Center for American Progress

CAEL
The Council For Adult & Experiential Learning

Open Educational Resources

Tools to Help 21st Century Students Achieve Their Postsecondary Education Goals and Keep America Competitive

February 2012

Introduction

Open courseware and other open educational resources are beginning to draw the attention of higher education policymakers and other leaders. Why? Simply put, these web-based educational tools hold the promise of both reducing the cost of higher education and helping learners to complete their degrees by providing access to top quality course materials and instruction.

By radically reducing the costs of course content, delivery of instruction, textbooks, and related materials these open resources can make college more affordable. Further, by enabling "learning-from-anywhere" for students who have work and family obligations, the same technologies provide expanded access to higher education for millions of nontraditional learners.

The basics of Open Educational Resources, or OER

According to UNESCO, "the concept of Open Educational Resources (OER) describes any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or license fees."

In addition, "the term OER is largely synonymous with another term: Open CourseWare, or OCW, although the latter may be used to refer to a specific, more structured subset of OER. An Open CourseWare is defined by the OCW Consortium as—a free and open digital publication of high quality university-level educational materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content.'"[1]

OER gives the user free (no-cost) access to educational resources along with permission to revise, reuse, remix, and redistribute the content of those educational resources.[2]

Reducing student costs

OER has the potential to drastically reduce the cost of textbooks and course delivery, making college more affordable for millions of students.

An ambitious project in Washington State demonstrates the potential for OER to revolutionize higher education by reducing costs and making college more affordable. Last year the state unveiled its Open Course Library, which makes publicly available the necessary resources for 42 introductory community-college courses—including syllabi, readings, activities, assessments, and textbooks. Students could pay as little as $30 for each course.[3]

According to Cable Green, director of eLearning and Open Education for the Washington State Board for Community and Technical Colleges: "There is a big incentive for state legislatures, who regularly spend millions on student financial aid that is used to purchase expensive textbooks, to invest in creating openly licensed textbooks and curriculum that students can use for free and that other colleges will constantly add to and improve."[4]

The University of Massachusetts Amherst offers another useful example. Last year the school invested $10,000 to develop courses that use easily accessible online resources instead of commercial textbooks. UMass Amherst's Open Education Initiative is expected to save its students more than $72,000 annually.[5]

Increasing entrepreneurial learning

Open educational resources and open courseware also are helping to make possible a much more entrepreneurial approach to learning. In this age of extensive distance learning options it is almost a given that if a student is interested in a course that is not available locally, that student can find a comparable course available online at another institution.

Some students may even find that their best learning option is not one offered by an accredited postsecondary institution. Several sources of free instruction are available to the general public through open courseware sites such as Carnegie Mellon University's Open Learning Initiative, Washington State Community College's Open Course Library, and MIT's OpenCourseWare.

Many of these online learning options are becoming more sophisticated. They can now go beyond discussion boards and web-based file sharing and instead offer instruction that responds to the needs of individual learners (see next section). Students can even supplement that learning with other resources such as classroom lectures by professors from elite institutions available on sites such as Peer 2 Peer University, a grassroots open education project.

In a dramatic sign of how quickly things are changing, some of what we might otherwise call "traditional" postsecondary institutions are incorporating this same free curriculum into their tuition-based course models. Moreover, the start-up Omniacademy is providing a way for professors to syndicate their courses to other colleges over the Internet. Anya Kamenetz notes in *Edupunks, Edupreneurs, and the Coming Transformation of Higher Education* that this could be a way for students to "take a physics course at MIT and a robotics course at Carnegie Mellon, and have it all certified as transfer credits within their home university."[6]

Improving online learning

Online learning options, at first, were often just another format learners could use to take part in college distance learning programs. Today, however, with new software capabilities, online courses may be breaking the mold not only of distance learning but also face-to-face instruction. Carnegie Mellon's Online Learning Initiative is building a new kind of curriculum that uses web-based instruction with a twist—individual assessments embedded into every instructional activity. This approach is used to create feedback loops for evaluation and continuous improvement. Data from these assessments provides feedback to four audiences:

- Students receive immediate feedback on their own performance
- Instructors learn how students are doing and can use that to tailor face-to-face instructional components, where offered
- Course designers gain feedback on the effectiveness of the instruction, which can lead to course improvements
- Researchers can make changes in the course to test learning theories

A December 2009 article in Inside Higher Ed noted that what is exciting about this kind of technological development is that it has great potential for "a hybrid application of the open-learning program that, instead of replacing professors, tries to use them more effectively."[7] Research has found that in the case of an introductory level statistics course, combining open-learning software with two weekly 50-minute class sessions allowed students to master the material in half the time.

