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Whither the Textbook?

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Whither the Textbook? 教科書はどこへ?

Karen Ann TAKIZAWA

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People in the field of language teaching have always made use of the latest developments in technology. As the publishing industry is now undergoing a major shift from ink-on-paper printing to digital, this paper investigates the use of paper books versus electronic books (e-books) and considers their respective usefulness in the language classroom. Reading material (short stories by Edgar Allan Poe) was tested on five platforms: a traditional paper book, an e-book reader, the audio function on an e-book reader, a laptop computer, and a palmtop computer. The observations of Japanese and American students on their use of e-books, descriptions of three pilot e-book programs aimed at saving money and conserving paper while providing convenient educational tools for students at universities in the United States, and a look at the present situation with e-books in Japan are also included.

言語教育に携わる者はいつの時代も最新のテクノロジーを利用してきた。出版業界が、紙とイン クからデジタルへの大転換の時を経験している今、本論文では紙の書籍と電子書籍(e-books)の使 用状況を調べ、語学授業におけるそれぞれの有効性を検討する。そのために、リーディング教材 (エドガー・アラン・ポーの短編)を5つの方法(紙の書籍, Eブックリーダー, Eブックリーダー 音声機能、ノートパソコン、携帯型の端末)を用いて読み、比較した。さらに、日米学生の電子書 籍使用についての意見を提示し、米国の大学が経費節減や紙資源の保護、及び学生の便宜のために 電子書籍を導入した三つの実験プログラムを紹介し、日本の電子書籍の現状を概観する。

Will e-books replace printed paper textbooks in the language classroom? In one of my Reading & Writing courses in the Faculty of Social Sciences, we had a chance to think about this question during the spring semester, 2010. In this class, we read short stories in English, and it just so happens that a story by American science fiction writer Isaac Asimov (1920–1992) called "The Fun They Had" was included in the book (a printed paper EFL textbook) that we were using. This story, which is set in the year 2155, was first published in 1957. In the story, a boy finds an old paper book about school in his attic, and he shows it to his friends. One of them is Margie (age 11)

who dislikes her "mechanical teacher," a computer programmed for individualized instruction that each child uses at home every day. All of their reading material is stored in the "mechanical teacher," so none of the children had ever seen a book printed on paper. At first Margie was not interested, but by the end of the story, she enjoys reading the paper book and wishes that she could have gone to school and studied in a room with a human teacher and other children using paper books like they did long ago. Back in 1957, e-books and computer-based education were in the realm of science fiction. Perhaps the future has come even sooner than Asimov thought it would.

Technology in Language Teaching — A Historical Perspective

Kelly's book, 25 Centuries of Language Teaching (1969), covers the period from 500 B.C. to the late 1960s, and it focuses on the parts of the world whose intellectual traditions have their roots in Greece: Western Europe and its colonies in various parts of the world, Russia, and Alexandria, which was an important center of learning in the days of the Roman Empire. He examines ideas about language and language teaching in their social and intellectual context, including the inventions and advances in technology that affected education. He observed,

Teaching is, in essence, communication, an act shaped by the available means of transmission. In terms of communication media, cultures of the period covered by this book have passed from the oral-aural, to the written and typographic, and finally to the electronic, each successive change overlaying, not replacing, the one preceding. Our modern age has at its disposal the machine, the book, the teacher, and the environment. (Kelly, 1969, p. 237)

The use of books for language teaching spread through Europe and its colonies in roughly the following way. In the Classical Era (500 B.C. \sim the collapse of the Roman Empire in the 5th century A.D.), there was a focus on oral skills in Greek and Latin. Books were expensive, scarce, and difficult to produce, and only the rich could afford to buy them and to get an education. The teacher was a philosopher who taught students to think and to question using rigorous language training and a book that belonged to the pupil. In Europe during the Middle Ages (5th century A.D. \sim the fall of the Byzantine Empire in the 15th century), Latin continued to be much admired, and it was universally taught. The book (a hand-written manuscript) was now in the hands of the teacher, and pupils took down the text and the teacher's commentary from dictation. After the invention of the printing press in Germany during the Renaissance (15th century \sim 16th century), books become more common as teaching tools. The teacher became an interpreter of the book, and it was still assumed that an educated person would have a thorough knowledge of Latin. Improved methods of

production and an increased supply of paper gradually brought the price of books down, so more students could have them. The publishing life of standard language textbooks was long, sometimes over a century. In the $17^{\text{th}} \sim 19^{\text{th}}$ centuries, competition in the printing trade was fierce, and the cost of pirated, unofficial versions of popular books was low.

The 19th and 20th centuries brought technological advances in aural and visual media that were also adopted for use in language education. In fact, Edison's invention of the phonograph in 1878 could be called the beginning of the industrial revolution in language teaching. Near the turn of the 20th century, recording machines and Edison cylinders began to be used for teaching pronunciation of modern foreign languages. Radio broadcasts to teach languages in schools were first utilized in the early 1930s. In the 1940s, teachers began to experiment with the Mirrophone (a loop wire recorder/playback machine) and the magnetic recorder, and in the 1950s tape recorders using magnetic tape began to be used in classrooms. In the post-WWII period, language laboratories that gave students individual attention were designed and used. As for the visual image, animated cartoons to teach Basic English began to be produced by Walt Disney Studios in the 1930s, and filmstrips or slides accompanied by tapes began to be used in language teaching program on commercial television was broadcast in 1951. In other words, people in the field of language education have always been aware of developments in technology and have used them to benefit language teachers and learners.

Electronic books (e-books) and online interactive materials are merely the next steps along the way in the development of technology. The idea of a portable personal computer first came out in the 1970s, and such computers were first marketed in the 1980s. Over the past three decades, ever-smaller, cheaper, and more efficient laptops, netbooks, tablet computers, and palmtop computers, all with Internet connections, have been developed, and now many students have one or more of these devices. Dedicated e-book readers (electronic devices designed primarily for the purpose of reading digital books and periodicals) have also made an appearance.

