Electronic-Learning in the Education of Fashion & Design

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Abstract

Research in education argue that the more control a reader have over a text, the more the reader will avail her/himself to follow through the contents, i.e. more involved and committed to learning. The provision of possibilities to comment, revise and update learning contents let users think and digest materials with a high degree of flexibility and involvement. As such, we hypothesize and assert that a personalizing and journal style electronic reading would enhance reader interests and learning progress through the respective software-enabled features such as highlighting, note-taking, interactive voice, sketch-blogging, dictionary-referencing, and multi-media insertion. Success with paperless content delivery will significantly impact the entire teaching and learning environment at Institute of Textiles and Clothing (ITC) of the Hong Kong Polytechnic University, from normal classroom courses to intensive industrial training to web-based cyber programmes. This paper studied the possibility of using of e-book and its readability. The research team had a survey on the students' preferences of amongst the various electronic formats available. We aimed to analyze the readability of E-book on the basis of this survey. E-learning is clearly a fast growing approach used in teaching and learning, and has been transforming the process of education and training in this decade. The survey results show that students readily accept e-book as a type of efficient learning tool; it nevertheless, cannot replace hard copy formats as bricks and mortar places of learning. To conclude, formats of e-learning are worth investigating, especially within the learning contexts of fashion and textile industry and science that include highly diversified sources of knowledge and information.

Keywords: E-learning, E-book, Questionnaire survey, Readability, Fashion & Design

1. Introduction

From pedagogical points of view, teaching and learning in fashion and clothing related ambits is very much tied to socio-technological developments. The knowledge contents are very dynamic, taking teaching staff a great deal of efforts to renew and compile from diversified sources of disciplines and practicing fields. Therefore, e-book could become a type of handy tools to integrate and develop such knowledge in better and more cost-effective ways. Students can pack one electronic book instead of a pile of the learning materials and courseware. It would provide a certain great extent of convenience for them to read anywhere, any knowledge from the fashion centric cultures, through technologies and sciences, to economics and philosophies. Students are so encouraged to develop their own personal improvement and new knowledge awareness through the virtue of reading, which is an essential part of strategic importance of our Hong Kong education process.

Behavior of research organizations, postsecondary education institutions are being questioned if subjects like ethics are being taught or researched in present day colleges. Our professors often feel at "professional risk" in dealing with the ever-changing face of our craft. Hornyak & Peach (2003) discussed this problem. Research study in education argue that the more control a reader have over a text, the more the reader will avail her/himself to follow through the contents, i.e. read more. Hornyak, & Peach (2003) pointed out that Internet has already been marked as having problems with the reliability of information and if it is credible. The issues of learning, tutorials through blogging need to be examined and further discussed. In the Hong Kong Polytechnic University, there is a system 'Turnitin' for academic staff to instantly verify their papers as well as students' papers that may contain unoriginal material and acts as a powerful deterrent to stop student plagiarism before it starts. This system is worldwide as the standard in Plagiarism Prevention.

The provision of the electronic books (e-books) lets user control font sizes, styles, voice features and visual setting to a high degree of flexibility. As such, our study hypothesizes and asserts that e-books would enhance reader interest and learning progress through the respective software-enabled features such as highlighting, note-taking, interactive voice, dictionary-referencing and multi-media insertion. Success with paperless content delivery will significantly impact the entire teaching and learning environment at the Institute of Textiles and Clothing (ITC) of the Hong Kong Polytechnic University, from normal classroom courses to intensive industrial training and to web-based cyber programmers. The project team had studied the impacts of such developing devices and how the devices are applied in order to put forth their desirable effects. We had conducted a questionnaire survey to obtain the preliminary data in order to support our study.

E-learning is itself a growing field (Gold, 2001), as is the increasing development of experiential learning materials using the internet (Potosky, 2002). Web based programs have been used to enhance student learning (Boscia & McAfee, 2001). The teaching and learning process is arguably undergoing material changes (Barr & Tagg, 1995). Studies have been conducted on Hong Kong university students' preferences to learning methods (Chan et al, 2005, Chang et al, 2004, To, et al 2005, Yu et al, 2005). Significant to this is that the students being studied were born in the mid to late 1980s; they have grown up with

technology and the most likely sector of population to embrace its use.

