



DIGITAL LIBRARY INITIATIVES AT TEACHER EDUCATION IN INDIA

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Abstract

Revolution in Information Communication Technology in the past decades had drastic and far-reaching impacts on all aspects of human life. Digital Libraries and Knowledge Management are the key areas that are still coming up in the developing countries and have a great potential to become an important technology in knowledge creation and its management. Digital libraries are providing a bridge between academic disciplines in arts and sciences, teacher education, and K-12 education. Methods and resources that are transforming college instruction can also be used to elevate K-12 teaching and learning. Effective use of these instructional methods requires a dual knowledge of content related to a specific discipline and an understanding of the pedagogy required making use of new instructional tools and resources. Teachers must be explicitly prepared to use these methods and resources. The present paper is an attempt to adhere the initiatives of Digital library for Teacher Education.

Keywords: *Information Communication Technology, Digital Library, Teacher Education.*

Introduction

It is a digital library of books, which are free-to-read, searchable, predominantly in Indian languages, available to everyone over the Internet. Very soon it is expected that this portal would provide a gateway to Indian Digital Libraries in science, arts, culture, music, movies, traditional medicine, palm leaves and many more.

One of the goals of the Digital Library of India is to provide support for full text indexing and searching based on OCR (optical character recognition) technologies where available. The availability of online search allows users to locate relevant information quickly and reliably thus enhancing student's success in their research endeavors. This 24x7 resource would also provide an excellent test bed for language processing research in areas such as machine translation, optical character recognition, summarization, speech and hand writing recognition, intelligent indexing, and information retrieval in Indian languages.

Need of the study

There are several publications teacher area in the form of books, journals, research papers, conference proceedings, dissertations, monographs, audio/video cassettes and CD's. But there is no comprehensive documentation centre. Hence there is a need to bring together all items published. Further, regular up gradation is very essential to keep continuity, citation of relevant documents on teacher education.

Teacher education in India

The importance of a teacher as an architect of our future generations demands that only the best and the most intelligent and competent members of our intelligentsia be allowed to qualify for the noble profession. Teachers play a very important role in a student's life. It's a teacher who guides a student through his or her career. So it is very significant to be adequately equipped with resources that will create the teacher an ideal role model to the students. To achieve this, D.ED, B.ED or M.ED courses were introduced, which will teach a person about teaching and the different aspects associated with it. The National Council of Educational Research and Training has been given different types of works covering approximately all aspects of teaching education and quality improvement in teaching education. The National Policy on Education (1986) and its revised version (1992) says that the status of teachers reflects the socio-cultural philosophy of a society.

Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) to teach students the knowledge and skills they need in the 21st century. With the emerging new technologies, the teaching profession is evolving from an emphasis on teacher-centred, lecture-based instruction to student-centred, interactive learning environments. Designing and implementing successful ICT-enabled teacher education programmes is the key to fundamental, wide-ranging educational reforms.

Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. For education to reap the full benefits of ICTs in learning, it is essential that pre- and in-service teachers are able to effectively use these new tools for learning. Teacher education institutions and programmes must provide the leadership for pre- and in-service teachers and model the new pedagogies and tools for learning.

Digital library: an overview

Characteristics of a Digital Library

The important characteristics of digital library are;

- 1) Digital libraries are the digital face of the traditional libraries that includes both digital collections and traditional , fixed media collections. So both electronic and paper materials get their importance.
- 2) Digital libraries will include digital materials that exist outside the physical and administrative bounds of any one digital library

- 3) Digital library supports both formal and informal learning procedures
- 4) Digital libraries will require both the skill of librarians and well as those of computer scientists to be viable
- 5) Digital libraries ideally provide a coherent view of all the information contained within a library, no matter its form or format
- 6) Digital libraries will serve particular communities or constituencies, as traditional libraries do now, though those communities may be widely distributed throughout the network.

Development of Digital Libraries

Some of the important points to be considered in developing a digital library are

a) Digital Collection

One of the important issues in the creation of a digital library is the building up of a digital collection. A digital library can have a wide range of resources. It can obtain both conventional documents and /or digital or computer processible form. The conversion of digital form is just to ensure better access and to reduce dependence on physical libraries.

b) Access to external digital collection

Digital libraries can acquire permission to digital collections provided by external sources like other institutions, commercial publishers, resources of other libraries, and electronic journals through on-line access. Many of the commercial publishers like Elsevier, Academic press, ACM, SIAM are making their journals available on-line through web sites. Many of the journals are available in print and as well as in electronic form.

c) Conversion of existing Print, Audio and Video into digital format

Nowadays, a part of conventional collection of a library is being converted into digital form. The process of conversion of paper documents into digital format is mainly with the help of scanners. Printed text, pictures and figures are transformed into computer accessible forms using a digital scanner or a digital camera. Scanners are mostly using for converting print resources into digital format.

d) Storing

Digital resources can be stored in CD, DVD, Tape and Hard disk. Usually the things to be digitized will be in Image, Text, Audio and Video. The Text, Image and Photographs after scanning are stored in the in JPEG (Joint Photographic Experts Groups) and GIF (Graphics Interchange Format). Audio files can be saved in .wav, .mp3, midi etc format. Recently developed MP3 format is very compact and takes less space while quality of audio is also better compared to other formats.

