Post-Modernisation of Librarianship

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Post-Modernisation of Librarianship: Challenges and Opportunities

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Vidya Prasarak Mandal's
K. G. Joshi College of Arts &
N. G. Bedekar College of Commerce, Thane
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Foreword

I have great pleasure in handing over this book of proceeding of the seminar to you. The college has been organizing National Seminars on various subjects, which help students and teachers, not only to enrich their knowledge, but to broaden their approach to life itself. It makes the process of education enjoyable and creative.

Subject chosen this for year's, 'Post-Modernisation of Libraries: Challenges and Opportunities', deals with various issues related to the library modernisation. Information Communication Technology (ICT) application to the library administration, management and services have become integral part of modern libraries. Most of the libraries are functioning in automated environment and some of the libraries are in the process of automation.

Information Technology revolution is considered to be one of the marvels of the twentieth century. There have been many technological developments in the last 50 years. ICT revolution in the last decade has had a drastic and far-reaching impact on all aspects of professional endeavour particularly in the knowledge and information sector. Due to rapid developments in ICT and its application to libraries have evolved from traditional libraries to automated libraries, electronic libraries, hybrid libraries, digital libraries and now we are talking about virtual library. The new technologies have not only transformed the shape of modern libraries but also created many exciting possibilities and opportunities.

Advances in ICT have increased capabilities, such as high resolution capture devices, dramatic increase of digital storage capacity, explosive growth of internet and www, fast processing power and reducing cost of computer, high bandwidth networks and increasing number of security system in digital domain. The digital development includes infrastructure, acceptability, access, security, readability, standardization, authentication, preservation, copyright, user interface
etc. Due to these developments and their impact on libraries, the library collection has undergone many changes. Now-a-days along with books, CDs, VCDs, DVDs Subscribed online collection (databases), e-books, e-journals have become integral part of the library collection. Most of the expensive information sources are available in different versions viz. print, electronic and online format. New technologies have always been of interest to libraries both for increasing the quality of service and for improving administrative efficiency. Libraries are applying various technological tools for book identification, self-checkout, automated circulation, theft control and inventory control. These applications can lead to significant saving in labour; enhance customer services, lower book theft-rate and provide updated library statistics for administrative purpose.

Librarians should plan for ICT based services for their readers. The planning approach should focus on identifying key environmental issues influencing the library and defining a vision of service that describes ultimate outcomes. This would help in developing advanced ICT plan involving assessment of existing technology and services; user needs; establishing priority; developing missions, goals and objectives.

I wish the proceeds of this seminar will lead to many of the technological and managerial changes been indicated in this book.

Dr. Vijay V Bedekar
Chairman
Vidya Prasarak Mandal, Thane
Preface

A library is the soul of a college. It is the one of the most important components of an educational institution, a component where knowledge grows continuously due to its very nature. New additions to knowledge take place almost daily. I wonder if there is any other component of an educational institution where something similar occurs. Such knowledge is then stored in the form of articles, books, periodicals, magazines, encyclopedia etc; and, now, also in the form of CD’s, DVD’s, online databases, e-books, e-journals etc.

A library is, thus, involved in a continuous process of knowledge acquisition and dissemination. The best library is one, which not only accumulates all possible knowledge from the earliest to the latest times, but also makes it easily accessible to scholars, and provides an environment congenial for such access.

Library is a place where the staff is pleasant and cordial, the ambience conducive to study and contemplation, the books and other study material well cared for and easily retrievable. More importantly, where a visitor is able to breathe the classics, imbibe the latest, and thus elevate himself. Which methods are to be used for this elevation is often decided by time. If earlier it was mouth to mouth, in the verbal form, or by writing on leaves, today it is on paper, in books, magazines, journals, encyclopedia etc; and in more recent times, in CD’s, e-books etc.

Each era and method had its own positive and negative aspects, its advantages and disadvantages. While overcoming disadvantages, new methods have evolved, along with their own side effects. This is an ongoing process. Through all this, however, we have to see that the soul of an institution – the library – remains intact and pure. Its sanctity is preserved, and aims and purpose never diluted.
This Seminar will hopefully help us comprehend the internal dynamics of the two way correspondence between Library ↔ Knowledge ↔ Man.

