An Investigation on Use of e-Information Resources by Distance Learners at CRC Computer Lab of the Open University of Sri Lanka

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ABSTRACT

The OUSL library actively engages in developing e-information resources (EIR) and facilities in meeting the needs of distance learners since 2006. The result of the survey conducted at Colombo Regional Centre Computer Lab (CRCCL) to assess reasons of using computer lab, frequency of use of the lab, use of web based library resources and barriers faced when using EIR by distance learners are reported here. Aim of the survey was to understand the strength and weaknesses of the service. The pattern of use of an electronic information and information seeking behavior from the Internet of the OUSL distance learners are also included in the article. The key finding is that highest percentage of computer lab users are from faculty of engineering. The main reason for using the lab was to access to OUSL website. The main purpose of visiting websites is to download subject related articles and Past question papers. The other reason for using CRCCL was to download information via Internet in order to write assignments and project reports. The most favorite search engine of the distance learners is Google. The main personal barrier to effective use of EIR is lack of English language knowledge while Institutional barrier was a time period allocated for students to use the computer lab. The main technical barrier to the effective use of EIR by the students included slow internet while main EIR barriers was non availability of subject wise information on the net. The study recommends user training, adequate infrastructure facilities; relevant recommended EIR on the library web, including more time period allocation to facilitate access by the students to EIR and the university to get rid the weaknesses related to the service providers as well as to the end users.

Keywords: E-information resources, distance learning, student support services, electronic information usage, information services.

1 INTRODUCTION

Advances in information technology, particularly the Internet, have enhanced the potentials for widespread online search and retrieval of electronic contents by students and other researchers. The development and availability of Internet services has increased the impact that information has on

people by placing vast information resources at peoples' doorsteps (Odunewu, 2004; Shcared, Ceddia and Hurst, 2003; Mioduser et al., 2003; Agboola, 2003). Computers and the Internet are increasingly becoming an integral part of daily life, along with cars and phones. The amount of scientific information and the number of electronic journals on the Internet continue to increase, and researchers are increasingly making their works available online.

Internet connectivity has fundamentally changed the way people work, think, searching information and interacts with others. Computers and network technology have been used for a long time for educational purposes. The term e-learning (electronic learning) stands for computer-supported learning. Thus, e-learning embraces face-to-face learning as well as distance learning, formal and informal learning, various pedagogical approaches and technologies. Distance learning especially benefits from electronic support, as it is now much easier to transfer learning materials to a distant learner, and to enable him to interact with teachers and other learners. This article reveals the survey results done at the CRCCL of the Open University of Sri Lanka. Behaviour pattern of EIR seekers and information providers are recorded in this article.

1.1. The Open University of Sri Lanka

The Open University of Sri Lanka (OUSL) is the only government owned single mode, open and distance learning body in Sri Lanka. The main campus is situated in Colombo in the Western Province and the university has at present 05 regional centres, and 26 study centres all over the country. The university has four faculties such as Faculty of Humanities and Social Sciences, Faculty of Education, Faculty of Natural Sciences and Faculty of Engineering Technology. In addition to that there are teaching and learning support services like Education Technology Division, Operations Division, Information Technology Division, Printing division and library support services. Regional Educational Services (RES) division is another special section which is managed by a RES Director. Administrative and academic activities at all regional centres are managed by the RES director.

Number of courses offered by the university has risen over 600 including short courses at present. Some of the degree and Master's level courses are online and some are partly online. Most of the courses offered by the Faculty of Engineering Technology are partly online. Students have to enter the virtual classrooms to communicate with course coordinators, peers and to submit assignments and lab reports etc. Virtual classrooms access facilities are given in all 05 regional and 26 study centres which are scattered in all over the island.

