

The Role of Digital Library in Open and Distance Learning: Issues and Challenges

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Abstract

In ODL system of learning the teacher will be remote from his students by both space and time. Distance learning has become more popular in recent times as an alternative to the traditional form of education. Distance students' characteristics are different from students of traditional universities. Here the students are mainly adult learners, employed, housewives, rural students, and the students who don't have access to higher education in formal ways. ODL students will have higher motivation and are willing to take responsibility for their own education and often experience a feeling of isolation and remoteness from other students. However, distance learning demand much use of library resources, audio-visual media and information and communication technology. Within this distance learning environment, the mode of teaching, as well as learning, has been shifted from physical to virtual environment. In the present digital environment, learning is possible through web-based library services as a medium and digital library as a gateway with the help of integrate library management system. This paper discusses the web-based library services/practices employed in distance librarianship and the issues and challenges related.

Keywords: Digital Library Services; ODL Learners; Virtual Education.

Introduction

Distance learning is often described as the formalized learning received while the student is in a location outside the university campus. Both the teacher and student are expected to have minimal physical contact, but much reliance on electronic communication and independent studying. A wide range of technological options is available to the distance educator and learners. They fall into four major categories: (i) Correspondence Model: The Correspondence Model regarded generally as the first generation of distance education based solely on print technology; (ii) Multimedia Model: This model entails the use of highly developed and refined teaching-learning resources, including printed study guides,

selected readings, videotapes, audiotapes, and computer-based education (CBE), including computer-managed education (CME), computer assisted education (CAE), and interactive video (disk and tape); (iii) Tele-learning Model: This third generation of distance education is based on the use of information technologies, including audio-teleconferencing, video conferencing and broadcast television/radio with attendant audio-teleconferencing; (iv) Flexible Learning Model: This emerging fourth generation of distance education promises to combine the benefits of high-quality CD-ROM based interactive multimedia, with the enhanced interactivity and access to an increasingly extensive range of teaching-learning resources offered online by connection to the Internet.

Distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements. The extensive use of information technology in the delivery of distance services and the use of e-mail, faxes and 24 hour messaging services are examples of distance

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strategies that have also been applied to regular library services.

The provision of quality library services to those who learn at a distance is one of the challenging developments that have occurred in contemporary librarianship. Distance education has led to the development of specialized library and information services that can appropriately be called distance librarianship. In traditional library services, students go to the library to access the range of information services that they need to satisfy their learning needs. In distance education, a cocktail of modalities has to be used to take library services to distance learners. Thus, the distance applies not only to education but also to the ability of those who study at distance to access library services. Librarians, distance educators, and administrators must, therefore, adopt new strategies to ensure that quality library and information services are available to those who learn at a distance. Consequently, distance learning has led to the development of new institutional responsibilities in relation to library and information services based on the need of distance learners. Distance education has fostered, enhanced and extended the nature of collaborative relationships between the stakeholders in distance education systems. For library services, it is particularly important to collaborate with agencies that are external to the library because without their assistance it would be impossible to provide quality library and information services to distance learners. These new relationships affect every facet of the delivery of library and information services to distance learners. Librarians have to develop important links with distance education administrators in order to ensure that the necessary policy arrangements are instituted to deliver library services to their distance students.

Distance education has also added to the pool of opportunities for librarians to become creators of information either through the development of new materials or when they repackage information to suit particular needs. The repackaging of information or value adding services that librarians contribute information used in distance learning systems adds to the teaching role that librarians to this system of education. Distance librarianship demands that libraries and librarians recognize that their role has transformed from being custodial in orientation to become cutting edge in nature particularly with respect to the delivery of information services. Distance education and librarianship demand that students are placed at the center of the educational paradigm. In addition to traditional delivery

mechanisms libraries must introduce bold and innovative strategies into their delivery process. The strategies must be deployed to deliver the gamut of services that distance learners require including document delivery; bibliographic instruction; information literacy instruction; reference services; interlibrary loans and access to electronic resources.

Many libraries use electronic communication as the medium of choice to maintain contact with students making it possible for students to use E-mail as a means of sending and receiving communication-related to their need for information. While technology has reduced the distance between library services and students, distance services librarians are charged to remember that not all countries or all distance students are able to access technology with the same degree of ease. Therefore librarians and others are charged to integrate other modalities of communication and service delivery to ensure that all distance students have access to information services for their studies. This is particularly important in developing countries where distance education is a channel to expand educational opportunities but where access to technology is extremely limited to large urban areas and to those who have the economic ability to purchase technological and communication services.