All components of wisdom need to be understood properly, related strongly and allowed to grow spiritually. This is the ongoing process of moving from Information to Knowledge to Wisdom, which an efficient library should help promote [This incidentally, also the motto of this Institution].

Whichever method we use, whether the earlier ones of chanting or writing on leaves, or modern ones of books, e-journals, e-Books etc, the undercurrent should be man entering a library for information and coming out with wisdom.

In earlier times, our brain was the library; today, our library has become the brain. This brain needs to evolve continuously with use of modern technology, get fortified with the latest books/journals containing the latest research, while always remaining grounded with the classics of the respective disciplines. Our Library Science Department is doing its bit in this direction.

I pray and wish this Seminar becomes a fruitful step in this direction for all participants and their respective institutions.

I welcome all delegates and speakers and wish the Seminar every success.

Dr. (Mrs.) Shakuntala A. Singh
Principal
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Peer Review
Information Literacy: The Need of the Hour

Mrs. Maya Carvalho P. Rodrigues
Librarian, Norma Institute of Education, Altinho Panaji Goa

Dr. Neeta Deshpande
Head and Professor, Jaykar Library, Pune University, Pune.

Abstract: In Information society students learn to explore information stored in computers/internet. The information that is available through community resources, media and internet comes in an unfiltered format raising questions about authenticity, validity and reliability. Information literacy is gaining importance due to the technological changes and proliferating information resources. It enables learners to develop critical thinking which becomes self-directed and assumes greater control over their learning. The world is changing into a virtual classroom and libraries are changing into learning centers.

Information Literacy and Librarian’s Role

An academic librarian in collaboration with faculty plays a very important role in motivating students to develop these skills. With the move from ICT the libraries are now changing to what may be called virtual digital library. Hence, it becomes important for the patrons to develop these skills in information literacy so that they can identify, evaluate and use relevant information effectively.
Information Literacy and Librarian's Role
Information Literacy: The Need of the Hour

Mrs. Maya Carvalho E Rodrigues
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[Abstract- In Information society students learn to explore information stored in computers/internet. The information that is available through community resources, media and Internet comes in an unfiltered format raising questions about its authenticity, validity and reliability. Information literacy is gaining importance due to the technological changes and proliferating information resources. It enables learners to master content which becomes self-directed and assume greater control over their learning. The world is changing into a virtual classroom and libraries are changing into information centres. Students are more technology oriented. Students are expected to learn beyond the syllabus, and the teacher must play the role of a facilitator. To face challenges the librarian and educationist must work jointly, so that the students survive the information overload. Promoting 'Information literacy' skills at all levels of education is the collective responsibility of teachers and librarians. The paper discusses the professional skills and technological competencies necessary for library professionals to survive the ever changing technological environment and to meet the challenges of the 21st century.]

Keywords - Information literacy, Information communication technology, Academic Library, Internet Information.

Introduction

An academic librarian in collaboration with faculty plays a very important role in motivating students to develop newer skills. With the advances in ICT the libraries are now changing to what may be called virtual or digital library. Hence, it becomes important for the patrons/clients to develop skills in Information Literacy so that they can identify, evaluate and use relevant information effectively.
Information in the digital form is rapidly replacing the traditional printed counterparts, resulting in enhanced computer skills, increased processing tools and fast communication network connectivity. In the digital age, users need to be more information literate than ever before. Many users fail to properly locate, evaluate and use Internet based information due to lack of understanding of issues surrounding the nature and structure of the Internet.

Digitised information and networked world leading to information and communication technology (ICT) have become necessities in order to stay abreast in the current globalised knowledge based economy.

**Definition of Information Literacy**

Western Michigan University Libraries websites states “Information Literacy as an essential component in the educational development of each student.” The research process has become increasingly challenging with technology contributing to information overload. Students should be aware of the range of print and electronic resources including networked databases and the world wide web.

Doyle (1992) defines Information Literacy as an individual’s ability to recognize a need for information; identify and locate appropriate information sources; know how to gain access information of information obtained; organize the information and use the information effectively.