1.1.1. Colombo Regional Centre

There are four regional centres in Colombo, Kandy, Matara and Jaffna since then and later it was expanded adding Anuradhapura Regional Centre also. Colombo Regional Centre (CRC) is the main Regional Centre which is situated at the main campus at Colombo. CRC serve students and of the OUSL by facilitating computer labs, science laboratories, preschool, day care center and through other support services. 31 terminals are available for students. Facilities like word processing, Internet access facility, power point preparation facilities, access to library website and facilities to access 'moodle' are given to distance learners through computer lab. 'YouTube and Face book' accessing facilities are restricted during office hours.

1.1.2. OUSL Library Services

The OUSL library plays a major role in assisting the OUSL to achieve its goals in teaching, learning and research through its information service strategy. Central role of the main library at CRC and other

mini libraries that are placed at regional and study centres are servicing user needs, using the facilities and EIR provided by Virtual Resource Centre (VRC) and the main library. VRC was established in 2006 aiming to achieve the following objectives;

- To provide a virtual access to the library and external resources and to deliver EIR through electronic media;
- To provide human resource development to enable the library to face the technological challenges of the information age. (Korale, 2003) - unpublished)

In this initiative, the planned activities for VRC were preparing, digitizing, archiving and providing access to historical and contemporary materials. Its EIR and services are, digitized past paper collection, subscribed full text e-journal articles, e- newspapers, government e-publications, e-legal documents, OUSL e-repository, subject related websites, digitized research abstracts, OUSL academic staff research collection, Internet browsing facility for educational and research purposes and Open educational resources (OER) etc., web OPAC, over 100 open learning resources, free accessible URL index, Databases such as ERIC and GIS, Distance Education Journal Abstract Service, Theses Abstract Service etc.. All these EIR materials can be accessed online through OUSL library web except full text e-journal databases subscribed by the OUSL. Subscribed full text e-journal article databases can be accessed only through the intranet as they are restricted to IP authenticated terminals.

Remote learners who are scattered in the island can access those EIR through intranet and www using computers available at VRC, CRCCL and through the other computer labs available at each regional and study centres. Further, OUSL students can access to EIR with out fee through NAC centres and Nanasala centres (Government cybercafé) that are available nearest to their residences or from their home or from their working place etc.

2. REVIEW OF LITERATURES

There is a vast amount of related international research literature on use of EIR and barriers for use of resources while having very little local literature. Many of those researches were conducted in USA, India, Canada and Sri Lanka etc. Several authors (Nisonger,1997, , Peled and Rashty,1999, Cornell, 1999, Wheeler, 2003, Ekwelem,2009, Gunasekera, 2010, Peiris and Peiris 2012) reveal about the different EIR introduced to their users and barriers faced by the users as well as service providers in their articles. Mainly those services were Internet base services, web base resources, news flash services etc.

2.1 What is EIR?

Electronic Information Resources may be defined as information sources that are available and can be accessed electronically through such computer-networked facilities as online library catalogs, the Internet and the World Wide Web, digital libraries and archives, government portals and websites, CD-ROM databases, online academic databases such as Medline Online, or commercial databases such as LEXIS and NEXIS (Ekwelem, 2009).

The widespread use of electronic technologies to produce, store, manipulate and distribute information of all kinds is one of the great achievements of the information age (Cornish, 1997).

Libraries usually ensure that their acquired materials are continually maintained and preserved through preservation programmes. By contrast, there are many unresolved archiving issues for Web resources.

Although digital archives are growing on the Internet, at present there are no effective mechanisms for ensuring the continuing availability and accessibility of most Web resources (Nisonger, 1997).

The basic infrastructure of an information society includes adequate access to computer and telephone connectivity, Internet services providers (ISPs) providing low cost services, adequate telecommunications bandwidth, and locally-relevant online content, and preferably, in local languages. Other requirements are reliable electricity supply and Internet connectivity, as the computers and other tools of a digital age require large and reliable amounts of electrical energy (Wheeler, 2003).