Unlike other disciplines, the fashion industry, with the fashion pipeline stretching from the growing/production of fiber and yarn, design, manufacturing, wholesaling and right down to retailing to end consumers is today one of the largest industries, and operating in an environment that is increasingly complex and competitive. To keep up with this very dynamic field whose mode of operations is continuously technologically enhanced for productivity and efficiency, the faculty staff and students of the Institute of Textiles and Clothing have to draw from very diverse sources of information for updated knowledge of this industry – textbooks, academic journals, trade and consumer periodicals, business, media and industry websites and information on the internet. Incorporating and integrating all this information may empower and enhance student learning. Central to this process would be the 'readability' of the e-books.

2. E-Book

Cavanaugh & Cavanaugh (2006) defines e-Books as electronic forms of text that have been "published" in a digital format which are displayed on specialized reading devices or computers. According to Project Gutenberg, which releases public domain books through the internet, there are now over 20,000 e-books available online for free. So far, there are not many books which cover fashion and design in e-format.

The authors mentioned that the earliest appearance of e-books was in the realm of science fiction novels in Heinlein's 1948 Space Cadet (cited by Cavanaugh, 2006). This continued to 1996 with Sheffield and Pournelle's 1996 Higher Education. The first real e-Books came into being with the development of word processors to create and store information.

3. Purpose of this study

3.1 Electronic books can be used as feasible replacement for paper textbooks, especially for study of fashion and clothing technology which are concerned with a huge volume of visual concept development, image perception and product knowledge in 3-dimensional perspectives.

3.2 We expect that there will be an impact of electronic books on reading rate, comprehension, and motivation for ITC students to study fashion and clothing-related science and business knowledge.

3.3 Research on how electronic books can develop a suitable document format for disseminating guidebook type information, e.g. testing manuals and national standards, textiles and clothing terms and encyclopedia, regulatory requirements, trade procedure and news etc. Can these devices simplify deployments of such and increasing convenience for readers to access and use the information even during traveling?

Within the Fashion & Textile industry, teaching and learning using e-books may be facilitated with the inclusion of materials, for example:

i. textile materials and apparel product testing and evaluation standards,
ii. trade and shipping documentation systems,
iii. size and sizing standards, manufacturing standards,
iv. fashion and clothing technology glossary reference books,
v. categorization of apparel products under regulatory trade requirements.

4. Methodology

4.1 The questionnaire survey

The survey intended to solicit readers' opinion about the e-book reading, or reading preference among virtual format web publications. This is designed to find out the number of the participants who have read virtual format texts. The participants may experience different formats of course documents and also see some texts or study materials in a simple Web format. A questionnaire composed of 20 questions was distributed to 100 students. A total of 76 respondents completed the questionnaires.

4.2 Data Analysis
4.2.1 Age and gender: The students from 3 classes of Postgraduate level study in the Institute of Textiles and Clothing were aged from 20-46. Among the respondents, 55% of them are male and 45% are female (see Fig. 1).
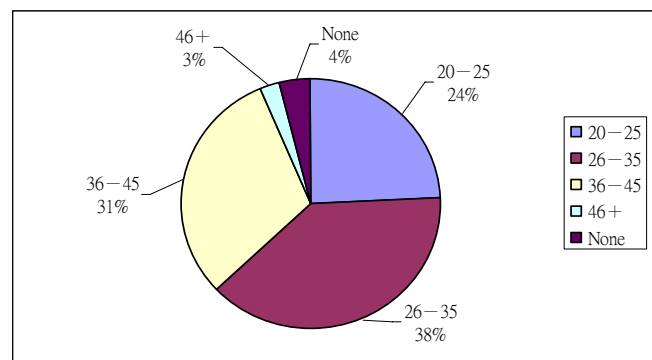