US National Commission on Library and Information Science, 2003 defines Information Literacy as “It encompasses knowledge of one’s information concerns and needs and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the information society and is a part of the human right of lifelong learning.” (Webb and Powars 2004)

In short, ‘Information Literacy’ occurs in a broader area of competence that encompasses the content, analysis and communication of information which is the thrust area of information professionals. Information Literacy instructions must present the political, social, economic and cultural content in which knowledge is created and organized. To be information literate, individuals must also be empowered to create knowledge and challenge dominant ideas if necessary.
Librarian Faculty Collaborations

The students seeking information is often governed by the lecturer's attitude to information seeking and use. To be meaningful and effective, training/academic programs on information literacy should be embedded in the regular classroom activities in academic institutions. Teachers are directly involved with setting the activities and task in which learners apply information to develop their knowledge. Librarians are specialized in providing guidance, accessing and evaluating information.

In the present information society the whole teaching learning process is changing. The students are expected to learn beyond the curriculum and teachers should play an important role as facilitators. Teachers must be able to access information from various sources of information and should teach the students by using this information.

For student, information literacy competencies would facilitate independent and authentic learning rather than dependence on the teacher to provide answers to questions or problems they are faced with. This creates greater responsibility towards their self-learning which in turn would help them become self-motivated learners and thinkers who are more creative, analytical and effective.

New Challenges for Library and Information Services

We live in a dynamic, turbulent world and this is set to increase its pace in the future. In this expanding diverse global digital information environment, libraries are facing a variety of complex challenges.

These are,

- Information explosion
- Information and communication technology
- Explosive growth and usage of web resource
- Dwindling library budget

Characteristics of an Information Literate Person

Owing to the escalating complexity of the environment, individuals are flooded with diverse and abundant information choices in their
academic studies. For maximum utilization of information resources in teaching, learning and research, information literacy program is the necessary. It makes the end-user competent enough for retrieving precise and relevant information. According to information literacy competency standards for higher education, an information literate individual is able to achieve the following.

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate the information retrieved and its sources critically
- Use information effectively to accomplish a specific purpose
- Develop information literacy skills
- Become independent learners
- Acquaint with www which is taking a new shape. Hence there is need to promote Information literacy
- Provide knowledge and motivate people to acquire Information technology skills.
- Help librarian develop, assess and improve their information literacy programme through their feedback.
- Handle rapid increase in information due to information revolution
- Cope with the advent of information and communication technologies (ICT)
- Access and assess vast variety of information sources
  Understand changing shape of libraries
- Achieve wider dissemination of information
- Recommends the other users to join programmes leading to the development of information literacy skills
- Enable research on complex and interdisciplinary topics.
- Understand the economic, legal, social issues surrounding the
use of digital information access and use this information ethically and legally.

- Use of information in critical thinking and problem solving activities

Source: Doyle, S (1992) *Outcome measures for Information Literacy within the National Goals of 1990*

**Benefits of Information Literacy**

- Expansion of knowledge through substantive operation of knowledge creation.
- Synthesis of data and information into knowledge
- Appropriate and critical application of information knowledge in problem solving
- Enhancement of critical thinking.
- Incorporation of validated information in the personal or corporate knowledge base.
- Motivation for self directed learning
- Appreciation for lifelong learners

**Barriers to Information Literacy**

There are several reasons responsible for ineffective information literacy education which act as an obstacle in integrating the concept into academic curriculum.

These are:

- There is no standard information policy to guide information literacy practices in India.
- There is a lack of awareness among students about the information literacy instruction.
- Instruction sessions are affected by time constraint because information literacy is not allocated adequate time in university and college academic timetable.
• There is lack of availability of resources such as computers and CD-ROMS.

• Information skill sessions, as they are currently called, are not linked to routine course offerings. These are not integrated into the mainstream curriculum. Therefore, the programmes do not correspond to the curriculum in terms of content and need.

• The marginalization of libraries and librarians in assuming a sustentative role in the teaching and learning process prevents library professionals from initiating the process of integrating information literacy into the curriculum.

