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USAGE OF E-BOOKS IN ESTABLISHING A CONSTRUCTIVE ACADEMIC ENVIRONMENT FOR THE STUDENTS OF SCIENCE: A STUDY OF ATTITUDES AND BEHAVIORS

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Abstract *The increasing vogue for the use of e-books as a good standing and more strongly their prominent role in our cognitive development is really commendable. Sequential studies show that e-books have become an indispensable part of the academic world and a determining factor in the field of publishing. It is also worth mentioning that current students in colleges and universities, who are usually described as digital natives, are gradually realizing the worth of this boon and enthusiastically embracing this technology. But the currently-available researches suggest that the situation may not be as obvious. The present study focuses on the investigation of the growing acquaintance and use of e-books among the students of Sciences at Kurukshetra University Kurukshetra. A well structured questionnaire was designed and circulated among the 200 sample students of physics and mathematics to collect the primary data. It investigates the various aspects of e-books awareness and usages, frequency and purposes, and satisfaction level of using e-books among students.*

Keywords: *E-Books, Online Books, E-Books Usages, Physics and Mathematics Students, Kurukshetra University, Haryana, India*

INTRODUCTION

E-books are gradually emerging as a sequel of the digital age. In the world of ICT there is a developing craze for digital publishing among the new innovative writers. Many established publishers are shifting from traditional writing to digital writing in the book industry. In a rapidly growing era of technological advancement, e-books are not only the requirement of time but have also become a major form of publication of a more accessible collection available round the clock. The use of E-books has various advantages, such as - providing up to date information, more frequent access, saving physical space, and avoiding the risk of losing or stealing of books. Moreover, the durability span of e-books is unlimited; whereas, the hard copies of books are always subject to decay. A lot of e-books can be availed on computer screen through the use of Internet which can be accessed simultaneously by various people. E-books are getting more readily acceptable by the young generations who have a flair for the growing diversity of new technological gadgets. Nowadays, it is widely used in academic community and is becoming a popular option for University students because of its dynamic features.

E-books can be published in various forms (text, audio, still images, moving images etc.) and offer so many optional devices to display them - computers, iPods, PDAs (Soules, 2009). An e-book is frequently viewed as a dedicated reading device and not as the associated content (Abdullah, 2008).

E-books are available in e-formats that serve the same purpose as a conventional printed book and may also be enhanced with other electronic features such as embedded hyperlinks, bookmarks, annotation, text searching and the linking of complex multimedia objects (Anuradha & Usha, 2006).

LITERATURE REVIEW

Ofua (2017) studied perception of e books among students and found that they have good knowledge about it and use of screen was the major mode of reading of e books. Oliveira (2012) investigated the usage patterns, user perceptions and attitudes towards e-books among students and found that print books is still preferred and e-books gaining momentum among the students of Andrews University. E-books are gradually replacing print volumes and are in high demand

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in academic libraries. Users can access e-books all day, at any time and utilize their content when the print books for their topic are out on loan Dewan (2012). Letchumanan and Tarmizi (2011) concluded that perceived usefulness has significant effect on attitude and intention to use e-books. In finding of the study that e-book can be a useful reference material for respondents' coursework. Wu and Chen (2011) indicated that monographs were used and expected to acquire the type of e-books in the library reported by majority of students. All the students read certain section and paragraphs of e-books daily or two to four times in a week. Letchumanan and Tarmizi (2010) did a study and found that most of the students were not aware of the availability of e-books in the library. 84.6% of the students used e-books for finding the relevant materials. 50% students were not familiar with e-books. Abdullah and Gibb (2008) found that 57% of the students were not aware about the availability of e-books in library whereas 53.6% of the students found out the e-books from the library website, 92% students liked computer based e-books format, and 37.1% students used e-books for selective reading. Abdullah and Gibb (2008) investigated and found that 50% students gave the view that e-books are easy to search and browse, 67% liked them for relevance and fact finding and 72% of the students suggested that images of books covers should be provided. Buzzetto-More et al. (2007) examined that majority of the students had scarcity to use e-books, only 22% of the students read e-books where as 44% students preferred to purchase e-books over a print book. Walton, Edward W. (2007) presents that 24.5% students used e-books for research, 18.5% used it as a text book, and 2.6% students used e-books for leisure reading. Anuradha and Usha (2006) reported that 59.40% respondents used e-books, 36.66% out of them were very much satisfied with e-books, 58.33% used it for academic purpose, 86.66% of the respondents obtained free of cost e-books title. 90% used Adobe Acrobat eBook Reader. Ismail, Roesnita and A.N., Zainab (2005) found that the students become aware of the e-book service from Library Website, 79% students gave the positive rating towards e-books services and majority of students (54.3%) used e-books for assignments, research project. Chu, Heting (2003) pointed out that majority of students fell hard to read and browse, like computer based format of e-books, preferred to use e-book which is easily available in library or free of cost on web.

