INCORPORATING DIGITAL E-BOOKS INTO EDUCATIONAL CURRICULUM

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ABSTRACT

The first books were probably the Egyptian scrolls of papyrus that provided lineal content to readers. Today (2005) the Internet technology presents the Internet lifestyle that has introduced electronic or e-books that can enrich learning experiences. E-books have an advantage over traditional books in that they offer hypertext linking, search features, and connections to other online databases enhancing data comprehension. Printed books may surely become artifacts like the papyrus documents as interactivity lifestyle desires continue to become the norm. While leaders of all educational organizations might benefit from using e-books, educational leaders of online and distance education environments may have a competitive advantage at implementing e-books into the learning culture. Distance education users tend to be confident and agile in computer skills. Advantages of e-books over traditional texts and suggestions on how to incorporate the use of e-books into a learning culture are provided.

From papyrus to e-books

Early civilizations conveyed data using symbols and inscriptions on stone, clay tablets, and pottery. Later wax was used to record information as the markings could be scraped off and new messages could be recorded. The first books were the Egyptian scrolls that used papyrus products native only within the Nile region. The Chinese have been credited with introducing paper from bark and the first printing ("A history of book", n.d.). Today (2005), the Internet technology presents Internet lifestyle opportunities that has morphed into e-books and distance education that enrich learner experiences and can prepare learners for the digital work environment. Distance education has become the focus of many academia and business organizations in response to the need for an educated, competitive workforce. To guarantee success in the digital workplace, individuals and organizations must remain flexible, acquire new skills continuously, and identify additional ways of managing knowledge and information. One such new strategy to ensure an educated workforce is to incorporate the use of e-books. Digital textbooks or e-books are reproductions of traditional, printed textbooks that appear on-screen by means of an Internet connection (Segal, 2004). In the next 20 years, more textbooks are projected to be converted moving to the electronic format with the continued growth of online and distance education.

For years, electronic versions of newspapers and journals have been available. Electronic books or e-books, too, are becoming popular. An e-book is a book that is converted into an electronic format rather than printed as a paperback or hardcover. In March of 2000, "Stephen King released his first e-book, Riding the Bullet, which was downloaded more than 400,000 times in the first 24 hours" (BookFlash, 2000, para. 1). Then, Scott Adams, the creator of the popular Dilbert cartoon strip, acknowledged, "eBooks have been a substantial portion of my total book sales. I've reached a lot of readers who don't like the higher cost of hardcover books." ("Top Selling e-books", 2004). In 2004, e-books represented the fastest-growing segment of the publishing industry (Gall, 2005).

City libraries are investing in e-book collections. Wilson, (2005) published, "The e-book will be the next new thing in library sciences." The state of Illinois has 20 libraries offering 24/7 e-book access to library patrons ("Digital Books available online library", 2005). Best sellers include fiction, non-fiction as well as classics. Library patrons can access the free reader software, select titles, download the digital

book and the file expires when the loan period is over. This frees the digital loan opportunity for another patron. If an e-book is not available due to a loan-out status, a patron can have their name placed on a waiting list and will be notified by e-mail when the digital rights access to the book are available. Brooklyn Public Library has over 1,000 digital books allowing patrons to download from home computers to obtain up to 15 titles at a time for research or reading activities. "In the first 10 days of the e-book collection addition, over 50% of the titles were checked out" ("Brooklyn Public Library", 2005).

Publishing and distributing organizations are also reporting a high interest in e-books offering scholarly publications, reference materials, novels, professional and popular titles. E-bookmall.com has over 125,000 titles available providing virtual access to books available to anyone with the Internet and a computer ("E-bookMall, 2005). Many publishing organizations will price a set of books for a flat fee that is much lower than purchasing books individually while many new titles are emerging as e-books only. The Open e-Book Forum ("E-book best seller list", 2005) identified the 2004 Top Selling e-books as The Da Vinci Code, Angels & Demons, and Deception Point- sales of these titles in e-formats were almost equal to the hardcover cousins ("Top Selling Books", 2005). E-books can be modified to reach various age groups changing the language level and degree of violence.