Changing Role of LIS Professionals

Information and communication technologies have changed the scenario and in Libraries. The impact of moving from text-based learning involves heavier use of library materials and a demand for more and varied media resources including print and non-print. Today information has become major economic commodity. The librarian is responsible for locating, acquiring, disseminating and tracking information resources. It might include database searching, inter library loan, monitoring internet newsgroups or maintenance of computerized library information system. The role and functions of a library and information professionals in the changing environment is that he must facilitate information use, navigate through knowledge system and information resources.

In the modern world, the role of the LIS professionals is adapting to changing technologies, information environment and customers' expectations. Library professionals are increasingly responsible not only to provide traditional library information services but also to provide online information according to the actual user needs. Librarians need to become information navigators who distill data into usable information.

Conclusion

New technologies generate need for new literacies that become necessary for academic and research growth. To develop information literate students with capacity to become lifelong learners, the training
must be pervasive and enduring part of the learning environment. The Internet is not only a rich source of research information, but also facilitates collaborative research. It provides rich, complex and interdisciplinary information, which serves as medium of high quality research.

References


Information Literacy and Optimizing the Use

Ms. Sujata B. Kamble
Librarian, Smt. Kapila Khandwala College of Education.

[Abstract: Information literacy is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Owing to the escalating complexity of this environment, individuals are faced with diverse, abundant information choices—in their academic studies, at the workplace and in their personal lives. Information Literacy is the ability to identify what information is needed, understand how the information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically and share that information. This paper also discusses the practice which is carry out in the Smt. Kapila Khandwala College of Education library, to create information literacy amongst B.Ed. students and Staff.]

Introduction

The term information literacy encompasses several meanings, concepts and definitions. As all of us know the meaning of literacy is the ability to read. Similarly information literacy is the ability to identify what information is needed, understand how the information is organized, identify the best sources of information for a given requirement, locate those sources, evaluate the sources critically and share that information. Due to the information explosion, there is threat of more misinformation. Everyone whether he/she is in the education field or not- must have not only reading and computer skills but also information skills.

Subsequently a number of efforts were made to better define the concept and its relationship to other skills and forms of literacy. Although other educational goals, including traditional literacy, computer literacy, library skills and critical thinking skills were related to information literacy and were important foundations for its development. Information Literacy itself was emerging as a distinct skill set and a necessary key to one's social and economic well-being in an increasingly complex information society.
Information Literacy

The phrase ‘information literacy’ first appeared in print in a 1974 report by Paul G. Zurkowski, written on behalf of the National Commission on Libraries and Information Science. Zurkowski used the phrase to describe the ‘techniques and skills’ known by the information literate "... for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems."

A determining event in the development of the concept of information literacy was the establishment of the American Library Association’s Presidential Committee on Information Literacy, whose 1989 final report outlined the importance of the concept. The report defined information literacy as the ability "to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" and highlighted information literacy as a skill essential for lifelong learning and the production of an informed and prosperous citizenry.

The report also states that information literacy, sometimes referred to as information competency, is generally defined as the ability to access, evaluate, organize and use information from a variety of sources. Being information literate requires knowing how to clearly define a subject or area of investigation; select the appropriate terminology that expresses the concept or subject under investigation; formulate a search strategy that takes information and the various ways in which organized; analyze the data collected for value, quality and suitability.

And, subsequently turn information into knowledge. This involves a deeper understanding of how and where to find information, the ability to judge whether that information is meaningful, and ultimately, how best that information can be incorporated to address the problem or issue at hand.

Information Literacy v/s Computer Literacy

Information literacy is not the same as computer literacy (which requires a technological know-how to manipulate computer hardware and software) or library literacy (which requires the ability to use a library’s collection and its services), although there is a strong relationship
among all these concepts. Each of this literacy’s requires some level of critical thinking.

Compared with computer literacy, information literacy goes beyond merely having mere access to knowledge of how to use the technology—because technology alone does not guarantee quality literacy, information literacy is more than searching through an online catalogue or other reference materials because information literacy is not a technique, but a goal for learners (Gilton 1994).