Fig. 1   Age distribution of the respondents

4.2.2   Use of e-reading:
51.3% of 76 respondents claimed that they seldom read E-book or web-based reading materials (see fig. 2). 35.5% of them do this regularly, only 7.9 % of respondents read it very frequently and 3.9% of them do not read it at all. We have then classified the users into two groups, the e-book users and the non-e-book users. Those who are the regular and the frequent readers, we classify as users (44%). For those who seldom read e-book, we group them with those who do not read e-book and they are the non-e-book users (56%). We found that only 44% accept reading e-book.
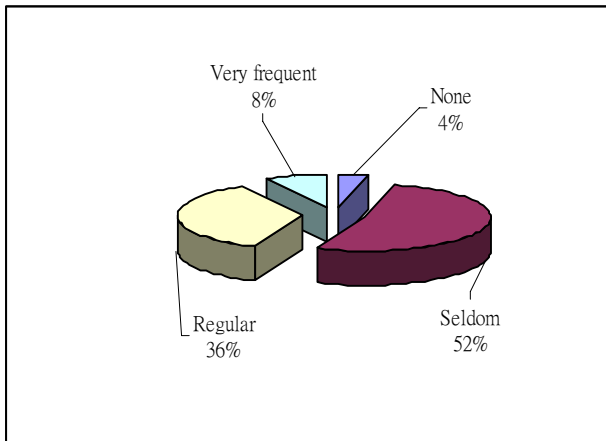
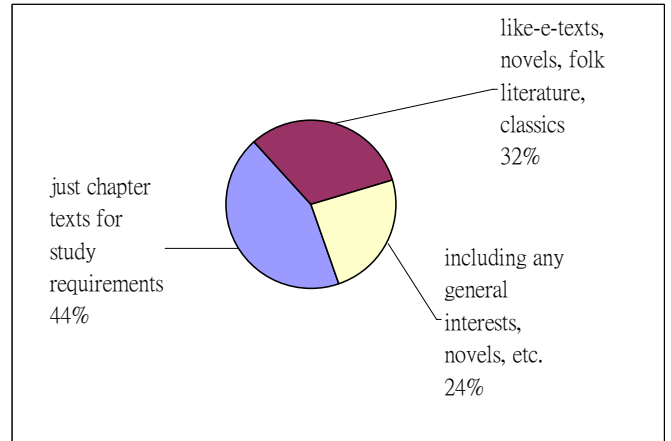Fig. 2   How often do you read e-book or web based reading material?

Fig. 3   Scope of interest in reading

4.2.3 Scope of reading Interest of the respondents:

Majority of them, about 43.4%, claimed that they do not read much; they were just interested in chapter texts for study requirements. We note that 31.6% of respondents have a wider scope of reading interests; they read also the e-texts, novels, folk literature and classics. There are about 23.7% of respondents who like reading. Their interests cover many areas including general interest and fiction etc. (Fig. 3)

4.2.4 Preference of interest through E-book:

There were types of reading materials listed on the questionnaire. Respondents could freely select the least comfortably readable e-book according to their preferences. Results show that the least comfortably readable e-book is on the subject of 'Computer' with 24 of respondents (See Fig. 4).
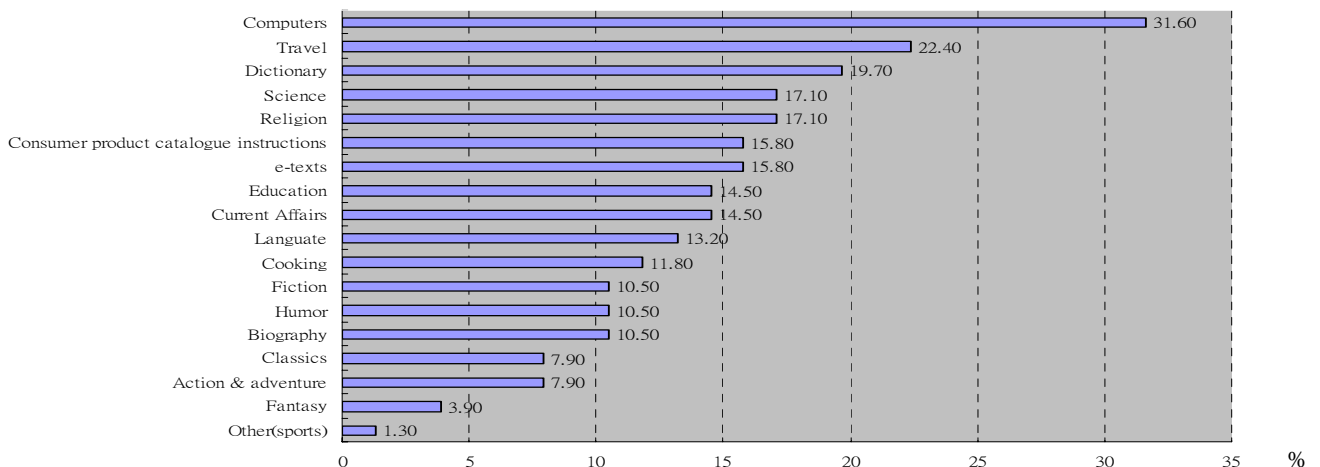

