A Review Paper Based on Paradigm in Using E-Text Books and E-Learning Apps in the Classroom

Sanu Sao¹*, Dr. Manju Sanghi², Dr. Jyoti Prakash Kanoje³ & Dr. Shweta Bhatia⁴

sanusaw01@gmail.com, 4th Sem., B.Ed., M J College Bhilai (C.G.) 490023, India¹*
manjusanghi13@gmail.com, Department of Applied Mathematics, Rungta College of Engineering & Technology, Bhilai (C. G.) 492006, India²
jpkanoe@gmail.com, Education Department M J College Bhilai (C.G.) 490023, India³
hod.education@gmail.com, Education Department M J College Bhilai (C.G.) 490023, India⁴

Abstract - The textbooks are crucial to learning in the traditional classroom-based setting, though their role in e-Learning environment might be different. Through a categorisation analysis this study investigates that if currently available learning resources provided by textbooks are suitable for e-learning purpose. An e-learning framework incorporating different stages of learning and adopting the usage of learning resources was first developed as a guide. Here, a sample of learning resources that came with 100 commonly used textbooks in the disciplines of logistics/supply chain management and information systems were classified using the framework techniques.
To corroborate the classification and diversity, cluster analysis was also conducted to identify major clusters of learning resources along two dimensions - complexity of content and ease of use. The findings display that most of the sampled textbook learning resources are only suitable for low-order to mid-order learning according to the revised generation and maintaining the generation gap observed.
The majority of the resources investigated lack the sophistication and complexity to support high-order learning that involves a great deal of interaction and collaboration among learners and facilitators on e-learning platforms. In other words, existing textbook learning resources might contribute well to self-regulated low-order and mid-order eLearning involving basic to intermediate cognitive processes, such as remembering, understanding, applying and analyzing. They are generally ill-designed to facilitate high-order e-Learning involving advanced cognitive processes such as evaluating, observing and creating, which require extensive interaction and collaboration among learners and facilitators in an e-learning environment.
The utmost best e-books now have audio incorporated. The quality of the audio can be excellent with professional voice actors and with good sound effects. Interactive activities are often included to check the comprehension, vocabulary and grammar. Other e-books however, are simply a digital version of the paper book – such as PDF – and it offer no ‘extras’ other than what is inbuilt into the platform, such as a dictionary or note-taking capacity. Fortunately, most publishers offer sample pages to download and it really is worth doing this it also minimizes the wastage of papers in e-learning.

Keywords: - e-Learning, low-order, mid-order, high-order and e-books etc.

I. Introduction

An overview introduction based upon the emergence of e-textbooks has only made that decision more difficult to make. Now, students must decide whether they want to buy a traditional paper textbook or an e-textbook it totally depends upon their personal choice. Students should use criteria such as cost, availability, different editions, efficiency, and personal comfort before making their purchases. Here, both the choice has their own merits and demerits but when we look in present day demand it is e-learning.

KEY TAKEAWAYS

- E-textbooks may take up a lot of memory storage space on a tablet or laptop.
- Most textbooks are expensive compared to purchasing the book in electronic form is much easy and cheaper.
- E-textbooks allow you to carry single device rather than many books.
- Traditional textbooks are more expensive than e-textbooks, but only some e-textbooks allow to take notes and other details. Highlighting and taking notes during class may help to study efficiently, something that is more easily done with textbooks.

A. Printed textbooks

While one can always print out an e-textbook, there is something to be said for having the actual text to mark-up or highlight during a class or while studying or preparing for exams. Textbooks may cost more but they can also be resold or traded at the end of a class or work. However, if a book or notes is too damaged or marked-up, you might not be able to resell it. Textbooks are frequently updated, which can make it difficult to hand them off or sell them to others at the end of a class. Textbooks tend to be heavy and if you have too many of them, it can be difficult to cart them across campus as we head from class to class. If someone have to buy a new tablet or laptop to hold all of your e-textbooks, it may be very cheaper to buy the actual books. Otherwise, e-textbooks are usually very cheaper than traditional textbooks.
B. e-Textbooks

Even when we consider, that certain sites sell textbooks at a much cheaper price, e-books still will be the more affordable option. A quick review of a textbook retailer will show that the online version of a textbook can be up to 60% cheaper than its print equivalent, but it is not the only factor to consider. If you already own a laptop, then definitely there will be no extra costs necessary, as our laptop will be compatible with the e-textbook easily. Nevertheless, if someone doesn’t own a working laptop, then they will have more than likely have to buy a tablet or some other readable electronic device.