2.2 Use of EIR

The introduction of EIR into academic environments, particularly universities, is almost predictably followed by rapid growth in awareness and use of the resource by students and academics, as documented by Peled and Rashty (1999), and Sheard, Ceddia and Hurst (2003). However, a finding of a study by Baruchson-Arbib and Shar (2002) in colleges in Israel seems to contradict this expectation, as almost one-third of the respondents (31.1%) were not using EIR at all, while only a small percentage (14.8%) were using EIR several times per week.

Franklin (2004) conducted a research on Library usage patterns in the electronic information environment and found that main purpose of using75% of them were to access research articles. Adams and Ann (2005) have done a research in NeLH (the UK National Electronic Library for Health) digital library using four user groups. Researcher has used Grounded Theory method to understand the perceptions of respondents and found that 19% lecturers, 47% librarians and 15% clinicians have used online resources while 25% lecturers, 25% librarians and 14% clinicians have used web resources. It was further found that 58% lecturers, 28% librarians and 71% clinicians have used offline resources also.

Cornell (1999) opined that the use of EIS in tertiary education has resulted in fundamental changes in teaching and learning, bringing new focus, which is considered by some to have provided a paradigm shift. Effective access to EIS through the Internet also helps to close the potential information divide between users in institutions with ample and limited local library information resources (Omagbemi, Akintola & Olayiwola, 2004). Barriers to EIR

2.3. Barriers to EIR

According to Ekwelem (2009) a crucial requirement for connecting Nigerian students effectively with the information society is substantially improved levels of PC penetration and low cost Internet connectivity. Ekwelem's findings report that the main constraint to EIS use, faced by the Nigerian students was (52%) financial matters. while 23.8% indicated that inadequate skill was the main problem, and 16.8% indicated epileptic power supply. Only 7.4% reported that inadequate bandwidth was the major institutional constraint. (Ekwelem, 2009)

Nisonger (1997) has noted, however, that there are a number of generally recognized problems that hinder the effective utilization of the EIR, including that the Internet is not particularly user-friendly; that the Internet is undergoing rapid change; that surfing the Internet can waste time; that numerous unresolved copyright and security issues abound; that the most valuable Web resources require subscriptions and passwords; that there is too much advertising on the Web; and that numerous links on the world wide web are soon unavailable.

Gunasekera (2010) point out, findings of the survey conducted on 'use of VRC of the OUSL', four categories of barriers faced by the Sri Lankan distance learners when using EIR in this way. Four

categories of barriers are namely technical, institutional, personal and informational that affected the usage of EIR. According to the Peiris (Peiris and Peiris, 2012) the major barriers faced by students who study at Peradeniya University was lack of equipments to use e-resources.

The institutional barriers revealed are

- Lack of e-resources
- Lack of guidance
- Lack of internet access facility in the library
- Rigid library policies for users

McBride and Dickstein (1998) express service providers barrier in this way. The author is concern about the possible detrimental effect of students' ready access to information on the Internet because librarians are unable or not empowered to assess the reliability and quality of the information before students use it for their assignments.

3. OBJECTIVES

The objectives of this study were

- to find out the reasons for using CRCCL,
- to identify the purpose of using EIR,
- to recognize most favorite EIR available at library web site, among distance learners,
- to examine problems faced in accessing and using EIR at CRCCL.

4. METHODOLOGY

4.1. Problem of the Study

One of the greatest challenges faced by distance librarianship today is providing library services to remote learners similar to conventional students. Because ACRL's Guidelines for Extended Campus Library Services (Caballero,1998) as well as many literature states that "The parent institution is responsible for providing support which address the information needs of its extended campus programmes". In such a situation Computer labs in all centres and Virtual Resource Centre in the main library started in 2006 with the aim of enriching EIR to OUSL learners and to the academic staff. Most essential services were introduced and most relevant e-resources were offered through intranet and www. When compare monthly usage statistics (archival data) of CRCCL from January to May in 2012 which are illustrated in figure 1, the highest usage reported in March was 1278 students while least usage reported in April. Many students have used CRCCL at the beginning of the year and have decreased the usage in April. Later usage has somewhat improved in May. It was noted that very few of them are using the support services given to distance learners when compare to the over 6000 registered students at Colombo Regional Centre (Statistical report). Hence that it can be said the CRCCL facilities are unutilized by most of the OUSL learners. Support services are given to distance learners expecting higher utilization of them but students do not use them to expected level. Therefore, it was found that there is an empirical gap between users and non users.

