USE OF ONLINE LEARNING RESOURCES: EXPERIENCES EXPLORED BY DISTANCE LEARNERS AT MATARA REGIONAL CENTRE OF THE OPEN UNIVERSITY OF SRI LANKA

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Abstract

The result of the survey conducted at Matara Regional Centre Computer Lab (MRCCL) to assess purpose of using online learning resources (OLR), pattern of using OLR, to identify special need of the MRC students, use of web base library resources and barriers faced when using OLR by distance learners, are reported here. Aim of the survey was to understand the strength and weaknesses of the online services. The pattern of information seeking behavior from the Internet by the MRC 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 Internet to download information to write assignments and project reports. The most favorite search engine of the MRC distance learners is Google.

The main technical barrier to the effective use of OLR by the students included slow internet while main Institutional barrier was non availability of enough computers at MRCCL.

The study recommends user training to popularize OLR, adequate infrastructure facilities; relevant recommended OLR on the library web, and to provide user satisfied online resources to distance learners.

KEYWORDS :

Online learning resources, user study, student support services, distance education.

1. INTRODUCTION

The phenomenal growth of open and distance learning system all over the world has dramatically changed the educational scenario every where today. With the rise of the Internet and web technology, it was able to introduce mode of online teaching and learning pattern to the world. Due to that distance education system has revolutionized in the higher education system of the world. Internet has dramatically increased the range of information available for users and the way in which it is delivered. Because of that there is no doubt that access to information has also improved. Similarly, the expectations and demands of the library users have also changed. Further, capacity of introduction of different web base e-services and learning resources through the Internet and WWW has also enhanced.

The provision of online learning resources to distance learners is a challenge to distance librarianship today. The reason is that the librarian has to aware different types of learning resources that can be introduced, what is the gap between the collection of printed and e-learning resources at regional

centre libraries, how to create and deliver e-materials, what are the faculty expectations and students needs etc. before building the learning resource collection. McDowell also prove this idea in this way, "Whatever the mode of course delivery, however, educators, librarians and students have become increasingly aware that the 'fast growing array of electronic information resources'(McDowell, 2000, p.255) He also has highlighted the need for more detailed understanding of information use in student learning".

The principal reason in distance mode learning is that the characteristics of the distance learners are completely different than conventional learners. According to the Keegan 'the underlying assumption of distance education is the separation of a tutor from the student for more than the usual time or for all the time (Keegan, 1986). Since the distance learners are separated by space and time they have become self learners who study with out contacting their teachers (co-ordinators) and peers. Due to that Moore recommends that 'they need to have at least an artificial communication medium that will deliver information, and also provide a channel of interaction between them'. Further, many of them are elderly, married and employed students who have lot of social responsibilities in the family as well as in the society. Further, distance learners meet their teacher only at the day schools to discuss their academic problems. Since that special characteristic should be understood and proper line of provision of online learning resources should be created by the service providers to motivate distance learners.

OUSL Library services

The OUSL library plays a major role in assisting the OUSL to achieve its academic goals in teaching, learning and research through its information service strategy. Central role of the main library at Colombo Regional Centre and other mini libraries available at Matara, Anuradhapura, Kandy, and Jaffna Regional centres and study centres libraries are servicing user needs. Online Learning resources (OLR) are provided at the library web page and at the Virtual Resource Centre (VRC) which is available at main library.

Information environment is changing enormously taking new approaches and practical solutions to meet the demand of the modern users. Hence that, library support services and online learning resources should be given to the distance learners as they study alone using lesson materials at their own place.

With this necessity, librarian as a support service provider had to take necessary steps to improve and increase OIR at the OUSL Library website. As a result of that, Virtual Resource Centre (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 electronic information resources through electronic media;
—   To provide human resource development to enable the library to face the technological challenges of the information age. (Korale, 2003)

In this initiative, the planned activities for VRC were preparing, digitizing, archiving and providing access to historical and contemporary online materials. Current VRC resource collection comprised with digitized past paper collection, subscribed full text e-journal article data bases, 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 e- resources 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.

OUSL students can access to those online resources through the computer labs available at regional and study centres and also through NAC and Nanasala centres (Government cybercafé) that are available nearest to their residences. If not they can access to those resources from their home or from their working place etc.

