

Is Online Learning a Disruptive Innovation?

It isn't the technology per se, but the new thinking it inspires, that can be disruptive.

by Katrina A. Meyer

In their desire to plan for the future, planners must assess the role of both internal and external influences on the institution. What then should we make of the idea that technology is disruptive? This perception fuels the views of Barone and Hagner (2001), who claimed that technology would “transform” higher education; Duderstadt (2000), who stressed that technologies would drive changes in higher education; and Gonick, who saw in the Internet a “new kind of force” and “a change agent” that would produce a “very different kind of university” (Gonick 2009, ¶4–¶5, ¶9). This language is consistent and powerful, but the question remains: Should planners plan for the disruption of higher education? Have the promoters of the “technology as disruptor” idea overplayed their hands or is transformation around the corner?

Three problems plague language equating technology with transformation. First, such language is oversimplified and ignores other forces at work such as the human element. Second, it lacks precision. Third, it lacks a theory that can help explain disruption and evaluate whether it has occurred. To address the first problem, this analysis incorporates alternative forces that contribute to or modify the influence of change agents. To address the second problem, this article focuses on online learning. To address the third problem, this analysis draws heavily on the work of Christensen (1997, 2000), whose concept of “disruptive technology” was first applied to technologies in business. So the charge for this effort is to evaluate whether online learning is a disruptive technology in higher education, as defined by Christensen (1997).

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Review of Literature

The theories of Rogers (1995) and Christensen (1997) may be helpful in this analysis. Rogers' diffusion theory has been a popular tool for studying innovation that has been applied to online learning by Armstrong (2000), Hiltz and Turoff (2005), and Liao (2005). These authors considered online learning to be the perfect example of a disruptive innovation, one that would shake the basic assumptions and foundations of higher education and generate the transformation writers such as Barone and Duderstadt predicted.

According to Rogers (1995), an innovation has five characteristics. First, it has *relative advantage*, which is the extent to which the innovation is "better than the idea it supersedes" (p. 15). While some faculty members may have intuited the relative advantage of online learning, not all have by any means. Second, it has *compatibility*, or the extent to which it is "consistent with the existing values, past experiences, and needs of potential adopters" (p. 15). Perhaps online learning is less compatible with the existing values of faculty, who have expressed distress at losing the personal interaction with and knowledge of students that they value. Third, it has *complexity*, defined as the extent to which it is "perceived as difficult to understand" (p. 16), so that simpler innovations are quicker to diffuse and more complex ones are slower. Online learning is seen as more complex and difficult. Fourth, it has *trialability*, the extent to which it "may be experimented with on a limited basis" (p. 16), perhaps on an installment plan. Fifth, it has *observability*, the extent to which the "results of an innovation are visible to others" (p. 16). To what extent does online learning possess these characteristics?

Let us now turn to the work of Christensen (1997, 2000) and his concept of disruptive innovations, which are technological innovations, products, services, processes, or concepts that disrupt the status quo. As developed by Christensen (1997, 2000) and Christensen and Raynor (2003) to apply to businesses, the disruptive innovation may not be perceived initially as such. In its early stages, the innovation may actually underperform existing technologies or not satisfy customers in the mainstream market. In time, firms that use the disruptive technology come to satisfy a niche market or fringe customers who value the technology or the product it makes possible. The technology eventually exceeds the performance of prior products and then improves to eventually satisfy the mainstream market. Christensen (1997, p. xvii) noted that "investing aggressively in

disruptive technologies is not a rational financial decision" because the disruptive products are initially simpler and cheaper, appeal to smaller markets, and are not wanted by existing customers. But despite this situation, firms that support the disruptive technology "displace incumbent firms that supported the prior technology" (Danneels 2004, p. 247).