The concept of information literacy, used primarily in the library and information studies field, is rooted in the concepts of library instruction and bibliographic instruction. Today’s world is into an information society, where information and knowledge resources learning experiences. And compared with library are considered as critical ingredient for development. But problem is with the effective and efficient use, consumption and evaluation of information resources. Here information literacy can play a vital role in educating the users of libraries on various information and documentary resources, where to start searching of information, what, where and how to access them, how to assess and compare retrieved information, how to communicate their information or findings to the general masses and experts, and so on. Here being the librarian of B.Ed. College, the author’s role has become important. By keeping this point in mind, the author has taken several steps to make her students and staff information literate. Before discussing that, it is necessary to focus on the need to make library users information literate.

Need for Information Literacy

The need to evaluate the credibility of information is nothing new. Most learners could expect to deal with carefully selected collections of reference materials in the libraries and a fairly limited range of widely accepted authoritative texts in the teaching learning process. However, since anyone can make a Web page, for example, how can you tell if the information is reliable or not? A critical point about using the Internet is that individuals posting information aren’t required to pass through traditional editorial check or undergo any kind of fact-checking refereeing required in conventional published print media (Literacy Update 1997).
To be literate, we should know the proper definition or term which can be used to express specific subjects or information in a clear way. Also, literacy requires analyzing of available data and information in a particular way to sort out and find the most appropriate meaning or most relevant information. Then being able to express or explain the subject in a better or more simple, easily understood way.

Information literacy is a lifelong learning process; you should verify your information from a reliable source so that you may be assured of the most reliable information that is available to you, which can be used at a later date for reference. Incomplete or unauthentic information is as good as no information. Within today's information society, the most important learning outcome for all students is their being able to function as independent lifelong learners.

A wide variety of educational institutions, agencies and organizations have derived their own lists of more specific skills, competencies, performance indicators, learning outcomes, standards, and so on, demonstrating what is involved in achieving this state of information literacy. The one of greatest interest to us is that from the Association of College and Research Libraries (ACRL). ACRL has defined and described five standards, 22 performance indicators, and numerous associated learning outcomes. The five standards are:

1. The information literate student determines the nature and extent of the information needed.
2. The information effectively and efficiently.
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.
In the teacher training college, teachers and librarian has to go together for the benefit of the students and to create information literacy amongst the students. The design of B.Ed. syllabus is such that the cooperation and co-ordination of faculty and librarian is very much needed. This is also ultimately contributing to the overall development of the students. Students today face a daily explosion of information and the challenge of using these resources effectively and responsibly. In the B.Ed. Colleges libraries are suppose to be a reservoir of information, so it is expected to provide easy access to information sources used for teaching-learning process. Vast nature of syllabus, short period of time span, too many curricular and co-curricular activities like, assignments, essays, projects, tutorials, cooperative learning, innovative methods of teaching, practice teaching, terminal exams, seminars, debate, various competitions etc. lead students to a diversified and active use of various sources and channels of information. Information is conceptualized generally as something which students need during their studies when they construct meaning about the subjects in the process of learning. Here the role of librarian becomes important.

User Orientation

Every year in the beginning of the academic session, a central timetable including library orientation program is prepared. According to the timetable librarian conducts user orientation programme in which students are made aware of library collection, different departments of library, library rules, circulation procedure etc. Students are oriented in small groups to acquaint with the use of library collection, library catalogue and library tour is conducted to make them aware of different sections of the library. During the orientation students are introduced to basic library skills - using the catalog and the databases, difference between scholarly and non-scholarly sources, why citation is important, and how to structure an effective search. Sessions are designed to familiarize students with library resources and basic research skills. Librarian trains the students on how to search information from different reference sources, how to get required information from these sources. Display of books is organized, and the students are asked to browse the books and get hands-on experience with the books. The purpose of
this activity is to make students information literate and to make them independent.

Apart from this, whenever teachers are conducting orientation programme of each subject, librarian arranges display of relevant information sources of that particular subject in the library, and student are asked to sit with syllabus copy and go through by these information sources. This exercise helps them to understand the sources and find exact information for teaching learning process.