Electronic devices produced by Sony, Amazon, and Apple will be discussed in this report. According to a table comparing forty-eight commercially available devices ("Comparison of e-book readers," 2010), both the oldest and the most recent devices on the list were produced by Sony (Librié in 2004 and Reader Pocket Edition PRS-350 in September, 2010). Amazon, one of Sony's rivals in the e-book reader field, came out with the Amazon Kindle in 2007, the Kindle DX in June, 2009, and Kindle 3 in July, 2010. Apple has been the focus of major media attention this year with the debut of two new devices: the iPad (tablet computer) on April 3, 2010, and the iPhone 4 (a palmtop computer, or smartphone) on June 24, 2010.

Reading on a Screen — An Informal Survey

When I first became seriously interested in the idea of switching from printed paper textbooks to digital textbooks earlier this year, I decided to look at the habits of the reading public, that is, the people on the train that I regularly use to get to the Tama campus (the Keio Line between Fuchu and Mejirodai). This informal survey was taken in the morning on the way to school and in the evening on the way home during April and May, 2010. At these times of the day, the passengers were mostly young people on their way to or from high school or university, middleaged people on their way to or from work, or older people on their way to or from Mount Takao. The cars on the trains on this line have seats for 58 people. The seats were generally full, and people were standing near the doors or in the center of the car. Along the way, passengers got on and off the train, but I roughly estimated an average of 90 people in the car at any one time in the morning and the evening. I tried to sit close to the middle of the car so that I could see as many people as possible. A few people chatted with their friends, though never with strangers except for the occasional "Sumimasen," and very rarely, someone ate something. Generally, the passengers slept or rested with their eyes closed, looked out the window at the view, listened to something, or read something. In April, I counted the number of people who were reading something on paper: newspapers, magazines (including manga), books, pamphlets, and prints made on a copy machine. In May, I counted the number of people who were using electronic devices: mobile phones and game and music players. I did not make an effort to actually read the screens on the mobile phones of the people near me on the train, but I could not help noticing that it was usually text, which could include messages from friends, news, information, or stories, and sometimes it was *manga*. During the fourteen times I made a count for each platform, I saw an average of 13.07 people reading something on paper per day and 45.50 people reading electronic devices per day. (See Chart 1.) Clearly, people on the Keio Line have taken to reading on a screen.

The iPad was released in Japan on Friday, May 28, 2010, and on the following Monday morning, June 1, I noticed that the multi-tasking young man who sat next to me on the train from Bubaigawara to Takahatafudo was using his new iPad while holding a paperback book, checking a mobile phone, and wearing earphones attached to something in his pocket. This is the only time I have seen someone use an iPad on the train. Since finishing my informal survey, I have seen a handful of people using laptops or e-book readers similar to mine.

An Experiment with Books on Five Different Platforms

About ten days before the iPad was released in the United States, The Paley Center for

Date & Time	Paper
4/19 (Mon, AM)	10
4/19 (Mon, PM)	11
4/20 (Tue, AM)	17
4/21 (Wed, AM)	10
4/21 (Wed, PM)	16
4/23 (Fri, AM)	16
4/23 (Fri, PM)	11
4/26 (Mon, AM)	22
4/26 (Mon, PM)	14
4/27 (Tue, AM)	8
4/27 (Tue, PM)	14
4/28 (Wed, AM)	11
4/28 (Wed, PM)	11
4/30 (Fri, AM)	12
	Total = 183
	Average $= 13.07$
	per trip

Date & Time	Electronic Devices
5/7 (Fri, AM)	51
5/7 (Fri, PM)	38
5/10 (Mon, AM)	50
5/11 (Tue, AM)	39
5/14 (Fri, AM)	51
5/14 (Fri, PM)	39
5/17 (Mon, AM)	58
5/18 (Tue, AM)	39
5/18 (Tue, PM)	39
5/21 (Fri, AM)	47
5/21 (Fri, PM)	57
5/24 (Mon, AM)	51
5/24 (Mon, PM)	37
5/25 (Tue, AM)	41
	Total = 637
	Average $= 45.50$
	per trip

Chart 1: The number of people reading either paper or electronic devices on the train

Media in New York City held a panel discussion entitled "Innovation in an Era of Upheaval: The E-Reader Wars" (FORA.tv., 2010, March 24). The five panelists debated the question of how we will read in the future and what technology will prevail: the e-book reader or the tablet computer. Panelist Brooke Gladstone of National Public Radio (NPR), who was cast as the "pro-book" member of the panel, mentioned an experiment done by a professor of English she knows. The experiment consisted of reading the same work (*Little Dorrit* by Charles Dickens) on four different platforms: the paper book she had used in graduate school, an audio book, a Kindle, and an iPhone. This professor, after trying all four, declared that, in her opinion, the iPhone won: being small, it "required no separate decision to take it anywhere."

I decided to try the same experiment — reading works by the same author on five different platforms (paper book, e-book reader, e-book reader audio, laptop computer, and palmtop computer), keeping in mind possible use by EFL students in and outside the classroom.

1. First Platform: Paper Book (Edgar Allan Poe: Selected Prose, Poetry, and Eureka)

For my experiment, I chose the short stories of Edgar Allan Poe because I have an old paperback book of his short stories in my office on the Tama campus. It was used as a textbook in an American Literature course I took as an undergraduate at UCSD. The pages are now brownish, especially around the edges, and the cover is damaged. The price (\$2.50, about \$210 at the current exchange rate) and my name are written in faded ink on the flyleaf, and inside I can see notes I made in the margins plus notes made by a friend who borrowed the book from me. I started my experiment with "The Masque of the Red Death." It was a nostalgic experience, and I could practically hear the teacher saying, for example, "On page 126, the narrator mentions a gigantic clock. Is he making a moral judgment here? . . ." When I was a student, I bought all of my textbooks at the campus bookstore. After a course was over, I sold some books back to the bookstore, gave some to friends, and kept some that I particularly liked. Poe's short stories, along with some other favorites, came with me to Japan, and I have referred to these books from time to time over the years.

