SPARC Innovator: R. Preston McAfee

R. Preston McAfee isn’t going to get rich writing textbooks. His latest 328-page creation, Introduction to Economic Analysis, is available for free online.

"I’m not in it for the money. I’m in it to change the world," says the 52-year-old J. Stanley Johnson Professor of Business, Economics and Management at California Institute of Technology in Pasadena who is currently on a two-year leave as vice president and research fellow at Yahoo! Inc.

What McAfee wants to change is the way scholarly information is distributed. He is a passionate advocate for Open Access, illuminating the soaring costs of journals on the Web site www.journalprices.com, and on the cutting edge of the Open Education Resources movement with his new online book.

"Knowledge that is created, but not looked at, is not useful," he says. McAfee contends that universities are too focused on the creation of knowledge without paying enough attention to an equally important mission of dissemination.

McAfee is a pioneer, of sorts, as the first to publish a complete open source textbook on economics. His book was posted online in July 2006 and has been updated three times since. It has been downloaded more than 40,000 times and is used by undergraduate and graduate students from Harvard to New York University.

McAfee, who received his Ph.D. in economics in 1980 from Purdue University, wanted to provide a serious book at a bargain price for cash-strapped students. Writing online, McAfee had the freedom to create a challenging book full of conceptual tools, models and equations not limited by the confines of a "one size fits all" standard in textbook publishing.

Students love the value

In a market that is flooded with $100-plus textbooks, McAfee’s version is a welcome freebie for students that can be printed out for just $11.10. As “open source” material, available under a Creative Commons license that requires attribution, the user can pick and choose chapters or integrate with their own material.

His fan mail has included one particularly rewarding note from a software engineer in India who was getting his master’s degree in finance. Between having a family and going to school at night, the engineer told McAfee he couldn’t have completed the program without the help of the free book.

Roy Radner, a Leonard N. Stern School Professor of Business at NYU, has used McAfee’s online book for three years. Because it is a small graduate class, Radner printed out the books and provided them at no cost to the students. "They were delighted," he says. "It's a good book. It's good or better than most...and it's free."

The feedback is motivating for McAfee, who is hoping his new approach will be one answer to the soaring price of journals and textbooks. For years, textbooks publishers and universities had cozy relationships - publishers weren’t too greedy and universities were friendly, says McAfee. Then the relationship started to change, and publishers realized that increased prices have slight impact on purchases.

"The problem is that the person who buys the book isn’t the one who assigns it," says McAfee. As long as professors require a textbook, students will keep purchasing it regardless of the cost. "Online textbooks are not a solution if they cost nearly as much as printed texts," McAfee says. Once high quality free materials are made available, they stay available forever, and online materials are easily disseminated.

Blazing a new trail

McAfee’s work is encouraging to Student Public Interest Research Groups (PIRGs), which took up the cause of rising textbook prices about five years ago, says Nicole Allen, leader of the Student PIRGs’ Make Textbooks Affordable campaign.

"He’s broken through the barrier. He’s the first who understands what an open text book needs to be," says Allen. "He’s provided an example that everyone else should follow.” She points to McAfee’s book when speaking on campuses around the country about alternatives to expensive published books. Student PIRGs is working to develop a vibrant used book market and learning content that is priced and sold fairly.

Allen says there is momentum among faculty members who are concerned about the rising prices of textbooks. Indeed, Student PIRGs collected 2,000 signatures from professors who said that they would be willing to consider adopting open source textbooks. The trouble is building awareness, getting more authors to write open source books and figuring out a way for them to be compensated for their time. Currently, Allen estimates there are only about 20 quality textbooks available online, but she is hopeful market models will develop.

The big idea: A prize
McAfee has an idea to lure more authors into writing books online. He proposes a prize be given to the author who writes the best free textbook on a certain topic. The prize could be as high as $250,000 – enough to attract quality scholars. A big state university system could purchase the rights to the book and then distribute it to the thousands of students who would use it in any given year. The university could charge each student as little as $12 per copy to recoup the prize investment – a tremendous cost savings compared to the $100 that each of 20,000 students may pay for most textbooks.

McAfee says he is sharing his prize idea with every journalist he encounters. The issue isn't gaining more momentum because the problem of text book prices is not on the radar screen of the relevant decision makers, he says. The more students grumble about it and more news stories are written about it, the more the movement will take off, McAfee hopes.

Now, the OER movement is in "herding cats mode" with lots different efforts being launched but not a lot of coordination, contends McAfee. There are too many people wanting to organize the movement, but not enough people willing to supply the content. "Most of what is needed is plain hard work," he says. "It's not creating the boxes for the content to go in."