However, researcher tried to find out who were the CRCCL users, their real needs and main barriers that finding reasons for not using by many of them in this study. As service providers, we have not done any study during this five year period of time to evaluate given facilities and services to recognize its strength and weaknesses.

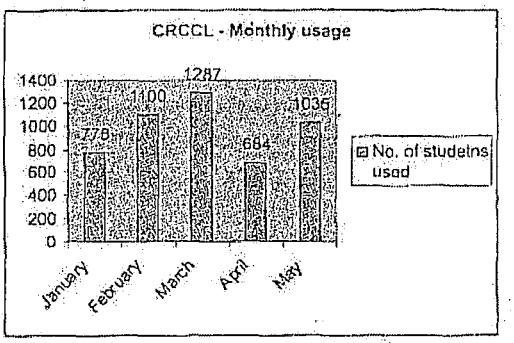

Figure 1:CRCCL usage

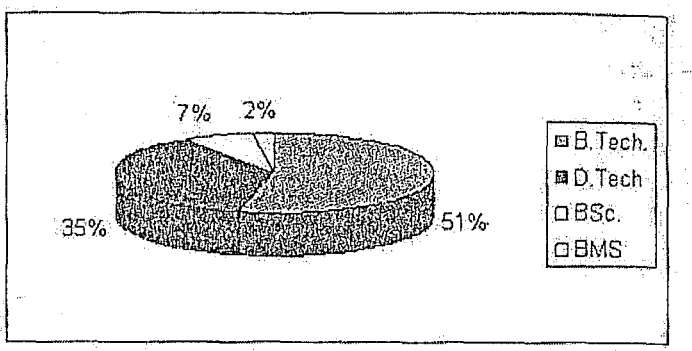

Figure 2: Response rate subject wise

Further, due to lack of knowledge on EIR usage, still user needs are largely unknown although the services are being offered to users through the library. The general challenge faced by service providers are identification of correct "content" "user" and "strategies" before implementing additional e-services and facilities. Further, finding ways to integrate the many different necessities of different faculty users into common form of integrated EIR services for online learning was another challenge faced by the service providers.

4.2. Research Method

Survey method was used to collect data for the study. Research tools used to conduct this study were questionnaire, interview and archival statistics available at CRCCL on its usage.

4.2.1. *Sample of the Study*

Non-probability sampling method was used to select samples from the total population to collect data for the study. The survey questionnaire was administered to the respondents between 9am and 5pm daily, first two weeks of June 2012. Data collection lasted from1st of June to 10th of June 2012. Ten questionnaires were distributed among users to collect data at two sessions including weekend also. 10 questionnaires were administered per day at peak hours in both morning and evening session. 150 questionnaires were distributed among users. 126 completed questionnaires were returned by Diploma and Degree level students who were selected as the samples of the study. Two questionnaires were rejected as those were filled by certificate level students while 24 were rejected as all the questions were not properly completed.

5. FINDINGS

5.1. Background Information

It was found that total respondents comprised 69% of male and 31% of female users. Only 23% were employed while 77% were unemployed. 23% employed students are from Electrical Engineering, Electronic and telecommunication and Civil engineering courses. It was also found that 66% the students have internet searching skills while 38% of students have internet access facility at home. Out of total respondents, 83% of them have taken the library membership to use lending facility.