Christensen does not provide a clear definitive set of criteria for identifying disruptive technologies. In fact, a technology may be both disruptive and sustaining at the same time. Christensen (Christensen and Overdorf 2000; Christensen and Raynor 2003) argued that the Internet is an example of a technology that performs both roles for different firms, depending, according to Charitou and Markides (2003), on the firm's business model, product, market, resources, or competencies. A firm serving a mainstream market with an existing technology may—if it has the resources, competencies, and foresight—adopt a disruptive technology to better serve its current market and create new ones, even though the technology may destroy its current competencies or ways of operating successfully. In other words, disruption is not simply a characteristic of the technology, but of how it is perceived, adjusted to, and incorporated (or not) in the organization's work. Christensen, Horn, and Johnson (2008) applied these insights to the issue of computers in K–12 schools and concluded that adding computers would not likely disrupt K–12 education, but using those computers to provide student-centric education could do so. Christensen et al. (2011, p. 28) asserted that online learning is a "technology driver" or enabler for disruption not because of its use of technology, but because it encourages a rethinking of assumptions regarding policies (such as credit hours and seat time). It isn't the technology per se, but the new thinking it inspires, that can be disruptive.

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Danneels (2004) has argued that the critical point in defining disruptive technology is whether it "changes the bases of competition by changing the performance metrics along which firms compete" (p. 249). For firms, those performance metrics may be price and benefit to

customers (among many others), but the metrics will be quite different for educational institutions such as colleges and universities. For online learning, such metrics may include price (or the cost of tuition and fees), as well as the availability or flexibility of offerings that appeal to students and generate ongoing enrollments.

How will we know a disruptive technology when we see it? Christensen (2000) stated that “disruptive technologies are typically simpler, cheaper, and more reliable and convenient than established technologies” (p. 192). Danneels (2004) claimed that these characteristics may be typical, “but not necessary” (p. 249). One can see that online learning may be more convenient and that it holds the promise of being more efficient (Meyer 2006), but the jury is still out on whether it is simpler or more reliable as Christensen (2000) has proposed. And if online learning is found to fit Christensen’s (2000) definition of a disruptive technology, does it possess other qualities that prevent it from becoming disruptive?

What is missing is evidence that online learning has affected higher education institutions in new or fundamental ways. In fact, Friesen (2009) has labeled “technology drives educational change” (p. 194) as a myth—a myth that begs for a careful critiquing of the assumptions behind it. We assume that disruption is immediate but it may be too slow or too hard to see. Prior to claiming that online learning is disruptive ought to come some careful analysis of whether—and to what extent—disruption is happening and whether it is due to online learning rather than other causes. These worthy questions may not be answerable at the present time. However, it is essential to ask what evidence exists that online learning has been disruptive to the higher education marketplace and whether the tools of online learning that have been promoted as being disruptive have actually been so.

Method

The research question that guided this work was two-fold. First, has the higher education marketplace changed as a result of online learning, and can this be claimed to be disruptive? This required identifying existing data and rationales that could form a reasoned argument for and against the existence of disruption. It involved reviewing research studies in the literature and existing data from the National Center for Education Statistics (NCES) and the Sloan Consortium.

Second, have certain technology tools become disruptive? Particular tools were identified from the literature: (1) those considered essential to online learning and (2) those where a claim had been made that the tool was potentially disruptive. The definition of a tool was left broad and encompassed technological innovations, practices, policies, or administrative initiatives. The list of potential tools was then evaluated against the known research literature so that others’ perspectives on the tool would be available. The tools that met these criteria—essential to online learning, potentially disruptive, and referred to in a body of literature—were (1) learning object repositories, (2) course redesign, and (3) course management systems.

Each tool was then analyzed for why it was or was not disruptive using the theories of Christensen (2000) and Rogers (1995). Arguments for why the tool may or may not be as disruptive as foreseen by advocates were proposed.

This work relies on the concept of “immanent critique” (Friesen 2009). Immanent critique is a critical process that challenges “mythical inevitabilities and ideologically charged ‘common sense’” (p. 176). It does so by challenging ideas that are presented as obvious, inevitable, commonsensical, and self-evident. It highlights contradictions hidden behind claims and suggests alternative interpretations.

