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ACCESS TO OPEN SOURCE E-LEARNING COURSEWARE (OSeLCW) IN THE HIGHER EDUCATIONAL INSTITUTIONS IN TAMIL NADU: A STUDY

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ABSTRACT

The impact of ICT has revolutionised the teaching learning process in the Higher Educational Institutions (HEIs) worldwide in many ways. One such impact is e-learning and that include many methods. One such important method of e-learning is the access of open source e-learning courseware (OSeLCW). This paper discusses e-learning, open courseware, open courseware, MIT open courseware and NPTEL in the first part. The second part includes the detailed analysis and discussion of access pattern, usage level and awareness of OSeLCW in the four categories of HEIs i.e. state universities, deemed universities, engineering colleges and arts and science colleges in Tamil Nadu.

Keywords: *e-Learning, e-L, open courseware, OCW, OSeLCW, MIT open courseware, NPTEL, higher education, HEI.*

1. INTRODUCTION

Commercialization has occurred in the field of education in the last decade and the knowledge-based economy has increased a lot. The innovative and new ways of delivering education have caused some dramatic changes in the learning technology and organisations. The advancement of computers and internetworking has made new ways to support teaching learning in a more personalized, flexible, portable and on demand. These changes are leading to a new era of learning called e-learning[1].

The Open Educational Resources (OER) movement is rapidly growing in the higher education environment. Within this movement, open courseware (OCW) is an initiative that finds its origin in the free open source software approach[2]. OCW offers an alternative view of the future of educational technology and the learning content to be delivered thereby - a future in which more time, money and effort are spent getting learners in touch with high quality instructional contents; and less time, money and energy are spent worrying about digital rights management and stopping pirates[3].

2. E-LEARNING

E-learning encompasses research, learning and teaching in the digital environment; e-learning includes courses that are offered fully online, courses that mix face-to-face and online access to instruction and course materials (often called blended learning), and courses in which instructors post notes and materials for students or provide access to online discussion forums on course topics. It covers a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, and CD-ROM[4].

3. OPEN COURSE WARE

According to OCW consortium, an open courseware is a free and open digital publication of high quality university-level educational materials, often including syllabi, lecture notes, assignments, and examinations, organised as courses[5]. The courses are made freely available for educational purposes that users across the world can use, reuse, redistribute and adapt the materials under open licenses like creative common license.

3.1. OPEN COURSEWARE MOVEMENT

The OCW movement was initiated in 2001 by the Massachusetts Institute of Technology (MIT), USA. Later, leading institutions worldwide joined this OCW movement such as Tokyo Institute of Technology (TITECH), Japan; Utah State University (USU), US; Korea University, Korea; USQ, Australia; TU Delft, Netherlands etc. Today many institutions and organisations around the globe running OCW websites and they have formed OCW Consortium. This consortium plays a vital role to advance education and empower people worldwide through open courseware[5].

3.2. MAJOR OPEN COURSEWARE WORLDWIDE

There are many OCWs available worldwide. Among them MIT open courseware and NPTEL courses are of world popular. The MIT open courseware and NPTEL courses have many similarities and are relevant for technical as well as science courses.

3.2.1. MIT OPEN COURSEWARE

MIT OCW is a large-scale, web-based electronic publishing initiative. Through OCW, MIT makes its core teaching materials openly available for educational purposes only. MIT publishes these materials in standard formats for users having access to the Internet anywhere in the world. MIT now has 1,800 courses already posted on its OCW website. MIT OCW is being translated into other languages like Chinese, Spanish, Portuguese, German, Vietnamese, etc. under the special arrangement with MIT, and in some other cases MIT has agreed to let institutions create mirror sites at their locations[6].

3.2.2. NPTEL

NPTEL is an acronym of "National Programme on Technology Enhanced Learning", initiated by seven Indian Institutes of Technologies (IIT Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and Indian Institute of Science (IISc) and supported by MHRD for creating web and video course contents in engineering and science. As of now over 125 web and 135 video courses are available on the NPTEL website for freel access and downloading. These courses mostly cover five engineering branches (Civil, Computer Science, Electrical, Electronics and Communication and Mechanical) and core science programmes based on the model curriculum suggested by AICTE. The content generation is spread across all eight institutions[7].