E-books are becoming a high interest item in many educational institutions and especially in the field of distance education. The e-book technology is easily accessible and many educators acknowledge the variety of benefits of e-books. E-books in the educational system provide advantages over the traditional books.

Advantages of e-books

1. Students are able to download e-learning text materials 24 hours a day, 7 days a week in a matter of minutes. The instant availability reduces costs associated with delivery, shipping, shelving, and storage as well as problems associated with unsold or unwanted books. Another advantage of e-books to students is the capability to click on any word the learner does not understand and immediately the definition of the word appears. New reading tools provide opportunities to highlight the text and jot notes in the book margins. Additionally, music, sound effects, animation, pictures, hyperlinks, and supplementary materials can be embedded in an e-book providing a richer and diverse learning opportunity. For example, Lison, Gunther, Ogurol, Pretschner and Wischnesky (2004) introduced an e-book called Vision2003 for medical students. Vision2003 allows students to interact with graphical representations of body parts to aid in learners understanding of the human body. Other e-books have been published for interactive use of electrical and computer engineering students offering a learning opportunity that touches several senses (Principe, Euliano, & Lefebyr, 2000). Other examples include providing the learning opportunity for elementary school children as they observe 3-D geographical maps or interactively participate in an archeological dig in an e-book format. Professionals like an Air Traffic Controller might observe how storm conditions influence landings of aircraft with digitized viewings.

2. Shelf life of books might be another financial consideration by school administrators. Johnson (2004) published, "Paper books disintegrate. They go out of print. They're expensive to produce, bulky to store, and back-breaking to move. Their very physical nature means that access to them is limited" (p. 44). E-books offer a longer shelf life because they can be updated electronically vice reprinted/redistributed.

3. E-books can be printed on one's printer should a learner desire printed pages. One can print the whole e-book or

just the parts of interest. If one loses a computer hard drive or experiences technology problems resulting in the loss of e-text materials, most publishers will replace free of charge. This would not occur if a traditional textbook were stolen or lost.

4. E-books are environmentally friendly because there is a reduced need for paper, commercial inks, printing chemicals, less petroleum products, and associated transport vehicle resources. A 2005 article in Inside Higher Ed identified that eight colleges are offering e-textbooks at 33% below the normal cover price. "It's about giving students a cheaper option," said Jeff Cohen, advertising and promotions manager ("Inside Higher Ed", 2005, Aug 12). The eight participating colleges are Princeton University, Portland Community College, Bowling Green State University, the University of Oregon, Utah, Georgetown College in Kentucky, California State University at Fullerton, and Morehead State University ("Inside Higher Ed", 2005). University of Phoenix Online, the largest private university in the USA has been using e-books since 2004.

5. E-books can be read from the computer or with a hand-held portable e-book reading device. Frequently, e-books are available for purchase before the print version is released on the market.

6. One may customize the viewing experience for one's unique learning needs and eyesight by changing font size and screen contrast vice the standard print copy appearance. Digitized speech options are available to translate printed words in e-books to audible mode and have the text read. Resources are also available to translate verbiage into another language including American Sign Language widening the recruitment opportunity for educational institutions.

7. Portability is a consideration. A student can carry several titles at once, on a portable reader.

8. E-book readers offer the user all the advantages made available by the computer including being able to search for specific terms or pages to find information, and ability to manipulate the content.

9. E-book technology might allow many readers the opportunity to use the same materials simultaneously. Some e-book collaborative tools support file sharing enabling learners to communicate with each another in group assignments while reading the same electronic book in different geographical locations. Learners can ask questions, participate in discussions and debates, and collaborate on projects.

10. Bookmarks stay where one inserts them which allows the reader the opportunity to begin reading where last finished.

11. Some e-book tools allow readers to copy material allowing the insertion of quotes into their own materials which could improve the scholarly writing of students.