II. Literature Review


Although there are plenty of articles and authors describing how academic libraries are experiencing and managing e-book collections today, such as study undergone by Shen (2011) at the California State Polytechnic University, in Pomona, CA, this literature review underscores only few recent studies which identified e-textbooks (and e-books in general) usage by students in academic/university libraries. A very recent study conducted by Folb (2011) assessed the use and factors affecting use of e-books by all patron groups of the Health Sciences Library System. A total of 871 patrons completed the survey, for an approximate response rate of 18.5% observed. These results indicated that library e-books were used by 55.4% of respondents and that, in general, respondents preferred print for textbooks and manuals and electronic format for research protocols and reference books etc. In spite of little promotion, 65.5% were aware of the e-book collection.

Great awareness was also reported by Gunter (2005). He found that approximate 85% of the users surveyed in the UK were aware of e-books. Interesting enough, the lack of awareness of the Royal Roads University Library’s e-books collection was the top reason cited by the 779 students who participated in the study for not using those (Croft & Davis, 2010). The title of the paper published by Woody, Daniel, & Baker (2010) indicates that they reached a similar conclusion that “E-books or textbooks: students prefer textbooks.” It seems that the preference for print books has not changed within the “millennial” present generation. In 2008 Nicholas and Lewis (2008) studied the attitudes of Millennials toward the books and e-books and concluded that “Although Millenial students are quite familiar and use many forms of technology daily, when it comes to reading the book even, they prefer good, old fashioned print” (p.23). In an earlier study conducted by Knutson and Fowler (2009), e-texts received mixed reviews from student’s side.

But still, 75% of college students said they would like to prefer print to digital texts. Slater (2009) focused his study conducted at Oakland University, in the identification of what got more use, eBooks or print books. He divided the use by subject and found out that library patrons showed a strong preference for e-books in the computer science/technology and sciences in the general and a marked preference for the print format in History and in Language, Linguistics and humanities. Jamali, Nicholas and Rowlands (2009) studied the views of 16,000 academics. This study disclosed that convenience associated with online access (n = 6,169) along with searchable (n = 1,556) were the biggest advantage of e-books. The authors added their observation that printing features needed to be improved and plans should be made by librarians to better promote the e-books collection. Nariani (2009, p. 7) also concludes that “the data and comments gathered from the survey” applied to students at the New York University of Toronto, “Indicate that e-books have not been used to a very large extent” and there is room for further promotion and education.

The e-book promotion needs to leverage on the convenience, search ability and accessibility of e-books as a format. The student, faculty, and staff population of the University of Illinois at Urbana-Champaign was surveyed regarding their awareness, usage and lack thereof opinions about e-books. Shelburne (2009) received 1,547 responses. Fifty seven percent of these reported that they had used e-books. Approximately 41% of respondents who had not used e-books indicated it was because they did not know they were available, 15% that they did not like to read from the screen (display), 10% stated that they did not know how to find e-books, and 7% that they had a preference for printed books.

The results show that users considered e-books better than print books in terms of space and storage accessibility 24X7 from anywhere, currency of information and availability from any location. Another work published in 2009 (Jones, 2009) reports that approximate 44% of respondents indicate some use of UCL e-books.

However, the author observes that libraries should make their sites more highly 5 visible abandon any hope of being a one-stop-shop well they should accept that much content will seldom or never be used other than perhaps a place from which to bounce. Noorhidawati & Gibb (2008) had made this clear in their paper “How students use e-books reading or referring?” This study was conducted using 1,372 students from the University of Strathclyde, in Scotland.
The survey revealed (outcome) that the most popular reason for using e-books was for finding relevant content which is according to the authors.

It “indicated that e-books were not read in their entirety but instead were consulted or used for reference purpose.

One of the most comprehensive e-books use surveys ever conducted from (Nicholas et.al, 2008) involved approximate 22,437 subjects in the UK. The study shows that e-book penetration was very strong 61.8% of all students were already using them in connection with their scholarly work. According to the authors the e-book revolution had already happened but clearly it had some way to go. The significant results were obtained by Shepperd, Grace, & Koch (2008) in the same year. They examined that the perceptions and performance of students who used an electronic versus a traditional paper textbook for Introductory Psychology class.

However, the authors summarize that the “students using the electronic text reported spending less time reading for class compared to students using the paper text and generally evaluated the electronic text unfavorably. Probably there were no student who purchased an electronic text in a prior class chose to purchase it for Introductory Psychology. Interesting enough “only one third of the students purchasing the electronic text and they would do so again if given a chance”.

Students can learn on either type of textbook. Yet, many still prefer print over electronic. Most of the researcher had reported that over half of college students preferred print books. This was found to be true in most of the literature reviewed as well. This preference may be due to how each type of medium is ready for readable.

