Free Textbooks Shaking Up Higher Education

By VICTOR LUCKERSON | @VLuck | August 10, 2012 | 43

Though paying for tuition and housing eat up more money, textbook costs are among the most groan-inducing expenses incurred by college students. With tools like Amazon and chegg.com, only the least resourceful of freshmen are blowing $200 for a brand new textbook these days. But a new type of textbook is threatening to disrupt a $4.5 billion industry that has so far avoided the media upheavals experienced in music, movies and trade publications. Open-source textbooks, free for students to use and for professors to modify, are being developed by more companies and adopted in more classrooms. They may work hand-in-hand with the rise in free online courses to revolutionize the way we view—and pay for—higher education.

“There’s a crisis of access in this country,” says Richard Baraniuk, a computer and electrical engineering professor at Rice University. He’s talking about the rapidly increasing cost of college education, which includes not only tuition, but also room and board, class fees and, yes, textbooks. Estimates of how much students spend on textbooks in a given year vary widely, but most colleges’ financial aid websites peg the cost at about $1,000.

Baraniuk thinks that cost should be reduced to zero. He’s been part of the open-source educational movement since 1999, when he grew frustrated with the book he was using in his electrical engineering class. He considered writing a book himself but had an epiphany as he learned more about the open-source operating system Linux. “I realized that we could take the same ideas—namely, modularity...and open-sourcedness, making it free and remi”xable—and apply that not just to software but to textbooks.”

Now he’s the director of OpenStax College, a nonprofit organization that is working to develop 25 college textbooks for introductory-level courses. With the backing of Rice University, OpenStax is bringing a big-name pedigree to the textbook market. “There are a lot of open, free textbook projects out there, but the quality has been uneven,” Baraniuk says. “What college instructors need is the whole package. They need the textbook, the homework system, the PowerPoint slides, the test bank.”

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OpenStax promises to offer this “whole package” in every subject from Spanish to microbiology. Two of its books, College Physics and Introduction to Sociology, have already been published and will be used by a few thousand students this semester. Anyone can access an online version of the texts, or download them in PDF and ebook formats for mobile devices. Students can also order a color print edition, with prices ranging from $30 to $50.

OpenStax is not alone in this emerging textbook market. Flat World Knowledge has been publishing open textbooks since 2007, and will be serving around 200,000 students this fall with dozens of textbook offerings. Both companies have all their books peer reviewed, as is standard with traditionally published textbooks.

Unlike with traditional textbooks, however, professors have the ability to remove chapters and insert new materials as they
please. Those educators that have jumped into the open-source waters say there are great benefits for the students and for themselves.

“It’s rather disheartening when you look out over a class and only half of the students have textbooks because they can’t afford them,” says Bob Livingston, a business professor at Cerritos College in Los Angeles. The school’s business administration department began using Flat World books in 2009. Now the company’s texts are now used in two-thirds of the department’s classes. “[Students] love them,” Livingston says. “There’s lots of options and that really helps make it more affordable as well as more useful for different learning styles.”

**How to Finance Free**

It’s an almost utopian solution to one of the many financial issues plaguing higher education—or it would be, if producing a textbook was also free. But creating a quality textbook costs hundreds of thousands of dollars, which presents the first and greatest challenge in giving away course materials.

Right now OpenStax books, some of which are adapted from out-of-print texts, are funded through philanthropy. To create its first five books, OpenStax raised more than $5 million from Rice University and groups like the Bill and Melinda Gates Foundation. “Really, it’s kind of a business deal,” Baraniuk says, explaining why these organizations have committed their funds. “They might invest a million dollars to develop two books, but they would like to see that paid back over a number of years by saving students $20 or $30 million.”

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But what happens when the money runs out? Baraniuk thinks OpenStax can become self-sustaining. Again borrowing from Linux, he envisions OpenStax being a free, open-source platform around which companies would build content that students pay for, like study aids and homework sets. OpenStax would then get a cut of the revenues. The organization is partnering with web-based educational companies like WebAssign to develop the supplemental content that it hopes will pay the bills.

Flat World, a for-profit company, already operates on a similar model. While the web-based versions of Flat World’s books are free, students can also buy study aids like flash cards for $20, a black-and-white print version of a text for $40, or an all-access “digital pass” that includes ebook and sometimes audiobook formats for $35.

“We don’t really care how the student experiences our content,” Flat World CEO Jeff Shelstad says. “Of course we want them to pay, but we also are battling the access and affordability issues, so we think letting them in free is good for business and good for the world.”

Though the company would not disclose its finances, Shelstad says 40% of the students who use a Flat World text end up buying something, most of them spending at least $35. Flat World is also crafting relationships with college administrators. The company inked a deal to distribute Flat World texts in courses throughout the university system of Ohio last year and is providing the textbooks for some of the courses in MIT’s free OpenCourseWare initiative.

As a much smaller company compared to the heavyweights of higher ed, one Flat World’s biggest challenges is recruiting authors. “We have to convince authors that our model makes sense for the industry, makes sense for them and their IP, and will reward them in a fair way,” Shelstad says.

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Flat World pays authors a 20% royalty rate, while OpenStax offers a set fee up front. Both organizations claim they’re giving authors a better shake than the big publishers, but almost all the money in the textbook industry still resides in the coffers of heavyweights like McGraw-Hill, Cengage Learning, and Pearson.

Of course, these well-established companies don’t intend to get left in the digital dust. They have their own online initiative, a digital textbook rental program called CourseSmart, which offers discounts up to 60% off the sticker price of print books.

With a typical textbook from a major publisher costing as much as a million dollars to produce over the course of several years, there’s no removing money from the equation, according to CourseSmart executive Cindy Clarke. “The publishers play a huge part in curating the content to make sure that the student ultimately is going to understand core concepts in their subject discipline,” Clarke says. “Free always sounds good up front, but you have to ask yourself: Are you going to risk your education on free content that may not have the depth, the completeness, the most current content available for you to learn?”

**A Long Road to Mass Adoption**

The numbers suggest that most educators aren’t yet willing to gamble on free. CourseSmart has experienced triple-digit growth every year since its inception and currently has more than 3 million users downloading its 30,000 textbooks. It is even becoming integrated into learning management systems that many colleges use to distribute course materials to students.

Erik Christensen, a physics professor at South Florida Community College who has been using open source books for five
years, admits that you have to look harder to find a quality free textbook. As the chair of the school’s science department, he says it’s been a challenge getting some professors to trust open books. “There is more work, there’s no doubt about it,” he says.

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To address this need for quality control, the University of Minnesota’s College of Education and Human Development has set up an Open Textbook Catalog. Professors from around the world can conduct peer reviews of the posted works and share their findings on the site. The university is even offering stipend incentives to get its own professors involved in the project.

“It’s meant to be an unbiased, academic approach to reviewing these,” says David Ernst, an administrator in the college. “Faculty, when it comes to quality, listen to each other.”

There’s no telling whether the open textbook movement will be able to get enough professors on board to truly upend the industry, but its leaders are ambitious. OpenStax director Baraniuk called a 10% market share by 2017 conservative, and Flat World’s Shielstad says the company wants to provide textbooks for every student in the world.

The professors they’ve converted so far, at least, are believers. “The biggest thing for me is that it makes teaching fun again,” Christensen says. “It gives me more control over what I’m teaching and so I feel greater ownership. It’s my course, not the book that the publisher did.”

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