Disadvantages of e-books

1. Credit cards are needed to download e-book purchase.

2. To read an e-book, one must be on a computer and/or use an electronic device unless one prints out the data.

3. Failure to embrace e-books is often the result of one's lack of confidence in computer skills.

4. Digital Rights. Areas to research with the e-publishers is what Digital Rights Management (DRM) standards will be embedded in the e-books. DRM is a term relating to any of several technical methods used to restrict or control the use of digital media content. An article entitled, "Digital Rights Management" (2005), addressed this concern as, "Some digital media content publishers claim DRM technologies are necessary to prevent revenue loss due to illegal duplication of their copyrighted works" (p. 1). Some restrictions of Digital Rights Management (DRM) often means the e-book user can only open the e-document on

the same computer originally downloaded. A preferred alternative option to learners might be to design the access to e-textbooks with an expiration date that expires within a specified time. This choice allows the learners to work from computers in various locations such as the classroom, library, or while traveling to access materials in a business center.

Incorporating e-books into an educational system

Distance education leaders might find it easier at incorporating e-books into the culture, as the learners and faculty tend to be more confident in their computer skills than traditional educational users. Launching an initiative to incorporate e-books into an educational organization should be planned carefully, since it is a culture change. Beer and Nohria (2000) published that 70% of all change initiatives fail despite the best efforts by leaders. Atkinson, (2005) suggested that the rate of failure for some change initiatives could be as high as 80%. Change is not a simple effort. O'Toole (1996) found 33 hypotheses explaining why people resist change. Brassard, Field, Oddo, Page, Ritter, and Smith (2000) stated, "A solution is only as effective as its action plan" (p. 75). The authors noted a good plan as one that documents the requisite tasks, necessary resources, and names of the individuals or change team who would accomplish the tasks. Moreover, the plan would include measures and milestones to assess performance and progress. There should be three phases used when launching new cultural initiatives such as integration of e-books. They are the (a) educational phase, (b) buy-in phase, and (c) implementation phase.

Educational phase

The educational phase should involve a program or campus wide initiative that will describe the advantages of e-books over traditional books using a variety of mediums to inform all stakeholders. Key to implementation is communicating the launch of the incorporation of the e-book initiative to convince all stakeholders about benefits of adopting the e-books. Therefore, timely and repeatedly compelling information about the change for the action team and customers is necessary. Be prepared to discuss the needs from the faculty as well as student's point of view.

Buy-in Phase

This is an important phase when launching a new initiative such as an e-book conversion. "Resistance is a natural emotion that must be dealt with and not avoided" (Mento, Jones, & Dirndorfer, 2002, p. 50). The change plan should be framed in such a way so that individuals are motivated to make the change. In addition, providing the stakeholders the ability to give immediate feedback will help shorten the acceptance of the change effort. The buy-in phase should be lead by influential figures so all stakeholders know the support for the cultural change comes from top levels. Presentations should be made frequently to faculty, students, and administrators. Other suggestions include placing banner ads on educational web sites, sending out emails to all stakeholders, designing computer pop ups, include notes in all school publications, ensure the media supports the e-book launch with news events. The buy-in phase should be launched the semester before implementation. Incentives could be offered during this stage offering such items as free e-books, or subsidize USB flash card memory stick purchases so e-books could be carried on a key chain. Another suggestion includes rolling out the e-book program by first offering one free book download for a class students are currently enrolled.

Implementation and Evaluation phase

In addition, once the change team launches and implements the e-book solution, review and evaluation is paramount. This assessment should focus on the customers' acceptance, adoption, and actual use of the e-books over time to determine if the expected change is

operating as expected and adjust accordingly. This should be a small task force to oversee the marketing study, increasing the new book collection, and ensure that availability of all e-books are technologically retrievable.

Conclusions

E-books, like online education, are still in their infancy as compared to traditional delivery methods. Distance education community leaders may have a competitive advantage over traditional universities in ease of adoption of an e-book culture as the faculty and learners in online/distance education environments tend to be comfortable with their computer skills. Benefits of using e-books over traditional hard cover books in academia are compelling in preparing learners for the digital work environment. Selling the idea of e-books into a culture of education is critical in preparing learners for the digital age. Educational leaders should formulate a good launch, buy-in, and implementation plan of action to engage all stakeholders. Change is not a simple effort. Foster and Kaplan (2001) explained that mental models are very difficult to change. Educators have used hard copy books and the change to e-books is a new cultural concept. Quinn (1996) reminded that leading change implies setting a vision and being a motivator in the implementation.

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