Building Up Digital Resources for Effective E-learning Programmes

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Abstract

Today on line education using computer-mediated communication to connect the learners and the instructors via the Internet (asynchronous learning networks) is more effective. Online queries are more in use than the traditional class tests. Tutorials conucted in traditional ways are all replaced by audio-visual conferences, e-mail, chat, listservers, news groups, simulations and guest chat on the Internet. Thus new learning modes and media is being initiated for enhancement of quality. The present paper discusses about the concept of digital library and building up of digital resources collection for effective E-Learning programmes. The importance of digitized grey literature collection to enhance the quality of e-learning programmes is highlighted. The digital exposition is a remedial answer by the little screen but extensive knowledge becomes positive and possible through a resourceful digital database.

Keywords : E-Learningl, Digital Libraries

0.   Introduction

The learning and teaching methods are undergoing tremendous changes with rapid development of technology. Particularly, proliferation of the Internet and availability of powerful computers have made it possible to access any information from anywhere in the world. E-learning has become pervasive worldwide through the growth and evolution of modern technologies and is simultaneously accompanied by new applications and increased adoption by end users.

e-Learning is a combination of learning services and technology to provide high value integrated learning, anytime, anyplace. It is being presented in the market place as the next evolution of the training and education industry and the next phase in the digital revolution. It is about a new blend of resources, interactivity, performance support and structured learning activities. This methodology makes use of various technologies to enhance or transform a learning process, achieving real business and educational value, and reaching a large, more diverse learner population with minimal expenditure.

CISCO defines e-learning as "the overarching umbrella that encompasses education, information, communication, training, knowledge management and performance management. It is the web-enabled system that makes information and knowledge accessible to those who need it, when they need-anytime, anywhere".

In its short history, e-learning has come a long way, offering increasing benefits with each interaction. E-learning can be used to reduce costs, improve quality and accelerate time to market. There are other very good reasons as well, notably manageability, flexibility, speed and learning effectiveness. E-learning can be delivered anywhere, any time, and can provide flexible models, such as just-in-time learning

The effectiveness of any education or training depends on the methods and techniques used for conveying the content. Besides, the traditional method, namely, lecture, there are a number of other methods like demonstration, group discussions, panel discussions etc. which help to improve the quality of learning. With the advent of computers and Internet with Information technology, the learning programmes could

reach the remotest corner of the country. The global changes that occurred in education lead to a shift from old learning process and there is a development of online learning.

1.   Need for Digital Collection

Learners access the courseware through standard Web browsers and Multimedia Players. Many institutions and agencies are engaged in training in the form of short term courses, workshops, tutorials, etc. Most of these courses produce a printed volume. The institutions organizing such courses and the funding agencies sponsoring the same should encourage preparing the course materials in electronic form to distribute it to participants and provide network access to these resources.

With the increasing demand for online programme, many universities especially in USA are getting equipped themselves with necessary technologies suitable to initiate the e-learning programmes / Online courses/web based learning etc. Content development, organization and delivery are the key components in this programmes. The user should be able to access various digital resources comfortably during the course while preparing the assignments/exams/participating in the discussion form or quiz etc. Hence, the building up of Digital Resources plays a major role for the successful completion of the online programmes.

The information revolution not only supplies the technological horse power that drives digital libraries, but fuels an unprecedented demand for storing, organizing and accessing information. If information is the currency of the knowledge economy, digital libraries will be the banks where it is invested. Digital libraries have the potential to be far more flexible than conventional ones. At present many Digital Library initiatives have been taking place at national and international level. In the developed countries digital libraries are in the progressive stage. On the other hand in the developing countries the digital library set up is yet to be realized due to the economic factors, cost of hardware and software and other infrastructure facilities. Creation of digital resources with the establishment of digital libraries is the need of the day. Digital library technology allows organized collections of information, graced with comprehensive searching and browsing capabilities , to be created rapidly (witten et al., 2001b)

2.   What is a Digital Library?

Digital library, a global virtual library, is a library of thousands of networked electronics libraries. The library must be a network based distributed system with local servers responsible for maintaining individual collections of digital documents. The basic functions of the digital libraries are:

1.   Provide digital content to virtual, geographically dispersed users

2.   Pull in digital information electronically from outside sources irrespective of location.

3.   Online access to the external digitized information with the provision of user ID and password to the users.

Digital library encompasses two possibilities

1.   Library which contains material in digital form (Digitising physical counterparts e.g. paper)

2.   Library contains digital material(initial content itself is created in digital form)

2.1   Definition of Digital Library

Yang et al have defined a digital library as generally including "a large collection of objects, stored and maintained by multiple sources, such as databases, image banks, file systems, E-mail servers, and web based repositories".