Web Technology in Distance Education

The potential for the Internet to revolutionize the field of distance education lies in the comparative simplicity of the tools available; the ease of document authoring; low cost compared to satellite technologies; the decreasing trend away from mainframe servers towards powerful desktop computers; and the theoretical possibility for anyone to utilize it anywhere. While some users are attempting to run completely Internet-based distance education programs, most of those involved are using the Web to supplement classroom instruction. Library services refer to facilities, which are provided by a library for the use of books and dissemination of information for the need and meet the users' requirement. The well known existing library services are cataloguing, classification, circulation services, reservation, renewal, new arrivals, current contents, current awareness service, selective dissemination of information, indexing and abstracting, reference service, document delivery, interlibrary loan, externally purchased database, CD-ROM databases, access to other library catalogues, access to online databases, internally published newsletter, reports

and journals, bibliographic services, and so on. All these services have changed its mode to an extent with web environment.

Web-based library services that are modified versions of existing services and technology driven library services or transformed from traditional library services incorporating new services that are peculiar to web environment and underlines its significance for changes in the library information systems paradigms. There are several advantages of web-based services they are :

- a. Save the precious time of the user;
- b. Availability of less number of library staff to carry out the library works and services;
- c. Less dependence upon the library staff for getting the required information;
- d. Multifold increase of the cost of books and journals;
- e. Availability of information in different places and also in different formats;
- f. Cut in library budget;

Users today are accustomed to the dynamic and interactive nature of the Web, as well as social networking tools. Many of them use Web tools to find the information they need. It is very imperative for university libraries and librarians to design, develop, enhance, implement, and deliver world class web-based library services, resources, and instructions at the fingertips of library users and devoting resources to strengthen support in the core areas of teaching and research and identify the relevant information and web services based on the user feedback and improve the existing services using web technology as the delivery mode and developing country like India where resources are limited, funds are invariably for the library.

Scope of Web Based Services

Library networks offer much potential and new capabilities for sharing information among different library and information centers at local, regional, national and international levels and eliminate the size, distance, and language barriers among users through resource sharing. The inter-library loan can be provided by sending the information through e-mail using the network facilities. On-line ordering and acquisition related activities can be carried out through e-mail Centralization and computerized on-line public access cataloging service can be provided by networking system. Networking with union catalogs of various items of information is a boon as

it avoids duplication in holding to the extent possible.

Reference service can be enhanced by e-mail and the internet through LAN and WAN.

CD-ROM and multimedia service can be provided effectively through networks. Current Awareness service and SDI may be given through networking systems and the users may retrieve references of their interest in a fraction of a second from an online database.

The speed of data communication through networks are very high and one can obtain information within few seconds from any part of the world sitting anywhere.

The internet is a major tool that delivers to the front door of other networks, other services, and other resources. It is a tool providing access to vast quantities of information and it lets to communicate, share resource and share data with people around the world.

Web-Based Services for Distance Learners

Libraries have always changed the pace of that change somehow feels faster now than ever before. Academic libraries are quickly becoming the major players in adopting and incorporating Web 2.0 applications into their services compared with other types of libraries. For example, RSS feeds can inform library users about new library activities, while blogs enable the library to aggregate knowledge from users and setting up a subject-based blog provides constructive resources to assist readers with researching and utilizing this technology. Some important web-based services are as follows:

- *Access to Database*

Several publishers today offer web-based, intranet solutions for providing local access to their databases. Journal publishers have also begun to offer similar situation, for example, Elsevier, for an electronic version of their journals. Apart from the externally purchased databases, libraries have their own collection of CD-ROM databases mounted on their CD server/tower. Online database vendor such as Dialog, Lexis-Nexis, ERIC is delivering their database over the internet. So a library which subscribes to this database can now easily access them over The Web.

- *Bibliographic and Cataloguing Services*

This service can also be prepared from different

databases available on the Web. For example, e-print archives are more productive means of communication for users in different disciplines. Telnet access to a remote computer of different organizations' library catalog is also available. Information on books which are not easily available may be accessed through telnet.