PROFILE OF KURUKSHETRA UNIVERSITY

Kurukshetra University is an internationally reputed oldest University of Haryana, situated in holy city of Kurukshetra, land of historical battle of 'Mahabharata' and the great message of Bhagwad Gita, which was established in 1956. Its foundation stone was laid by the late Dr. Rajendra Prasad, the first President of India. It has grown in academic and research excellence with 10 faculties such as Faculty of Arts & Languages, Social Sciences, Life Sciences, Science, Education, Indic Studies, Engineering & Technology, Law and Commerce & Management. Kurukshetra University has a rich library (JLN Library) with 390608 documents including books, journals and rare manuscripts. JLN library has a membership of UGC-Infonet Digital library consortium and has ERNET Centre of 150 computers with WI FI internet connectivity of 10 mbps leased line in the entire campus. The Library has automated its in house activities such as library membership, circulation of documents, holdings of periodicals, catalogue as Online Public Access Catalogue (OPAC) (http://www.kuk.ac.in/).

SCOPE OF THE STUDY

The scope of the present study is limited and concerned only to the faculty of science students (physics and mathematics) of the Kurukshetra University Kurukshetra, Haryana, India.

OBJECTIVES

- To Find out the awareness of e-books;
- To Know type of e-books use;
- To Know awareness channel of e-books;
- To Know the frequency of using e-books;
- To Know the purpose to use e-books;
- To Explore the behavior of using e-books;
- To Know the reading habit of e-books;
- Preference of e-book format;
- To Examine the satisfaction level.

METHODOLOGY

This paper is a result of survey research design carried out among the faculty of science students (Physics and Mathematics) of Kurukshetra University Kurukshetra. The instrument used for data collection was a structural questionnaire. 200 questionnaires were circulated to the student's sample of the Physics (100) and Mathematics (100) departments, where 90 were filled from physics students (90%) and 85 were filled from mathematics students (85%). The total response rate was 87.5%. The collected data is organized and presented in tabulated form by using percentage method.

Data Analysis

Table 1: E-books Awareness

Students	Yes	No	Percentage
Physics	90	0	100%
Mathematics	85	0	100%

The initial question in the study dealt with the student awareness of e-books and the results were encouraging. Table 1 shows that all the students of Physics 90(100%) and Mathematics 85(100%) are aware about the e-books.

Table 2: Obtained E-Books

Obtained e-books	Students		Total
	Physics	Mathematics	
Purchase	0	0	0
Available in own library	0	0	0
Obtained from other library	42 (46.7%)	48 (56.5%)	90 (51.42%)
Free online available	48 (53.3%)	37 (43.5%)	85 (48.6%)

Students were also inquired about their sources of e-books. Table 2 indicates that how the students obtained e-books, students of physics and mathematics obtained e-books from other library with 42(46.7%) and 48(56.5%) respectively. However, 48(53.3%) and 37(43.5%) students of physics and math's respectively possessed free available e-books on the web.

Table 3: Methods for Discovering Access to E-Books

Method of discovery	Students		Total
	Physics	Mathematics	
Library website	--	---	-
Library orientation	-	-	-
Colleagues	78 (86.7%)	80 (94.11%)	158 (90.3%)
Poster & promotional Materials	12 (13.33%)	5 (5.9%)	17 (9.7%)
Internet search engine			
Publisher's website			

Table 3 describes that guidelines from colleagues is also an important mode of finding e-books by the students of physics 78(86.7%) and mathematics 80(94.11%) whereas very few students i.e. 12(13.33%) and 5(5.9) of physics and mathematics respectively find e-books from poster and promotional materials.

