It Takes a Consortium to Support Open Textbooks

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If the Community College Consortium for Open Educational Resources (CCCOER) has its way, expensive textbooks may go the way of typewriters and carbon paper. Ideally, Internet access for all students would allow educators to replace commercially printed textbooks with interactive digital textbooks[1] and personal learning environments.[2] However, until faculty, students, and college articulation committees overcome their dependence on traditional textbooks, a transitional solution is necessary.[3] One such solution is the open textbook. The Institute for the Study of Knowledge Management in Education (ISKME) defines *open textbooks* as "textbooks that are freely available with nonrestrictive licenses. Covering a wide range of disciplines, open textbooks are available to download and print in various file formats from several web sites and OER repositories."[4]

California's Foothill-De Anza Community College District (http://www.fhda.edu/) established the CCCOER in July 2007 to identify, create, and/or repurpose existing open educational resources as open textbooks and make them available for use by community college students and faculty. The CCCOER now has more than eighty-five community college members in eight U.S. states and Canada. Additionally, the CCCOER has intersegmental support from K12 organizations and colleges/universities. In May 2008, the California Mathematics Council Community Colleges unanimously passed a resolution in support of the CCCOER. The CCCOER website (http://cccoer.wordpress.com/) provides educators with information about membership, open educational resources, tutorials, training opportunities, news, and links to websites with similar goals.

The CCOT Project

In April 2008, the CCCOER launched the Community College Open Textbook (CCOT) Project (http://www.collegeopentextbooks.org), funded by The William and Flora Hewlett Foundation (http://www.hewlett.org/Programs/Education/OER/) as a one-year feasibility study in partnership with the Foothill-De Anza Community College District, the Monterey Institute for Technology and Education (MITE), Rice University's Connexions, University of California College Prep (UCCP), Flat World Knowledge (FWK), California State University System's California Digital Marketplace, the Institute for the Study of Knowledge Management in Education (ISKME), the High Tech Center Training Unit, and the Student PIRGs. The goals of the CCOT Project are to centralize critical open textbook information for use by community college professors and other interested parties and to document sustainable workflow approaches for producing, maintaining, and disseminating open textbooks.

The purpose of the CCOT Project is to explore the feasibility of creating high-quality, accessible, and culturally relevant open textbooks at low cost for community college students and faculty. The CCOT Project has identified four po-

tential approaches to open textbook production as exemplified by four member organizations: UCCP (http://www.uccp.org/), FWK (http://www.flatworldknowledge.com), Connexions (http://cnx.org), and MITE (http://www.montereyinstitute.org/). UCCP develops open-access, online, high-quality educational courses at the high school advanced-placement level and plans to leverage innovative technologies and expertise within the University of California by providing existing course material in Connexions. FWK is a commercial textbook publishing company that seeks to cover the costs of producing textbooks by providing ancillary materials to students at nominal prices.[5] Connexions provides a versatile tool and repository where faculty can share, collaborate, remix, develop, and disseminate open learning content.[6] MITE, an educational nonprofit organization that manages projects for the distribution of open educational content, recommends developing a detailed "how-to kit" for creating open textbooks, including step-by-step instructions for developing and publishing open textbooks compatible with the Connexions platform.

Part of the one-year feasibility study involves determining a sustainable workflow for the development and use of open textbooks. As a pilot of one approach, the CCOT Project has worked closely with Connexions staff to make the open textbook *Collaborative Statistics*, by Barbara Illowsky and Susan Dean (http://cnx.org/content/col10522/latest/), available for students in introductory statistics courses to view online or to download for free under a Creative Commons (http://creativecommons.org/) license. Anyone is free to copy, customize, and use this content as long as the authors are cited. A teacher's guide is also available, along with a syllabus, practice exams, calculator instructions, and lecture videos.

In the first step of the pilot test, the Maxfield Foundation purchased the rights to the textbook and donated it to Connexions. Then, Connexions staff converted *Collaborative Statistics* from a traditional textbook into an open, online textbook. The CCOT Project staff carefully documented the workflow process

and shared suggestions for improving the user interface. Since the time *Collaborative Statistics* was posted, other statistics instructors have created versions modified from the original with assistance from Connexions staff.

CCOT leaders secured the participation of faculty to pilot the *Collaborative Statistics* textbook. During the Fall 2008 semester, this open textbook was adopted by fourteen instructors from four different colleges. Connexions staff conducted interviews and focus groups with faculty and students about the use of the open textbook. The CCOT Project estimates that in the Winter/Spring 2009 semester, *Collaborative Statistics* will be adopted for use in at least twenty course sections at six colleges.

Inspired by *Collaborative Statistics*, an instructor from College of the Sequoias, John Redden, developed a high-quality module (including videos) titled "Elementary Algebra: Solving Linear Equations in One Variable" (http://cnx.org/content/m18033/latest/). Also as a result of the pilot, plans are under way to convert two traditional textbooks, *Elementary Algebra* and *Fundamentals of Mathematics* by Denny Burzynski and Wade Ellis, from out-of-print status to open textbooks available at Connexions in early 2009.