Projects and Tutorials

During the ‘action research project’ session librarian, with the help of faculty member, provides all the possible help to the students. As part of this activity, display of last five years projects is organized in the library, and students are asked to go through these documents. A list of these projects is also provided as softcopy and hard copy. While doing reference work students are trained to differentiate between the authentic sources of information and unauthentic information sources. Apart from this, in the tutorial and for the assignments, students are encouraged to make more and more use of books and information sources. They are also encouraged to discuss and understand the concept. This helps in increasing ability of critical thinking, so that they can evaluates information and its sources critically and incorporates selected information into their knowledge base and value system to accomplish a specific purpose.

Electronic Information Literacy

The more electronic resources libraries acquire and make them available to the users, the greater is the demand for instruction in how to access and use those resources effectively and efficiently. Librarian teaches the students how to search information precisely in computer catalogue (OPAC). Apart from this, librarian also trains them in how to search required information on the internet accurately. The librarian has created the library home page on intranet and through this home page access is provided to free e-journals. Library also subscribes to INFLIBNET’s ‘N-List programme’ and feedback is taken from the staff from time to time about the use of this programme which would enhance evaluative ability of staff regarding this programme.
For the easy and simple access to library collection, apart from all these activities librarian of KKCE has made a User Manual for library users. The Manual includes guidelines for catalogue search, list of classification numbers with subject, borrowing procedure, important library rules and membership details. The manual is also an effort to increase information literacy. In addition, one more document i.e. Information Guide is prepared for research scholars. It consists of some important documents like list of theses and dissertation that library is having, list of abstracting and indexing print and free e-journals etc.

Conclusion

Collaboration between librarians and teachers in designing, delivering and assessing information literacy programmes is the need of the hour. SCONUL website offers a definition from their Working Group on Information. It reads, Information literacy encompasses library user education, information skills training and education, and those areas of personal, transferable or ‘key’ skills relating to the use and manipulation of information in the context of learning, teaching and research issues in higher education. Information literacy is inextricably linked to higher education’s commitment to educating students for ‘lifelong learning’. The phrase, ‘lifelong learning’, has become standard in higher education mission statements. While this isn’t a new idea; remember the proverb, “Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.” the information age seems to have infused the spirit of the proverb into Information Literacy

References


[Abstract: This paper identifies the need for information literacy and discusses the transition from library instruction to information literacy initiated at Smt. Maniben M.P. Shah Women's College of Arts and Commerce, Matunga Mumbai.]

**Keywords:** Information Literacy, Library Instruction, User Education

The library has an important role to play in supplementing classroom learning. Libraries in colleges and other institutions of higher education develop their collection and provide several services in order to be able to justify the very reason for their existence. But is mere acquiring and providing the resources fulfilling the information need of the students? Are the resources being used to their optimum or rather are the students able to navigate through the information rich resources that the library has to offer. This is where the concept of Information Literacy (IL) comes in.

**What is IL?**

There are several definitions of IL. In its simplest and broadest sense, IL refers to the ability to access and use a variety of information sources to meet an information need. American Library Association defines IL as "a set of abilities requiring individuals to recognize when information is needed and the ability to locate, evaluate and use efficiently the needed information."

Information literacy is often mistaken for computer literacy i.e. 'know how' of using computers with basic knowledge of hardware and software; in today's electronic environment, it is often a prerequisite for obtaining IL skills.
Need for IL

Information is growing at an enormous rate. Information is available through multiple media both print and digital as well as in various formats such as textual, graphic, audio-visual, multimedia, etc. Given the amount of information available there is more possibility of getting too much information or irrelevant information rather than not getting any information at all. Especially with the advent of the Internet this problem has become more serious. Hence, it is important to be able to fish out the right kind of information from the vast ocean of information available.

With the proliferation of information resources, people are faced with diverse and abundant information choices in their fields. Increasingly information comes unfiltered which raises questions about the authenticity, validity and reliability of the information accessed. Abundance of information and advanced technology have made things easy on one hand but have also brought problems in evaluating, understanding and using information in an accurate, ethical and legal manner.

Besides uncertain quality and expanding quantity of information, IL is important as a pre-requisite for life-long learning which is central to the mission of higher education.