The Figure 2 shows the total response rate according to the subject wise. 51% of respondents were from Bachelor of Technology while 35% of them were from Diploma in Technology. 7% were from the Bachelor of Sciences while 2% from the Bachelor of Management studies.

It is noted that majority of users were from the Faculty of Engineering while least number of respondents were from Faculty of Humanities and Social Sciences. It is also noted that there was no one from the Faculty of Education.

5.2. Frequency of use of EIR

The sampled students were asked to indicate the frequency of their use of CRCCL for EIR. It was found that 48 (38%) students have used when there is a special need while 39 (31%) distance learners have used the computer lab every day. Further findings reveals that 27 (21%) students have used once a week while 12 (10%) students had used Computer lab once a month. As shown in table 1, general pattern of EIR seeking behavior of the OUSL distance learners is 'when there is a special need'.

Further analysis was done to find out 'what are the special needs' of the distance learners and findings are illustrated in Figure 3 below.

Table 1: Frequency of usage of EIR subject wise

Frequency	Civil Eng.	Electrical& Electronic/	textile	Com. Eng.	Mechatronic Eng.	BSc.	BMS	Total Eng.
Every day	15	16		4	3	1		39
Once a week	6	14				5	2	27
Once a month	3	8	1					12
Once in three month	0	0	0	0	0	0		0
When there is a special need	7	28	5	2	2	3	1	48
Total		126						

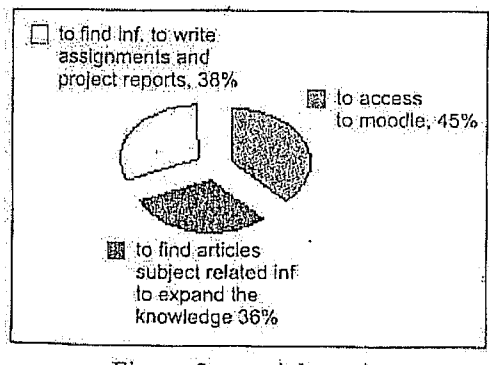

Figure 3: special needs

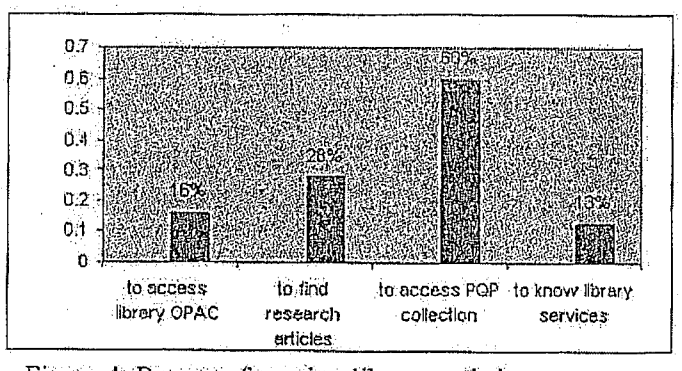

Figure 4: Reasons for using library website

45% of them have used CRCCL to access moodle while 38% of them have used it to find information to write assignments and project reports. It is also found that less number of students have accessed to search subject related information to expand the knowledge on their specific subject areas. The main reasons for accessing moodle were to obtain course information, to communicate with course coordinator, peers and to submit assignments.

5.3. Purpose of Using CRCCL

The main purpose of visiting CRCCL by 108 respondents were to access OUSL website while 93 students was to access the internet. Besides, 75 students have used CRCCL for both purposes.

5.4 Reasons to Use Website

OUSL library website is an important source that gives a lot of EIR other guides for the remote learners. Hence, it is important to conduct a thorough study on it to find out whether website is useful or not and reasons for visiting it. Findings are given in figure 5 below.

Accordingly, 60% of them have used OUSL website to access past paper archival collection while 28% of them have visited for the online journals. Further, findings reveal that 16% of them have accessed to search OPAC while 13% have used to know the library services.