This work is not definitive since the processes of change (or disruption) in higher education are ongoing. However, it may be helpful for those who study change in higher education to understand why online learning may or may not be disruptive, why some change agents are not as powerful as proposed, and how those agents’ effectiveness may be enhanced.

A Disrupted Higher Education Market?

Let us be cautious in assuming that certain terms such as “market” are consistent across types of organizations. Higher education’s market is different from business markets. First, while institutions clearly compete with each other in athletics, higher education’s customer base has benefited from the growing number of traditional-age students produced by the baby boom generation and the growing college attendance among adults. When the economy is troubled, people return to college to be trained for new jobs or to get the professional development needed to keep them (Betts and McFarland 1995).

Second, the higher education “price” or tuition does not reflect the cost of the services provided. In public

higher education, price is greatly reduced through funding provided by the state; private higher education sets its price to more nearly reflect cost, but may also waive the price if the student is needy or special in some way (a practice known as “tuition discounting”). What business has its costs subsidized by a third party? What business would waive a portion of its price because it really wants that particular customer or because that customer particularly deserves to have its product?

Third, the majority of higher education’s employees are highly educated and largely autonomous in their work processes and standards. Foes of tenure make much of the way tenure can give faculty a sense of invulnerability to oversight or productivity, although one always hopes such faculty are the exception and not the rule.

With these caveats about the differences between higher education and business in mind, let us ask whether online learning is disruptive in the way that Christensen proposed. Has online learning created a new market or tapped an existing market? Let us take this issue in order from the institution level to the student level.

Certainly, new institutions and organizations have been created to take advantage of the Internet to educate individuals: Western Governors University, the Electronic Campus of the Southern Regional Educational Board, and California Virtual Campus are only a few of these. Forty-five states have 61 organizations defined as “virtual colleges or universities” (Epper and Garn 2003) that collect distance courses from public institutions into a central body and/or ease student access to courses and services across institutions. These institutions, organizations, and state efforts are solid indications that higher education has new institutions and new types of institutions.

However, what evidence is there that higher education is being transformed? Certainly, participation in online learning has exploded. In 2001, over 90 percent of public institutions offered some sort of distance learning; over three million students were enrolled in all varieties of distance offerings (National Center for Education Statistics 2003). Enrollments in online programs totaled 937,000 students in 2004 (Carnevale 2005) and grew to 1.2 million students in 2005 and 3.9 million in 2007, or 7.9 percent of the total student enrollment in degree-granting institutions (Allen and Seaman 2008). Enrollments in online courses in fall 2003 totaled 1.9 million students, an increase of 20 percent from fall 2002 (Allen and Seaman 2004). In addition, 20 percent of students surveyed took an online

course in 2007 (Allen and Seaman 2008). However, since we cannot estimate how many courses use online learning to improve student outcomes or enhance the quality of on-campus classes, the figure is probably much higher.

The reasons given by students for participating in online courses speak to Christensen’s (2000) definition of disruptive innovation as “typically simpler, cheaper, and more reliable and convenient than established technologies” (p. 192). In Young’s (2006) study of 199 online students, students identified seven core reasons why they found online learning effective; two of these were “adapting to student needs” and “delivering a valuable course,” which seem to support student’s desire for classes that meet their needs and deliver a good education. Online courses may not be simpler or cheaper, but they are available and convenient and may be the only avenue to an education for many students. This may argue for including meeting the educational and convenience needs of new or previously underserved students when looking at disruption in higher education, rather than simplicity or cost as in Christensen’s model.

Is this disruption? The enrollment figures reviewed above indicate that online learning has caught on with students, faculties, and institutions alike. In a 2007 study of 2,500 institutional leaders, Allen and Seaman (2008) found that 58 percent felt that online learning was critical to their institution’s long-term strategy, which is an indication of how important online learning has become. Many institutions have already undertaken a massive overhaul of student services to be offered online, benefitting both on-campus and online students. However, no definitive figures capture the extent to which traditional institutions have been “virtualized” or have adopted online learning. Garn (2009) has argued that the virtual colleges and universities created by the states were intended to transform the states’ traditional institutions, but evidence that this occurred is not strong or is difficult to unravel from other forces of change.