4. OBJECTIVES

The main objectives of the study are:

- To know the practice of accessing open source e-learning courseware (OSeLCW) in the Higher Education Institutions (HEIs) in Tamil Nadu.
- To study the access level of OSeLCW in the Higher Education Institutions (HEIs) in Tamil Nadu.
- To study the awareness of OSeLCW among the librarians of Higher Education Institutions (HEIs) in Tamil Nadu.

5. HYPOTHESES

- There is no significant difference in the practice of accessing OSeLCW in the Higher Education Institutions (HEIs) in Tamil Nadu.
- There is no significant difference in the access level of OSeLCW in the Higher Education Institutions (HEIs) in Tamil Nadu.
- There is no significant difference in the awareness of OSeLCW among the librarians of Higher Education Institutions (HEIs) in Tamil Nadu

6. METHODOLOGY

Survey method is used for this study. The samples for the study are selected as per 'Stratified Random Sampling Method". A well designed questionnaire is used as a tool to collect the primary data from the librarians of HEIs in Tamil Nadu. The study is conducted during the period of October 2011 to March 2012. The studied HEIs are divided into four categories as state universities, deemed universities, engineering colleges and arts and science colleges as presented in the table below:

It is revealed from the Table 1 that the surveyed select HEIs include 17 state universities (including the institutions of national importance), 15 deemed universities,

132 engineering colleges (started upto the year 2001) and 133 arts and science colleges (started upto the year 2000) in Tamil Nadu. Government arts and science colleges are excluded in the study, since the post of librarian is vacant in most of the colleges for a long time. The overall response percentage is 74.41.

Table 1: Sample and Response

S. No	Category	Sample Units	Responded Institutions	
			Nos	%
1.	State University	17	17	100.00
2.	Deemed University	15	13	86.66
3.	Engineering College	132	97	73.48
4.	Arts & Science College	133	94	70.67
	Total	**297**	**221**	**74.41**

7. ANALYSIS AND DISCUSSION

The collected data have been tabulated and analysed using the computer. Relevant statistical tools have been used to test the hypotheses. The MS Excel Data Analysis and SPSS (Statistical Package for Social Scientists) software package have been used for the data manipulation. Cross tabulation is made representing the independent variables namely the four categories of HEIs in Tamil Nadu. The results are presented in the following tables and figures with suitable interpretations.

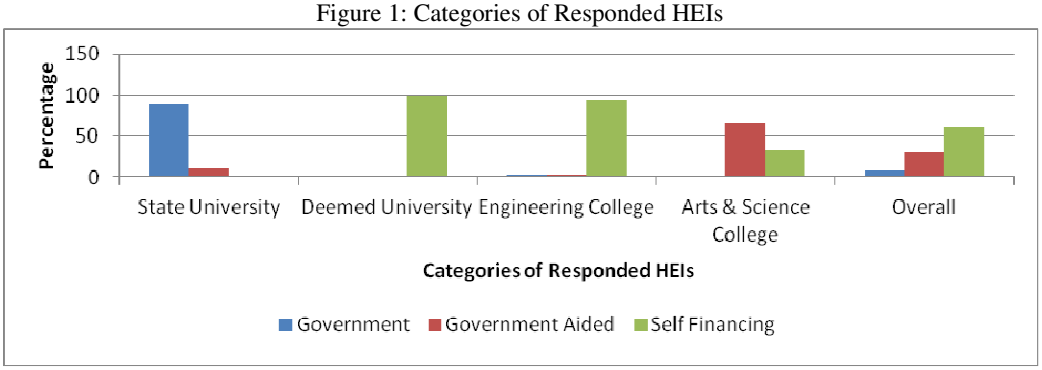
7.1. CATEGORIES OF RESPONDED HEIs

Table 2: Categories of Responded HEIs

HEIs	Nos. & %	Government	Government Aided	Self Financing	Total
State University	Nos.	15	2		17
	%	88.24	11.76		*7.69*
Deemed University	Nos.			13	13
	%			100	*5.88*
Engineering College	Nos.	3	3	91	97
	%	3.09	3.09	93.81	*43.89*
Arts & Science College	Nos.		62	32	94
	%		65.96	34.04	*42.53*
Overall	Nos.	18	67	136	221
	%	8.14	30.32	61.54	100

(Numbers in *Italics* are column percentages)

Figure 1: Categories of Responded HEIs



(Based on Percentages)

Table 2 and figure 1 shows that the responded state universities include 15 government universities and 2 government aided universities, all the deemed universities are from self supported category, engineering colleges include 3 each of government and government aided colleges and 91 self financing colleges and arts and science colleges include 62 government aided colleges and 32 self financing colleges.