Verdict: Because of my long acquaintance with paper books and their association with studying, I rated the experience of reading "The Masque of the Red Death" as "usual" and decided that this would be the standard against which the other platforms would be measured.

2. Second Platform: E-book Reader (Amazon Kindle DX)

I first saw a Kindle a couple of years ago on a trans-Pacific flight — the gentleman sitting next to me was using one, and he was very willing to show me how his new device worked. I did not, however, get my own Kindle DX (\$58,757 for the device, leather cover, shipping, handling and import fees) until June, 2010. One of the first things I ordered from the Kindle Store (Amazon.com) was *The Complete Stories of Edgar Allan Poe*. It cost \$3.00 and was available for reading on the device in about one minute. It seemed like a miracle! Contrast this with my early days in Japan. I was living in Nagano Prefecture, where there were few English books in the local bookstores except for a short while around the time of the Nagano Winter Olympics in 1998. In those days, a trip to Maruzen or Kinokuniya in Tokyo was a rare treat, and any book anyone sent or gave me as a gift was very much appreciated. Now, with my Kindle DX, it is remarkably easy to get English books anytime I want them and at a reasonable price.

For my experiment on the Kindle DX, I chose Poe's "The Murders in the Rue Morgue." The e-ink on the Kindle screen is easy on the eyes, with none of the glare of a computer screen. The Kindle is also easy to navigate: one moves along in an e-book by pushing a button labeled "Next Page." The B5 size is convenient, and it fits easily into a briefcase on the way to school. I tried the Note function, but I found using the small keyboard at the bottom of the Kindle DX time-consuming and awkward. The Highlight, Bookmark, and (English-only) Dictionary functions, on the other hand, were useful. Instead of page numbers, a place in an e-book on a Kindle is indicated by "location" numbers and the percentage of the book read on a bar at the bottom of the screen. For ease of reading, the font size can be changed, and the screen can be rotated horizontally or vertically. The biggest and most distracting problem that I noticed on the Kindle DX is the lack of proofreading in the stories: words were sometimes strung together or misspelled. This may not seriously interrupt the comprehension of a native speaker of English, but it may well confuse a nonnative speaker. In "The Murders in the Rue Morgue" (Locations 6909-25 \sim 7491-98), I noticed the following errors:

. . . much invigorated <u>bymathematical</u> study . . . (Locations 6909-25)

. . . are sufficiently and generallycomprehensible. (Locations 6939-55)

He boastedto me . . . (locations 6989-7001)

. . . veryaffectionate towards each other. (Locations 7061-77)

. . . by the very intensity of hisinvestigations. (Locations 7152-67)

... by a scrutiny too sustained, tooconcentrated, or too direct. (Locations 7167-83)

... it <u>wassufficiently</u> forceful to give a definite form ... (Locations 7230-45)

I stepped to theunobstructed casement, . . . (Locations 7261-76)

. . . (conclusive <u>us</u> it might seem to be) . . . (Locations 7276-91)

... as if he were struggling withsuffocation. (Locations 7432-46)

After finishing the stories of Edgar Allan Poe, I decided to make the novels of Agatha Christie my summer reading program, and I started with *Sleeping Murder* featuring Miss Marple. Thirteen of the fourteen Miss Marple novels were available in the Kindle Store at \$6.79 each (¥609 at the exchange rate on that day), and I read them all. After finishing them, I found the fourteenth (*A Pocket Full of Rye*) in paperback on the shelf at Kinokuniya for ¥747, and I read that, too. In July, Amazon Chief Executive Jeff Bezos announced that "Amazon.com customers now purchase more Kindle books than hardcover books — astonishing when you consider that we've been selling hardcover books for 15 years, and Kindle books for 33 months" ("Amazon says Kindle sales leapfrog hardback sales," 2010). To put this in numbers, in the past three months Amazon sold 143 Kindle books for every 100 hardcover books, a figure that includes my thirteen Miss Marples and numerous Hercule Poirots. Perhaps this trend is not so surprising: the sudden increase in e-book sales followed a reduction in the price of the Kindle from \$259 to \$189 in June, 2010, and people everywhere love convenience. By the end of the summer, I was a big fan of e-books and e-book readers, especially for recreational reading.

Verdict: An e-book reader has some definite advantages for students: buying books and carrying them around has just become cheaper and easier, and with 4GB of internal memory in the Kindle DX, or about 3,500 books, they can carry a lot. For use in Japan, it would be better to have both bilingual and English-only dictionaries. Locations change with the font size, so a lack of fixed page numbers is a definite disadvantage when making references in academic papers. The problem of

locations vs. page numbers also would make it awkward to work with a class in which some of the students were using e-book readers and others were using paper books. The sixteen shades of gray on the e-ink screen may be tasteful, but color would really be more effective for some things in textbooks. Most importantly, the e-books would need to be proofread more carefully.

3. Third Platform: E-book Reader Audio (Kindle Text-To-Speech and Audiobooks)

Where allowed by the rights holder, the Kindle DX can read books aloud. I tested this by listening to two stories: "The Tell Tale Heart" and "The Facts of the Case of M. Valdemar." Text-To-Speech offers a choice of two voices (male and female) and three speeds (default, slower, and faster). From the point of view of language teaching, the main problem was that the voices could not be relied upon to pronounce words correctly or to pause appropriately in sentences. For example, in "The Tell Tale Heart," in the phrase "a watch's <u>minute</u> hand," the word "minute" was accented on the wrong syllable, making it /mi·nute'/ (exceptionally small) instead of the correct /min'·ute/ (a unit of time). In another example in the same story, in the sentence, "His fears had been <u>ever | since</u> growing upon him," the voice mistakenly broke up the phrase "ever since." In "The Facts of the Case of M. Valdemar," in the following phrase, "mesmeric <u>rapport</u> with him," the /t/ at the end of "rapport" was clearly and mistakenly pronounced.

On Audible.com, I found 118 results for audiobooks of the work of Edgar Allan Poe. Some were available for free; others cost \$7.49. I listened to the samples for the first ten. All of the readers had trained voices, and some of the stories were read by well-known actors, such as Vincent Price and Basil Rathbone. Needless to say, the audiobooks were more pleasant to listen to than Text-To-Speech and more reliable models for intonation and pronunciation.

