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Can Plot Improve Pedagogy? Novel Textbooks Give It a Try

Some professors fear substance is sacrificed for the sake of keeping students' attention

By ALISON SCHNEIDER

Textbooks have one big strike against them. They almost never talk about sex or death. And when they do, it's about as gripping as an actuarial table.

That might not matter if textbooks didn't bear an unfortunate resemblance to the proverbial 800-pound -- or 800-page -- gorilla. But imagine wading through *Anna Karenina* sans the sizzle and suicide, and you've got a pretty clear picture of what critics say is wrong with the typical textbook: They're all talk, no action.

Here to counter the ho-hum nature of textbook writing are a growing cadre of professors willing to try their hand at something more novel. Imaginary characters are creeping into cryptology textbooks. Economists are writing fables about free trade. Even subatomic particles are enjoying their moment in the fictive sun, starring in stories about -- what else? -- sex and death. Oh, yes, and basic principles of physics, like atom formation, too:

From the very first instant of our meeting, I have felt he is the nucleus for me. Our attraction for each other draws us closer and closer. This time there is no inherent reluctance from my side and we strive for a stable bond. His courtship is short.

-- From *Muonic Rhapsody and Other Encounters* (Roli Books, 1995).

What's going on? Has the traditional textbook had its day? Has education been supplanted by edutainment -- academe's version of Pablum for intellectual lightweights? Or is a new form of instruction emerging, one that uses plot to improve pedagogy -- albeit plot on the order of bad John Grisham, not John Steinbeck?

The answer, of course, depends on whom you ask. Alan P. Lightman, a professor of humanities at the Massachusetts Institute of Technology and the author of a narrative-style textbook as well as several novels that merge science and literature, has reservations. "It's very, very dangerous to write a novel for pedagogical purposes," he says. With their typically feeble plots and cardboard-cutout characters, he says, "almost all of them fail. Pedagogical novels don't work as novels."

But they can work as pedagogy, insists Lali Chatterjee, the author of the educational novel *Muonic Rhapsody*. Yes, these books tend to rely on cheesy gimmicks and cheap thrills, she says, but they can also make daunting disciplines accessible and understandable. Face it, Ms. Chatterjee says, boring textbooks are out; bodice-rippers are in.

With 100 journal articles under her belt, you'd think Ms. Chatterjee, a professor of physics and astronomy at Cumberland University, would feel otherwise. But her scholarly work hasn't affected her students nearly as much, she says, as *Muonic Rhapsody* or her narrative-style textbook, *The Exotic Lifestyles of Subatomic Particles* (Kendall / Hunt Publishing Company, 2000).

Ask James Carfi, a Cumberland senior. He planned on majoring in business, but changed his mind after reading *Muonic Rhapsody*. He's graduating this month with a major in physics and a minor in business and information systems.

Muonic Rhapsody "captured my attention," Mr. Carfi says. Had he just read a standard textbook, "I don't think I would have been as interested. I would have found it boring."

Teaching the basics of science through stories, either by using educational novels (intended as supplements on a syllabus) or narrative-style textbooks (stand-alone reference books for a course), helps "bring in those people who would have run away like mad," Ms. Chatterjee insists, noting that seven of Cumberland's 1,300 students major in physics. Institutions with 30,000 undergraduates can't always say as much, she notes. Potboiler pedagogy lets "you teach without saying you're teaching."

It's a trick people have been using for years, she adds -- at the secondary-school level. But only in the last decade, when techniques like autobiographical scholarship and microhistory (using the story of a single person or place to illustrate the history of an entire era) rose to the fore, has storytelling as a teaching tool gained much ground in academe. Even standard textbooks in fields like business and science have borrowed from the fiction writer's tool kit, relying on case studies, cartoons, and nonfiction narrative vignettes to pep up otherwise fusty prose.

But now a growing number of professors are tossing the safety net aside. They're not just incorporating other people's stories into their classrooms; they're writing stories themselves. And they're doing it in unlikely disciplines like mathematics, finance, and economics -- fields in which cold numbers, not character development, have historically prevailed.

Ten years ago, only a handful of educational novels and narrative-style textbooks were on the shelves -- and most of them were self-published. Now, a steady supply of books putting a fictive spin on pedagogy is trickling out, and some of the bigger trade and scholarly presses are cautiously tacking them onto their lists. They'll never replace standard textbooks or rival them in the sales department, but they're becoming accepted in the publishing world, not avoided.

That wasn't always the case. One publisher after another rejected Russell Roberts's first novel, *The Choice: A Fable of Free Trade and Protectionism*. "They said, 'This is great, but supplements don't sell,'" recalls Mr. Roberts, a senior fellow at the Weidenbaum Center on the Economy, Government, and Public Policy at Washington University in St. Louis.

