ninth Circuit.

done so in the offline world. Notions of conflict of commitment and interest historically have imposed limits on ways in which faculty members can teach outside of their home institutions, but once a faculty member has departed an institution, those conflict notions have imposed no ongoing obligations between a faculty member and his or her former institution.

- **Conflicts:** *A faculty member should have broad rights to create new courses after leaving an institution*. IP arrangements for online materials between home institutions and faculty members shouldn't operate as a type of sub rosa noncompete agreement between an institution and its former faculty member. Whatever one thinks is acceptable in arrangements between faculty members and for-profit publishers, academic institutions should have in mind broader social ends in creating arrangements for online materials. With that idea in mind, faculty members should be free to recreate online courses after they have departed a particular institution.

- **Intellectual Property:** *Within that framework, one could imagine any number of particularized arrangements which would make possible these outcomes*:

    - Online materials might be created in a work-made-for-hire ("WMFH") framework, with each participant in the creation of the materials either acting as an employee of the home institution or signing directly a WMFH agreement. Alternatively, faculty members and other participants in the creation of online materials might assign copyright in those materials to the home institution.

    - In either of those situations, where exclusive copyright in the materials will be held by the home institution, faculty members will need to receive appropriate licenses in the created materials so that internal limits within copyright, such as derivative works rights and the like, don't operate to limit creation of new versions of the online materials by faculty member who have departed the original home institution.[37] IP arrangements between home institutions and faculty members will likely address the right of publicity as well, just as textbook publishing contracts frequently address these issues. Textbook publishers want to be able to maintain continuity in how a textbook is sold and therefore will contract for the right to use an author's name even after the author has died. In similar fashion, online material arrangements

[37] And of course copyright in online courses could be held by the faculty member with licenses back to the home institution to enable the subsequent uses of the home institution.

should make possible use of names, likenesses and trademarks even after the original arrangement between the home institution and the faculty member has ended. Again, protecting subsequent use rights after an employment change will help to make possible the substantial investments required to make high-quality online materials.

- **Intellectual Property:** *Contracts between academic institutions and faculty members for the creation of mediated-content should reflect the strong institutional ties that exist between faculty members and their home institutions and who is best situated to bear risks regarding the content*. Without commenting on the appropriateness of warranties in textbook publishing contracts, these provisions have little basis in online publishing arrangements between home institutions and faculty members. Online course material may be viewed in countries around the world and an individual faculty member has no meaningful basis for assessing whether particular content somehow violates the laws of any country. Similarly, determining what constitutes fair use under U.S. law, or what uses might be subject to other defenses, exceptions, or privileges can be a complex and nuanced undertaking. Institutions will be the repeat player in these situations and will be better able to amortize making these assessments across multiple courses. And institutions are far better situated to bear the legal risks of online courses and typically have internal legal advice far beyond what is available to individual faculty members. The need to consider a different arrangement for warranties from textbook publishing is all the more significant if a university or platform—is at all involved in designing the structure of an online course, including modular components and the use of third-party content. Thus, there may be a need to re-envision who assumes responsibility for course content in an online environment.

2. *Governance and Academic Freedom*

Beyond intellectual property issues, the relationship between a faculty member and a home institution also might raise issues regarding governance and academic freedom. It is important to separate cases in which the academic institution is distributing the content from those in which a faculty member has entered into a separate distribution contract with an outsider. We address the former here and the latter in Section III.C.

There are natural ways in which the interactions between an academic institution and a professor creating technology-mediated content would resemble those between a traditional textbook publisher and a professorial author. An academic institution that has decided to create online content will typically enter into an arrangement with the instructor who will be the key person developing that content. That framing raises a

number of natural issues. Suppose that the academic institution limits the use of the online content to a particular platform. Would doing that intrude on the academic freedom of the instructor creating the content?

Here we think that the university press model is a useful analogue. No book author expects to be able to distribute the same book concurrently through multiple publishers. The contract between the publisher and the author imposes any number of restrictions on how the author can use the text. And publishers typically have broad freedom in how they can distribute books that they have under contract.

The university press model is a useful analogue. No book author expects to be able to distribute the same book concurrently through multiple publishers.