Verdict: I tried both the male and female voices and all three speeds. The male and female voices sounded somewhat mechanical, but I had no preference. The default and faster speeds had a relentless quality that made me prefer the slower speed. My conclusion was that Text-To-Speech on the Kindle DX has a limited usefulness for long passages, but it could be used in conjunction with the dictionary for the pronunciation of single words.

4. Fourth Platform: Laptop Computer (NEC LaVie)

I searched the Internet for websites dedicated to Edgar Allan Poe and found one that had been set up by Poe aficionado Robert Giordano (PoeStories.com). (I was apparently visitor number 5215121 since July 1, 2005.) The masthead was yellow and black with a very appropriate raven as a mascot. Many of Poe's stories were available in their entirety, and for free, on this site. I selected "The Purloined Letter" and read it on the screen of my laptop computer. The story was written in white letters on a black background, but it was not as hard to read as I thought it might be. Throughout the story, somewhat less-frequently used words, such as "purloined," "recherché," and "acumen," were highlighted in light blue, and the click of a mouse brought up a window with the definition. The paper book I used as an undergraduate had no annotations at all, so I found this feature helpful, particularly with foreign phrases, such as the Latin quote from Seneca at the beginning of the story: "Nothing is more hateful to wisdom than excessive cleverness." The website was attractively designed and carefully proofread, and in addition to the stories, there were sections titled Biography, Quotes, Summaries, Poetry, Forum, Gallery, Timeline, Wordlist, Guestbook, Bookstore, Links, Credits, and Contact that were filled with information about Poe and photos of places associated with him.

Verdict: A laptop computer is an all-in-one device which can be used for writing reports, storing e-books, and searching the Internet. While reading the story and other parts of the website, however, I found it easier and faster to keep a pencil and paper beside me for taking notes than to go back and forth between the website and a word processing document. For a student writing a report about Edgar Allan Poe for a class, sites such as this one offer a wealth of information, and the temptation might be very great for a student to merely cut and paste from them in quantity into a report. The price of buying Poe's stories on the Kindle was not high (\$3.00), but finding them for free on the Internet was even better. While reading the story, I noticed the hum of the motor and began to wonder about the noise level and the need for more electric outlets in a roomful of students with laptops. I also wondered about the possibility that sometimes a student might be too distracted by the Internet connection to focus on the language class.

5. Fifth Platform: Palmtop Computer (iPod Touch)

Using the "Kindle for iPhone" application, I was able to download *The Works of Edgar Allen* [*sic*] *Poe* vol. 2 at no charge. For this experiment, I chose the short story "The Cask of Amontillado" (Locations 491-519). Reading on the iPod Touch more closely simulated the experience of a book because the screen is designed to look like a page that is "turned" by sliding the tip of a finger across it. At the bottom of the screen, in addition to locations, the number of pages left in the story is also listed. In addition to font size, font style and the background color on the screen can be changed. In the e-book I read, there was a mistake in the spelling of Poe's middle name in the title, but I did not notice any misspellings in the actual text of the story.

Verdict: The iPod Touch fits conveniently into any handbag, but the screen is really too small for classroom use.

What Students and Friends Say about E-books and E-book Readers

1. Japanese Students

After reading the short story mentioned in the introduction, "The Fun They Had," I asked the students in my Reading & Writing (Advanced) class the question, "Do you use e-books?" Here are some of their responses:

Japanese Student A: I don't use e-books simply because I can't afford to buy an e-book reader. If I had enough money to buy one, of course I will buy it because if I have an iPad, I can buy the books for a cheaper price. For example, we have to pay 700 yen to 1,000 yen to buy printed books, but we can read books for 400 yen to 500 yen if we have an iPad. And, if we have an iPad, a bookshelf is not needed any more. E-books will be more popular in the future, but I think paper books will remain because some people love printed books.

Japanese Student B: I don't use e-books. I didn't know they were already invented until today. I cannot say clearly whether I like them or not. I like printed paper books because of their smell and condition of becoming old and ragged. Printed books contain the history of each era, so I like paper books. But, I cannot keep all printed books because of lack of space, weathering, and so on. So, I think that printed books containing important materials such as history, culture, customs and so on should be kept in both e-books and paper books. And books I want to keep as long as I live should also be kept both ways. Very old printed books can be kept if I want to keep them. If I am fascinated with a cover of a book, I keep it until I get tired of it. I think we should divide or choose whether to keep both e-books and printed books according to our preferences.

Japanese Student C: Though I don't use e-books, I think printed paper books will disappear little by little. I like printed paper books, but e-books don't need space for storage, and we can cut another large cost. It is a big advantage. Unless paper books resolve these problems, they cannot avoid a bad end.

Japanese Student D: I don't use e-books, but recently e-books aren't rare. I think if many people begin to have e-books, paper books may not be needed. I would like to use e-books because print books need a place to keep them.

Whither the Textbook?

2. American Students and Friends

By e-mail, I asked two students of my acquaintance who are studying at universities in the United States the following questions about the use of e-books on campus:

What is the situation with e-books at your school? Are paper textbooks still being sold in the campus bookstore? Are any classes using e-books now? If e-books are being used, what is the approximate percentage of classes that use them, what kind of hardware is recommended, and about how much do the e-books and the hardware cost the students? And if possible, I'd also like to know about how much you and your friends spend on paper textbooks per quarter or semester.