Fig. 4 Frequency of least comfortably readable format

4.2.5 Preference of large document to be presented in E-book:

We have the concern that large size of document may be a problem to be included within the handheld condition. However, there are more than half (53.9%) of the respondents who are acceptable to the reading of large documents within the handheld condition, while 44.7% of them think that it is unacceptable. There were 82.9% of respondents prefer to have the large documents presented in a separate window and that it allows the user to control the size of the screen area, some 9.2% were not sure, 6.6% was against and 1.3% did not respond (See Fig. 5). The respondents were also asked about their preference of attitude for the page turning to scrolling for the purpose of reading large blocks of text. Majority (55, 72.4%) of users favored the page turning to scrolling, 12 (15.8%) had no preference, 8 (10.5%) of them against, and 1 (1.3%) did not answer (Fig. 6).
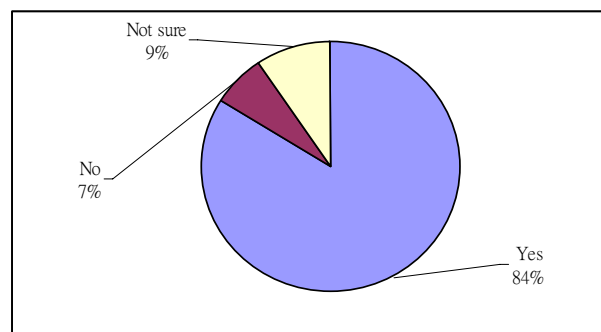

Fig. 5 Preference of the present large documents in a separate window & allow users to control the size of the screen area
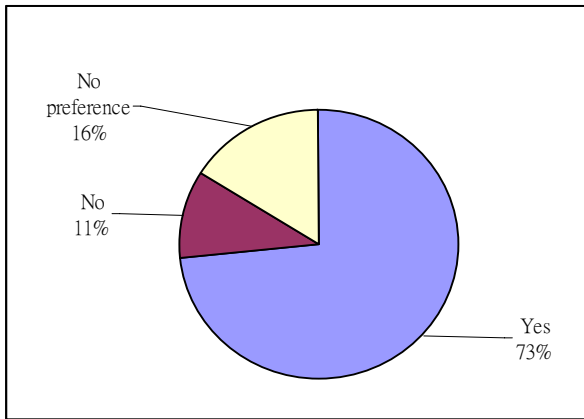
Fig.6   Preference of page turning to scrolling

4.2.6 Perception of Online reading:

Respondents are satisfied to read online (See Fig. 7), 76.3% of them are satisfied with reading online, 19.7% are dissatisfied with reading online and 3.9% are very satisfied with reading online. Among respondents, 28.9% think they would choose to read lecture documents online in the future, 26.3% think they may choose to do it, and 43.4% of them would not choose to read online (see Fig. 8).
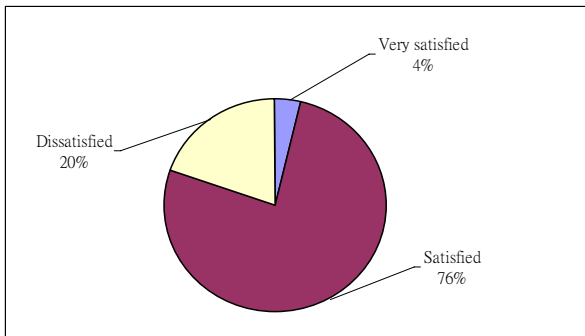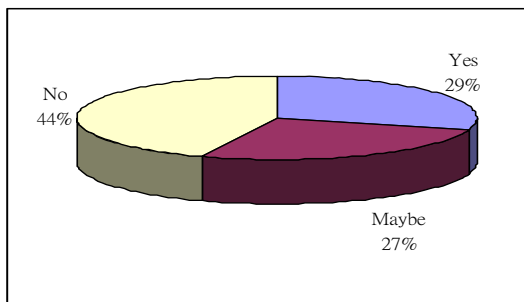

Fig. 7. Perception of reading online

Fig.8. Choose to read lecture documents online in the future

4.2.7 Preferred tools for E-book reading:

Among those respondents who often read e-books on a desktop or laptop 36.8% specified their preferred tools. PC users remain the leader (14.5%), other options with different operating system, processor speed, RAM, screen resolution, monitor size, etc were rare, equally 1.3% respectively. The answers of this question was scattered, we found that quite a lot of the respondents proposed to use desktop with large monitor size.