How to offer IL

Kasowitz and Pasqualoni have identified three major approaches for offering IL which are practiced worldwide.

A. Online IL Instruction

Here Internet is used as a medium for providing IL. It can be in the form of web based guide to online resources or IL tutorial which is an interactive program to introduce general IL concept and resources. One of classic examples of this approach is the TILT program offered by the University of Texas. The Texas Information Literacy Tutorial (TILT) integrates Web based IL instruction to the new entrants and enhances students’ conceptual grasp of information resources selection, web searching and Internet resource revaluation.
B. The IL Course

These are formal courses and may be credit or non-credit, optional or essential, on distance or direct mode. Again they can be combined with a core curriculum, a specific discipline or program or may be standalone. Such courses offer more in-depth instruction and reinforcement of research skills through course activities. For example the University of Oregon’s LIB101 course uses a “Scenario based” approach by building assignment around research situations to UG students.

C. IL Across the Curriculum

In this case IL instruction is integrated into the overall curriculum. This model requires collaboration between the library, academic departments and administration to meet the common goal of teaching IT skills.

Initiatives for User Education and IL undertaken at Smt Maniben M.P.Shah Women’s College of Arts and Commerce (SMMPS)

a) Profile of SMMPS Women’s College of Arts and Commerce

Located at Matunga, Mumbai, the college is affiliated to the S.N.D.T. Women’s University and is approved by the UGC. The institution offers Bachelor’s program in the Arts, Commerce, Management Studies and Mass Media as well as Post-graduate programs in Psychology, Commerce and Hindi. Education at junior and UG level is offered in English, Marathi and Gujarati media. The junior college is also housed in the same campus. The institutional library caters to all these programs. The student strength, program wise is shown in the table on the next page.

b) The Library

The library is the heart of an academic institution. Bearing this in mind, the college has well developed library which caters to the needs of the Junior College as well as UG and PG sections. The library is located on the 3rd floor and is spread over the 5000 sq.ft. of the main building. The library collection includes over 36,395 books, 26 print journals, 19 magazines, 12 newspapers as well as AV resources. The library also subscribes to the INFLIBNET’s N-LIST consortia. The records of the library holdings are computerized while services are partially automated using the SLIM 21 Library Management Software. The Library is serviced by a team of 10 staff which includes four library professionals.
<table>
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**c) Planning for User Education and IL Program.**

Pattar and Kanamadi drew up the following structure for providing IL in libraries.

1. Provision of IL
2. Frequency of IL
3. Who conducts IL
4. Delivery method
5. Content of IL
6. Evaluation of IL

Based on this, a plan was prepared for expanding the traditional user education program to include IL. It was decided to initially offer the program to the new entrants at the junior, UG and PG levels at the beginning of the academic year. Since IL has not been integrated in the curriculum, the library took the initiative. There are several popular methods for delivery of the content such as lectures, seminar, tutorials
and demonstration, guided tour, audiovisual, computer aided programmed instruction, etc.

It was decided to make use of combination of the lecture and demonstration methods. Additional resources such as the LCD projector and Internet connectivity were also used. As far as the content of the program was concerned, taking into account the student strength and their information needs, the students were divided into three categories viz., Junior, U.G. and P.G. For the junior college students the session was restricted to library orientation while for the UG and PG level the content was modified to include IL.

i. Junior College Students

For these students, the program was restricted to lecture about library, its location, collection, services, rules and regulations and membership. The librarian/The Asst. Librarian or any other professional staff delivers the lecture in the respective classrooms. The card structure and book borrowing procedure etc. are explained in detail, considering the fact that students come straight from the school background. The schedule is planned in consultation with Vice Principal with requisite changes in the timetable made accordingly. According to medium of instruction, lecture is delivered in English/Marathi/Hindi language respectively.