We would expect the arrangements between academic institutions and course creators to give academic institutions broad latitude in the distribution of the online content. Again, that matches the norms of university presses. While professors may be concerned that material will not be presented in what they regard as a coherent fashion or that the use of the content may have negative effects on the overall shape of education[38], they will almost certainly need to make those assessments upfront before participating in the creation of the content. As we have noted already, technology-mediated content will involve substantial investments by both professors, production professionals and staff and by platforms and it is hard to see how those investments get made reliably if professors hold an ongoing ex post veto over the distribution of the content.

Consider a second issue here and focus on the question of exclusivity. It appears that Harvard and MIT are not currently Coursera partners, but they have been heavily involved in the creation of the edX platform. Coursera currently contracts with universities, not individual professors. Do Harvard and MIT unduly restrict the opportunities of their professors by not becoming Coursera partners? If Coursera were willing to contract with individuals, could Harvard and MIT limit the capacity of their faculty to contract with Coursera? Would an exclusive arrangement between the institution and the provider restrict opportunities for faculty?

[38] For example, a Princeton sociologist blocked use of his course after he concluded that use of it at other institutions might have adverse effects on funding of public education. See Marc Parry, "A Star MOOC Professor Defects—at Least for Now," *The Chronicle of Higher Education*, Sept 3, 2013, http://chronicle.com/article/A-MOOC-Star-Defects-at-Least/141331/.

Again, consider the norms for university presses. Universities with academic presses have typically not insisted that those presses have a right of first refusal on manuscripts produced by professors at those schools. (Nor, of course, have the presses accepted an obligation to publish books by professors at that school.) Instead, university presses have competed for books and professors have been free to shop their manuscripts to different presses.

RECOMMENDATIONS

- **Intellectual Property:** *Academic institutions commissioning the creation of online content should have wide latitude in the distribution of that content*. Consistent with norms of academic presses, academic institutions should have broad authority to commission online content and to distribute that content. Content creators should not expect to be able to limit the content once created, just as a book author would be in no position to block anyone in particular from reading the book. These arrangements should raise no governance or academic freedom issues.

- **Academic Freedom:** *As to works that are not commissioned by a home institution, faculty should not be obliged to "publish" their online lectures through their home institutions any more than they should be required to publish their books through their university presses*. Again, this is to track the arrangements that have emerged over years in university presses. That said, we are focusing here on the predominant model of free online courses; whether a professor can offer an online course for credit at a competing institution raises different issues (discussed below in Section III.C).

3. Conflict of Interest and Conflict of Commitment Issues

Faculty member participation in online content creation might raise conflict of commitment or conflict of interest questions just as occurs with content distributed on paper. Conflict questions typically aren't tied to a particular medium of distribution but instead are much more about faculty members shirking their institutional responsibilities or failing to disclose outside relationships that might give readers/viewers reason to doubt the independence of the views being expressed.

But, to take the extreme case, the possibility that a course created by a faculty member might be offered for credit at an institution that competes with the faculty member's home institution raises a different set of issues. Such a faculty member might construct an online offering in whatever free time a faculty member is thought to have consistent with fulfilling his or her commitment obligations to the home institution. And all might

agree that the course so constructed raises no conflict of interest questions. The question then becomes whether there are other restrictions that might be imposed by the home academic institution on the use of that course.

In participating in online offerings, academic institutions will be exploring how to construct a defined presence online—an online brand if that isn't too much management consulting speak. Academic institutions construct presence quite systematically in physical space, through the ways in which buildings and spaces relate to each other on physical campuses. They also do this through the faculty members that are brought together and the academic programs that are offered. A university is a powerful and highly constructed bundle of a collected faculty, associated academic programs and the physical spaces in which those programs operate.

Online offerings raise the possibility of meaningful unbundling of the resources that define a particular academic institution. Academic institutions will have legitimate interests in preserving that bundle and will understandably and appropriately look for tools to preserve their programs. While academic institutions are perhaps the key institutions in the creation and dissemination of knowledge, like all other institutions, they do that in a setting in which they need to take steps to ensure that they have the resources necessary to making those activities possible.

Doing all of that may mean that an academic institution will believe that there are appropriate and real limits on the extent to which faculty members can create courses that operate outside of a framework defined by that faculty member's home institution. These programmatic/bundle conflicts are likely to arise most directly when another institution seeks to use the online materials in a way that matches or parallels the activities of the home institution.