One, a student at Oral Roberts University, a private university in Oklahoma, answered as follows:

American Student A: Yes, we are still using paper textbooks at ORU. We have a bookstore on campus that stocks and sells textbooks for every class. I haven't heard any news of the school switching to e-books or any professors that require one either. It will take a few years to make the switch, if we ever will. It varies how much textbooks cost each semester. My first semester it probably cost me \$500-600 at the bookstore, but this year I was smarter and probably paid \$200 at the university bookstore and \$100-150 on online bookstores such as Amazon and eBay each semester. (S. Smith, personal communication, April 19, 2010)

The other, a student at the University of California, San Diego, a public university in California, answered in much greater detail, and I have included the entire message because it touches on so many important issues related to e-books and e-book readers:

American Student B: I've never had a class where we used whole e-books. All of my textbooks are five-pound stacks of paper I'm supposed to buy at the bookstore. However, I asked my friends about e-books and a couple of them have had to use them. I'm not sure how purchasing works or if they even need to buy them; it could just be posted online for them. They did say that they just view the e-books on their laptops that they use for everything else. I actually don't know anyone that has a Nook or Kindle and only one person with an iPad. I think our situation is mostly the way you described yours, paper textbooks are still used but supplemental articles and lecture slides are posted online on course websites for

free download.

The amount my friends and I spend on textbooks each quarter really varies depending on classes. For chemistry, you usually buy one \$150-\$200 book for a yearlong sequence. About half of my biology classes require a textbook. The rest focus on the lectures and supplemental material posted on the course website. When there is a book required it's usually around \$150, but you can get away with not buying it if there is no assigned homework. As for other classes I suppose it depends on the professor (like with biology) and how much you care about the class. To get a Pass, most of the time you can just pay attention to lectures and look up concepts with Google. A good many students buy textbooks from other students on the cheap, and I usually look around online to see if I can find free online versions of books. I haven't had to buy about half of my philosophy books because I can find them online for free. Also, some students torrent* textbooks but I think it's a very small number who do as there really aren't many people that upload the texts. Overall I would say that I spend about \$300 on books each year, though I definitely spent more freshman year because of math and chemistry prerequisite classes. I probably get back about \$150 of that money from reselling the books back to students.

Recap: No e-books in natural sciences. Some e-books in communications or similar departments. Not so many e-books anywhere at UCSD. No one is using any other hardware than a laptop used for everything else. Book buying and reselling among students is very popular. Students view the UCSD bookstore as an evil greedy extension of the school administration to be avoided if possible.

Personally, I wish that I could get either an e-book version at a reduced price or the printed version and the e-book. I wouldn't pay the same price for an e-book and a printed text because it just doesn't seem equal. I can't really put it into words, but I feel like the text in a bound form that I can carry with me in my messenger bag is worth more than an identical electronic copy on my laptop hard drive. However, electronic texts are quite useful since you can use Find (Ctrl-F) for phrases or words and not have to flip through a physical book looking for a certain passage. In fact, I've bought a philosophy text only to look for it online so that I could find certain paragraphs quickly without actually reading the entire text. It saved a lot of time though I probably learned less. Additionally, I can carry as many e-books as I want with me in my 5-lb laptop, while to carry the actual books isn't feasible at all. I guess it boils down to electronic copies of all my texts for general education or other required classes I don't really care about, but I would still prefer textbooks for major classes or classes I really enjoy. I like the idea of having books on a bookshelf to pull down and read.

Some people talk about eyestrain while reading text on backlit screens like computer monitors, but I haven't heard other students complain nor have I really been bothered, though I rarely read on my computer for more than an hour without a break. When I study, I skim and jump around a lot while writing notes so I don't keep at one thing for hours and hours (with both online and printed material). Reading novels for fun is quite different. I can wake up in the morning and read for hours before taking a break.

Hope I got everything. (I'm half asleep from midterm studying.)

PS I'm quite displeased with the iPad as well. I've played with a friend's for a couple hours and was not very impressed. It just looks like a big iPod Touch to me. I mean, yes, the layout is good for email and checking news online, but for \$500 I wish it did more. (A. Drew, personal communication, April, 21, 2010)

*torrent = a file that is constantly moving across a large network. In order to download the file, the downloading file segments must at the same time be uploaded to other users requesting the file. Most torrent contents are illegal, such as pirated movies.

I also asked two friends of my generation in the United States, both avid readers, a similar question: Do you read books in the "paper" version, or have you started using e-books?

American Friend A: Oh, I don't read e-books. I love to hold my book in my hand and sit anywhere, any way I please. I really don't like reading a computer screen, especially if it involves scrolling or adjusting the view left to right. They will have to improve the delivery system a lot. Also, I love my free library books. (C. Drew, personal communication, April 23, 2010)

American Friend B: I don't have a Kindle, but a writer friend in Paris loves Kindle. I still carry huge books on long plane rides with me (and then leave them behind for someone else to read so I can buy more!) I need to catch up with the times. (S. Larsen, personal communication, September 25, 2010)

Pilot E-book Programs at Universities in the United States

The textbook market in the United States is going through a period of change. Universities are concerned about the rising costs that students have to pay for textbooks, and environmentalists are concerned about the huge amounts of paper that are used for printing books and making copies on copy machines. E-books are seen as a possible solution to these problems, and in recent years, some pilot programs have been put in place to test their feasibility at American universities. Three of these programs will be discussed below.

1. Pilot Program at Northwest Missouri State University

The first pilot program to be discussed was conducted at Northwest Missouri State University. According to the university's news release:

About a dozen academic departments are participating in the pilot, which began last fall (Fall Trimester, 2008), when about 250 students used e-texts in four separate courses. This trimester (Winter Trimester, 2009), the program has been expanded to include about 500 students, plus another 3,000 who have the option of using either an e-text or traditional textbook if they are enrolled in a course using a text published by McGraw-Hill, a major producer of traditional and electronic learning materials.

Most pilot participants are accessing e-texts via laptop computers that are provided to all full-time Northwest students. A smaller group will be using an upgraded version of the Sony Reader, an earlier model of which was part of the fall 2008 e-text trial.

(. . .) "We seem to be the unique institution in the nation to have this kind of pilot," said (President Dean L.) Hubbard, who added that Northwest is especially well-positioned to adopt e-texts because of its longstanding textbook rental program and its commitment to providing laptop computers to full-time students. ("Northwest expands e-text pilot program," 2009)

Also in the news release, Hubbard cited survey data showing that at universities where undergraduates must buy paper books, as many as 40 percent take courses without purchasing a textbook. The Northwest Missouri State rental textbook program, which saves the students money and ensures that everyone has the required books, currently costs the school about \$800,000 a year. By switching to e-textbooks, however, they estimate that they may be able to reduce that figure by half.