7.2. ACCESS TO OPEN SOURCE E-LEARNING COURSEWARE

Table 3: Access to Open Source E-Learning Courseware

S. No.	Open Source E-Learning Courseware	Nos.	%
1.	NPTEL	104	47.06
2.	MIT Open Courseware	71	32.13
3.	Others	6	2.71
4.	Not Initiated	114	51.58

(Multiple Responses)

It is found from the table 3 that the practice to access NPTEL and MIT open courseware found respectively at 47.06 and 32.13 percentages of the HEIs (mostly in engineering colleges). Only very few institutions (2.71%) accessing others such as Moodle courses, courses provided by vendors and in-house developed courses. More than half the number of institutions (51.58%) have not accessing any type of courseware.

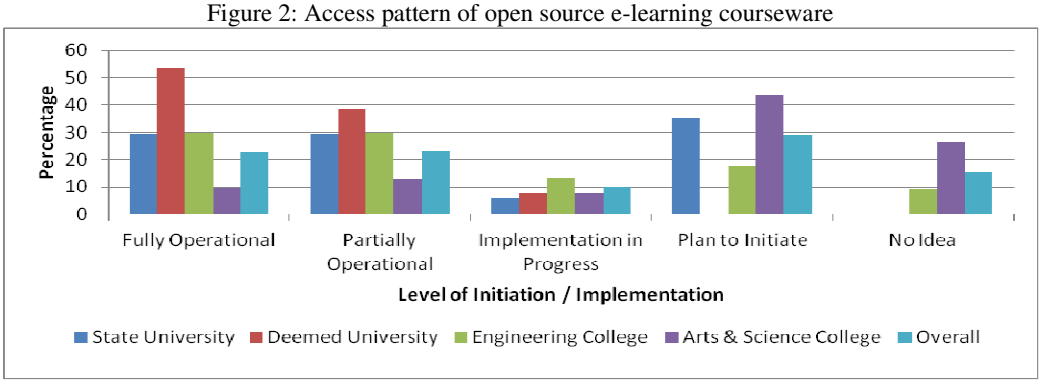
7.3. ACCESS PATTERN OF OPEN SOURCE E-LEARNING COURSEWARE

Table 4: Access pattern of open source e-learning courseware

Category \ Level		Fully Operational	Partially Operational	Implementation in Progress	Plan to Initiate	No Idea	Overall	Mean	SD
State University	Nos.	5	5	1	6		17	3.53	1.28
	%	29.41	29.41	5.88	35.29		100		
Deemed University	Nos.	7	5	1			13	4.46	0.66
	%	53.85	38.46	7.69			100		
Engineering College	Nos.	29	29	13	17	9	97	3.54	1.33
	%	29.9	29.9	13.4	17.53	9.28	100		
Arts & Science College	Nos.	9	12	7	41	25	94	2.35	1.27
	%	9.57	12.77	7.45	43.62	26.6	100		
Total	Nos.	50	51	22	64	34	221	3.09	1.43
	%	22.62	23.08	9.95	28.96	15.38	100		

ANOVA: 'F' Value: 20.27; 'P' Value: 0.00 (Significant at 0.05 level); SD - Standard Deviation

Figure 2: Access pattern of open source e-learning courseware



(Based on Percentages)

It is inferred from the table 4 and figure 2 that facility / practice to access the open e-learning courseware fully and partially operational respectively at 22.62 and 23.08 percentages of the HEIs. The practice is fully operational respectively at 53.85, 29.9 and 29.41 percentages in the deemed universities, engineering colleges and state universities. The facility is in the implementation stage at 9.95 percentages of the HEIs, whereas 28.95 percentages of the institutions have a plan to implement the facility. The open courseware has no impact among 15.38 percentages of the HEIs. It is concluded that deemed universities have the better utilization of OCWs than the other type of institutions.

Based on the statistical tools applied, the hypotheses is rejected and concluded that there is a significant difference among the four categories of the HEIs in the practice of accessing open courseware.