III. Methodologies to cope up with eBooks in education

Listed below some of the benefits of introducing eBooks in education:

A. Study Anywhere and Anytime:

An e-Book is easy to carry around. Instead of carrying a bulky bag full of books, it is easier to carry a mobile device that supports e-Books. Most students now a days always carry a mobile based device. It could be a smart phone, a tablet or a laptop. The portability of an e-Book allows students to refer to their notes and course materials anytime, anywhere they want. Instead of carrying multiple books, students can now have everything in one place.

B. Offline Access to eBooks:

Over more than 50% of the world’s population has access to the Internet. Yet we may all sometimes have trouble with connectivity and network issues. Though, in order to ensure that the Internet connection does not hamper the learning process mobile devices, these days, offer offline services. Students can now download any content they want and save it on their device and go through them later at their/our convenience.

C. Multiple Interactive Features:

The e-Books are not just plain reading materials, they have all the right tools available to help students make notes and highlight content. The e-Book reading devices have a lot of interactive features, such as annotations, pen tools, page zoom, search option and read aloud etc. The search tool is the most favored tool because of its ability to find words and topics in an instant.

The search tool avoids the time-consuming process of turning pages after pages to find a particular topic, phrase or statements. They can bookmark pages and chapters easily. The online dictionary helps them to access quickly find meanings of words. Besides, the user can also change the font size and style and adjust the brightness of the device as per what suits their eyes. An e-Book is an all-in-one device which provides a wholesome learning experience to the respective students.

D. Edutainment Value:

The course content doesn’t have to be only text available apart with it also contains graph, figures, flowcharts and summary etc. You can include music, animations, videos and other audio explanations into the learning module easily. Videos makes the learning process more interesting. Students can pause and rewind the video/clips and watch it again. Animations clips are fun and entertaining and have more retention value.

Watching video content aids in retaining information far better than reading the same stuff. Many publishers are now incorporating videos into their e-Books to keep the students engaged in the course material. Videos and animations add an entertainment value while being informative and simple at the same time. It helps improve their ability to learn and recollect information.

E. Experiment with Augmented Reality:

Augmented Reality is transforming the learning space at an incremental pace. Bringing AR (Augmented Reality) into e-Books provides an immersive learning experience to the students. AR can transform any normal image into an enhanced 3D images, which the students can view from all angles/views.

They just need to point their AR app-enabled device at the image or object, and a computer-generated visual pop up on their screen. This 3D image helps provide students with an immersive and compelling learning experience. The students would find these enhanced visuals more interesting over the flat diagrams. It can also have links to relevant external sites where they can easily find more information about the projected image.
**F. Save Printing Costs:**

The e-Books do not require paper. Authors can submit their work in a PDF format, which can be converted into electronic books. The paper does not come into the picture. So, it saves all your printing related costs, right from purchasing printing paper, designing the layouts and hardcover etc. It even saves the environment by eliminating the need for printing because papers are prepared from wood.

Millions of trees are cut down each year to produce paper. Add to that the transportation costs, paper making costs and all the carbon footprint it leaves behind it. All this can be avoided if you switch to e-Books. This is also the reason before why the e-Books in education can be the best alternative than its counterpart printed books.

**G. Provide Updated Content to Students:**

In traditional paperback books if there will be some updated information that needs to be included in the syllabus, it would probably have to reprint new books. But with eBooks, all the learning material is stored on the cloud.

This means that e-Books can be updated anytime you want and it will be reflected in all e-Books. So, you can always ensure that your students have up-to-date information with them at all times. This again saves your reprinting costs.

**H. Interactive Assessments:**

The e-Books include self-assessments for students to test their knowledge. It does away with the traditional style of giving a quiz at the end of the chapter/statement. The e-Books are embedded with quizzes and exercises throughout the chapter and also after the chapter ends, to ensure that students retain the information that they are reading.

It helps to measure whether the student has understood the concepts properly. The e-Book assessments can provide instant results so, students can immediately view the test results. Not just the students although the teacher can also view test results and provide immediate feedback.

The introduction of e-Books in education has optimized the learning experience too. It has turned the learning process into a fun and engaging event. Students will no longer dread having to carry a load of books and sit through hours of lectures paying only half attention to what is being taught.

The e-Books ensure that students are proactively interacting with the learning material by way of videos, animations, augmented reality, changing displays, taking notes etc. The digital books provide students with a completely enriched learning experience and help them to improve their academic performance.

**IV. Results & Discussions**

Having e-textbooks on a computer also provides other conveniences.