MRC distance learners can access to those OLR through MRC Computer Lab (MRCCL). Computer lab facility was given to MRC in 2004. 10 terminals with internet access facility are available for students at MRCCL. Three hours time period is allowed for a student who follow computer programmes a day. But unlimited time period is given for BSc and BTech students if the terminals are not reserved by other students and if there is no practical classes for computer literacy students. Students can get assistance from the two staff members who work at the computer lab.

Books and other core materials are available at the MRC library. Library is open in seven days of the week. Two staff members are there to develop the collection and to support students. More than five thousand core book collection is available at MRC library including OUSL course materials and AV materials. Printed past question paper collection is also available at MRC library in addition to the online collection.

2. LITERATURE REVIEW

2.1. Learning resources

A learning resource can include virtually anything that may be used to facilitate or enhance learning. It may be as simple as some words or line drawings on a blackboard or handout, and as complex as a series of computerized HTML documents containing graphics and animations. (Turgeon, 1997).

Educational resources are defined as 'objects that are made explicitly for educational usage (Langen,2011). This excludes objects that can be freely used in educational situations, but are not designed for this purpose'. Open educational resource (OER) system is mostly, although implicitly, seen as web based databases. However, no distinction is made between physically or electronically offered objects. Yet another grey area is the items that are not constructed for the purpose of teaching, but are useful for teaching (eg. You Tube movies).

OER is defined as 'digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research' (OEDC, 2007)

Online Learning Resources (OLR) may be defined as learning resources 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).

While it may be argued that good learning resources cannot compensate for a poor instructor, they can certainly help an instructor do a better job. With the advent of the World Wide Web, a broad array of learning resources has become easily accessible to both instructors and students, providing the access to a computer with connectivity to the Internet. The Internet is a network of computers extending around the globe, and the World Wide Web (or simply the web) is a feature of the Internet that enables the extensive use of graphics and text in creating and storing learning and other resources on locally based computers called servers. There are two principal types of web-accessible learning resources like knowledge-based and problem-based [Turgeon, 1997].

Knowledge-Based Learning Resources

Knowledge-based learning resources help students assimilate principally recall and concept knowledge. They are useful for helping students build or reinforce the foundation of knowledge on which they can develop their higher cognitive learning levels. While knowledge based learning resources may be composed entirely of text, or primarily text with some graphics inserted to illustrate important points, those which fully use the power of the web are the graphic-intensive modules, which are aggregations of instructional units composed of: a graphic with which to convey a concept, process, relationship, or overview; an associated text, perhaps in scrollable form (depending on the amount of text required), to provide a brief explanation of the graphic; and navigation icons by which to access succeeding (or preceding) instructional units. A series of instructional units covering a particular topic or a related series of topics constitutes an instructional module [Turgeon, 1997].

Problem-Based Learning Resources

Problem-based learning resources present a particular problem or set of problems for analysis and solution, and vary depending on the problem type. Scientific problems are really puzzles requiring diagnosis(e.g., disease identification), explanation (e.g., disease triangle),or detailing the steps in a process (e.g., disease development) [Turgeon, 1997].

The purpose for employing problem-based learning resources is to enable students to acquire the higher cognitive learning levels: analysis, synthesis, and evaluation [Bloom, 1956]. As these are really cognitive skills, they can only be acquired through repetitive practical exercises. Under the careful guidance of competent instructors, these skills can be developed as students work their way through an array of increasingly complex problems and problematic situations.

2.2 Use of OLR

The introduction of OLR 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 OLR at all, while only a small percentage (14.8%) were using OLR several times per week.

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).

Franklin (2004) conducted a research on Library usage patterns in the electronic information environment and found that main purpose of using 75% 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 electronic information sources 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).

2.3. Barriers to OLR

According to Ekwelem (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 emphasize further barriers face by Nigerian university student in this way, the non-availability of financing scheme that would make PCs affordable to people in the lower income groups, including students. In these circumstances, the average Nigerian university student would be seriously facing obstacles in their efforts to access and making effective use of EIR on the Internet to support their learning and research activities.

Further, findings reports 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 (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. Network is slow and network failure was the main technical barrier while institutional barrier was 'available computers are not enough'. In addition to that users have requested to increase the allocated time period per person from one hour to two. Further, majority have not been able to collect the required document/information from the search due to English language barrier. Main information barrier was necessary documents are not available in the internet and some are not free and it is for fee.

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 in the above article are

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

Internet is slow was the main technical barrier while lack of interest to use e-resources was the personnel barrier.