They were wrong. Prentice Hall sold nearly 40,000 copies of *The Choice*, a free-trade takeoff on *It's a Wonderful Life*. *Business Week* named the novel one of the top 10 books of 1994. And Prentice Hall liked the sales numbers enough to put out a second edition last year.

Mr. Roberts's second educational novel, *The Invisible Heart: An Economic Romance* (2001), was just published by the MIT Press. And his third? Mr. Roberts has the first 50 pages on his computer.

He's not the only scholar hobnobbing with the muse. Looking for something a little livelier than your average accounting textbook? Check out *The Auditor: An Instructional Novella* (Prentice Hall, 1999) by James K. Loebbecke, a professor emeritus at the University of Utah. Need a primer on the theory of joint production? Try *A Deadly Indifference: A Henry Spearman Mystery* (Princeton University Press, 1998) by Marshall Jevons, a k a Kenneth G. Elzinga, an economics professor at the University of Virginia, and William Breit, an economist at Trinity University. Think your students need caffeine to get through calculus? Think again.

Hi. My name is Friday -- Joe Friday. I'm a calculus student. I want to tell you a little story -- a story about parabolic boulevards, focal fountains, and a car speeding through the night. I like to call it ... the Case of the Swiveling Spotlight.

-- From *Calculus Mysteries & Thrillers* (The Mathematical Association of America, 1998).

Calculus Mysteries isn't the math association's first foray into fiction. The group took a stab at it in cryptography last year. And of the 20 books the group publishes annually, Don Albers, its director of publications and electronic services, guesses that about three will read more like lively prose than equation-heavy pedagogy.

"I don't think this is a flash in the educational pan," Mr. Albers says. "The flow is not diminishing. It's getting stronger."

Robert W. Taylor, a professor of agricultural economics at Purdue University, thinks he knows why: Students don't read standard textbooks. Only 17 percent of the undergraduates in Mr. Taylor's introductory macroeconomics course said in a poll that they bothered to tackle the assigned text, the eighth edition of William J. Baumol and Alan S. Blinder's *Macroeconomics: Principles and Policy* (Harcourt College Publishers, 2001). Now, 75 percent are reading the assigned text.

The reason: Mr. Taylor switched textbooks. He's using *Life, Love and Economics* (Pearson Custom Publishing, 2000), which he co-wrote with Gavin Sinclair and Dee E. Cuttell. The romance-novel-cum-textbook follows Jason and Samantha on their economic journey through life.

"There are worlds of good economics textbooks, and I've been using one of the best," Mr. Taylor says. "The problem is that I like it better than my students. I can get them to read five times as much" by using *Life, Love and Economics*. After all, he points out, the Baumol and Blinder book "doesn't talk about bimbos." His does -- as well as monetary policy, marginal revenue, and inelastic demand.

Traditional textbooks, fans of the narrative approach maintain, talk about too much -- and too little. They pack in the theories and reams of raw data, but the real-world side of a field gets short shrift, if it's mentioned at all.

Textbooks don't teach "what an accountant will do or an I.R.S. agent. We're just taught plain vanilla stuff," says D. Larry Crumbley, an accounting professor at Louisiana State University and a pioneer on the narrative-pedagogy front. He's written a dozen educational novels about tax, finance, accounting, even chemistry, and plans to keep churning them out. His latest is *The Big R: An Internal Auditing Action Adventure* (Carolina Academic Press, 2000), which he co-wrote with Douglas E. Ziegenfuss, an associate professor of accounting at Old Dominion University, and John J. O'Shaughnessy, an accounting professor at San Francisco State University. It's a whodunit about a serial murderer terrorizing major-league baseball, starring an internal auditor and a forensic accountant.

"My novels try to teach students what they'll be doing for the rest of their lives, as well as making them encounter ethical situations," Mr. Crumbley says. "A novel is essentially a case study, but the case is 250 pages long."

Traditional textbooks are longer -- by 600 pages or so. "It's not that textbooks aren't good. They're too good. They're massive," says Thomas Heinzen, an associate professor of psychology at William Paterson University of New Jersey. "Textbooks scare people away." That's why he dumped the everything-but-the-kitchen-sink approach to textbook writing and wrote two anti-textbooks: *Eighty Dots: A Novel Way to Teach Psychology* (Thomson Learning, 2000) and *Choosing Your Mystery: A Novel Way to Teach Statistics* (Thomson Learning, 2000).

"Cognitively, we're built for stories," Mr. Heinzen says. "It's a friendly way to teach."

Too friendly perhaps, some professors fear. Dan N. Stone, a professor of accounting at the University of Kentucky, has written articles promoting educational fiction. He's even dabbled in it himself. And he favors the narrative approach to teaching when it's done for the right reasons -- to give students a real-life sense of a field, to study the ethics of a profession, to push a discipline to rethink its mission, he says.