2.2   Why Digitise?

The growing impact of Information and Communication Technologies (ICT), web technologies and database techniques has compelled library and information centers to use these technologies effectively to render services. With the growing number of E-resources, it has become imperative for information providers to redefine their role in disseminating information to the users.

2.3   Approaches to Digitization

1.   Retrospective conversion to convert all the existing collection from A to Z

2.   Digitisation of a particular special collection or a portion of one, which is highly valued for the use of the particular institution

3.   Highlight a diverse collection by digitization particular good examples of collection strength.

4.   High use materials making that material are in most demand more accessible.

2.4   Types of Digital Resources

Digital resources include a wide range of material such as:

1.   Collection in which complete contents of documents are created or converted into machine readable for online access.

2.   Scanned images, images of photographic or printed text, etc.

3.   Online databases and CD-ROM information products, particularly those with multimedia and interactive video components

4.   Computer storage devices such as optcal disk,jute boxes,CD_ROM/DVD-ROM

5.   Databases accessible through Internet and other Networks

6.   Digital audio, video clips or full length movies

2.5   Acquisition of Digital Collection

1.   Digitisation of existing important and useful print material, it also helps in preserving rare and fragile objects without denying access to those who wish to study them.

2.   Link and pointers, resources which are freely available on the Internet and are of significant scholarly value can be added to library catalogues and network resources.

3.   Purchased or licensed material such as electronic journals or databases. In many cases this material is not " physically owned" by the library in the same sense that printed books or journals may be owned, but instead the library has acquired specific access right to the material on behalf of library clientele.

4.   Special efforts should be made to acquire Grey Literature . These can be digitized, stored and indexed for easy access

2.6 Forms of Digital Resources

- ✍ Creating Databases of Library catalogues: Libraries should create databases of holdings and collections and provide access , these should be searchable both on Intranet and Internet

- ✍ Providing Links: Organisations should create and maintain databases of their publications and collections, generally available on their web sites and may be accessed online free provided with the hyperlink to the organizations (NIRD provides this facility, go to www.nird.org.in , on the right site there is icon of CLIC)

- ✍ Procuring reference sources/E-books (Digital Form) or providing links: General and subject reference sources such as encyclopedias, dictionaries, handbooks, e-books and atlas etc. are available in CDs. Free e-books are available on web identify and links may be provided for accessing

- ✍ Subscribing/procuring bibliographical databases on CD: There are many bibliographical databases being published world wide in the field of their interest

- ✍ Accessing Bibliographic Database Online/through web: Most of the bibliographical databases are available on the web for access against payment using password., provided with web- based interface to search

- ✍ Subscribing contents pages of journals through E-mail/accessing through web

- ✍ Getting contents pages of journals through E-mail: Leading publishes viz. Elsevier, Blackwell and Wiley are providing this service free of cost

- ✍ Subscribing/Accessing Full-Text journals (E_Journals): These would be available either online or offline. Three types of online subscriptions to procure the same 1. Journals which are totally free online 2. Journals with online access free along with print subscription 3.Journals with online access whose price is marginally less than the printed version

- ✍ Providing links to important websites: Maintaining a list of URLs of various organizations/agencies provide very useful and latest information about the work being done/undertaken in their respective organizations in their web site.

- ✍ Digital Preservation of Video Programmes: Information available on Video tapes can also be digitized.

- ✍ Documents retrieved from Internet search: The material surfed regularly from the Internet on relevant topics, download documents, photographs etc and organize systematically by subject wise or any other convenient way especially to use as a reference source

- ✍ digitization of Newspaper Clippings: The news items are scanned and kept ready for further use.

- ✍ Online Paid Content Publishers Report : Subscribe the online paid content service from the publishers, OCLC is providing this service

- ✍ Digitising Resources Generated Internally: In house R&D journals, articles published in other national and international journals, newsletters of the institution, annual reports, Directories, Technical reports generated in house, technical brochures,. Pamphlets, regular course materials, lectures, video/audio clippings of demonstrations, publications/services from the library like CAS,SDI, subject bibliographies etc. Newspaper clippings, internally created files available in various file formats like ASCII, txt, pdf, xls, html etc.