Library of Congress Catalog is a very popular online service LC. Other libraries, which are on the Web, can be easily accessed through telnet services, which help the researchers. Some of the bibliographic services is available online on the Net. Links from the library homepage can be provided to those sites.

- *Bulletin Board Services*

A bulletin board is a public discussion area where people can post a message without sending them to anyone's e-mail address that can be viewed by anyone who enters the area. On CompuServe, a bulletin board is called a forum. On the Internet, the equivalent areas are called newsgroups. Separate notice board option can be created through e-mail facility and the latest information on the daily news, job opportunities, admission notice, entrance examination, scholarship and fellowships, new courses etc. can be posted and made available for the users though this bulletin board service. It is proposed to provide this facility to display/ view news, announcements etc. with constant updating of information in an electronic bulletin board. The UGC circular can also be put on this board. Several bulletin boards can be made available in the networks for each specific category of user discipline.

- *Current Awareness Services*

CAS according to Luhn is an essential function of management to make the members of its organization aware promptly of such new information which will most likely contribute to performing their individual task with the highest possible degree of competence. The long-term purpose of the CAS is to provide a substitution for the circulation of a new journal to the users various electronic current products have been investigated that could partly provide what the circulation of the journal has provided over the years. They also had to be available via the Web in order to allow the ultimate extension of the service to research students located at the distance of the campus. A library can provide this service through e-mail, which is easiest and common procedure. Otherwise, a library can refer or link directly to some location to their WebPages.

- *Electronic Selective Dissemination of Information*

An electronic SDI service was formulated to deliver current information of interest to users on their desktop. Through this service, the Interest Profiles (IPs) of users are searched in a batch mode on the latest updates on a monthly basis and the result is e-mailed to respective members. Thus this service not only functions as a Current Awareness Tool but also influenced the acquisition of information sources as well as usage of other library services like document delivery, resource sharing and acquiring reprints.

- *E-mail*

It is a web-based excellent media and most probably most popular media. And the library professionals use this web medium for various purposes especially for delivering some web based services. The easiest and convenient method to access the web sources is e-mail. When a researcher who registers his name and chose the content pages of some journals of publishers request for sending the content page of the selected journal the publishers take care of sending the content in advance, against the registered individual's e-mail address. This helps as excellent current awareness service to the scientists.

- *Frequently Asked Questions (FAQ)*

FAQ stands for Frequently Asked Questions. A compilation of Frequently Asked Questions and their answer is referred to as a FAQ list or FAQ article. FAQs are compilations of information which are the result of certain questions constantly being asked. There are thousands of FAQs on the World Wide Web. AskERIC is an Internet question answering services run by the ERIC Clearinghouse on Information and Technology at Syracuse University, New York. Since it began in 1994 it has answered more than 2 million education-related questions from around the world.

- *Internet Subject Gateways*

Subject-based Information Gateways are clearing houses to quality assessed Internet resources. This can be contrasted with gateways where resources are arranged according to where they are physically placed or "geographically" like W3 servers or according to what type of resource they are. A number of libraries are involved in the development of internet subject gateways services that aim to help users find high-quality resources of internet subject gateways offer an alternative to the Internet search engines and Web directories. Subject gateways are typically databases of detailed metadata records, which

describes Internet resources and offer a hyperlink to the resources. The user can choose to either searches the database by keywords or to either search the database by keywords or to browse the resources under the subject heading. For example: "PINAKES" (<http://www.hw.ac.uk/libWWW/irn/pinakes/pinakes.html>). INFOMINE (<http://infomine.ucr.edu/Main.html>), and BUBLLink (<http://publ.ac.uk/link/>) is a famous LIS subject gateway gives BUBL Journals Abstracts, full text, over 200 titles with other various links.

- *List Serve*

Listserv discussion lists are topic-oriented forums distributed by e-mail, dealing with a wide variety of topics, many of which are academic in nature. Once you've subscribed to a listserv discussion list, messages from other subscribers are automatically sent to your electronic mailbox. To subscribe to a listserv discussion group we have to send an e-mail message. The listserv program handles subscription information and distributes messages to and from subscribers. There is variety of listserv programs but they all work essentially the same way.