Hubbard was quoted as saying that students were initially fascinated with their e-book readers, "but they soon became frustrated with the devices' limited interactivity capabilities — which made it impossible to highlight passages, cut and paste text, or participate in interactive quizzes" ("Northwest Missouri State U. Tries E-Book Readers, With Mixed Results," 2009). Hubbard himself is apparently a great fan of e-book readers and is quite confident that they will become popular once their features have been improved. In fact, he expects that they will "catch on

like prairie fire, especially once students, professors, and administrators realize how much money they could save by using them" ("Northwest Missouri State U. Tries E-Book Readers, With Mixed Results," 2009). Right now, Hubbard says, "they are limited in that some textbooks they need are not yet available as e-books. But I would think as a realistic measure we could be totally out of the printed textbook business in three years" (Meadows, 2009).

2. Pilot Amazon Kindle Program

During the 2009 academic year, selected students at seven universities around the country took part in a pilot program in which all of their course materials were stored on an e-book reader: Amazon's Kindle DX. Participating institutions were: Arizona State University, Case Western Reserve University in Ohio, Darden School of Business at the University of Virginia, Foster School of Business at the University of Washington, Pace University in New York, Princeton University in New Jersey, and Reed College in Oregon. At each school, 40 to 60 students were given the devices to use instead of printed paper textbooks in their courses.

It is perhaps not surprising that Princeton University, alma mater of Amazon.com founder Jeff Bezos, was included in the pilot program, called "Toward Print-Less and Paper-Less Courses: Pilot Amazon Kindle Program." The twin aims of this program were to conserve paper and to save the students money. Iverac (2009) offered the following statistics: the average annual cost for textbooks was \$898 in 2003-2004 for students at four-year public colleges in the United States, and 10.5 million sheets of paper were used last year (2008) in Princeton University computer clusters. For the past several years, Princeton University has made "E-readings" (sections of books for which the university has cleared copyright) available to students as free downloads on its course management system. It was hoped that students would read the material on their computers, but many ended up printing out the files and reading them on paper anyway. In the Pilot Kindle Program, the university wants to see if students' printing habits can be changed.

Free Kindle DX e-book readers containing course reading materials for the semester, also free, were given to fifty students in three upper-level seminars at Princeton. Using a Kindle is voluntary in these courses, and students who chose not to take part in the pilot program were given the option of printing out their readings. No one opted out, but according to *The Daily Princetonian* (Lee, 2010), in a survey taken about two weeks after the start of the program, student reactions were mixed. Many of the participants were dissatisfied with the devices, and one student was quoted as saying,

I hate to sound like a Luddite, but this technology is a poor excuse of an academic tool. It's clunky, slow, and a real pain to operate. Much of my learning comes from a physical

interaction with the text: bookmarks, highlights, page-tearing, sticky notes and other marks representing the importance of certain passages — not to mention margin notes, where most of my paper ideas come from and interaction with the material occurs. All these things have been lost, and if not lost they're too slow to keep up with my thinking, and the 'features' have been rendered useless." (Lee, 2010)

Another Princeton student, however, found things to praise,

A huge benefit to the Kindle is having large quantities of reading available at your fingertips and not having to print and lug around books and articles. Some of the annotation software was useful but not as easy or 'organic' feeling as taking notes on paper. (Lee, 2010)

At Arizona State University, only one professor, Ted Humphrey, took part in the Pilot Kindle Program. His decision to do this was based on a discovery he made on a recent summer research trip to South America: he found that he was able to save precious luggage space by loading twothirds of the reference books he needed for the trip onto the device. This is one of the major advantages of the Kindle, and by the end of the trip, he was convinced that an e-reader could be a viable tool in higher education. A total of 57 students enrolled in his yearlong "The Human Event" course on the history of human thought and culture were given Kindles to use during the course, but unlike the Princeton program, the students had to pay for the reading material. The reading list for the course includes thirty required books which usually retail for a total of about \$475, but in e-book format, they cost about half of that amount. Students who finished the entire course and participated in the evaluation also were able to keep their Kindles for free. Humphrey is enthusiastic about the Kindle and its potential benefits for students, but he doubts that e-books will ever entirely replace printed books, claiming "at the same time I bought my Kindle, I bought a very rare collector's edition of *Moby-Dick*. People will continue to love books and book craft" (Ryman, 2009).

There has been some concern about the use of e-book readers in education. The Pilot Kindle Program, for example, has prompted a lawsuit from two advocacy groups for the blind: the Reading Rights Coalition and the National Federation of the Blind. The following is an excerpt from a letter to Pace University president Stephen J. Friedman outlining their complaint:

It has been brought to our attention that Pace University has entered into an agreement with Amazon to provide mobile access to e-textbooks and course materials through the Kindle DX. The controls and navigation features of the Kindle are inaccessible to blind and visually impaired students and faculty who will not be able to independently navigate Kindle's menus, change settings, locate books or documents, or be able to identify critical information, such as device settings. We encourage you not to move forward with your agreement, as doing so would violate numerous federal and state laws barring disability discrimination by colleagues and universities, including Section 504 of the Rehabilitation Act and Title III of the Americans with Disabilities Act, and the New York Civil Rights Act. ("Complaint filed against Pace University," 2009)

On August 18, 2010, soon after the end of the 2009 academic year, Simba Information published a 60-page report (available for online download for \$2,795.00). According to their website, it "examines the lessons learned from the various implementations of e-textbooks on college campuses in the 2009-2010 academic year and the portend for the coming years" ("E-textbooks in higher education," 2010). The report includes the reactions of teachers and students, including a chapter on the Pilot Kindle Program, as well as input from booksellers, publishers, and industry observers. Simba's expectation is that by 2013, e-textbooks will account for more than 11 percent of textbook sales. New print textbooks will continue to dominate the market in 2010 (projected to be \$4.46 billion), but e-textbook sales will increase about 50 percent (to a projected \$181 million). Students, teachers, and publishers, it seems, are now increasingly willing to experiment with the way textbooks are designed, marketed, and used.

