Electronic Textbook Technology in the Classroom

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INTRODUCTION

One of the most underutilized technologies available to the school systems of this nation is the e-book. Although the technology has been available for five years or more, school boards overwhelmingly choose paper-bound sources for their textbook needs over electronic texts. In today's technically savvy world where BlackBerries, iPods, and laptops are commonplace, even given to students as in the case of Quaker Valley School District, electronic textbooks should be considered as a valid alternative to traditional learning media.

BACKGROUND

What is an e-book? To put it simply, an e-book is a device about the size of a traditional paperback in which digital forms of printed material can be downloaded and read. They are light, "…portable, and have a much larger capacity than a book of comparable weight and size…"(*Ask Bruce!*, n.d.)

Palm Pilots, BlackBerries, SmartPhones, and other small personal devices are readily available to the public at a wide rage of prices. As with all hardware, a software program is required to allow the technology to function for its intended use. Microsoft Reader, Acrobat Reader, and PDF formats are currently the most popular reading configurations available to users. Books can be purchased from online sources and downloaded in memory cards or on the internal memory of the devices. An e-book "…can hold a whole library on a device no bigger than a paperback" (Fildes, 2003). One can think of no better fit for this technology than a learning institution.

ADVANTAGES OF ELECTRONIC TEXTBOOKS

There are many advantages to this technology and its uses seem endless in a school setting. "An e-book can give you lots more than a paper book. You can store lots of books on your computer, for example. You can mark your page with an electronic bookmark and jump straight to it when you open the book. Some e-books have built in dictionaries so you can click on a word and find out what it means. And non-fiction books may come with extensive collections of references and footnotes" (*Ask Bruce!*, n.d.).

Instead of heavy backpacks, students would be able to electronically carry all of their textbooks in a small two-pound device.

Accessible from anywhere by a simple touch of a screen, the complete text of every course could be available to the student. With three-dimensional pictures, interactive tools, visual and audio links, comments by the author, Web links, and small video demonstrations learning experiences would be enhanced. "Imagine a biology e-book showing video of DNA's double helix coming to life, rather than the two-dimensional illustrations typically found in printed books. Or think of a math book with a built in calculator or spreadsheet so students can try out formulas as they read" (CNN.com, 2006).

To the student it may seem as if they have taken the instructor home with them.

Instead of waiting for a new text to be printed, updating materials found in texts would be seamless. "While traditional textbooks in many areas are outdated once they are written, one advantage of an e-book or course pack is that up-to-date information is only a click away. This provides students with more current information

than they would receive in a more traditional manner" (Birnbaum, n.d.).

Fluid courses such as technology and science education can remain current "…because publishers can update e-books at any time…" (Campus Technology, n.d.). Students would have the capability to write memos, ask questions, or fill out study guides on the personal device. They may be able to download the study guides or the instructor's chapter notes from the school's Web site. Reference books would be easy to navigate because e-books "…already embody the idea of hypertextual reference, which is currently cumbersome for the reader who has to turn pages to get to the notes…" (Taylor, n.d.). If the student prefers the feel of paper beneath his or her fingers, printing the necessary pages would be possible.

Cost and Savings of Devices, Software, and Texts

In 2001 e-readers sold for $200 on Web site stores. PDA's, BlackBerries, and SmartPhones generally range in retail prices from $200 to $400. Most have reading software already installed in the device. Digital downloads of textbooks from publishers are beginning to be discounted to whet interest in college bookstores. In an article published the beginning of this school year, it is reported that publishers are extending expiration dates on their textbooks, and lowering the price, "…the downloads (textbooks) were to be sold for 33 percent off the cost of a new, printed copy…" (Borland, 2006).

The small size of the reader would free up storage space in both school and homes. Currently shelf upon shelf of space is dedicated to textbooks that are often out of date. If an English class' required reading for a six-week period was *A Brave New World*, the student would only have to download the book for a short time. When finished, the student could delete the file, making room for another resource for the course.

Problems of Electronic Reading Media

Among all the advantages that would accrue to schools, there are disadvantages of e-technology to consider. As we all know, computers crash. All electronic devices have an inherent vulnerability not present in paper and binding. It may be a frustration to a student whose device fails to work on the one critical weekend before a big project or a final is due, or it could be used as another form of "my dog ate my homework."

Destruction of property may be another potential high cost bill. However fines for this may inhibit this offense on the part of students.

School-wide introduction of the technology may not be feasible. Elementary students may still need hardback copies of written material from which to study.

Electronic Textbooks and Online Resources in Schools

In Korea implementation of electronic material has already begun. In *The Korean Times* dated the 8th of February 2006, fifth and sixth grade students are receiving digital math textbooks. Starting last May, the Ministry of Education and Human Resources has "…developed electronic textbooks in math targeting fifth and sixth graders of elementary schools. The digital math textbooks are the first among regular subjects to be taught for one year" (Ah-young, 2006).

In enumerating the advantages of electronic textbooks a ministry official said, "The e-books are specially designed to maximize educational effects by offering three dimensional experience programs, highlighter tools and feedback systems unlike simply having contents" (Ah-young, 2006).

In today's public schools we have online software connections such as Ebsco Host, a library resource. Ebsco Host can access many different books and magazines in the library loan system. All the student needs is his or her school ID number. Another type of software allows questions to be asked by the student in the classroom in IM format. The instructor can then answer the student's question without disrupting the rest of the class. Wireless technology is currently available in many schools.

What's Holding the Schools Back?

So why with all its advantages, hasn't the electronic textbook already become a staple in schools across the country? One reason might lie in a school board's reluctance to spend taxpayer money on new technology that traditionally has a short obsolescence factor. Or it may be because of a shortsighted view of the technology's far reaching implications in today's society. "Learning curves associated with new technologies often act as

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