Credentialing open learning

The advantage to learners goes even further, since many of these learning opportunities can be accessed whether or not a learner is formally enrolled at an institution. A learner, for example, could independently acquire college-level learning through iTunes University, Khan Academy, Peer 2 Peer University or other open sources. Then through a prior learning assessment, or PLA, the learner could apply to have that learning evaluated for college credit.

PLA is offered by many colleges and universities today to measure and award college credit for what a student has learned outside of the traditional college classroom. A number of these colleges do not limit how much of a student's degree can be earned through PLA. Therefore, it is possible for a highly motivated and entrepreneurial student to seek out all of the content for a degree independently. While there is a cost affiliated with learning assessments, that cost is invariably much less expensive than paying regular tuition for each course in a traditional degree program.

When interviewed in 2010, Robert Mendenhall, president of the online Western Governors University, acknowledged that a small number of students—a "very special kind of learner," as he put it—have come to WGU with virtually all of the competencies needed for a degree, all acquired independently and entrepreneurially. WGU then can assess that student's learning for the competencies required for a degree.

It's easy to envision new mechanisms that could support more learners, or do-it-yourself "edupunks" if you will, to follow that model. Last year, for example, the Council for Adult and Experiential Learning, or CAEL launched a national online service for PLA through LearningCounts.org, which is making it possible for colleges to offer portfolio-based PLA to large numbers of students in a wide range of disciplines.

Taken to the extreme, this could lead to a system where learning takes place largely outside of traditional educational institutions, and the institution's role would be primarily to measure and credit learning. That extreme scenario, however, would require that students be self-directed enough to navigate their learning options independent of a structured program. At the very least, however, we can say that this kind of educational entrepreneurship and "de-institutionalization" of learning is going to become increasingly possible. The more guidance the entrepreneurial learner has, the more common this could become.

Presentations on February 7

The presentations sponsored by the Center for American Progress and CAEL on February 7 will showcase innovative approaches to OER, as well as the ways in which federal policymakers can support and encourage more of these kinds of programs.

Additional resources on OER

For additional reading on OER, we recommend the following resources:

- Cape Town Open Education Declaration: www.capetowndeclaration.org/read-the-declaration
- Basic OER Guide: www.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf
- Open Course Library: sites.google.com/a/sbctc.edu/opencourselibrary/
- OER licensing: creativecommons.org/licenses/
- OER in Africa: http://www.oerafrica.org/
- The Power of Open: http://thepowerofopen.org/
- Free to Learn Guide: http://wiki.creativecommons.org/images/6/67/FreetoLearnGuide.pdf

Online videos:

- Introductory OER video: www.youtube.com/watch?feature=player_embedded&v=Rb0syrgsH6M
- OER policy discussion: sloanconsortium.org/conferences/2011/aln/obviousness-open-policy

For the complete version of this policy brief, please see Rebecca Klein-Collins, Amy Sherman, and Louis Soares, "Degree Completion Beyond Institutional Borders" (Washington: Center for American Progress, 2010), available at http://www.americanprogress.org/issues/2010/10/degree_completion_beyond_borders.html.

Endnotes

1 Neil Butcher, "A Basic Guide to Open Educational Resources," available at http://www.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf.

2 David Wiley, Cable Green, and Louis Soares, "Dramatically Bringing Down the Cost of Education with OER" available at www.americanprogress.org/issues/2012/02/open_education_resources.html

3 Marc Perry, "Quickwire: State of Washington Opens Online Library of 42 Open Courses," The Chronicle of Higher Education, October 31, 2011, available at http://chronicle.com/blogs/wiredcampus/quickwire-state-of-washington-opens-online-library-of-42-open-courses/33984.

4 Hal Plotkin, "Free to Learn," available at http://wiki.creativecommons.org/images/6/67/FreetoLearnGuide.pdf.

5 UMass Amherst Libraries, "Taking a Bite Out of Textbook Costs," available at http://www.library.umass.edu/about-the-libraries/news/press-releases-2011/taking-a-bite-out-of-textbook-costs.

6 Anya Kamenetz, *Edupunks, Edupreneurs, and the Coming Transformation of Higher Education* (White River Junction: Chelsea Green Publishing Company, 2010).

7 Steve Kolowich, "Hybrid education 2.0," Inside Higher Ed, December 28, 2009, available at http://www.insidehighered.com/news/2009/12/28/carnegie.