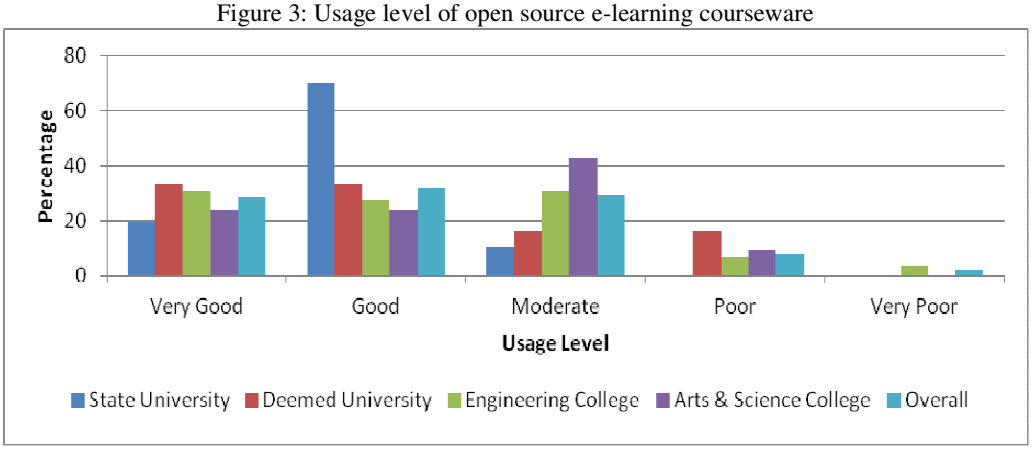
7.4. USAGE LEVEL OF OPEN SOURCE E-LEARNING COURSEWARE

Table 5: Usage level of open source e-learning courseware

Usage Level / Category		Very Good	Good	Moderate	Poor	Very Poor	Overall	Mean	SD
State University	Nos.	2	7	1			10	4.10	0.57
	%	20	70	10			100		
Deemed University	Nos.	4	4	2	2		12	3.83	1.12
	%	33.33	33.33	16.67	16.67		100		
Engineering College	Nos.	18	16	18	4	2	58	3.76	1.08
	%	31.03	27.59	31.03	6.9	3.45	100		
Arts & Science College	Nos.	5	5	9	2		21	3.62	0.97
	%	23.81	23.81	42.86	9.52		100		
Total	Nos.	29	32	30	8	2	101	3.77	1.02
	%	28.71	31.68	29.7	7.92	1.98	100		

ANOVA: 'F' Value: 0.51; 'P' Value: 0.67 (Not Significant at 0.05 level); SD - Standard Deviation

Figure 3: Usage level of open source e-learning courseware



(Based on Percentages)

It is evident from the table 5 and figure 3 that usage level of open e-learning courseware is at very good state in 29 percentages of the HEIs where the facility in practice. The usage is in very good state respectively at 33.33 and 31.03 percentages of the deemed universities and engineering colleges. The usage is also good in 70 percentages of the state universities. The

usage is moderate in 29.7 percentages of the HEIs. The usage is poor and very poor respectively only at 7.92 and 1.98 percentages of the HEIs. It is concluded that usage level is more or less same in all the HEIs.

Based on the statistical tools applied, the hypotheses is accepted and concluded that there is no significant difference between the four categories of the HEIs in the usage level of open courseware.