Content Review and Selection

More than 130 open textbooks are now under consideration for review by the CCOT Project. The CCOT Project's collection of open textbooks currently under consideration, as listed in MERLOT (http://www.merlot.org/merlot/viewPortfolio.htm?id=334314), provides educators with an opportunity to share their own reviews and to find reviews submitted by others. MERLOT supports creative collaboration and sharing of learning resources with its searchable database.

The CCOT Project's Content Review Committee and Technology Standards Committee developed review processes and review criteria that can serve as models for other open textbooks projects. The purpose of the review process and criteria are to establish standards by which open textbooks can be evaluated for quality, relevance, comprehensiveness,

accessibility, and interoperability, thus providing faculty and administrators with information to guide their decision to adopt open textbooks.

The content review process includes reviewing self-selected chapters of the textbook, writing a reviewer's statement, evaluating the textbook using an online (public) rating system, and contributing to an online discussion forum with other faculty reviewers. The rating system developed by the Content Review Committee is based on eleven evaluative criteria such as the comprehensibility of the text, its accuracy, its modularity, and its cultural relevance. The first open textbook under review is *Collaborative Statistics;* its review will be available in early 2009.

Challenges, Recommendations, and Future Plans

The CCOT Project will release the final report of its one-year feasibility study in April 2009. So far, the CCOT Project has identified the following challenges to the production and adoption of open text-books: (1) faculty members' and students' expectations of high production quality and ancillaries for open textbooks; (2) faculty members' expectations of free printed desk copies of open textbooks; (3) colleges' reluctance to mandate the use or adoption of specific open textbooks to the exclusion of other books; (4) the potential for loss of revenue stream by campus bookstores; (5) methods for articulating and transferring credit assurances for courses using open textbooks; (6) the need to meet accessibility standards; (7) methods for documenting and maintaining control over various versions; (8) copyright issues; (9) the process of converting existing open content to digital and accessible formats; and (9) the fact that student financial aid for textbooks is not set up for online commerce.

Preliminary report recommendations encourage (1) using Connexions as the common repository for open textbook content, in an effort to provide greater national and even international access; (2) using Connexions as the tool for sharing, reusing, customizing, and disseminating open textbook content; (3) further examining FWK as a sustainable business model for open textbook production; (4) considering corporate funding, in return for branding, to sponsor the development of content for specific disciplines; (5) approaching publishers to donate content that is going out of print; and (6) identifying the process for storyboarding the development of open textbooks.

Going forward, the CCOT Project seeks to engage the collaborative expertise of educators, administrators, researchers, technology experts, and leaders from community colleges nationwide in all phases of the project, from identifying and developing textbooks to promoting and facilitating their use through a robust, web-based participatory learning community. The primary reason for the success of the textbook industry has been its ability to deploy a large sales force with representatives who meet individually with faculty to secure adoptions. Alternatively, open textbook proponents are in-

terested in using web-based social networks to employ social media, viral information, and marketing strategies to effectively leverage their otherwise limited resources.

The CCOT Project plans to further deploy various Web 2.0 social networking strategies—such as its network on Ning (http://college opentextbooks.ning.com)—to promote and solicit market information. This will create a feedback loop that will enable all participants to better learn what works in the social environment defined as the "textbook market." The CCOT Project will also seek to coordinate with other open educational resources projects such as OER Commons, the Global Text Project, LeMill, Curriki, and Wikibooks. When educators pool their expertise to foster a culture of shared knowledge, everyone benefits.

Notes

1. See Nicole Allen, *Course Correction: How Digital Textbooks Are Off Track and How to Set Them Straight* (Chicago: Student PIRGs, 2008), ⟨http://www.make textbooksaffordable.org/newsroom.asp? id2=44596⟩. The Executive Summary for *Course Correction* is reprinted in this issue of *EDUCAUSE Review*.
2. Graham Attwell, "The Personal Learning Environments: The Future of eLearning?" *eLearning Papers*, vol. 2, no. 1 (January 2007), ⟨http://www.elearningeuropa .info/files/media/media11561.pdf⟩.
3. James A. Buczynski, "Faculty Begin to Replace Textbooks with 'Freely' Accessible Online Resources," *Internet Reference Services Quarterly*, vol. 11, no. 4 (2006), pp. 169–79.
4. Institute for the Study of Knowledge Management in Education (ISKME), "What are Open Textbooks?" Connexions website, February 8, 2008, ⟨http:// cnx.org/content/m15226/latest/⟩.
5. Kathleen Kingsbury, "Coming This Fall: Free Textbooks," *Time*, July 16, 2008, ⟨http://www.time.com/time/nation/ article/0,8599,1823395,00.html⟩.
6. Jeffrey R. Young, "Rice U. Acquires Rights to Popular Textbook to Offer It Free Online," *Chronicle of Higher Education*, August 12, 2008, ⟨http://chronicle .com/wiredcampus/article/3239/rice-u -buys-rights-to-popular-textbook-to -make-it-free-online⟩.