Is this evidence of disruption? Christensen (1997) defined a disruptive innovation as one that overturns an existing technology or product. If one were to decide today whether online learning is disruptive, the answer may be “probably not,” since online learning has not overturned or replaced the traditional face-to-face classrooms or the residential college campus. A better way to characterize online learning is that it augments the traditional face-to-face offerings of campuses, although it is growing at a rate that is much faster than that of on-campus enrollments. It is not possible to conceive of a time when campus-based

instruction ceases to exist or when online learning replaces the status quo. A residential campus provides more than just learning; it provides a relatively safe environment for student maturation, experimentation, and development. It is also true that higher education may be satisfied with its position, reluctant to adapt to new market realities, and desirous of avoiding radical change. In any case, the difficulty in deciding on disruptiveness now is that it may well take years or decades to know if an innovation has truly been disruptive to higher education.

So let us settle for identifying the early signs of disruption. Let us conclude that an old way of doing something is no longer the norm. In this case, the evidence that distance or online learning enrollments grew 18.2 percent from 2004 to 2005 and 12.9 percent from 2006 to 2007 (Allen and Seaman 2005, 2008) and that 63 percent of institutions now offer online courses may well be early indications that something is changing. But this growth still needs to be put into context; in other words, online enrollments (3.9 million) still comprise only a small percentage of the over 24 million total enrollments in U.S. higher education institutions in 2003–04 (National Center for Education Statistics 2005). So while this is surely evidence of early disruption, it cannot be termed conclusive.

One last caveat is needed before proceeding. Is this growth strictly the result of technology or online learning? Certainly other causes may be the arrival of the “baby boom echo,” the increase in the number of jobs requiring college preparation, and the growing importance of convenience to students. In other words, the ability of online learning to disrupt may have benefited from waves of disruption in other areas that students merely rode upon.

The Cases

Case 1: learning object repositories (LORs). Learning objects have long been promoted as a way to make learning come alive through the use of online applications that demonstrate a concept, help the student develop certain skills, and encourage interaction with a problem. Learning objects have been collected in learning object repositories, the first of which was MERLOT (Multimedia Educational Resource for Learning and Online Teaching); such repositories now number over 30 (see http://edutechwiki.unige.ch/en/Learning_objects_repositories for one list of repositories). Early advocates of using learning objects included Jones and Matthews (2002); Howell, Williams,

and Lindsay (2003); and Frydenberg (2002), who touted their ability to lower development costs, standardize content, and customize learning.

The research on the use of learning objects would not agree with these early assessments. Lasseter and Rogers (2004) and Mason, Pegler, and Weller (2005) stressed understanding the importance of time as it affects the attractiveness of using learning objects. This is critical, since making learning objects available in a repository does not yet recognize the amount of time it takes for faculty to locate, evaluate, accommodate, and then use them in a course (Meyer 2006). Littlejohn (2003) stressed several reasons for why they are not used more frequently: objects require modification (which may not be a skill the faculty person has, and so must be sought elsewhere), learner support must be provided (not all objects work on students’ computers), and objects are not standardized or interoperable. Moisey, Ally, and Spencer (2006) identified nine barriers to the use of learning objects, including “work involved and skill deficits” (p. 153). As Zemsky and Massy (2004) stated, learning objects are often too specialized or suitable only to a particular curriculum and faculty find them too confusing to use. In other words, however valuable they might be, learning objects represent a large investment of time on the part of the faculty person and require the acquisition of skills, which also requires an investment of time.