5.5 Purpose of Using Internet

Analysis were done to find out main reason for using internet and 120 respondents said that they used Internet 'to find information to write assignments' while 69 students said that to enhance the knowledge and skills and to keep up with current developments. 51 respondents have stated that 'To find information to write project report' while 42 of them have accessed 'To find research articles'. It is significant to mention that 9 students have accessed the internet without any aim as facility is freely available. It was noted that 50% of Engineering students' favorite search engine is 'Google' while 14% of student's favorite search engine was 'Yahoo'.

Table 2: Barriers for EIR

Type	Barriers
Technical barriers	1. Network is slow 2. Some computers are very very slow. 3. Cannot access to moodle/ NODES
Institutional barriers	1. Time period is not sufficient (n=126, 100%)
Personal barriers	1. Do not know searching techniques 2. Lack of English Language knowledge 3. Sometimes do not know relevant/different URLs at that time one hour is not sufficient 4. Typing speed is also slow
Information barriers	1. Necessary information are not available/ Some times half of the equired information are given 2. Necessary information are available but not free 3. Relevant videos are not available/if possible pl. up load them to library web.

5.6. Barriers to Use EIR

Understanding the barriers of the users is also very important to improve the services and facilities given to the remote learners. Barriers were studied under four categories such as technical, institutional, personal and informational barriers and findings are listed in table 2 numbering highly affected barrier as 1. All respondents have requested to extend the time period that is allocated for students to use CRCCL from one and half hours to two hours. It was found that personal and informational barriers have affected mostly than other barriers when using EIR by majority of students.

6. DISCUSSION & CONCLUSION

It was revealed that majority of CRCCL users were from Bachelor of Technology and Diploma in Technology while least number of users were from Faculty of Humanities and Social Sciences. It was

also noted that there was no any user from Faculty of Education. It can be concluded that the pattern of e-information seeking behaviour of distance learners was not changed because same results were found by the author from the survey conducted at the VRC of the OUSL in 2010. (Gunasekera,2010) More EIR should be developed with the collaboration of the Faculty of Engineering.

One of the findings of this study is the rapidly increasing preference for, and use of, EIR by students for obtaining general information and for supporting their academic work. This appears to be the digital age trend, as more and more people worldwide realize the pivotal roles that the use of computers, electronic gadgets and EIS must play in their educational, work and social lives. Similar results were obtained elsewhere, for instance Baruchson-Arbib and Shor (2002).

The first objective of this study is to find out the reasons for using CRCCL. The main reason of visiting CRCCL by 108 students was to access the OUSL web while 93 of them to access the 'internet facilities. It is observed that OUSL website is popular among distance learners at present than in 2010. Findings of the survey done in 2010 by the author at VRC, reveals that majority was used to access the Internet not to the OUSL web page. It is observed that pattern of use of EIR has changed due to online and partly online courses. The other reason of accessing Internet was to find information to write assignments and project reports. It is the answer for the second objective of this study 'to identify the purpose of using EIR'. It is vital to have an idea regarding the projects assigned to learners from the Engineering faculty academics before developing EIR and other information services.

The main purpose of visiting OUSL website was to access to the past paper archival collection. It can be conclude that third objective was also achieved with that answer. It is an encouraging factor to observe further that 47% of them have access to OUSL webpage, virtual classroom, to check the emails/messages/ eligibility while 28% of them have access to Library webpage to find research articles.

In conclusion, the findings of this study provide useful insights into students' use of EIR at the Computer lab and suggest a number of areas where the university management could target relevant policies and programs. Two key areas are infrastructural development and skills training for students. Accordingly, the university should source funds to establish speed computers for use by the students as they have experienced that "enable to enter the virtual class room at once and always error message comes" and institutionalize programmes to train and motivate the students to greater use of EIS for academic activities. Further, decision should be taken to increase the time period allocated to use the Computer lab as they are on line learners.

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