By RYAN KNUTSON AND GEOFFREY A. FOWLER

Last August, administrators at Northwest Missouri State University handed 19-year-old Darren Finney a Sony Corp. electronic-book reader. The assignment for him and 200 other students: Use e-textbooks for studying, instead of heavy hardback texts.

At first, Mr. Finney worried about dropping the glass and metal device as he read. But eventually, the sophomore came to like the Reader. Its keyword search function, he says, was "easier than flipping through the pages of a regular book." Dozens of other participants, however, dropped out of the program, complaining that the e-texts were awkward and inconvenient.

Arnold Schwarzenegger wants to bring digital math and science textbooks to California’s secondary schools as early as this fall. (Heavy old books, the governor says, are useful as gym weights.) Nationwide, universities, high schools and elementary schools are launching initiatives like the one at Northwest Missouri State, testing whether electronic texts that can be viewed on e-book readers or on laptop computers can cut costs and improve learning.

This fall, Amazon.com Inc. is sponsoring a pilot program for its large-screen Kindle DX e-reader with hundreds of students across seven colleges, including Princeton University and University of Virginia. Meanwhile, Gov. Arnold Schwarzenegger wants to bring digital math and science textbooks to California’s secondary schools as early as this fall. (Heavy old books, the governor says, are useful as gym weights.)

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Proponents tout e-books’ potential to do things that old-fashioned textbooks can’t. Since e-books aren’t printed and don’t need to be sold through physical distributors, they should theoretically be less expensive than regular books and can save students and schools money. What’s more, e-textbooks are environmentally friendly, can lighten backpacks and keep learning materials current.

But the transition has sparked controversy among some educators. They say that digital reading comes with drawbacks, including an expensive starting price for e-book readers and surprisingly high prices for digital textbooks. Also, publishers make e-texts difficult to share and eventually, the sophomore came to like the Reader. Its keyword search function, he says, was “easier than flipping through the pages of a regular book.”

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that we have costs beyond printing and warehousing and distribution. We still have other overheads.”

Digital texts “could be a game changer that is phenomenal in so many different ways,” says Martin Ringle, chief technology officer at Reed College, which is participating in Kindle’s pilot program this fall. Yet “if the technology has passed muster but the price point hasn’t, then it’s...going to be a non-starter.”

Amazon declined to comment. Pearson PLC’s education unit, one of America’s largest textbook publishers, will be unveiling a selection of Kindle DX-compatible textbooks in a few weeks, and wouldn’t comment further on pricing. CourseSmart says its e-books cost, on average, half as much as print counterparts. Academic Press didn’t respond to a request for comment.

Many e-textbooks are also locked up technologically so they can’t be shared, printed or resold. In a recent study of 504 college students by the Student Public Interest Research Group, a consortium of student activists based in Chicago, the organization slammed existing e-textbook efforts such as CourseSmart for “being on the wrong track.”

Frank Lyman, CourseSmart’s executive vice president of marketing, argues that traditional printed books are also limited to one student at a time. CourseSmart is a consortium of publishers, including Pearson and McGraw-Hill Co. Its content, sold in limited-time subscriptions, can be read on PCs and printed out in small batches, but not read on a Kindle or a Sony Reader.

There are questions about how comfortable students will be studying on screens. In the Student PIRG study, 75% of college students said they would prefer print to digital texts. Moreover, younger students might find the devices antiquated. Last year, educational research group Project Tomorrow asked students what elements they found most important in digital textbooks. Many said they wanted interactive features like videos and quizzes. No dedicated e-readers have these attributes.

In California, the move toward digital books faces hurdles because the state is advocating for digital textbooks to be free—which goes against the interests of publishers

Still, the state is moving ahead with its digital-books plan. California is reviewing 20 free math and science e-books that will be made available to teachers this fall. The state will leave it up to schools to figure out how to get the content to students, with solutions ranging from printing them out to handing them to students on CDs. This method, known as open source, could save the state millions.

Some California school districts say they have had positive results with e-texts so far. At the Las Virgenes Unified School District in southern California, digital books have been used on PCs and in printouts in elementary-school science classes since 2007. “The greatest immediate observable result is how quickly the kids get engaged,” says Las Virgenes schools superintendent Donald Zimring. He adds, however, that there is no evidence e-texts improved reading or test scores. At colleges, trials of e-textbooks and readers have been mixed. When Northwest Missouri State ran its trial with the Sony Reader last fall, dozens of the 200 participants bailed out after about two weeks. “The students more often than not either suffered through it or went and got physical books,” says Paul Klute, the assistant to the university’s president, who oversees the e-book program. Students didn’t like that they couldn’t flip through random pages, take notes in the margins or highlight text, he says.

Penn State ran a pilot program last fall with 100 of the Sony Reader devices in honors English classes, and found similar results as Northwest Missouri State. The devices are good if you’re looking for in a world where students’ lives are filled with digital distractions.

Northwest Missouri State has since decided to pursue e-books that can be read on small laptops known as netbooks, rather than just a single-purpose e-reader. “A tablet netbook that is sturdy and is as fully functional as a PC has the ability to do word processing and run other programs,” Mr. Klute says.

Some Northwest Missouri State students say they remain fans of digital reading. Eric Pabst, 21, used his laptop to read e-textbooks in his finance class last year. “It’s cool because we don’t have to lug around a huge book anymore,” he says.

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Computers help students to perform mathematical operations and improve their maths skills. They are used to access the Internet, to do basic research and to communicate with other students around the world. Teachers use projectors and interactive whiteboards to give presentations and teach sciences, history or language courses. PCs are also used for administrative purposes - schools use word processors to write letters, and databases to keep records of students.