3. Pilot Program at the University of Texas at Austin

Beginning in the spring semester of 2009, the University of Texas at Austin, through a partnership with the publisher John Wiley & Sons, initiated a pilot program to test student and faculty responses to e-textbooks. The program included approximately 1,000 students in subjects such as biochemistry and accounting. The focus was mainly on cost reduction. The e-textbooks were cheaper, but students in the courses that were part of the program had the option of paying an extra fee (\$20 to \$40) to have the campus bookstore print a bound copy of the text if they preferred. Students who chose the e-textbooks had two ways to access their books electronically: downloading the textbook to their personal computers for the duration of the license for the course or accessing the textbook online through a service called Wiley Plus. Downloadable books had features such as searching, note taking, and highlighting; online versions had interactive tutorials, quizzes, and grading tools for teachers.

Michael Granof, Professor of Accounting at the McCombs School of Business at the University of Texas at Austin, textbook author, and chairman of the University Co-op, supported this pilot program. His basic theory is "textbooks are very expensive mainly because of the used book market" ("E-textbooks for all," 2008). According to the current business model, publishers try to recoup their costs for a textbook within a short period of time, and they try to undermine the used book market by frequently releasing new editions and adding extra features such as CDs. Instead, publishers should switch to a model based on licenses that expire. According to Granof, here's how it would work:

A teacher would pick a textbook, and the college would pay a negotiated fee to the publisher based on the number of students in the class. If there were 50 students in the class, for example, the fee might be \$15 per student, or \$750 for the semester. (. . .) In other words, the publisher would have a stream of revenue for as long as the textbook was in use. Presumably, the university would pass this fee to the students, just as it does the cost of laboratory supplies and computer software. But the students would pay less than the \$900 a semester they now typically pay for textbooks. (. . .) (The publisher) would get a steady stream of revenue from legitimately issued licenses, whether in e-book form or as print-ondemand copies. ("E-textbooks for all," 2008)

Granof, however, does not feel that e-textbooks will solve all of the problems of the textbook publishing industry. He says, "So far, students don't like electronic books. My scheme doesn't depend on the use of electronic books. They can get a hard copy" ("E-textbooks for all," 2008), and he predicts that switching entirely to e-textbooks could lead to the widespread piracy seen in the music industry.

E-books in Japan

At a seminar at the Tokyo International Book Fair at Tokyo Big Sight in July, 2010, a representative of Impress R&D, a Tokyo-based information technology research firm, explained the following:

Japan's electronic book market gained about \$10 billion in sales last year to reach \$57.4 billion and is expected to exceed \$130 billion in five years. Sales in fiscal 2009 overwhelmingly came from e-books for cell phones — \$51 billion — while \$6 billion was spent on content for computers. Comic books, or *manga*, for cell phones have been leading the growth, but new types of e-book readers, including smartphones and Apple's iPad tablet computer, are expected to see dramatic growth over the next few years. (. . .) (T)he pace of growth will depend on how quickly the Japanese publishing industry adjusts to providing strong content. (Nagata, 2010)

While comics have successfully made the transition to the e-book format, there are several reasons the market for more intellectual e-books has not taken off in Japan. According to Mikio Amaya, CEO of Papyless Co., a leading Tokyo-based e-book provider, there are only five or six major publishers that dominate the market in the US, but there are over 2,000 publishers in Japan, including about 50 major ones. "Our company deals with about 500 of these publishers. But since we have to negotiate with each individual publisher regarding copyrights and other terms of agreement, it requires much time and effort," he says (Martin & Nagata, 2010). The difficulty of getting the agreement of so many people, plus the difficulty in digitizing Japanese documents and the opposition of subscription agents determined to preserve their market share, has hampered the spread of electronic books in Japan.

On March 24, 2010, the Electronic Book Publishers Association of Japan, with 31 major publishers, was officially launched. According to Yoshinobu Noma, chief of the association's executive board, their aim is to "secure the profits and rights of authors, contribute to the convenience of readers, and to promote the coexistence of print and digital media" (Martin & Nagata, 2010). The association's main task will involve creating a viable business model for the domestic e-book market for clarifying copyright issues and unifying the various formats.

On August 13, 2010, it was reported in *The Japan Times* that the Ministry of Education is also studying the issue and is considering launching a three-year research project on using digital textbooks in schools. Ministry official Shinichi Nakamura said, "The education ministry should conduct examinations responsibly on the method of teaching each subject (with digital devices) and its effect, and how digital content should be produced" (Fukada, 2010). Experts say, however, the ministry should also thoroughly examine the influence of electronic devices on children's health and shouldn't rush to introduce the new technology.

Concerns about the effect of electronic devices, such as e-book readers, on children are also being expressed abroad. Naughton's article on the way the Internet is shaping our lives and possibly altering our brains, includes comments from an academic, a novelist, a neurologist, a psychiatrist, a writer and critic, and the following from Maryanne Wolf, a cognitive neuroscientist:

No one today fully knows what is happening in the brains of children as they learn to read while immersed in digitally dominated mediums a minimum of six to seven hours a day. (. . .) For me, the essential question has become: How well will we preserve the critical capacities of the present expert reading brain as we move to the digital reading brain of the next generation? Will the youngest members of the species develop their capacities for the deepest forms of thought while reading or will they become a culture of very different readers — with some children so inured to a surfeit of information that they have neither the time nor the motivation to go beyond superficial decoding? In our rapid transition to a digital culture, we need to figure out how to provide a full repertoire of cognitive skills that can be used across every medium by our children and, indeed, by ourselves (Naughton, 2010).

