Online Educational Delivery Models: A Descriptive View - November 1, 2012
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Although there has been a long history of distance education, the creation of online education occurred just over a decade and a half ago—a relatively short time in academic terms. Early course delivery via the web had started by 1994, soon followed by a more structured approach using the new category of course management systems. Since that time, online education has slowly but steadily grown in popularity, to the point that in the fall of 2010, almost one-third of U.S. postsecondary students were taking at least one course online. Fast forward to 2012: a new concept called Massive Open Online Courses (MOOCs) is generating widespread interest in higher education circles. Most significantly, it has opened up strategic discussions in higher education cabinets and boardrooms about online education. Stanford, MIT, Harvard, the University of California–Berkeley, and others have thrown their support—in terms of investment, resources, and presidential backing—behind the transformative power of MOOCs and online education. National media outlets such as the Wall Street Journal, the New York Times, and The Atlantic are touting what David Brooks has called "the campus tsunami" of online education.

Unfortunately, a natural side effect of this new interest in education and educational technology is an increase in hype and in shallow descriptions of the potential for new educational models to replace the established system. All too often, the public discussion has become stuck in a false dichotomy of traditional vs. online—a dichotomy that treats all online models as similar and that ignores blended or hybrid approaches. This false dichotomy is even more evident now that discussions are spilling into national media forums. But in fact, as my colleague Molly Langstaff has described, educational technology is interacting with innovative educational courses and programs to create not only new language but also multiple models for delivering education.

As we continue to discuss important issues such as access, affordability, and personalized learning in higher education, we would be helped by having a richer understanding of the changes that are already occurring. I would like to offer a more descriptive view to capture the growing number of approaches enabled by educational technology. The following is certainly
not exhaustive, since the field is rapidly changing. In addition, not all of these models will end up thriving in the long term. My intention is simply to describe some of the primary models and ideally to reduce some of the confusion evident in public discussions.

What does this emerging landscape of educational delivery models look like? I have categorized the models not just in terms of modality—ranging from face-to-face to fully online—but also in terms of the method of course design (see Figure 1). These two dimensions allow a richer understanding of the new landscape of educational delivery models. Within this landscape, the following primary models have emerged: ad hoc online courses and programs, fully online programs, School-as-a-Service, educational partnerships, competency-based education, blended/hybrid courses and the flipped classroom, and MOOCs (see Figure 2).

**Ad Hoc Online Courses and Programs**

Given the faculty- and department-driven nature of many U.S. postsecondary institutions, the creation of ad hoc online courses and programs—those not based on institutional policy and strategy—is not at all surprising. Due to this ad hoc nature, there are also myriad reasons for the online courses and programs, ranging from faculty exploration of the new medium to the specific needs of particular programs. But many of the ad hoc courses are based on individual faculty members' belief that they are getting better results and learning outcomes using online tools. This is despite most faculty members' skeptical view of the quality of online education. According to a study by Inside Higher Ed and the Babson Survey Research Group, fully two-thirds of faculty members say that learning outcomes from online education are inferior compared with outcomes from traditional courses. Still, the report also suggests that the more exposure faculty have to online education, the less fear they have as well. Faculty members teaching ad hoc online courses are one of the most important yet overlooked sources of knowledge and experience regarding online education. Although ad hoc online courses and programs blazed the trail in what is possible, they are not the primary source for the large growth in online education. Furthermore, ad hoc online courses and programs are typically not intended to scale in terms of numbers of sections or students.

**Fully Online Programs**

The biggest drivers of growth in online courses and enrollment to date have been fully online programs from the for-profit sector and from online-only organizations created by nonprofit institutions. In both cases, these online programs are organized around a concept called the *master course*. This concept of the master course, which changes the educational delivery methods of an institution, is perhaps the biggest differentiator between traditional, for-profit, and even nonprofit fully online organizations.

A master course gets replicated into multiple, relatively consistent sections in a repeatable manner. In this approach, instructional design teams—typically including multimedia experts, quality-assurance people, and instructional designers—work with faculty members and/or subject-matter experts to design a master course. Once designed, the master course sections can be taught or facilitated by multiple instructors, typically adjunct faculty. The faculty members who are part of the design can also be instructors for a couple of sections, but generally the sections are taught by instructors who were not part of the design team.

The master course concept changes the assumptions of who owns the course, and it leads to different processes for designing, delivering, and updating courses--processes that just don’t exist in traditional education. The implications of this approach are significant. These differences create a barrier that very few institutions can cross. So, how do institutions that want to provide scale and access deal with this barrier? The most common method over the past decade or two has been to create separate organizations that will implement the master course concept. The majority of for-profit organizations—at least the medium and large for-profits that operate at scale—are based on this concept, whether using online courses or blended/hybrid courses. The largest and best-known example is the University of Phoenix. In the nonprofit sector, the online organizations typically fit within the overall system of governance, but the operations, budgets, and academic oversight are provided individually. Examples include Rio Salado College, University of Maryland University College, and Colorado Community College Online. These organizations often have more in common with their for-profit brethren than with the other institutions within their system.

Many of the failures of traditional institutions or statewide systems to successfully create, grow, and sustain online programs can be traced to organizational resistance from the rest of the system to the separate online organization.