To take a concrete example, if a professor teaches statistics at a particular university, either physically on campus or in an online program developed by that university, the offering of a similar course by a second university using online materials constructed by the same professor might give rise to a program conflict, again even if there are no traditional commitment/conflict of interest conflicts. That said, professors routinely write textbooks which are used in their courses and at courses at other schools and no one believes that creates any conflicts. But the more that a professor embeds the whole of the course in software or integrated video, such as the famous BYU accounting course, the greater the chances of program conflicts.

Direct interaction with students, either physically or digitally, is the touchstone of teaching. This obviously occurs in a standard physical classroom but also occurs in an online course taught live with synchronized, simultaneous participation by the teacher

and students. But teaching as such can occur even if the contact between a student and a teacher isn't synchronized. If an instructor is responding to email, text, or chat room inquiries from students who are enrolled in a course, teaching is occurring and, if those students are enrolled at another institution, this teaching will almost certainly raise conflict issues. The same issue would arise if a faculty member has assumed responsibility for evaluating or providing feedback to students.[39] In both of these situations, the instructor has moved beyond mere authoring of a digital textbook and has moved into teaching.

Institutions will have a legitimate interest in implementing exclusivity rules regarding teaching even if instructors could do online teaching in a manner consistent with the COI/commitment restrictions. Those restrictions are usually not thought to invade a faculty member's academic freedom but instead reflect the nature of full-time employment seen across the economy.

RECOMMENDATIONS

- **Exclusivity Rules:** *For definitional purposes, a professor who creates online content is "teaching" a course when the professor is responding individually to students enrolled in a course for credit. Creating stand-alone content should not constitute teaching elsewhere for purposes of determining whether a conflict exists*. Even with a growing use of online materials, we still expect traditional boundaries to hold. In the offline world, a professor may prepare a textbook, syllabus and additional materials such as PowerPoint slides that professors at other schools may adopt and use consistent with the vision for the course of the authoring professor. Creation and use of these types of materials are thought to raise no conflict issues, but individualized interaction with students enrolled in courses for credit is the heart of teaching.

- **Exclusivity Rules***: To the extent that a professor embeds materials in a format, whether offline or online, that does not require the professor to engage separately with students, we think that it is appropriate to say that the professor has not taught a course that uses those materials*. That would be true if the materials were used at another institution or at the professor's home institution. Our expectation is that for most subject matter, even with online, interactive materials, additional interactive instruction with an educator will be required to teach the materials fully. Today, no one would believe that a professor had "taught" a class if the professor did nothing more than hand out a syllabus

[39] Automated evaluation systems, such as multiple choice quizzes and exams, would not raise these issues.

with suggested readings in a textbook and then offer a final exam on the materials to gauge competence on the materials covered in the textbook. We expect that same approach to apply as we move beyond written textbooks to mediated textbooks.

- **Academic Freedom:** *Schools should want their professors to create widely-adopted mediated resources so long as the use of those materials at other schools does not somehow detract from the ability of the professor to engage with students at his or her home institution*. If hybrid teaching formats emerge as a substantial part of pedagogy, part of the skill of teaching will be about meshing mediated resources with in-person education. Educators do this now as they stitch together readings from different sources in building a syllabus. The mix of preexisting mediated resources and live education will define the distinctiveness of the educational experience at different schools even if both courses are drawing upon the same set of mediated resources.[40] This idea should influence how schools approach exclusivity. Professors write textbooks and schools don't somehow try to limit the use of those books at other schools. (Indeed, to the extent that there is a controversy, it is about professors using their own textbooks in the courses they teach.) Schools recognize that they enjoy reputational benefits when professors at those schools create successful textbooks and the same should hold for the creation of influential online content.

C. The Relationship between Individual Faculty Members and Outsiders

In the prior discussion, the academic institution played an instrumental role in the creation or use of mediated materials, either contracting directly with an online education platform or entering into an arrangement with a faculty member to create mediated materials. But there is every reason to think that faculty members will create mediated materials in other contexts. The examples below illustrate some of these contexts and relationships:

- A university approaches a professor at another institution and seeks to hire her to record a series of lectures that will be offered as a course at the university. The

[40] If, in fact, some digitized lectures become dominant as certain textbooks have been in specific fields, the true value added of an educational experience may lie in helping students make the connection between a brilliantly produced lecture and additional knowledge and comprehension. Often this type of learning takes place in sections. And while major research universities may have a comparative advantage in producing high quality lectures from acknowledged experts in their fields, small teaching-oriented colleges may have a comparative advantage in the latter type of teaching where they have traditionally excelled.

professor will have no ongoing involvement in the course after the initial taping and work constructing the course. Going forward, the course will be taught at the university using local resources to lead discussion sections, administer exams and other evaluative materials and to do all of the other work associated with teaching a course.