Other Advantages of E-books as Textbooks

Several of the advantages of e-textbooks have already been covered, such as the savings in money and paper, but there is one more advantage for language teaching that needs to be mentioned: barring some kind of major technical trouble, e-textbooks will not fail to arrive in time for the start of the semester. With paper textbooks, unfortunately, failure to arrive in time has been a problem over the years I have been teaching in Japan. In my classes, I have used textbooks from a number of different publishers, both Japanese and foreign. Even though the foreign publishers do their best to ensure supplies, it is hard for them to know what the demand will be and to get the textbooks to Japan and into the hands of teachers in time. Publishers are not allowed to sell directly to teachers, and the distribution system, through local booksellers, could only be described as "complex." At a college, orders for textbooks are generally placed in February, about two months before the start of the academic year in early April, and language textbooks, especially from foreign publishers, sometimes arrive a little late. One particularly memorable year about twenty years ago, I ordered a textbook from a major foreign publisher in February as usual, the school year started at the beginning of April, the textbooks finally arrived in late June after repeated assurances that they would be here "soon," and the semester ended in mid-July. Needless to say, this was a situation any teacher would be happy to avoid.

In the FORA.tv panel discussion, Brooke Gladstone (FORA.tv., 2010) also mentioned the idea of making "micropayments" to buy parts of a book, such as one short story in a collection or one article from a magazine, and as a teacher, I can see the benefits of being able to pick and choose reading material for a course from a variety of texts.

Other Disadvantages of E-books as Textbooks

The amount of digital teaching material available in Japan is still quite small compared to the number of traditional paper textbooks, and all of the things currently available are designed to be used with a computer, not an e-book reader. A survey of the E-Learning sections in the 2010 catalogs of six major foreign publishers produced the following:

- The 2010 McGraw-Hill ELT Japan catalog contains an online and print-based reading program, an online program to assess and improve writing skills, and an online and print-based multimedia program including audio, video, animation, and photos.
- The Cengage Learning Japan ELT catalog offers online programs for TOEIC and TOEFL iBT preparation, an online grammar program, online video workbooks that accompany one of their four-skills print-based series, and a library of e-books with audio and video components. They also offer a new, Internet-based learning management system designed for English language teachers and students.
- Pearson Longman offers an online version of one of their integrated-skills courses, an intensive online and print-based course for TOEIC preparation, an online and print-based course in basic grammar, a reading comprehension and vocabulary program that can be used with or without a print-based course, and dictionaries for iPhone and iPod Touch.
- Macmillan Languagehouse offers online resource sites for English language teachers and students, including tests and support messages for a mobile phone.
- Oxford University Press and Cambridge University Press offer multimedia support, but no e-books or online courses.

Another disadvantage is the fact that e-textbooks come with an expiration date. As was mentioned in the pilot program at the University of Texas at Austin, students who chose e-textbooks could download them to their personal computers for the duration of the license for the course, after which the students no longer had access to the books. In the case of the Pilot Amazon Kindle Program at Pace University, in answer to the question of access to the Kindle textbooks used in the program after the pilot was over, the students were told that "Books and case studies you received are automatically backed up in your Kindle library on Amazon.com. Books in your Kindle library will be available after the pilot" (Pace University FAQS, 2009). It did not, however, state how long the books would be available. In addition to the Pilot Amazon Kindle Program, the Pace University Campus Bookstore offers many of its textbooks are designed to be used on PC and MAC computers, the devices the university's research has shown to be the most commonly used by students, and the students have the option of either renting or buying them. According to their website, if the student chooses not to buy or re-rent the e-textbook, "your license will simply expire and you will not have access to your textbook" ("General Questions about eTextbooks," 2010).

In my opinion, losing access to e-textbooks is a serious drawback for students who may want to refer to them in the future. In fact, two of the references used in this paper are books that are remnants from my own college days: the collection of Poe's short stories from an undergraduate literature class and Kelly's book on the history of language teaching, which I picked up in graduate school just because it was interesting. Over the years, I have accumulated phonograph records, cassette tapes, and floppy disks that I either cannot or do not use anymore. Like other machines, my Kindle DX will eventually either break or wear out. I wonder what will happen to my thirteen Miss Marples and my many Hercule Poirots. Will I be able to read them again ten years from now? Paper books, on the other hand, can always be read. Will students of the future be able to refer to their old textbooks, or will that knowledge be lost like the great library at Alexandria?

Conclusion

Of the five platforms I tested (a traditional paper book, an e-book reader, e-book reader audio, a laptop computer, and a palmtop computer), there was no obvious winner for the language classroom, where students basically need some kind of text to study, dictionaries to refer to, and a place to take notes. Using paper textbooks, as has been usual in language classes until recently, will always work, but books may be expensive, are heavy to carry, and take up space. E-books, on the other hand, save the costs of paper, printing, and transportation. An e-book reader, such as a Sony Reader or an Amazon Kindle containing e-books for all of a student's classes plus a dictionary, is relatively light and inexpensive and convenient to carry around, but some of the features in the current models need to be improved. A laptop computer can be used for everything a student needs to do, including storing e-books. It is likely, however, to be more expensive than an e-book reader and harder to carry around, and the student would literally lose everything if the laptop were lost or broken. The Kindle Text-To-Speech audio function might be useful for a student to listen to for selfstudy at home, but the voices are not good enough models for classroom use, and palmtop devices, such as the iPod Touch, are just not large enough.

To repeat the words of Kelly, e-books will "overlay, not replace" books printed on paper for the foreseeable future, just as elevators will not entirely replace stairs. The digital revolution is bringing great changes to the world of higher education, and four groups of people — the authors and publishers who produce the materials, the companies that produce the electronic devices, the students and teachers who use them, and the administrators who run the universities — have an economic interest in the outcome. Students want to spend as little for textbooks as possible, teachers want interesting and effective materials for their classes, university administrators want to save money on paper and the costs of running a bookstore, authors and publishers want to sell content and protect their copyright, and electronics companies want to sell machines. E-books are an answer to some of the problems facing higher education, and they are rapidly gaining acceptance, but exactly how they should be delivered and used is still not clear. With any innovation, teachers can always look forward to a new set of problems. Instead of, "Sensei, I forgot my book today," in the not-so-distant future we might be hearing, "Sensei, my battery is dead."

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