4.2.8 Preferred handheld device for e-book reading:

There were only 39 respondents who replied that they read e-books with a handheld devise. Among these respondents, there is a significant number of Microsoft OS users, there are 69% comparing with 31% who use Palm OS to read an e-book on a handheld device, thus as listed in Table 1. It is important to note that there is no Bespoke e-Book Reader in the survey. The results show that the users choosing of 'NIL' and PC are 2.6% respectively and other user is all 1.3%.

Table 1 Devices used to read any e-book

Devices	Percent
Palm OS	31
Microsoft OS	69
Total	100.0

4.2.9 Preference of reading format of a handheld device:

As can be seen in Table 2, a majority of respondents (44.7%) use HTML format to read on a handheld device, the users of MS Reader format and MobiPocket Reader format are 25% and 10.5% respectively and only 1.3% of them use Adobe Reader to read on a handheld device.

Table 2 Preference of reading format of a handheld device

Handheld devices Format	Frequency	Percent
HTML format	34	44.7
MS Reader format	19	25.0
MobiPocket Reader format	8	10.5
Adobe Reader	1	1.3
Total	76	100.0

4.2.10   The satisfactory handheld format:

Among 76 respondents (Fig. 9), the HTML format remains the leader in survey (38.2%), MS Reader format in second place, selected by 21.1% of respondents. The least is MobiPocket Reader format with 11.8% of respondents. However it is noted that some of the respondents (10.5%) think that all handheld formats were unsatisfactory. In the survey, there are 27.65 of the respondents who answered that they used one handheld format and that it was satisfactory. 25% of respondents find HTML format least satisfactory, 10.5% of them find MobiPocket Reader format least satisfactory, 7.9% of them find MS Reader format least satisfactory, and 1.3% find Isollo least satisfactory (Fig 10).
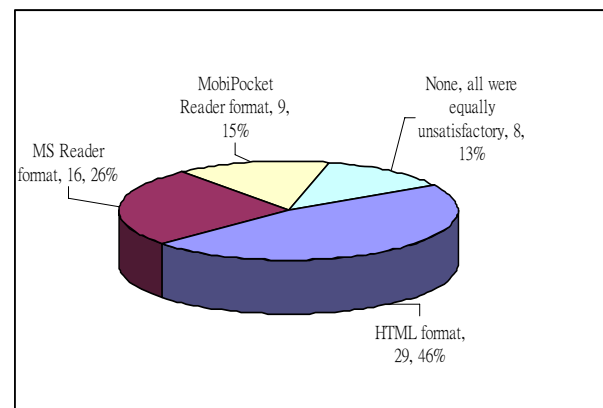

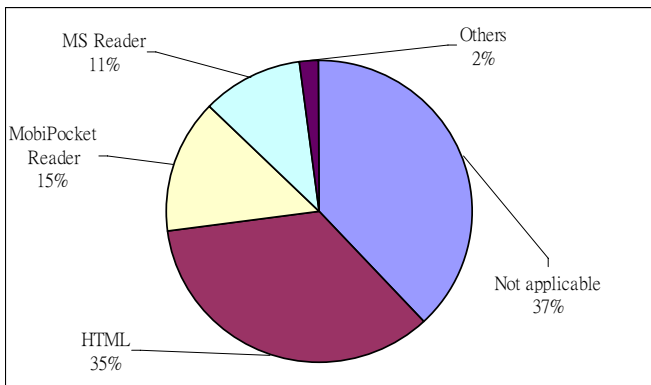Fig.9 The most satisfactory handheld format

Fig 10 The least satisfactory handheld format

4.2.11 Accessability issues problematic of ability to read comfortably from a screen**:**

For ability to read comfortably from a screen for example; font size, color, quality, and that which cannot be changed; inconvenient function keys, etc. There are over 60.5% of respondents access ability issues, font size and color are 4.8%, others issues are equal with 1.3% respectively with different with similar natures.

4.2.12 Presentation format of reading materials :

38.2% of the respondents find that the presentation format of any e-book positively addressed those issues, 40.8% of them do not agree the presentation format of any positively addressed those issues, and others have no idea.