McBride and Dickstein (1998) express service provider's 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 OF THE STUDY

To examine pattern of use of OLR by MRC students.
To identify special information needs of the MRC distance learners.
To find out purposes of using OLR by MRC distance learners.
To investigate barriers faced by MRC distance learners when accessing OLR.

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 mini libraries and Computer labs in all centres and Virtual Resource Centre in the main library started with the aim of enriching learning resources to OUSL learners and to the academic staff. Most essential services were introduced at the libraries and most relevant online resources were offered through intranet and www.

Table 1 – Monthly usage of MRCCL

Month	Usage
January	60
February	45
March	40
April	50
May	45

It was noted, when observing the usage statistics during January to May in 2012 given in above table-1, very few of them are using the technical support services given to distance learners when compare to the over 3000 registered students at MRC (OUSL Statistical report, unpublished). Hence that it can be said the MRCCL facilities are unutilized by most of the OUSL learners. Many support services are offered through library web 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 MRCCL users, their real needs and main barriers than finding reasons for not using by many of them in this study. As service providers, any study or evaluation was not done during the eight years time period to recognize its strength and weaknesses. Further, to aware whether on online resources are famous among distance learners and to know special user needs before implementing new services to them.

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 MRCCL 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 4pm daily, first two weeks of June 2012. Data collection was lasted from1st of June to 7th of June 2012. Ten questionnaires were distributed among users to collect data at two sessions including week end also. 75 questionnaires were distributed among users.   73 questionnaires which were completed by Diploma and Degree level students were selected as the samples of the study. Two questionnaires were rejected as all the questions were not properly completed.

5.FINDINGS

5.1. Background information

It was found that total 73 respondents consist of 31% of male and 69% of female users. Only 17% of them were employed while 83% were unemployed. 17% employed students are from Science and education courses. Majority of MRCCL users are Civil engineering students. Majority (98%) of them are unmarried while 2% are married. Further findings revealed that 99% of the MRC distance learners have internet searching skills and 85% of them have internet access facility at home. Out of total respondents, 23% of them have taken the library membership to use lending facility while others have used the library for study and reference purposes.

5.2. Pattern of use of OLR

The sampled students were asked to indicate the frequency of their use of MRCCL for learning resources. It was found that 58 (78%) students have used when there is a special need while 8 (11.8%) distance learners have used the computer lab every day. A further finding reveals that 7 (10.2%) students have used once a week for learning resources. As shown in table 2 below general pattern of using behavior of OLR by majority of MRC distance learners is 'when there is a special need'.

Table – 2 Pattern of use of OLR subject wise

Frequency	Civil Eng.	Com. Eng.	BSc.	Education	Total
Every day	8				8
Once a week	2	5			7
When there is a special need	22		27	9	58
Total					73

Further analysis was done to find out 'what are the special needs' of the distance learners and findings are illustrated in Figure 1,given below.
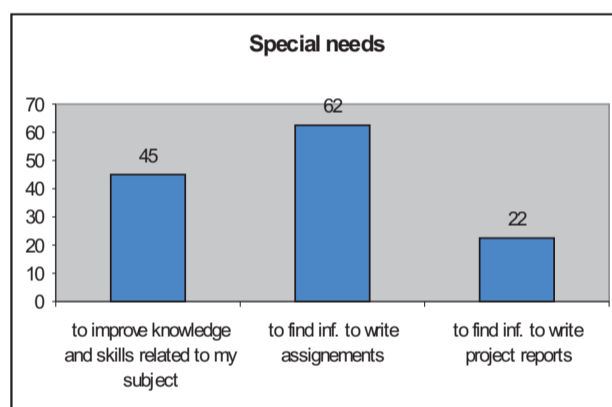

Figure -1 special needs of MRC students

It was found that a student had different needs and the main special need was 'to find information to write assignments'.

5.3. Purpose of using MRCCL

The main purpose of visiting MRCCL by 46 respondents were to access to Internet while 19 of them to access OUSL website. 8 computer engineering students have used computer lab for practice the lessons learn at the computer class. In addition to that many of them have used using the computer lab for study purposes such as typing & getting print outs.

5.5. Purpose of using internet

Further analysis revealed different purposes of using Internet by MRC students. Accordingly it was found that the main reason for using internet by 62 distance learners was 'to find information to write assignments' as shown in figure 1 above.. It was also found that 45 students have mentioned that they have accessed to internet 'to enhance the knowledge and skills on my subject'. 22 of them have used to find information for their projects while 6 have accessed to Internet as the facility is available.