The larger issue may be that the faculty day (week, month, or semester) is not as carefree as many outside academe believe. With obligations to teach, prepare lessons and courses, assess learning, work with students having problems, produce research, provide service, and work on any number of committees, faculty lives are packed with obligations. The choice faculty face is to spend less time on something in order to make time to find learning objects and figure out how to use them; in that case, perhaps implementing the learning object has to be postponed. In other words, despite the potential of learning objects to be an innovation that disrupts higher education, they fail to do so because of the crowded lives of faculty. Other innovations that require too much time to develop or implement might also be likely candidates for a disruptive innovation that did not disrupt as much as expected.

This issue of time—the importance of factoring in the time of those who will use the innovation—is ignored by Christensen (1997). But in Rogers (1995), we can see that while learning objects may have a relative advantage in terms of student learning, they may not have a relative

advantage to faculty. In fact, the complexity of this innovation may be its biggest hindrance to being widely adopted and used. Hughes (2001) pointed to the importance of conceptualizing technology-enabled change not as a technical system but as a sociotechnological system, with technical, organizational, and social components. This point reminds us that change must always be accepted and adopted by humans.

Case 2: course redesign. Since 1999, the National Center for Academic Transformation has been experimenting with the use of various technologies to redesign courses in order to improve the quality of learning and control costs. Of 30 projects, 25 saw significant increases in student learning, including improved test scores, increased retention, and lowered drop-failure-withdrawal rates. Costs were reduced 37 percent on average with an annual savings of \$3 million (National Center for Academic Transformation 2005; Twigg 2003a, 2003b). With such results, why is course redesign not occurring more frequently and at more institutions?

The answer is two-fold. First, redesigning a course can be costly, as it requires a team of individuals—including faculty, instructional designers, web designers, and software specialists—to totally transform a course from its learning objectives to its activities to its assessment tools, from its ability to diagnose learning faults to its ability to customize the instructional experience (Meyer 2006). This is expensive, and estimates vary depending on the media chosen. For example, it takes \$2 to digitize a book chapter, \$20 to \$50 to have a work-study student or media specialist videotape a faculty lecture, \$20 to \$200 for an hour of faculty time, \$200 to \$2,000 for 60 minutes of unedited classroom video, \$20,000 for 30 minutes of production-quality lecture, \$100,000 for 60 minutes of commercial-quality video, and \$100,000 to \$400,000 for commercial-quality digital or computer simulation (Green 1997). Multimedia (e.g., animations and interactive programs) increase the production cost to \$120,000 to \$250,000 per course (Bodain and Robert 2000). Simulations and virtual reality are even more expensive. Of course, not every course or program needs the full redesign treatment, but the cost of even modest redesigning must be taken into consideration.

The time needed to prepare a redesigned course must also be considered. Designing online courses using the expertise of instructional designers and content experts such as faculty takes time. Boettcher (2006) estimated that it takes 18 hours to develop one hour of student learning

on the web. While certainly the cost and time expenditure may well be worth it in terms of student learning, online courses and course redesigns are an investment that draws heavily on two scarce higher education resources: funding and faculty time.

Despite these costs, it is clear that course redesign results in improved student learning and/or a decline in the rate that students drop, fail, or withdraw from a class (Twigg 2003a, 2003b). When students successfully complete a class, the institution can avoid the cost of providing instruction to the student a second time, allowing new students to take the places vacated by students who can go on to more advanced courses. This may be a good reason for declaring the course redesign effort as one of relative advantage—to students and institutions alike—and possibly disruptive. It creates a new product (the redesigned course) that uses technology to support student learning, thereby making it possible for more students to enroll and subsequently expanding the market of individuals who can be served by higher education.