Providing access to the internally created digital resources is very important. Therefore, a suitable software and format has to be chosen and adopted in order to access the resources using various data elements. It is necessary to catalogue these resources using a suitable software which supports Dublin Core (DC) standard that is being adopted internationally to create meta data of digital resources.

### 3.	Digital collection of Grey Literature (GL)

Care to be taken for the coverage of Grey Literature in the above digital resources. The course content provider has to put lot of efforts in acquiring, digitising and managing the GL resources. Every research organisation as apart of its activity conducts specific researches focusing on its thrust areas. As a result of these researches a variety of documents are lively to emanate in the form of research reports, occasional papers, monographs, case studies, working papers, annual reports and the like. Often it is found that these documents are produced for a limited purpose, sometimes available only in draft form and not circulated extensively. This type of literature called grey literature, constitutes 60% of the total literature produced in the field of development related sciences, according to the estimates of International Development Research Council (IDRC), Canada.. Grey Literature can be obtained on a routine basis by a variety of methods like exchange agreements with other organizations, purchases by subscription or gratis. All these documents should be available in the digital format The creation and development of exhaustive digital information resource base is essential for effective e-lerning programmes which is a major task for the content provider.

Realising the importance of GL National Institute of Rural Development (NIRD) attempts to collect GL by continuously scan the newspapers, journals and annual reports to know the existence of this variety. Extensive correspondance with the organizations and browsing the Internet sites, search engines to acquire the GL on exchange/gratis basis. This collection should be digitized, organized and disseminated to the users. The GL generated internally by NIRD is being digitized with the cooperation of city central library under One Million Project of Carnie Mellon University , USA. The digitized material is receiving in the form of CDs . This can be organized and make it access through online for the development community consists of policy makers, planners, researchers, trainers, elected representatives and NGOs while attending training programmes and short term courses.

Conclusion: Setting up a Digital Library is very important for any E-learning programmes. According to Donald Waters the "Promise of digital technology is for libraries to extend the reach of research and education, improve the quality of learning, and reshape scholarly communication." No single institution can effectively manage and provide access to more than a small portion of the information universe. There is an increasingly diverse array of networked digital library products and services. In a digitized environment it is possible for the users to have access to a library's own digitized collections, CD_ROM databases, online database, E-book, E-zines, digitised holdings of other libraries, Internet and its myriad resources.

### 4.	References

1.	Bhavina, J.Naik (2002). Free Digital Information Resources on Environment and Environmental Engineering. In Library and Information Networking, pp.88-96, edited by H.K.Kaul and M.D.Baby. New Delhi: Developing Library Network.pp388

2.	Centre for Development of advanced Computing (2002). E-Learning through Web Technologies, Manual.Hyderabad: CDAC.pp91.

3.	Chitra, M (2002) et al. Developing a Digital Library in Civil and Structural Engineering R&D Institutions. In Library and Information Networking, pp.68-88, edited by H.K.Kaul and M.D.Baby. New Delhi: Developing Library Network.pp388

4.	International Development Research Council IDRC (1976). Preliminary design of an International Information System for the development sciences, DEVISIS Study Team. Ottawa:IDRC, p247

5.   Johnson Sophia(2002).Information Services for E-Learning. In Library and Information Networking, pp.284-289, edited by H.K.Kaul and M.D.Baby. New Delhi: Developing Library Network.pp388

6.   Rama Devi, T. (2003). Bibliographical Control of GL in Social Sciences pp274-282. In National Bibliographical Control : Problems and Prospects edited by A.A.N. Raju and L.S.Ramaiah. Hyderabad: Allied Publishers (p) LTd p.430

7.   Richvalsky, James and Watkins,D (2000).Design and implementing a Digital Library. ACM Crossroads student magazine, April issue 23-27

8   Waters, D.J (2003). In www.clir.org/pubs/issues/issues04.html#dbf (Accessed on 13.12.2004)

9.   Witen, L.H. (2001b) et al. Power to the people, end user building of digital library collection. Proc.ACM Digital Libraries.

10. Yang, Y et al(2002).Agent based data management in digital libraries. Parallel Computing 28(5):773-792

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