e) Access to digital information availability on web

The web provides the hyper media based systems that allow rapid access to a wide variety of networked information resources. One can browse the different web sites which are scattered geographically and have access to the major resources from which one can download the information So digital libraries can develop their collection through the integration of a number of resources and media types. Digital libraries can also provide access to electronic resources through library home pages

Hardware and Software for Digital Libraries

Hardware

The minimum requirements of hardware for digital Library are:

(1) Computer, (2) CPU, PCI Bus, Ethernet, Silicon Graphics, RAM (3) Storage Devices (4) Hard Drives, Removable hard drive, Optical drive, DAT drive (Digital Audio Tape), CD ROM drive (5) Monitors (6) Digitizing devices (7) Scanners, Digital Camera (8) Out Put Device (9) Printers Modem and CD Writer

Software

There are number of software, which can be used for different function some of them are As follows:

1) Editing images (2) Page layout programmers: to integrate text and graphics (3) Page transferring utilities : to share files between computer platforms (4) File translation programmes: to convert files from graphics (5) File compression software. (6)The software which are used mainly for digital library are Greenstone, Dienst Eprints Archive software, Dspace etc

Digital library initiatives in India

In India, a substantial number of libraries and information centres have initiated digital library projects including databases and e-journals, or by digitizing their own archival-valuable collections. Hundreds of thousands of ancient books and manuscripts, scores of them still preserved in palm leaves, urgently need digitization to preserve the cultural heritage of India. Some of the digital libraries are listed below;

- Digital Library of India
<http://www.dli.ernet.in/>
- National Mission for Manuscript Digitization
<http://namami.nic.in/digitizationinside.htm>
- Traditional Knowledge Digital Library (TKDL)
<http://203.200.90.6/tkdl>
- Digital Library Initiative at National Library of India
<http://www.nationallibrary.gov.in>
- Centre for Development of Advanced Computing (C-DAC) Digital Library of Art Masterpieces
<http://www.nationallibrary.gov.in>
- Indira Gandhi National Centre for the Arts (IGNCA)-Kalasampada
<http://www.ignca.nic.in/dlrich.html>
- V. V. Giri National Labour Institute
http://www.vvgnli.org/digital_archives.htm
- Indian Parliament Library
<http://www.parliamentofindia.nic.in/ls/intro/p13.htm>
- Indira Gandhi Memorial Library, University of Hyderabad
<http://igmlnet.uohyd.ernet.in:800>

ETD and Institutional Repository

- Vidyanidhi Projects
<http://www.vidyanidhi.org.in/>
- Electronic Theses and Dissertation Project of INFLIBNET Centre

- <http://www.inflibnet.ac.in/>
- Indian Institute of Astrophysics
<http://www.iiap.res.in/>
 - Raman Research Institute
<http://dSPACE.rri.res.in/>
 - National Chemical Laboratory
<http://dSPACE.ncl.res.in/dSPACE/index.jsp>
 - National Institute of Oceanography
<http://drs.nio.org/drs/index.jsp>
 - Indian Institute of Technology, New Delhi
<http://eprint.iitd.ac.in/dSPACE>
 - Indian Institute of Technology, Kharagpur
<http://www.library.iitkgp.ernet.in/usr/elib/digital.htm>
 - Indian Institute of Science, Bangalore
<http://etd.ncsi.iisc.ernet.in/>
 - Indian Institute of Technology, Bombay
<http://www.iitb.ac.in/>
 - Indian Institute of Management, Kozikode
<http://www.iimk.ac.in/>
 - National Institute of Technology, Calicut
<http://www.nalanda.nitc.ac.in/>
 - National Institute of Technology, Rourkela
<http://etd.ncsi.iisc.ernet.in/>
 - Librarian's Digital Library
<https://drtc.isibang.ac.in/>

Digital library initiatives at teacher education

Traditional teaching – learning process is being replaced by the technology based teaching – learning. In the field of education the modern technology is being widely used such as radio, television, overhead projector, films etc. have become the integrated part of teaching – learning process. However the computer technology is the new trend and is fast being adapted widely in the college of education and research centres. The above e-learning tools indicate that it can be accessed in seconds by connecting to the internet and search engines. It keeps the student teachers abreast with the latest new strategies and learning technologies. With the help of ICT the students get divergent thinking ability, global perspectives and respect for varied nature of human life and acculturation. Looking at the number of benefits that e-learning has to offer every educational institution needs to overhaul the existing traditional pattern of education and integrate E-learning as fast as possible in order to compete with the world of technology. A model of digital library for college of education is under progress which is my research project. The initiatives to design a Digital Library the following resources in the electronic form should be consider;

- E-School Text Books
- E-Academic books
- E-Journals / Periodicals

- E-News papers
- E-Databases
- E-Lesson Plan
- E-CAI (Computer Assisted Instruction)
- E-Encyclopedia/Dictionaries/Atlas/Maps
- E-Teaching Aids
- E-Question Paper
- E-Conference Alert

Conclusion

A well-organized Teacher Education College Library can play a very significant role in the teacher education system. Classic book collection related to all branches in education faculty, collection of digital materials forming part of the digital library e-journals and periodicals would expose the Teacher students to the immense world of information. This will improve not only their ability but their examination results also. They can transmit this quality to their future students when they work as teachers. They can also promote the value and the importance of libraries in the education system.

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