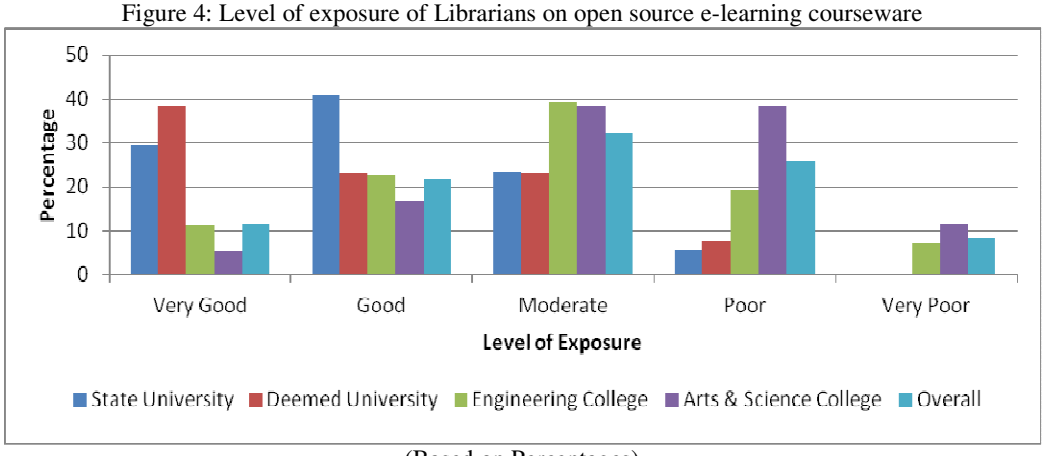
7.5. AWARENESS ON OPEN SOURCE E-LEARNING COURSEWARE AMONG THE LIBRARIANS

Table 6: Awareness on open source e-learning courseware among the Librarians

Category \ Level		Very Good	Good	Moderate	Poor	Very Poor	Overall	Mean	SD
State University	Nos.	5	7	4	1		17	3.94	0.9
	%	29.41	41.18	23.53	5.88		100		
Deemed University	Nos.	5	3	3	1	1	13	3.77	1.30
	%	38.46	23.08	23.08	7.69		100		
Engineering College	Nos.	11	22	38	19	7	97	3.11	1.08
	%	11.34	22.68	39.18	19.59	7.22	100		
Arts & Science College	Nos.	5	16	36	36	11	94	2.66	1.06
	%	5.32	17.02	38.3	38.3	11.7	100		
Total	Nos.	26	48	71	57	19	221	3.02	1.14
	%	11.76	21.72	32.13	25.79	8.6	100		

ANOVA: 'F' Value: 10.06; 'P' Value: 0.00 (Significant at 0.05 level); SD - Standard Deviation

Figure 4: Level of exposure of Librarians on open source e-learning courseware



(Based on Percentages)

It is inferred from the table 6 and figure 4 that awareness of open e-learning courseware is very good among only 26 percentages of the librarians who are working in the surveyed HEIs. The awareness is very good respectively at 38.46 and 29.41 percentages of the librarians of deemed and state universities. The awareness is also good among the 41.18 percentages of the librarians working in state universities. The awareness is moderate among 32.13 percentages of the librarians. The awareness is poor and very poor respectively at 25.79 and 8.6 percentages of the librarians of all the HEIs. It is concluded that the librarians of state universities have more awareness on OSeLCW than the librarians of other HEIs.

Based on the statistical tools applied, the hypotheses is rejected and concluded that there is a significant difference in the awareness of open e-learning courseware among the librarians working in four different categories of the HEIs.

8. FINDINGS

The overall findings of the study revealed that deemed and state universities and engineering colleges have already made an encouraging progress in the practice of using open e-learning courseware. Arts and science colleges have made only little progress in the provision to providing access to open e-learning courseware. The reason behind is many available OCWs are related to technical courses. The usage level is only moderate in all the four type of HEIs. The awareness is good, moderate and poor respectively at one third of the librarians of the surveyed HEIs.

9. CONCLUSION

The impact of OSeLCW is already seen in the HEIs of Tamil Nadu. Educational administrators, faculty members and librarians have to work together in collaborative manner in adapting and integrating OSeLCWs materials in their curricula and learning. Adapting OSeLCWs by the higher education institutions will lead to improvement in the teaching learning process and thereby produce globally competitive graduates[8].

REFERENCES

1. Shea, R.H. (2002). E-learning today. *U.S. News & World Report*, October 28, 2002.
2. Caswell, T., et al. (2008). Open educational resources: Enabling universal education. *International Review of Research in Open and Distance Learning*, 9(1).
3. Wiley, D.A. A modest history of open courseware. Retrieved October 14, 2011, from http://www.reusability.org/blogs/david/archives/000044.html
4. Kaplan-Leiserson, E. (n.d.). E-Learning glossary. Retrieved October 14, 2011, from http://www.learningcircuits.org/glossary.html
5. OCW Consortium. Frequently asked questions about open courseware. Retrieved October 14, 2011, from http://www.ocwconsortium.org
6. Massachusetts Institute of Technology Open CourseWare. Retrieved October 14, 2011, from http://ocw.mit.edu/OcwWeb/web/home/index.htm
7. Mandhirasalam, M., & Srinivasaragavan, S. (2011). NPTEL: An open e-learning platform for technical institutions. *SALIS Journal of Information Management and Technology*, 2(1), 27-31.
8. Ghalib, M.A.M., Chandrashekara, M., & Talawar, V.G. (2009). Awareness and extent of utilisation of web-based open source e-learning coursewares among educators and students. *DESIDOC Journal of Library & Information Technology*, 29(3), 43-48.