But he worries that all the talk of accessibility and engagement undermines the legitimacy of using plots to promote pedagogy. "The notion that students will read a novel when they will not read a textbook won't gain us respectability," he says. "That's a dumbing-down argument. The next step is let's just show them a video."

Exactly, says Stan Brue, an economist at Pacific Lutheran University and the co-author of the top-selling economics textbook on the market. "I'm all for creative approaches, but I think professors are selling students short. Yes, students aren't reading as much. They have to be pushed. But there's some concern in the profession that we're giving up in terms of standards in order to make things more interesting."

And educational novels require people to give up other things as well -- namely, class time. Most of these books are intended as side dishes on a syllabus; they're not the main meal. With time in short supply, it's little wonder some professors are reluctant to expend any of it on what seem like niceties, not necessities.

"It is true that a lot of the textbooks are dry, and supplementing them with narrative can be useful," says Robert J. Ramsay, an accounting professor at the University of Kentucky. But he hasn't done it. "It's hard enough to cover the material that we have to cover." The cost -- in time and money -- of using these books isn't always worth the expense, he says.

Of course, there are costs to writing those page-turners as well. Louisiana State's Mr. Crumbley published his first four educational novels under a pseudonym after colleagues, fearful that Mr. Crumbley's "author, author" aspirations would cast accounting in a trivial light, warned him there would be professional repercussions if he didn't. The name he chose: Iris Weil Collett -- a play on "I.R.S. will collect." With or without the *nom de plume*, which he dropped after moving to Louisiana State, "If I had not had tenure, I wouldn't have written them," Mr. Crumbley says of his novels.

Most professors think scholars would not have a shot at tenure if they did. "I wouldn't even try this until you're full faculty," says Kevin D. Stocks, an accounting professor at Brigham Young University and a co-author of *Code Blue* (Traemus Books, 2000), a textbook novel about managed care. "It's not recognized."

That isn't stopping people from doing it. Terri Friel, an associate professor of operations management at Butler University, used an educational novel recently and wasn't wowed by the results. The plot was thin, and it didn't help her teaching much. But she's not wowed by traditional texts in the field, which can be as dull as dirt.

Her solution: to write her own narrative textbook. The opening chapters of several novels are already on her computer.

2 TAKES ON 'OPPORTUNITY COST': WHICH WOULD YOU RATHER READ?

At the end of the movie, Samantha cleaned up and Jason rewound the movie. As casually as he could, Jason asked, "Do you think we should date other people?"

Samantha came back from the kitchen. "So that's what this is about. I thought you were acting funny. Did you see one of your old flames today while you were buying your snow shovel?"

Once again, Jason was amazed with Samantha's perception. "How did you know?" Jason asked.

"Men are so predictable," Samantha said. "It only takes one good-looking woman to get them all messed up."

"I don't know about that. It just got me thinking about what we might be missing. How do we know we are right for each other? Maybe we should date around a little to make sure," Jason explained.

"Opportunity cost," said Samantha.

"Huh," said Jason.

"Opportunity cost. That means the value of your next best alternative," said Samantha. "It's an economics term."

"You even work into economics terms to discuss dating. You're unbelievable," said Jason, not too complimentary.

"It's like this. Right now you are with me. You know what that is like. Now you are wondering what it would be like to be with this other bimbo you met today. If you are stuck with me, your opportunity cost is what you could be doing with her," said Samantha.

"I'm not sure I like what you are implying. And Susie is not a bimbo," Jason said, getting mad.

-- From *Life, Love and Economics*, by Gavin Sinclair, Robert W. Taylor, and Dee E. Cuttell (Pearson Custom Publishing, 2000)

The **opportunity cost** of any decision is the value of the next best alternative that the decision forces the decision maker to forgo. ...

To illustrate the true cost of an item, consider the decision to produce additional cars and therefore fewer refrigerators. Although the production of a car may cost \$15,000 per vehicle, or some other money amount, *its real cost to society is the refrigerators that society must forgo to get an additional car*. If the labor, steel, and energy needed to manufacture a car are sufficient to make 30 refrigerators, the **opportunity cost** of a car is 30 refrigerators. ...

With limited resources, a decision to have *more* of one thing is simultaneously a decision to have *less* of something else. Hence, the relevant *cost* of any decision is its *opportunity cost* -- the value of the next best alternative that is given up. Rational decision making must be based on opportunity-cost calculations.

-- From the eighth edition of *Macroeconomics: Principles and Policy*, by William J. Baumol and Alan S. Blinder (Harcourt College Publishers, 2001)

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