Table 4: Frequency of E-Book Use

Frequency	Students		Total
	Physics	Mathematics	
Daily	23 (25.6%)	27 (31.8%)	50 (28.6%)
Occasionally	47 (52.22%)	32 (37.64%)	79 (45.14%)
Sometime	20 (22.22%)	26 (30.6%)	46 (26.3%)

With the objective of the study students were questioned about the usage frequency of e-books. Table 4 presents the frequency of e-book use, majority of the students i.e. 47(52.22%) and 32(37.64%) of physics and math's respectively used e-books occasionally. 31.8% of the math's students and 25.6% of physics students use e-books daily. Some students of physics and mathematics i.e. 23(25.6%) and 27(31.8%) respectively used e-books on daily basis.

Table 5: Purpose of Use E-Books

Purpose	Students		Total
	Physics	Mathematics	
For Study	19 (21.11%)	23(27.05%)	42(24%)
For Training	23(25.6%)	16(18.8%)	39(22.3%)
For knowledge	26(28.9%)	19(22.4%)	45(25.71%)
For research work	30(33.33%)	27(31.8%)	47(26.9%)
Others	16(17.8%)	18(21.2%)	34(19.42%)

Students were further enquired of the purpose of using e-books. Result of the study present in table 5 indicates that 30(33.33%) of the physics students used e-books for the purpose of research work in addition to the attainment of knowledge 26(28.9%), for training 23(25.6%), for study 19(21.11%) and for others 16(17.8%). On the other hand the mathematics student's response is different: they used it for study 23(27.05%), for training 16(18.8%), for knowledge 19(22.4%), for research 27(31.8%) and for others 18(21.2%).

Table 6: Behavior of Using E-Books

Behavior	Students		Total
	Physics	Mathematics	
Keyword Search	42 (46.7%)	33(38.8%)	75(42.9%)
Copy and Paste	37(41.11%)	40(47.1%)	77(44%)
Print	12(13.33%)	18(21.2%)	30(17.14%)
Downloads	58(64.44%)	47(55.3%)	105(60%)

Every student has responded differently in using e-books, table 6 shows that majority of the students of physics and mathematics i.e. 58(64.44%) and 47(55.3%) respectively, download the e-books frequently. Very few students of the physics and mathematics i.e. 12(13.33) and 18(21.2%) take a print out of the e-books.

Table 7: Reading Manner of E-Books

Manners	Students		Total
	Physics	Mathematics	
Start to finish	19(21.11%)	13(15.3%)	32(18.3%)
Certain section of chapter	28(31.11%)	18(21.2%)	46(26.3%)
Flipped page	43(47.8%)	54(63.5%)	97(55.42%)

Result presents in the Table 7 shows the reading manners of the students, the students of physics 19(21.11%), 28(31.11) and 43(47.8%) read e-books from start to finish, certain sections of chapter and flipped page respectively. Whereas the students of the mathematics: start to finish 13(15.3%), certain section of chapter 18(21.2%) and flipped page 54(63.5%) of the e-books.

Table 8: Types of E-Books Use

Types of e-books	Students		Total
	Physics	Mathematics	
Technical Books	42(46.7%)	31(36.5%)	73(41.71%)
Reference Books	19(21.11%)	25(29.41%)	44(25.14%)
Text Books	56(62.22%)	37(43.5%)	93(53.14%)
Recreation Books	14(15.6%)	20(23.5%	34(19.14%)
Story Books	21(23.33%)	16(18.8%)	37(21.14%)

Next, students were asked about the types of e-books they had used. As noted in table 8, students were observed to use various types of e-books format. The data presents that e-text book is frequently used among the students of physics and math's i.e. 56(62.22%) and 37(43.5%) respectively. Some students of both the disciplines i.e. physics 42(46.7%) and mathematics 31(36.5%) used e-technical books.

Table 9: Preference of Format to Use E-books

Format	Students		Total
	Physics	Mathematics	
PDF	57(63.33%)	33(38.9%)	90(51.42%)
HTML	34(37.8%)	47(55.3%)	81(46.3%)
CD-ROM	17(18.9%)	25(29.41%)	42(24%)
DVD	21(23.33%)	27(31.8%)	48(27.42%)
Diskette	09(10%)	0	9(5.14%)

E-books are published in different formats. The students were further inquired about the types of e-books they preferred. Table 9 study data shows that PDF format of e-books is preferred by physics students i.e. 57(63.33%) followed by HTML 34(37.8%), CD-ROM 17(18.9%), DVD 21(23.33%) and Diskette 09(10%). Mathematics students preferred the format to use e-books: PDF 33(38.9%), HTML 47(55.3%), CD-ROM 25(29.41%), and DVD 27(31.8%).