- *News Clipping Services*

News clip service is one of the CAS provided in many libraries in print/ photocopy form. To provide this service, news items from selected newspapers are first marked and then the clippings are pasted on a white sheet. These filed clippings are then circulated among the users. Due to its physical nature, its distribution is limited by the number of copies generated as well as this conventional filing system provide only one index field for the file. The risk of misfiled and unreturned documents is virtually eliminated in an electronic format. The format may be Text or PDF (Portable Document Format). The image may represent as GIF or JPEG file formats. All the document should be copied to the server root and then executed. A homepage for news clips service has been created and through which access to the news clips has been achieved.

- *News Group*

They are on-line discussion groups on many topics of varied interest. A program called newsreader is required to view and post a message in newsgroups. Unlike mail lists and chats, newsgroups allow readers to choose the topics to discuss. They can be of immense help to professionals and distance learners. The library staff can post messages in the appropriate

newsgroup and discuss library -related problems, adoption of new techniques in libraries, etc.

- *Newsletter Services*

It is very good service to the users, listing available Internet services, sites, new addition, publications, useful like Conference, Workshops, Training and Fellowship programs. A catalog of Internet base information sources is useful assets for all libraries if given at regular intervals through e-mail or they can host it on their website.

- *OPAC*

The Online Public Access Catalog is one manifestation of the massive changes that are taking place as we plunge into the information age. OPACs are the gateways to information in libraries and provide facilities to browse, search and locate information. OPACs were developed to meet the needs of users in two different ways (1) it meant access to library housekeeping operations especially circulation and (2) to give the library users direct access to the machine-readable bibliographic records. Generally, OPAC is available and accessible via the Internet. They are known as WebPAC or InternetPAC. WebPAC became more simple popular and easy to handle. The library Web site became a more logical gateway to the catalog and other Web-based library resources. An informative home page introduces users to helpful information about the library, its collections, and services. This order of access is a good opportunity to distinguish between the catalog and other electronic indexes and databases.

- *Reference Services*

The reference service in a library is often defined as direct personal assistance given to its reader for finding information. It is the branch of library services, which includes personal assistance given to in their search for information on various subject areas, irrespective of size and collection of the library. Web-based reference services owe their increasing popularity amongst librarians to the increasing need to extend the reference desk beyond the library's walls. The goal is to meet the demand for easy 24 hours access to electronic reference sources from the office, and even the kitchen table. Almost all academic libraries offer mediated access to the traditional online services much of this searching is done on databases made available either through loading the data on the library's own server or through access to remote reference servers, such as Information Access

Company's InfoTrac SearchBank or OCLC's FirstSearch. A search of the web will yield literally hundreds of libraries that have home pages which offer a startling array of services, ranging from book catalog to commercial databases to community information such as events schedules, political minutes, and information of interest to a user public. Many of these services attempt to provide similar levels of service to those found in the library. In fact, most end users and librarians expect that remote access to electronic resources mean these resources must be self-service, from the perspective of offering easy access to the complete content from a wide variety of sources material in electronic form. And all of this available 24 hours a day, seven days a week. An example of reference online – Britannica online – <http://www.members.eb.com> Online Dictionary – <http://www.dictionary.com>, Online maps, and Atlases – <http://www.atlapedia.com/index.html>, Encyclopaedia – <http://www.encyclopedia.com>.

- *Usenet*

The Usenet is a global electronic bulletin board, of sorts, in which millions of people exchange public information on every conceivable topic. Also called "Netnews", it consists of thousands of newsgroups covering a vast range of topics. The Usenet newfeed can be read by a variety of newsreader software programs.

- *Un Cover*

UnCover is an online periodical article delivery service and a current awareness alerting service. It indexed nearly 18000 English language periodicals in its database and is still growing. Over eight million articles are available through a simple online order system. Five thousand citations are added daily. Articles appear in UnCover at the same time the periodical issue is delivered to your library or local newsstand, which makes uncover the most up-to-date index anywhere. (<http://uncweb.carl.org>).

- *Web Casting*

Webcasting which is another example of Push Technology, is defined as the "Pre-Arranged updating of news, weather or other selected information on an Internet user's desktop through periodic and generally unobtrusive over the WWW". In other words, push technology or webcasting is a method of information delivery across the web that pushes information to the screens of the user's computer. It is a webcasting was introduced by the

PointCast Network in 1996. Presently most of the webcasters concentrate on news delivery.