**School-as-a-Service**

Another approach to overcoming the barrier between traditional education and scalable online education is outsourcing to, or partnering with, an external company for online content, curriculum, and/or student services. These companies bring experience and capabilities to help schools implement a master course concept and the associated operations while providing these courses through the traditional institution.
There is also a burgeoning industry built around outsourced, for-profit service providers—companies that provide the curriculum and course development, as well as the operations, of an online program. This new category is called School-as-a-Service, and some market estimates indicate future compound annual growth rates of 30 percent for this sector. Pearson has entered this market based on the model used with Arizona State University and California State University. Other providers include EmbanetCompass, 2tor, Deltak, and Academic Partnerships. (In mid-October there were several changes in the School-as-a-Service market: 2tor rebranded as 2u, Deltak was purchased by John Wiley & Sons, and EmbanetCompass was purchased by Pearson.)

Educational Partnerships
An additional promising approach is not well known but has already shown real results. In this model, external organizations provide portions of the online courses and communities of practice, including a network of peer instructors worldwide working in similar programs. The Cisco Networking Academy program is a good example of this model. It has already scaled to serve more than 1 million students, in 165 countries, through more than 10,000 partner institutions. In this model, the educational institution offers the courses within its curriculum, allowing students to pursue industry-relevant certifications and even to use the courses as part of their degree programs. The schools must have or purchase lab equipment, but otherwise the schools benefit from Cisco's decades-plus investment in curriculum, technology platforms, and growing experience with games and assessments. Established in 1997, Networking Academy is Cisco's "largest and longest-running Corporate Social Responsibility (CSR) program," meaning that there is no charge for public and nonprofit institutions. Despite the program's size, the nature of Networking Academy is often misunderstood: it is not a corporate training program but is, rather, a nonprofit educational program.

Competency-Based Education
One of the keys to potential innovation within higher education is to move from credit hours to competency assessment as the definition of whether a course has been completed. Just two years ago, Western Governors University stood almost alone as the competency-based model for higher education, but today it has been joined by Southern New Hampshire University, the University of Wisconsin System, Northern Arizona University, StraighterLine, and Excelsior College. What exactly is competency-based education (CBE)? In 2000, SPT Malan wrote about the generally-accepted origins: It is based on the broader concept of outcomes-based education (OBE), which starts with the desired outcomes and moves to the learning experiences that should lead students to those outcomes. OBE can be implemented in face-to-face, online, and hybrid models. In the narrower concept of CBE, the outcomes are more closely tied to job skills or employment needs, and the methods are typically self-paced. In an article from 2000, SPT Malan listed the six critical components of CBE:

- Explicit learning outcomes with respect to the required skills and concomitant proficiency (standards for assessment)
- A flexible time frame to master these skills
- A variety of instructional activities to facilitate learning
- Criterion-referenced testing of the required outcomes
- Certification based on demonstrated learning outcomes
- Adaptable programmes to ensure optimum learner guidance

What is driving the current growth in CBE models? In a nutshell: the desire to provide lower-cost education options through flexible programs. The government, at both the federal and the state levels, is playing a large role. In a speech in November 2011, U.S. Secretary of Education Arne Duncan said of programs such as Western Governors University: "I want them to be the norm." In June 2012, Paul Fain reported on an event attended by Eduardo Ochoa, then the assistant secretary for postsecondary education at the Department of Education. Ochoa stated: "The department is looking to see competency-based education develop and flourish." According to Fain, Ochoa said the Obama administration supports quality competency-based approaches, "which can expand student access while trimming college costs and the amount of time it takes to earn a degree."

At the state level, in June 2012 the University of Wisconsin System and the Office of Governor Scott Walker described their upcoming CBE initiative:

"The University of Wisconsin System (UW) will develop a new, flexible college option, using online instruction and other innovative methods, to deliver the competencies students need at an affordable UW price. . . .

This unique competency-based model will allow students to start classes anytime they like, work at their own pace, and earn credit for what they already know. Students can demonstrate college-level competencies—no matter where they learned the material—as soon as they can prove that they know it. By taking advantage of this high quality, high flexibility model, and by utilizing a variety of resources to help pay for their education, students will have new tools to accelerate their careers."
Blended/Hybrid Courses and the Flipped Classroom
Blended or hybrid courses combine online and face-to-face class time in a structured manner. Although there are varying mixtures of content delivery and interactive activities in this approach, the logical extension is something called the "flipped classroom." The flipped classroom model involves courses that move the traditional lecture, or content dissemination, away from face-to-face hours and into online delivery outside of class time. The face-to-face class time is used for practice and actual application rather than for introducing the content being studied. The instructor then has time to help students face-to-face with specific problems. Flipped classrooms have been in existence since around 2000, but they have recently been gaining popularity in both higher education and K-12 institutions.

The Khan Academy, with over 3,400 videos covering multiple subjects, has been a leading force in the popularization of the flipped classroom concept. The Khan Academy videos are free and available to anyone. The most common usage within education circles is for the videos to form much of the online lecture or content-dissemination portion of a course, either replacing or augmenting material from the course instructor. Although Khan Academy videos have mainly targeted K-12 math content up to this point, new revenue investment is leading to expanding content outside of mathematics and into postsecondary-level content.

There are many other examples of blended and hybrid approaches. The common theme is to make face-to-face class time more effective, using it to provide much of the instructor feedback and interactive skills portion of a class while pushing content delivery into more-efficient online tools.