Table 10: Tools to Search of E-books

Tools	Students		Total
	Physics	Mathematics	
UoL Library Catalogue	46(51.11%)	33(38.9%)	79(45.14%)
General search engine	32(35.6%)	40(47.05%)	72(41.14%)
Google book search	42(46.7%)	53(62.4%)	95(54.28%)
Vendor provide site	58(64.44%)	60(70.6%)	118(67.42%)
Others	14(15.6%)	18(21.2%)	32(18.28%)

Table 10 presents the data that the students of both the departments use various types of search tools to use e-books. Vender site is highly used tool for the search of e-books by physics and mathematics students i.e. 58(64.44%) and 60(70.6%) respectively. In study result, few students of physics and mathematics i.e. 14((15.6%) and 18(21.2%) used other tools to use e-books.

Table 11: Reason for Using E-Books

Reason	Students		Total
	Physics	Mathematics	
Available around the clock	60(47.8%)	65(76.5%)	125(71.42%)
Access to new title	57(63.33%)	63(74.11%)	120(68.6)
Low price	73(81.11%9	79(92.94%)	152(86.9%)
Helpful feature	43(47.8%)	37(43.52%)	80(45.71%)
Portable	48(53.33%)	40(47.05%)	88(50.3%)
Easy Navigation	53(58.9%9	33(38.82%)	86(49.14%)
Save space	79(87.8%)	76(89.41%)	155(88.6%)
Easy in downloading & Print, copy paste	81(90%)	76(89.41%)	157(89.71%)
E-archive	43(47.8%)	58(68.23%)	101(57.71%)

Students were asked the reason for using e-books, Table 11 pointed out that majority of the physics students i.e. 81(90%), 79(87.8%), and 73(81.11%) use e-books due to

the ease in downloading &the facility of print-copy-paste. It saves space and has a low price respectively. On the other hand, the mathematics students gave the response: low price 79(92.94%), easy in downloading & print, copy paste 76(89.41%) and saves the space 76(89.41%).

Table 12: Reason for Not Use E-Books

Reason	Students		Total
	Physics	Mathematics	
Need special equipment	43(47.8%)	57(67.05%)	100(57.14%)
Difficult to find	28(31.11%)	19(22.4%)	47(26.9%)
Hard to read and browse on screen	19(21.11%)	31(36.5%)	50(28.6%)
Copyright	26(28.9%)	22(24.44%)	48(27.42%)
Lack of training	30(33.33%)	19(22.4%)	49(28%)
Additional cost	42(46.7%)	53(62.4%)	95(54.3%)
Available from different source	25(27.8%)	28(32.94%)	53(30.3%)
Others reason	19(21.11%)	12(14.11%)	31(17.71%)
Lack of interest	27(30%)	23(27.05%)	50(28.6%)

Based on the e-books usage study, table 12 presents the reasons of not using e-books. Majority of the students of the both disciplines are not using e-books due to the need of special equipments i.e. 43(47.8%) and 57(67.05%) of physics and mathematics respectively. 42(46.7%) of the physics students and 53(62.4%) of the mathematics students reported that additional cost is to be paid to use e-books.

Table 13: Satisfaction Level to Use E-Books

Satisfaction Level	Students		Total
	Physics	Mathematics	
Very satisfied	42(46.7%)	43(50.6%)	85(48.6%)
Somewhat satisfied	13(14.44%)	17(20%)	30(17.14%)
Unsatisfied	19(21.11%)	21(24.7%)	40(22.9%)
Very unsatisfied	16(17.8%)	4(4.70%)	20(11.42%)

Table 13 presents the satisfaction level of the students while using e-books. Only 42(46.7%) of physics students are very satisfied followed by somewhat satisfied 13(14.44%), unsatisfied 19(21.11%) and very unsatisfied 16(17.8%) whereas mathematics students give the response i.e. very satisfied 43(50.6%), somewhat satisfied 17(20%), unsatisfied 21(24.7%) and very unsatisfied 4(4.70%).