Working on the library committee at Caltech since his arrival in 2004, University Librarian Kimberly Douglas says McAfee has been a force for Open Access. "Preston stands out as not being willing to give up," says Douglas.

"That's what it takes. This is not an easy transition. There are a lot of stakeholders for the status quo." Douglas says McAfee has had a big impact in the field because of his energy level and the authority he brings to the issue as a faculty member, author and economist.

On campus, he has participated in panels discussing new models of scholarly communication and has been an advocate of the university’s digital repository. Not only has he been willing to support Open Access and Open Educational Resources, he has also worked to promote the causes. Douglas says that publishing his own book online is a powerful move that is sure to influence the new models of publishing.

Illuminating journal prices

On the journal pricing front, McAfee worked with Ted Bergstrom of the University of California at Santa Barbara to build a Web site that is a one-stop shop on journal pricing and value.

"The light bulb went off in my head when I was doing a literature search – not at the library, but from home," recalls McAfee of his early commitment to Open Access. "I paid $30 for an article to download and it was completely idiotic. I had spent $30 and had nothing to show for it. It was a scam and that woke me up."

On www.journalprices.com a plethora of information is compiled including journal title, publisher, ISSN, subject, profit status, year first published, price per article, price per citation and composite price index. The site was launched in 2005 with 5,000 journals and updated in 2007 and again in 2008, bringing the total to 7,000.

McAfee and Bergstrom wrote an open letter to university presidents and provosts concerning increasingly expensive journals in 2006 and mailed to about 150 universities. They received lots of response from university librarians, some from a few provosts, but none from presidents. They argued that the large for-profit publishers are gouging the academic community for as much as the market will bear. So far, universities have failed to use one of the most powerful tools that they possess: charging for their valuable inputs. McAfee and Bergstrom recommend that universities assess overhead charges for the support services of editors working for expensive journals and university libraries should refrain from buying bundled packages from large commercial publishers.

In the meantime, universities can promote Open Access with digital repositories and encouraging faculty to help them post articles on their own Web sites, says McAfee. "Universities, in my view, are in the creation of knowledge business, but also the dissemination of knowledge. The real bottleneck is not the creation, but the dissemination," he says. "We ought to be in both businesses. Right now the crying need is to disseminate."

McAfee says the United States is rich because of knowledge more than resources and that the country's success is tied to distributing that knowledge. "I think this is a solvable problem," he says. "The Web has made knowledge free. We have the content. What's pathetic is that we aren't talking about rocket science. We know how to get the information out there."

A Glimpse at Open Educational Resources

The push for Open Educational Resources (OER) is a logical extension of what the library community supports in the Open Access movement. OER focus not only on journals, but also on full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques that are critical in the learning environment. This movement underscores the need for a larger, more equitable playing field for scholarly communication in which information flows freely.

OER was first defined in 2002 at a UNESCO meeting in Paris sponsored by the Hewlett Foundation. In the past six years, the movement has grown as foundations, universities and educators work collaboratively to make educational resources available online.

"It's a natural outgrowth of the open-access movement," says Melissa Hagemann, program manager of the Open Access Initiative at the Open Society Institute in New York. "Building on the momentum of Open Access will be a huge advantage."

Some publishers are beginning to experiment and new models for open textbooks are being tested. The challenge is raising awareness of the current projects being launched and getting people to contribute, says Hagemann.

In September 2007, a coalition of about 30 educators, Internet entrepreneurs, and foundation representatives gathered in Cape Town, South Africa to discuss strategies for OER. The meeting was organized by the Open Society Institute and the Shuttleworth Foundation. As a result of the two-day meeting, the Cape Town Open Education Declaration was launched – a statement of principle, strategy and commitment to inspire the open education movement to grow. It urges governments and publishers to make publicly-funded educational materials freely available over the Internet.
The declaration has been translated into more than a dozen languages and signed by 1,900 individuals and organizations. “It offers a vision for the development of Open Educational Resources,” says Hagemann. The hope is that teachers around the world will use the Web to share, remix and translate classroom materials to make education more accessible, flexible and effective.

For more information, explore the following links:

Cape Town Open Education Declaration

Op-ed article in the San Francisco Chronicle by Rich Baraniuk and Jimmy Wales of Wikipedia on launch of Cape Town Declaration

Connexions - an environment for collaboratively developing, freely sharing, and rapidly publishing scholarly content on the Web.

Introduction to Economic Analysis, a free, open source microeconomics text by R. Preston McAfee.

Article on open text books in the New York Times

Student PIRGs’ Make Textbooks Affordable Campaign

by Caralee Adams