For example, many e-textbooks offer search functions, which make searching for specific information a swift and easy process. With a hard copy, you will have to take the time to skim through pages or search the book’s index. Also easily done with e-textbooks is copying, pasting, and highlighting. Taking notes can be a much cleaner process electronically, as opposed to scratching some notes into the margins of a page. Plus, if you need to include a lengthy quote for a research paper, copying and pasting from an e-textbook will save time over typing an entire quote manually. One final convenient feature found in some e-textbooks is the ability to have the e-textbooks converted into an audio file, making it easy to throw on some headphones and learn the material.

Often times, textbooks are hefty and heavy, and for students taking multiple classes, the hassle of carrying a bunch of heavy books can become troublesome. E-textbooks give students the option of having thousands of textbook pages compressed into a very portable laptop.

E-textbooks are available in two basic flavors. Some e-textbooks are available only while online (material is accessed directly via the internet connection). Others allow you to download the e-textbook to your computer for use while not connected to the internet. Often, access to downloadable e-textbooks is limited to one computer, while online-viewable versions are able to be accessed from any computer.

Purchasing e-textbooks online can be much cheaper than buying textbooks brand new at list price. However, students must understand the constraints that they may be placed under if they choose to use e-textbooks over actual textbooks. First, as mentioned above, many downloadable e-textbooks (such as those offered from popular destinations) are only accessible through one computer. Such digital rights management (DRM) may cause issues if a student’s computer fails or becomes inaccessible. Next, many e-textbooks from major publishers expire after a set period of time, essentially making the e-textbook more of a rental than a purchase.

Overall, the decision to use an e-textbook over an actual textbook boils down to personal preference. If someone enjoys using easily searchable electronic versions of textbooks all in one place, and they won’t mind parting with the material after the use, e-textbooks may be worth looking into. If they would rather not worry about the issues that digital distribution can cause, it may be better off by getting actual textbooks. There are many online websites or e-Campus (or many of our other reviewed destinations for textbooks online) as they have textbooks and e-textbooks for sale and rent. The selection of choice between textbook and E-textbook is purely dependent upon person to person and upon requirement, interest, purpose economy and time etc. factors.

**V. Conclusion & Future Scopes**

Apart from all such added audio, interactive tasks and built-in dictionaries the great benefit of e-books is the added capability of the device the e-book is on.
The smart phones and tablets/electronic display etc. almost all have some kind of voice and video recording capability and often they will be able to support a vast range of free or very cheap apps which can change a mainly receptive lesson or series of lessons into ones in which the students take their available e-book and interact with it to produce their own creations. This creations in turn can easily be stored and shared electronically through email even better a class blog. This is a great bonus as often a great deal of this present time and effort is invested in reading an entire class reader (a reading book which has to be abridged and the language graded for the students).

The purpose of this study was to determine whether digital or print textbooks are more effective when it comes to students e-learning. There are a diverse variety of electronic textbooks available whose features vary from basic annotation abilities to enhanced e-textbooks that have interactive multimedia or any other resource. This paper outlines consists some of the different features available as well as perspectives on e-textbooks from students, district officials and teachers. It turns out that print an electronic textbook both have advantages and disadvantages too.

Most have to do with the format medium, but some depend on the available user’s perspective or specific textbook features. Overall, the research has shown that these differences do not have a significant impact on learning outcomes.

A. Research Questions

Are digital textbooks or printed textbooks more beneficial to students learning?

To answer the above question, I reviewed the literature on:

- Features of the electronic textbooks and print textbooks.
- Perspectives on e-textbooks from students, district officials and teacher’s level.
- Effectiveness of e-textbooks and/or digital materials in present scenario.
- Costs of e-textbooks and print textbooks.

B. Use of Findings

The findings from this study will be used in the near future and by observing the benefits of e-textbooks and print textbooks will be very helpful in making this current decision. Other departments/academics and districts may find the results helpful when looking at their curriculum as well. The findings from this study will directly/indirectly impact the students and the curriculum materials thus it was very interested to see what type of textbook is most beneficial to students.

C. Limitations upon both Textbook and E Textbook

The study is limited by solely being a literature review and by the past years of articles published. The types of textbooks that were described in the literature will also have limitation as per interest and improved versions are constantly developed.

- Digital: For the purpose of this study the digital medium will refer to electronic media.
- Electronic textbook: (also known as e-textbook): For the purpose of this study the electronic textbooks and a digital form of a print textbook that may have some additional features such as annotative abilities or other.
- Enhanced e-textbook: For the purpose of this study carried out to enhanced e-textbooks are electronic textbooks with some additional features. For example, some researchers listed features of an enhanced e-textbook to include customization tools, links to various media such as videos, podcasts, live hyperlinks and other resources.
- Print textbook: (also known as traditional textbooks): For the purpose of this study or print textbooks are textbooks that are printed on paper. They may also include the separate multimedia components to enhance the predominately print textbook.

VI. References