- A traditional academic textbook publisher decides to expand its offerings and to create a platform to facilitate video coursepacks. The publisher plans to approach individual professors and to contract with them to create lecture modules that will be available on the video platform. The publisher and a given professor have a long-standing relationship, as the publisher has published multiple editions of the professor's leading textbook. With that in mind, the publisher asks the professor to record a series of lecture modules. Once the videos are done, the professor will have no ongoing role in the use of the video modules.

- A university offers an executive education program at its business school. A third-party firm approaches a professor to ask her to provide content for its online executive education program. The professor will not play an ongoing role in the firm's program after the initial set of materials is created.

- A professor undertakes on her own to record versions of her in-class lectures that she gives at her home school. She posts those on YouTube.com where anyone can watch those for free. YouTube has an option that would make it possible for the professor to run advertising in connection with the videos.

- A professor records her own lectures and sets up a for-profit website and charges individuals to watch the videos. After students have completed the videos, she issues a certificate of completion to the students.

Individual faculty members enter into content contracts all of the time. Some of these contracts relate to new research being disseminated through for-profit publishers like Elsevier or via non-profit publishers such as a university press. Other contracts are for educational materials such as textbooks that will be used as components of courses offered at other colleges and universities.

At the same time, individual full-time faculty members are frequently barred from teaching at other institutions (call this "appointment exclusivity"). University conflict of interest and commitment policies specify that a faculty member owes all of his or her professional efforts to their home institutions (subject to some de minimis exceptions). Those policies also often provide that faculty members may spend a limited amount of time on outside professional activities, but those permitted outside professional activities

rarely include teaching at another institution. Of course, faculty members may reach an agreement with their home institutions to take a leave and visit at another institution, though visits are consistent with a model of single institution loyalty. Similarly, even without consent, faculty routinely accept invitations to lecture at other institutions on a one off basis. Indeed, such activity is encouraged as it helps to further the scholarly reputation of both the individual faculty member and his or her home institution.

Do the cases described above pose different questions regarding university conflict of interest and conflict of commitment policies? Textbook writing by faculty members has usually not been thought to raise any distinctive conflict issues. (Selection of which books to *assign* for class might raise conflict of interest issues as might the content of the textbook, but both of those are outside the scope of the current inquiry.) Faculty members do not need to make sure that the time that they spend writing a textbook fits within limits on outside activities as textbook writing has been considered a quintessentially *inside* activity. Writing a textbook is part of the inside professional commitments of a faculty member and thus hasn't been seen to raise conflict of commitment issues.

Should video content be treated differently than textbooks? Does it matter if the university describes itself as "offering a course by Professor Z?" Is the central problem here one of appointment exclusivity, meaning that the conflict of commitment notion really is about making sure that the professional activities of individual professors are only available from their home institutions? Is that problem mitigated when the lectures are being offered by the publisher on a piecemeal basis and no single integrated course is offered?

Does that mean that there are no brand conflict issues raised if the videos are created and distributed by something other than a degree-granting institution? Is the question one of degree or certificate granting or is it enough if the venture competes with the home institution's revenue streams? Take the well-known example of Prof. Michael Sandel's Justice course taught at Harvard. In 2009, local Boston public station WGBH worked with Harvard and Sandel to put Sandel's course on television.[41] The TV course eventually led to a website (www.justiceharvard.org) with its own logo, videos offered on YouTube as part of Harvard's online presence[42] and formed the basis for the edX course, Justice, offered as part of HarvardX.[43] And it was a version of that course that San Jose

[41] Patricia Cohen, "Morals Class Is Starting; Please Pass the Popcorn," *The New York Times*, Sept 25, 2009, http://www.nytimes.com/2009/09/26/arts/television/26sandel.html?pagewanted=all&_r=0.

[42] https://www.youtube.com/playlist?list=PL30C13C91CFFEFEA6.

[43] https://courses.edx.org/courses/HarvardX/ER22.1x/1T2014/info.