CONCLUSION

The present graphical survey in the digital environment enlightens a revolution in e-books publishing and helps bridge the gaps between students and the library. There is a need for the library to increase their e-books acquisition at various levels. The data gathered from the study reveals that e-books awareness among the science faculty students was very high. In this study most of the students obtained e-books from other libraries which are available free online. So, library should subscribe and provide the link of e-books for the students in future. Most of the students get the information of e-books from their colleagues. Science students use e-books for various purposes. Studies reveal that the quality of knowledge and the research work may be greatly enhanced by the constructive use of e-books. It is also observed that majority of the students frequently download the e-books, although, the reading manners of e-books is not the same in the case of physics and mathematics students. Majority of the physics and mathematics students flipped the page of e-books.

REFERENCES

Abdullah, N., & Gibb, F. (2008). Students' attitudes towards e-books in a Scottish higher education institute: Part 1. *Library Review, 57*(8), 593-605. Retrieved from www.emeraldinsight.com/0024-2535.htm

Abdullah, N., & Gibb, F. (2008). Students' attitudes towards e-books in a Scottish higher education institute: Part 2 Analysis of e-book usage. *Library Review, 57*(9), 676-689. Retrieved from www.emeraldinsight.com/0024-2535.htm

Anuradha, K. T., & Usha, H. S. (2006). Use of e-books in an academic and research environment A case study from the Indian Institute of Science. *Program: Electronic Library and Information Systems, 40*(1), 48-62. Retrieved from www.emeraldinsight.com/0033-0337.htm

Buzzetto-More, N., Sweat-Guy, R., & Elobaid, M. (2007). Reading in a digital age: e-Books are students ready for this learning object?. *Interdisciplinary Journal of Knowledge and Learning Objects, 3,* 239-250. Retrieved from http://www.ijello.org/Volume3/IJKLOv3p239-250Buzzetto.pdf

Chu, H. (2003). Electronic books: viewpoints from users and potential users. *Library Hi Tech, 21*(3), 340-346. Retrieved from http://www.emeraldinsight.com/0737-8831.htm

Dewan, P. (2012). Are books becoming extinct in academic libraries?. *New Library World, 113*(1/2), 27-37. Retrieved from www.emeraldinsight.com/0307-4803.htm

De Oliveira, S. M. (2012). E-Textbooks Usage by Students at Andrews University: A Study of Attitudes, Perceptions, and Behaviors. Retrieved from http://docs.lib.purdue.edu/iatul/2012/papers/32ors.

Ismail, R., & Zainab, A. N. (2005). The pattern of E-Book use amongst undergraduates in Malaysia: A Case of to know is to use. *Malaysian Journal of Library & Information Science, 10*(2), 1-23. Retrieved from http://umrefjournal.um.edu.my/filebank/published_article/2001/327.pdf

Letchumanan, M., & Tarmizi, R. A. (2011). Assessing the intention to use e-book among engineering undergraduates in Universiti Putra Malaysia, Malaysia. Library Hi Tech, Vol. 29 No. 3, pp. 512-528. Available at: www.emeraldinsight.com/0737-8831.htm

Letchumanan, M., & Tarmizi, R. A. (2010). Utilization of e-books among University Mathematics Students. Procedia Social and Behavioral Science, pp: 580-587. Retrieved from www.Sciencedirect.com. DOI: 10.1016/j.sbspro.2010.12.080

Ofua, O. J. (2017). Student's perception of e-books in Nigeria Universities Library. *International Journal of Digital Library Services, 7*(1), 1-12.

Soules (2009). The shifting landscape of e-books. *New Library World, 110*(1/2), 7-21. Retrieved from www.emeraldinsight.com/0307-4803.htm

Walton, E. W. (2007). Faculty and Student Perceptions of Using E-Books in a Small Academic Institution. ACRL Tirteenth National Conference, March 29–April 1, 2007, Baltimore, Maryland. Pp. 92-99. Retrieved from

http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/national/baltimore/papers/92.pdf

Wu, M., & Chen, S.-C. (2011). Graduate students' usage of and attitudes towards e-books: Experiences from Taiwan. *Program: Electronic Library and Information Systems, 45*(3), 294-307. Retrieved from www.emeraldinsight.com/0033-0337.htm

http://www.kuk.ac.in/ (Accessed on 13/4/2019)