Survey respondents demonstrated that formats of HTML, MS Reader, Mobi Pocket Reader and PDF Reader were selected by 38.2% (29), 18.4% (14), 2.6% (2) and 19.7% (15) of the respondents respectively as satisfactorily responsive to the assistive technology (Fig 11)
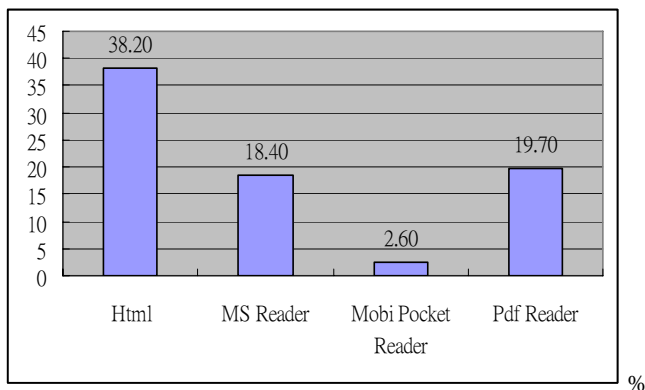

Fig. 11 Format satisfactorily responsive to the assistive technology

4.3 Respondents'additional comments:

Their comments are prepared in such a way to meet the accessibility needs of yourself and others. Most of respondents (89.5%) suggested preparing text of e-books. Comments are summarized as follows:
i) Hard copy was allowed to be printed
ii) Big screen
iii) Customized format for different devices.
iv) Easy to create own e-books.

v) Font size at least 10 CPI and format and document should fit on the screen and scroll smoothly and automatically.
vi) Reading hard copy test would be much more convenient & comfortable to the eyes instead of looking at the monitor.
vii) Search engine is better tailor-made in a clear & user-friendly way, e.g. clear icon, simple keyword; delete the unnecessary materials on the screen, e.g. sponsor banner.
viii) Put instruction in front of printed materials.

5.   Discussion

The questionnaire survey results indicated the preference of the students amongst forms of study and reading materials. The respondents are the students enrolled in the Master programmes; who have gone through the form of study using formal books. Most of them are working and they are able to afford to acquire any form of study materials. This issue was unfortunately not covered in the survey. Working in the fashion industry, cannot they tend to travel frequently on business trips; thus e-books could be a form of study material format that they could carry with them and which would empower and facilitate their learning. From the survey results, we found that the respondents agree that e-books can benefit part-time study, at the same time they still enjoy flipping through the pages of the book.

6.   Conclusions

Learning through e-books will not replace hard copy formats or e-learning substitute for bricks and mortar places of learning. With the survey results, we find that students, particularly those enrolled in part-time Master programmes readily accept e-book as a type of learning tool. Though there was no survey result which addresses their demand However, we see the need, that as University faculty staff, we can provide our teaching material in an e-format and the tool could be a handheld format. This format could be downloaded or it could be linked with a larger readable screen that the users can read the material freely and comfortably. We see the need that a system should be developed for allowing the University faculty staff to convert their teaching materials with ease and a minimum of technical problems. At the Institute of Textiles and Clothing of The Hong Kong Polytechnic University, we are provided with the WebCT as a teaching and learning platform utilizing the internet. This has its limitations in terms of access, navigability and mobility.

This is certainly a noteworthy subject to investigate, given the highly diversified sources of information and data pertinent to the fashion and textile industry, and given that fashion design reinvents itself every season and its manufacturing and supply chain management highly pressurized by speed to market dictum.

7.   Limitations and Future Study

The current study and analysis is based on a fairly small sample size and limited to students enrolled in postgraduate studies at the ITC. This may not be a good representation at all but this is an explorative and preliminary study. It does, however, provide an indication that there is potential for more in-depth studies in this topic, given the rise in e-learning and the use of technology in learning institutions and the work environment.

Though the study is limited in that it includes only a sample population of 76 postgraduated students in the institution, it attempts to study the students' interest in using electronic books in order to assist them to explore the means of learning.

For future studies, the sample size could be enlarged in scope, to cover both postgraduate and undergraduate students, as well as students from other disciplines and other universities in Hong Kong. It would be interesting to know if there is a discernible difference between undergrad and graduated students as well as more comprehensive research methods to explore whether the e-book learning can be used in helping students' study and whether it would really enhance and stimulate the process of student learning and lecturer teaching.

Acknowledgements

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