Case 3: course management systems (CMSs). Course management systems have been an increasingly important and essential tool for higher education institutions. Good usage data on CMSs are not available, partially because many modern systems generate course “shells” for every course in the schedule that faculty may or may not use or use only for posting a syllabus. However, the CMS is a cost to the institution in terms of the cost of increasing licensing fees, the cost of upgrading systems, and the cost of faculty and staff learning to use the system. Several higher education systems (e.g., in Wisconsin, Minnesota, and North Dakota) have opted to change their CMS packages in the hope that standardizing all courses on one lower-cost product would lower costs. Unfortunately, switching products is a cost in itself, including the loss of materials during the transition between packages or the lack of a transition function altogether (the new CMS may not offer a way to transition courses from the old product to the new). In a test of transitioning courses from one CMS to another, approximately 50 percent of course material was lost (Smart and Meyer 2005), which indicates that there could be a substantial cost to the institution as faculty learn the new CMS, reenter materials, and redesign the course in the new CMS software.

But the cost of the CMS is neither the entire story nor perhaps the most pertinent point for those interested in disruptive innovations. The CMS is a shell for sharing

materials, holding discussions, taking tests, and grading online. But there is nothing intrinsic in the shell that would change existing pedagogies or impose a new approach to teaching on higher education faculty. In fact, the CMS has made it “too easy for professors to transfer their standard teaching materials to the Web” (Zemsky and Massy 2004, ¶21). Weigel (2005) added, “The genetic weakness of the contemporary CMS stems from its uncritical acceptance of the traditional features of the classroom model” (p. 55). Certainly, the CMS makes online modules, learning objects, and all kinds of web-based materials available to the student, but this does not necessarily change the existing instructional philosophy of the faculty. It does not matter whether the tool is a chalkboard, whiteboard, PowerPoint slide, or web page; some faculty lecture and use the tool as a way to lecture or push content to students. Having better technology available or even using it in rudimentary ways may not change a professor’s preferred pedagogy.

In other words, the CMS may not affect pedagogy to the extent its proponents thought. Or, as Lane (2008, p. 5) asserted, the pedagogy built into the CMS is a “trap,” making it the “wrong tool” to dictate pedagogy to faculty. The CMS may be a valuable tool in some ways (e.g., making materials more easily available, increasing communications between and among faculty and students), but it may not be a disruptive innovation. When you add the continuing need for human contact (Katz 1997) expressed by many faculty and students, you have another powerful reason to see the CMS as an augmentation to face-to-face classes.

The CMS does not challenge the existing product, although it does have the potential to help institutions reach a wider market for the product. Perhaps we can even go so far as to claim that the CMS has been critical to the growth of online learning, since the majority of faculty did not have the skills to devise ways of administering and grading tests online, for example. Certainly, the CMS made the process of going online easier.

The framework of Fichman (1992) may be helpful in understanding if disruption by the CMS can occur or not. His description of Type II technologies, which have higher knowledge barriers to adoption, may be especially applicable. Those higher knowledge barriers capture the faculty’s need to learn a new or different pedagogy (as well as how to manipulate a new CMS), which requires a new and complicated knowledge and skill set. Because a CMS can be used without questioning an existing pedagogy, its ability to disrupt—to force new or different pedagogies—is likely to be modest.

The Conditions for Disruption

The cases above imply that there are some very good reasons why online learning and the tools of online learning are not as disruptive as advocates have proposed. This error may be the result of a number of misconceptions.

First is the widespread misconception of the faculty role. Many critics of higher education have castigated faculty as barriers to change; indeed, faculty may be barriers but not for the reasons supposed. In fact, the faculty has adopted available technologies at impressive rates. In a 1998 survey by the National Education Association (Institute for Higher Education Policy 2000), 70 percent of faculty had a computer at home, 25 percent had been involved with distance education, and 27 percent had a web site for their classes. And, almost 90 percent felt that student use of computers enhances their learning. By the time of the 2004 National Survey of Postsecondary Faculty, 82 percent of faculty used e-mail in their teaching, and 61.6 percent of faculty in Research I institutions and 39.1 percent of faculty in community colleges used websites in their teaching (Meyer and Xu 2007). Web and e-mail use is also related to faculty productivity and especially to teaching and research productivity (Xu and Meyer 2007). If many faculty are using technology, then what is the barrier?