It was noted that 60% of Civil Engineering students' favorite search engine is 'Google' while 14% of student's favorite search engine was 'Yahoo'. Face book is popular among few students. The

main reason of using 'Google' search engine to access Internet and other web base learning resources is 'quick access' and possibility of downloading lot of relevant information from that search engine. The answers given for the question, 'why couldn't you to get that information from MRC library with out downloading from the Internet', were 'limited number of subject related books are available in the MRC library (60%)' 'No space in the library to sit and refer'(35%), searching information from the internet is easier and quicker than finding information from books' and 'no computers in the library'(28%).

5.4. Reasons to use OUSL website

It was found that many reasons of accessing OUSL web site. 38% of them have accessed to OUSL web   'To access to Moodle while 22% of BTech students have accessed 'to down load assignments given by the tutor/mentor'. 47% of them 'to check eligibility and to check emails sent by the course tutor'. It was noted that one student has accessed to OUSL web for different purposes.

5.6. Learning resources used at library website

OUSL library website is an important source that gives a lot of learning resources and other study 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 accessing to library web page. The findings are given in figure -2 below.
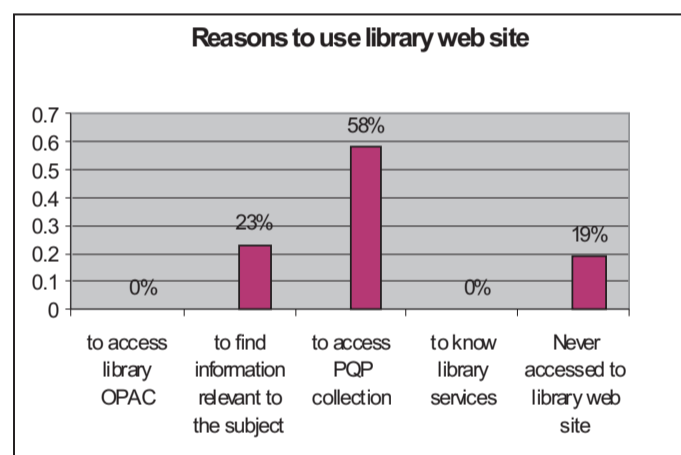

Figure -2 Reasons to use library webpage

It is significant to mention that only the PQP digital archive was popular among 58% of MRC distance learners while 23% of them have access to 'subject related websites link'. It is pathetic to note that 19% of them have never accessed to library webpage even though library web services are known to them (78%). It is also significant that students had never tried online OPAC and had not interested to know the library services also.

5.7. Barriers to use web base learning resources

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 3 below numbering highly affected barrier as 1.

Table 3 - Barriers for learning resources

Type	Barriers
Technical barriers	1. Network is very slow 2. Some computers are very very slow. 3. Sometimes unable to download PQPs from the archive
Institution al barriers	1.Number of computers available at MRC computer lab is not sufficient
Personal barriers	1.Sometimes do not know relevant/different URLs at that time need more time to use Computer lab
Informatio n barriers	1. Necessary information are not available/ Some times half of the required information are given. 2. Necessary information are available but not free

It was found that technical and informational barriers have affected mostly than other barriers when using web base learning sources by majority of students.

Students have requested list of AV materials related to their subject and more library books as they refer library for reference purposes due to they cannot depend only on course materials and need to improve their knowledge on literature.

6. DISCUSSION & CONCLUSION

It was revealed that majority of MRCCL users were from Bachelor of Technology and Diploma in Technology while least number of users was from Faculty Education. It can be concluded that the BTech students are the most OLR users even today. Because same result was found by the author from the survey conducted at the library Virtual Resource Center and at the CRC Computer lab of the OUSL in 2010 and 2012 respectively (Gunasekera,2010,2012). More online learning resources should be developed with the collaboration of the faculties and popular among remote learners who study at regional centers. The first objective of this study is 'to examine pattern of use of OLR by MRC distance learners'. They seek information only when they need it. The pattern of OLR seeking behaviour of distance learners was also not changed as same findings were received in 2010 also (Gunasekera, 2010, 2012). Therefore, it is better to understand OUSL learner needs, skills, wishes, clearly analyzing different aspects as their characteristics are not similar, before linking web base OLR facilities further as McDowell pointed out in 2000 in this way, "the need for more detailed understanding of information use in student learning".

One of the findings of this study is the rapidly increasing preference for, and use of OLR 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 electronic information sources must play in their educational, work and social lives. Similar results were obtained elsewhere, for instance Baruchson-Arbib and Shor (2002).