State University planned to offer to its students until that was met with a strong rejection by SJSU's local philosophers.[44]

Figure 1: Course Logo

Although everything suggests that Harvard and Sandel were working together in scaling up Sandel's Justice course, Sandel certainly could have done a version of it without Harvard's involvement.[45] (Indeed, Sandel is currently working with BBC Radio to produce *The Public Philosopher*, a series of radio shows/podcasts on contemporary issues in philosophy, and it isn't obvious what role, if any, Harvard is playing in that.[46])

Consider a second example, say a non-degree granting executive education venture. Apollo Education Group Inc. is the parent company of the University of Phoenix. Although the latter is Apollo's best known product line, in January, 2013, Apollo branched out into executive education when it launched it Innovator's Accelerator program.[47] Under a tab for "professors," the program lists only three names: Clayton Christensen of Harvard, Jeff Dyer at BYU and Hal Gregerson at INSEAD with each identified by his institution and full title there. At the bottom of the page, in very small letters, the Apollo Education Group, is described as a publicly traded corporation offering educational services. What is described as the "Innovators Accelerator learning experience" is not provided, as it puts it, for "any academic credit, professional development or continuing education units/credits, or credential for completion." Another tab labelled "products" contains links to two products, both delivered digitally and online. The IA product offers 12 hours of independent learning, while IAx is a 30 hour experience, plus it comes with "a dedicated IA coach to inspire and engage."

[44] For their views, see http://www.documentcloud.org/documents/695716-an-open-letter-to-professor-michael-sandel-from.html.

[45] Although he could not have used his actual Harvard course including Harvard students without institutional permission.

[46] For background, see http://www.justiceharvard.org/2014/05/radio-times-the-public-philosopher-cultivating-the-art-of-listening/ and to listen, visit http://www.bbc.co.uk/programmes/b044gtk5.

[47] Lauren Hepler, "University of Phoenix Parent Takes on Ed Tech Startups," *Silicon Valley Business Journal*, Oct 17, 2013, http://www.bizjournals.com/sanjose/news/2013/10/16/why-clayton-christensen-cisco-ideo.html?page=all); https://innovatorsaccelerator.com/professors.html.

RECOMMENDATIONS

- **Academic Freedom:** *Academic institutions should not try to restrict the efforts of professors [teaching in their residential programs] to create mediated materials that will be used at other institutions*. On this framing, these materials are effectively textbooks 2.0 and should be treated, save for cost recovery and revenue sharing issues, as textbooks have been treated before. Academic institutions believe that textbooks written by their professors redound to the overall reputation of the school and that time that goes into producing those books are part of the scholarly mission of professors and schools. That said, textbooks are usually offered generally and aren't tailored for a particular school or limited in use to particular school. Mediated materials that are prepared for use at a particular institution—and only at that institution—are thus situated quite differently than standard academic work, where broad distribution is the hallmark of that work. Mediated materials that are limited to use at a particular institution other than the home institution may intrude on the traditional obligation of professorial exclusivity even if the creation of those materials do not trigger conflict of interest or commitment concerns.

- **Conflicts:** *Institutions should approach generally-distributed mediated materials and limited-distribution mediated materials differently*. The former should be understood as the equivalents of textbooks in a world of technological mediation of education. Those materials will be used in hybrid classes and it will be the combination of those materials with in-person teaching that will create a given course. Limited-distribution materials are situated differently, again not for conflict of interest or commitment reasons or for ways in which the creation of those materials will conflict with a professor's obligations to students at his or her home institution, but because of the way in which the materials unbundle the program of a particular academic institution.[48]

[48] For example, HBS distinguishes between faculty providing executive education services to specific companies where only company employees can participate from faculty participating in non-HBS sponsored executive education with open enrollment. The former is allowed and the latter prohibited because it competes directly with HBS offerings.

IV. Conclusion

Teaching in colleges and universities has so far resisted the technologies of scale. In the past, technologies appeared that promised to bring the nation's best teachers to large numbers of students across the country or even beyond. Perhaps this was the promise of correspondence education but, if not, certainly radio and television promised instruction at almost unlimited technological scale. These are failed revolutions in both technology and education.

Technology-mediated education is the newest contender, the newest revolution in the making. The fact that the prior revolutions didn't happen is no assurance that this iteration will fail as well. The hopes attached to the use of technology in education are understandable and come from a place that recognizes that the high cost of education means that fewer students have a chance to get the education that will help them lead full productive lives. Also, in an era of diminishing resources in support of education, technology still offers the potential to help us do more with less.