The answer is simple: time. Faculty lives are packed with obligations to students, peers, programs, departments, institutions, and external constituencies. Faculty may have enormous flexibility in how and when those obligations are met, but they have obligations that keep their time filled and free time at a premium. Exploring new tools like learning objects takes time; learning new pedagogical approaches takes time; transforming a class takes time. The barrier may not be faculty reluctance to change; the barrier may be simply finding time to do so.

Second, many of our disruptive innovations—such as course redesign and implementing new pedagogies—have proven themselves to be cost effective: increasing learning and decreasing costs, increasing time spent on course subjects, and improving interactions among students and faculty (Twigg 2003a, 2003b; Wingard 2004). They work. So why have institutions not grasped the potential of course redesign and set forth more redesign projects on every campus?

The answer is simple: redesign requires resources from the institution. It is not done with spare change. It is not done with faculty alone, but requires instructional

design staff with expertise in how to improve learning with an eye to the balance sheet. It is not done quickly, since it requires a thoughtful rethinking of the course, student learning objectives, activities, assessment strategies, and student learning styles. And this requires resources.

Third, CMSs have been a boon to online learning initiatives. They increase student access to resources. They allow discussions to occur online. They perform grading functions so assessment can be continuous. They also enhance on-campus courses. But why have they not disrupted more? Is it the CMS or is it faculty?

Only time will tell if disruption will occur.

The answer is simple: faculty need a better understanding of pedagogy. Most faculty members are not trained in pedagogy; they use the techniques they experienced as students, the teaching styles that most benefited their own learning, or approaches borrowed from colleagues. A CMS can be used in ways that mirror what faculty have always done: present material, provide resources, discuss. A CMS is only as good as the imagination, skill, and pedagogical expertise of the faculty who use it. The CMS itself may not disrupt because it mirrors the faculty's pedagogical skills.

Discussion

These explanations and the theories of Christensen and Rogers help us predict whether future innovations will be disruptive. Certainly, more innovations will be developed and interest is growing in tools like iPods, blogs, wikis, text messaging, MySpace, Facebook, videophones, and other Web 2.0 tools. Will these disrupt? It may be a fair guess to say that they will not be as disruptive as supposed unless they can overcome the barriers of faculty time, institutional budgets, and pedagogical senescence. If faculty do not have the time to learn a new technology, figure out how to make it work in class, and modify the class around it, then it may not disrupt. If institutions find it too costly for the innovation to spread, then it may not disrupt. And if it does not expand the faculty's repertoire of pedagogies, then it may not disrupt.

So have perceptions that online learning disrupts been proven? In all fairness to the current evidence, the answer

is "no" and, additionally, "not yet." The assertions of disruption have been challenged, and at least planners may be more careful consumers of assertions about disruption and transformation. Quite honestly, only time will tell if disruption will occur. But if it does, then it will be because other conditions were also in place (e.g., faculty time, resources, professional development in pedagogical alternatives). Planners can be more skeptical of assertions of disruption and instead consider context, looking for influences and standard ways of doing business that support and hinder change. Thinking about disruption in this way can help contribute to planners' ability to "deal with change, both intentionally and opportunistically" (Norris and Poulton 2008, p. 8) and to rethink and revise strategies for online learning that can support disruption. Planners need to become "shrewd students" (p. 14) of disruption so that it is not applied too simply or given more credit than it has earned.

It would be a shame to see this chance to develop something new and better lost.

Let us return to the planners' dilemma. Do you plan for disruption or not? If online learning is not a disruptor, then that may be because the barriers were stronger and more difficult to change than originally thought or because we forgot the uncomfortable complexity of real organizations, systems, people, and learning. Perhaps planners should focus on identifying and helping to remove the barriers or on supporting an innovation's movement through the institution. In any case, it would be a shame to see this chance to develop something new and better lost. It would be a credit to planners in higher education if we used the opportunity presented by online learning to imagine new ways of ensuring that more students learn, to support faculty willing to contribute more to their institutions, and to help our institutions serve society in more imaginative ways. ☛

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