One of the objectives of this study is, 'to find out purposes of using OLR by MRC distance learners'. It was found that the main reason of visiting MRCCL by students was to use internet facilities. It is observed that OUSL website is not popular among distance learners at present as same as in 2010. Findings of the survey done in 2010 by the author at VRC, reveals that majority have used to access the Internet not to the OUSL web page. But there is a significant increase of accessing to OUSL web today than in 2010. It is due to online and partly online courses. Further, students reported that 'they preferred Internet facility more than any other resources and give it continuously'. It was noted that MRC student used to access Internet to fulfill their special needs. This is not surprising since Internet allows, in principle, an unlimited number of users, who are part of numerous networks, to communicate with each other within and across networks without passing through centralized authorities (Abrams

and Doernberg, 1997). As also noted by Parasuraman (2000), the positive benefits of online environment include flexibility, convenience, efficiency and enjoyment.

However, it is vital to mention here that library web page is not popular among regional students. Except PQP collection other resources were not used and 5 students stated that they have never accessed to library website.

Students always try to find information that they need without using direct links to resources. This attempt may waste time and money because Internet means money. OUSL service providers have same experience of financial problems as Bernard (2003) faced at WGU. As service provider, librarian has to think that part also and must take steps to familiarize the OUSL web facilities or to provide internet searching skills training which helps to save the time of the user as well as the electricity and other bills. As Adams (2005) identified and confirmed conducting awareness sessions to users is a remedy for the problem.

The researcher was able to achieve the forth objective 'to investigate barriers faced by MRC distance learners when accessing OLR' also with the following findings. Four categories of barriers namely, technical, institutional, personal and informational that were affected by distance learners when accessing OLR. Network is very slow is the main technical barrier while institutional barrier was 'number of computers at MRCCL are not always enough.

Main information barrier was necessary documents are not available in the internet and some are not free and some information are partly given free of charge and rest is for fee. Main personal barrier was 'not knowing correct URLs'. University authorities have to consider these problems also and necessary actions should be taken immediately ensuring better learning environment at the university. Further, users can get the assistance from the staff of the MRCCL when ever they face any problem. MRCCL staff mentioned at the interview that even though they are ready to help, the users do not request any help from them.

In conclusion, the findings of this study provide useful insights into students' use of OLR at the Computer lab and suggest a number of areas where the university management could target relevant policies and programmes. Two key areas are infrastructural development and skills training for students to motivate the students to greater use of OLR for academic activities. Further, decision should be taken to popularize online resources and services available at OUSL library web page among regional students.

6.RECOMMENDATIONS

It is highly recommended that

OUSL library Web-based OLR should be evaluated and increased and popularized among students who study at regional centres conducting familiarization programme.
Core online information skills tutorials or trainings for undergraduate students should be given
Persuade users to use available OLR in the library web by linking most relevant e - resources and introducing new services relevant to each faculty programme.
More subject wise webographies on all subjects should be prepared to inform users where the areas/search engines or URLs with relevant information is available in their subject areas.
Notices on OLR available at library web should be put up at the MRCCL.
Internet access facility should be given in the library also by giving computers for students then library resources could be promoted.
More computers should be given to MRCCL.
Speed of the Internet should be expanded by broadening the net work bandwidth to increase the downloading facilities of web base OLR.
Core book collection available at MRC library should be evaluated and strengthen.
Seating facility should be increased inside the MRC library.
E-list of core AV materials produced by the OUSL, should be prepared according to each subject and should be familiarized among new students.

REFERENCES

1.Adams, A. and Anne, B. 2005. Digital libraries' support for the user's "information Journey". Journal of Library Services for Distance Education. Vol. 1, No.1, (January), pp.160-169 at DOI= www.westga.edu/jlsde. (accessed on 02.10.2011)

2.Baruchson-Arbib S. and Shor, F. 2002. The Use of Electronic Information Sources by Israeli College Students. The Journal of Academic Librarianship, vol. 28, No. 4, pp.255-257.

3.Bernard,R.M. & Naidu,S. 1990. Enhancing interpersonal communication in distance education, Educational and Training Technology International,27 (3) 293-300pp. In. Schlosser, Charles A., Anderson, Mary L. (1994) Distance education: review of literature, Washington: Association for Educational Communications and Technology.