An emphasis on expanding opportunity to education, particularly in the context of constraints on resources, means that colleges and universities have good reasons to experiment with technology-mediated education. Institutions should take steps to make it possible for faculty to see how these new tools can change education. That will take resources, but the harder issue in many ways will be the willingness of institutions to rely on teaching or actual education that takes place elsewhere.

As the traditional textbook yields to a digital compendium of materials, more and more instruction will be produced elsewhere. In this new environment, the roles of faculty are likely to change. Teaching is likely to become a more collaborative activity that engages colleagues on other campuses. Faculty have always been asked to assemble the best teaching materials available for their students. In the future, these "best materials" will include far more lectures, presentations, and exercises created elsewhere. In this new environment, the value added of many faculty may require additional pedagogical skills. The core teaching skill of faculty has always been their capacity to help their students comprehend material at a deep level, but now much of that material may be developed elsewhere.

In thinking about the impact of technology mediated education, it is important not to forget that teaching and research are joint products at most of the nation's universities. It is hard for a professor to teach what he or she doesn't understand and understanding doesn't come easily or arise in a vacuum. Understanding often comes from reading research done by others and, deeper understanding, from doing research in the first

place. The fact that research isn't sold and bought in quite the same way that teaching is reflects the difference between public goods, where it is hard to exclude other users, and physical goods, where control over seats in a classroom (and ultimately of diplomas), can be implemented in a meaningful way. There is no teaching without research unless we believe that the body of knowledge to be taught in classrooms is static, and so far, at least, that hasn't been the case. New knowledge is the critical driver of economic growth and so much otherwise of what defines modern life.

These are both important goods. These goods could be seen as in competition with each other, but that would miss the critical role that research plays in making teaching possible. Expanding the availability of education is essential as is ensuring that the economic mechanism of higher education continues to sustain academic research. Technology that may make it possible to unbundle teaching from residential, physical location—and that is the promise of technology-mediated education—certainly offers the hope of expanding education. At the same time, we need to be careful that in moving down that path, we don't inadvertently undercut the framework that supports the generation of new knowledge that drives so much of our knowledge based economy.

Technology-mediated education will not affect all institutions equally. Some institutions will be net producers of content. Others will be net consumers. And, some will be both producers and consumers. Thus the need for new institutional arrangements in the areas of governance, conflicts of interest, conflict of commitment, and intellectual property will play out in different ways on different campuses. Administrators at elite institutions are likely to spend far more of their time sorting through conflicts as their faculty seek to create content that can be consumed elsewhere. Such activity may put these faculty members at odds with their obligation to their home institution. On these campuses, there is also likely to be considerable discussion about how the financial benefits of income generated by technology mediated education will be split. By contrast, administrators at institutions that face severe resource constraints may find themselves wrestling with how to use content created elsewhere to reduce the cost of education. They are far more likely to be engaged by conversations about how technology-mediated education may influence future faculty employment. On these campuses, faculty are likely to seek to control content that is imported from elsewhere. They will almost certainly do that in an honest belief that traditional approaches to education best serve their students, but faculty members will also have an almost unavoidable instinct to protect their jobs.

The bulk of the nation's four-year undergraduate degrees are granted by large public universities. These campuses face increasing political pressure to rein in rising college costs. While still in its infancy, technology-mediated education represents one of the very few opportunities to fundamentally bend the cost curve in higher education, though we

recognize that there are no guarantees that savings will be realized. While we believe that faculty need to be involved in decisions to import content created elsewhere, it would be unfortunate if the tensions between faculty and administrators were to be resolved in ways that stifled innovation. We must continue to experiment with technology-mediated education to understand both its promise and its limitations.

As John Hennessey notes, to do a technology mediated course well costs millions of dollars. While there may be twenty or so core subjects with large enough enrollments nationally to justify such investments, upper-level courses are sufficiently differentiated among institutions and disciplines that it will be hard to justify such an investment. And even in the large entry level courses, there is the pedagogical equivalent of the last-mile problem. Content produced elsewhere will need to be incorporated into courses offered locally, as has always occurred. At least for the foreseeable future we will still need faculty to help students who struggle with both the technology and the material. All of this is a long way of saying that faculty are not likely to be replaced by technology any time soon. We should root for increases in faculty productivity as that offers the best hope of educating future generations of students at costs that society can bear. Ultimately, such an outcome would benefit all of higher education.