- *White Board Environment*

In a whiteboard environment, there can be many users connected to discuss on a topic and it is different from the newsgroup in the sense that the computer screen serves as a whiteboard and the user can draw figure using the mouse and post message/explanation in the comment box that appears simultaneously with the whiteboard for other users to view. It is multi-user Java chat and drawing program and so the systems that are connected must be enabled to download Java applets.

Problems in Accessing Web-Based Library Services

There are a number of obstacles to use web-based library services by users. The problem generally includes lack of skilled professionals, inadequate computers access, insufficient time, lack of library orientation, and lack of systems. The major contributory factor is very low bandwidths. It is a problem that affects web-based library services access in many universities in India. Connectivity is the critical technical factor for browsing web-based library services. To improve the present web-based library services and to develop new web-based library services, there is a need to rate the existing services.

Issues and Challenges

A huge volume of information is generated every minute so it is not possible to collect each and every useful information in different subject disciplines.

No order or rules are imposed on the generation, distribution, access and use of this information; No fully comprehensive record of the different documents is available at the moment; No classification and description framework for storing and retrieving these documents has been commonly accepted and established. Therefore documents of all kind of format type of information and subject can be found.

The librarian should take one more step further instead of just providing access to the internet. He or she should take the responsibility of evaluating the web resource for providing the effective. The librarian should have depth knowledge about the web resources and the search engine, which will give the real power to the reference librarian to answer the queries.

The librarian should create a web directory of the inter-resources so that it can be used or referred to by

a user whenever it is needed for providing the services.

The users of the library should be given a proper training and explanation about the internet and the search option.

Suggestions to Strengthen Web-Based Library Services

The following are the major suggestions for improving the web-based library services in university libraries:

1. Updating web pages frequently.
2. Contentbased book services.
3. More hyperlinks to web-based library services.
4. Facility to upload content by users.
5. Higher bandwidth and wireless connectivity.
6. Institutional archives of faculty publications.
7. Simplification of administrative procedures to make the better use of web-based services.
8. All back volumes of journals should be available online.
9. Digital literacy programs and more web-based tutorials for users.
10. There is an urgent need to develop dynamic library websites and compatible with web 2.0 technologies include web forms in each web-based library service. Web 2.0 facilitates communication, conversation, information sharing, and collaboration within the online community.
11. UGC of India with the help of INFLIBNET formulate the national web standards for university library websites to meet the new challenges of next-generation web-based library and information architecture and set up web content steering committees to strengthen their controls on information.
12. Facilitate the RSS feeds, library wikis, instant messaging reference services, weblogs, virtual library tours, web-based library tutorials, floor maps, discussion forums and listservs represent the new ultimate level of power for web-based library services.
13. Apply the semantic technologies and ontologies will be the key aspects in the present generation of web users. "Advanced semantic technologies enable computers to reach a higher level of understanding of the meaning of the information being processed. Ontologies try to resolve the problem of ambiguity in natural language and the problems that arise due to the use of

transmission meanings, analogy, comparison or metaphor".

14. Provide multi-language support content to regional and international users.

Conclusion

Developments in information and communication technologies (ICT) have a profound impact on every sphere of academic activity. Library and information management is not an exception for this. Web-based library services will become more widespread and sophisticated as the web becomes commonplace throughout the world, and to be successful players in the e-world. Libraries must continue to address the web design and implementation issues. As we actively transfer library services, our central purpose remains the same, to serve and teach users to find, evaluate, and use information effectively. Earlier, card catalog was called as Index to the library now in this electronic age, it is the library web page that is being called as the *Index of the Library*. Library websites reflect the strengths and weaknesses of the libraries very effectively. They are also the tool through which libraries are trying to reach out to the tech-savvy user. Libraries should make consistent efforts to provide web-based services to their users. The librarians should be expert to hold the hands of the users who are moving towards new communication paradigm shift from face to face human contact to human-machine interaction, from paper to electronic delivery, from text centered mode to multimedia and from physical presence to virtual presence. Web-based library services is a trend. Libraries are taking full advantages of internet and web facilities. They are remarkable changing their mode of provision of services. Users also very happy by getting the library services through the web. They can save their time and harassment from not getting the information.

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