4.Caballero, C. 1998. Thousands still shoeless: developing library services in support of distance education a case study. Journal of Library Services for Distance Education. Vol. 1, No. 2, (June), pp.1096-2123 at DOI= www.westga.edu/jlsde. (accessed on 02.10.2011)

5.Cornell, R. 1999. Paradigms for the new millennium: how professional will certainly change. Educational Media International, vol. 36, No. 2, pp.89-96.

6.Cornish, G. P. 1997. Electronic document delivery services and their impact on collection management. In: Gorman, G. E &. Miller, R. H (eds.) Collection Management for the 21[supst] Century: A Handbook for Librarians. London: Greenwood press.

7.De Langen, Frank . 2011. There is no business model for open education resources: a business model approach. Open Learning: the Journal of Open, Distance and e-learning 26 (3) 209-222pp.

8.Ekwelem, Vincent O., Okafor, Victoria N., and Ukwoma, Scholastica C. 2009. Students' use of electronic information sources at the University of Nigeria, Nsukka, African Journal of Library, Archives & Information Science. Vol. 19, No. 1, pp.89-97.

9.Franklin, B. 2004. Library usage patterns in the electronic information environment. Electronic Journal,Vol.9,No. 4,pp. 128-135.

10.Freeman, Margaret and Parker, Lyn . 2004. Blended Learning: blended resources – a collaborative approach to supporting students, Network learning conference. 2004

11.Gunasekera, Damayanthi 2010. Usage of Virtual Resource Centre of the Open University of Sri Lanka: distance learner experience. In Katariya, S, Ambu, John paul k. and Ram, Shri (eds). Proceeding of the 2nd ETTLIS international symposium on Emerging technologies and change in dimension of libraries and information services held at JUIT Waknaghad, June 2010. pp.252-256.

12.Gunasekera, Damayanthi 2012. An investigation on use of e-information resources by distance learners at CRC computer lab of the Open University of Sri Lanka (unpublished).acepted In Katariya, S, Ambu, John paul k. and Ram, Shri (eds). Proceeding of the 2nd ETTLIS international symposium

13.Keegan, D. 1986. The foundations of distance education, London: Croom Helm

14.Korale, S.R. 2003. Establishing a vibrant high tech E-library at OUSL to support academic research and distance education needs in the 21st century, project proposal submitted to the DEMP project. (unpublished)

15.Mcbride, K. B. and Dickstein. 1998. The web demands critical thinking by students. Chronicle of Higher Education, Vol.20, (March) No. 6, pp.43-52.

16.Nisonger, T. E. 1997. The Internet and Collection Management in Academic Libraries: Opportunities and Challenges. In Gorman, G.E. & Miller, R.H. (eds.) Collection Management for the 21[supst] Century: A Handbook for Librarians. London: Greenwood Press. 26-57.

17.Omagbemi, C.O, Akintola, B.A, Olayiwola, I.B. 2004. Academic libraries, the Internet and its potential impact on teaching and learning in Nigerian Tertiary Institutions. Journal of Library and Information Science, vol.1, No. (1/2), pp.34-46.

18.Organization for Economic Co-operation and Development. 2007. Giving knowledge for free: the emergence of open educational resources. Paris: OECD – Educational Resources Centre for Educational Research and Innovation. Retrieved 19 October 14 June,2010 from http://www.oecd.org/dataoecd/35/738654317.pdf in Nikoi, Samuel K., Rowlett, Tania , Armellini, Alejandro and Witthaus, Gabi, CORRE: a framework for evaluating and transforming teaching materials into open educational resources, Open Learning: the Journal of Open, Distance and e-learning 26 (3) 191-208pp.

19.Parasuraman, A. 2000. Technology readiness index (TRI) -- A Multiple-Item Scale for Measuring Readiness to Embrace New Technologies. Journal of Service Research, vol.2,pp.307-320.

20.Peiris, N.D and Peiris, B.L. 2012.   An assessment of undergraduate students' usage of e-resources to fulfill their information needs: a case study at university of Peradeniya. Sri Lanka Library Review, vol.26, June, pp.30-43.

21.Peled, A. and Rashty, D. 1999. Logging for success: advancing the use of WWW Logs to improve computer mediated distance learning. Journal of Educational Computing Research, vol.21, No. 4, pp.413-431

22.Sheard, J., Jason, C. and Hurst, J. 2003. Inferring student learning behaviour from website interactions: a usage analysis. Education and Information Technologies, vol.8, No.3, pp.245-266.