ii. UG Level

The new entrants to the BA, B.Com. BMS, BMM are the target audience at this level. The venue is library and orientation is offered by Librarian or Assistant Librarian. The entire schedule is decided in consultation with the Vice-Principal or Course coordinator and students are split up into batches of approximately 50 each for better understanding and interaction. Following the general orientation about the library, a demonstration about the use of library OPAC and the search strategy is given. This is an interactive session and examples from projects and assignment topics are taken for conducting the search. Students are also encouraged to give a demonstration to their peers because peer learning is an effective learning methodology for better understanding. More stress is given on use of Web OPAC although manual catalogue cards are also retained by the library. A brief introduction about the INFLIBNET resources is given.
iii. PG Level

As in case of UG students a detailed library orientation followed by a session on the use of Web OPAC is conducted in the library. The librarian conducts the orientation for PG students and the medium of instruction is English. After this a separate session covers electronic resources. Herein, students are oriented to online resources like INFLIBNET’s N-LIST resources, e-books, directory of open access journals, Google scholar, etc. Searches are conducted on actual assignment topics given to students. Various search strategies such as simple search, broadening and narrowing of search using Boolean logic. Advanced search features such as field based search, restricting the search to year of publication, etc. are explained. Difference between abstract, full text, HTML, PDF format, etc. is clarified.

iv. For the Faculty

INFLIBNET consortia has been subscribed by the college since April 2010. The librarian works as the coordinator cum administrator at the college level and looks after the correspondence between the INFLIBNET Centre and the college, management of the User Ids and passwords, etc. To orient the faculty about the INFLIBNET, a brief write-up about the INFLIBNET, its activities, the N-LIST consortia, the resources available as well as the login procedure was prepared and e-mailed to the faculty. Use of screenshots at appropriate places was made for clarity. Following this, two workshops were organized at the institutional level for the faculty. Demonstration as well as hands-on practice ensured better understanding. Some of the open access resources of DOAJ were also included. Following the workshop the library received many requests from the teachers regarding problems encountered and personalized sessions were conducted to resolve them.

Future Course of Action

a) The new approach to user education has been initiated in the academic year 2010-11 and has been continued in the current academic year as well. This year too INFLIBNET N-LIST workshop was planned for the teaching faculty in October 2011. Besides N-LIST resources, various other online resources such as DOAJ, Google scholar, Google translate, Google documents, Google books, Slideshare.net etc will be included to help the teachers and researchers in their research work.
b) Any program/service has to be evaluated to assess its usefulness, to handle difficulties encountered if any and for improvisation. The IL program though at a preliminary level of e-resource awareness has been initiated. A detailed project for assessment of IL skills and their improvement over time for the students is under consideration.

c) Sessions on documenting research work, citing of references in project reports and assignments, orientation about copyright and plagiarism for the PG students is also under consideration in the second phase.

Conclusion

IL is alive and well on campuses today. However, there is much work to be done for integrating IL across the curriculum. From the library’s view point, there are some challenges such as motivating students to learn IL skills, assessing students IL skills, convincing the administration about the importance of these skills, working in collaboration with the teaching community, and all this in an environment where human resources especially the professional staff are limited. Librarians are required to transform themselves and step beyond their traditional role of information providers and facilitators to a new role of teachers. Only then they will be able to equip the students with the much needed information skills and transform them into lifelong learners.

References


New Librarian: 
Changing Skills, Techniques and Roles

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[Abstract: The advent of information technology has accelerated the development and innovation of systems and methods of information collection storage and retrieval. For a Librarian in this digital age to survive and become successful, timely updating of skills and techniques is necessary. Librarian is expected to perform a range of roles that was unheard or unbelievable during the bygone decades. Change has crept in every activity of the Library and has made the life of librarian easy, fast, systematic and quality conscious. To be effective he has be aware of changing roles and the corresponding skills and techniques.]

Introduction

Libraries play an important role in providing information. In the 1980s and 1990s the students and researchers depended on library for their information needs. Developments in Information and Communication Technologies (ICT) have completely changed the library scenario in the way of collection development and services. The transition of traditional library to digital and then to virtual library is the expected state-of-the-art. The information world is undergoing a transition from a being library-centered to information-centered, from paper-based to digital environment.

The changing environment has changed the role of librarian from being a custodian of information to a provider of information. It is therefore pertinent on the part of the librarian to acquire new skills
required for developing and managing the modern library. The empowerment of library and information professionals with IT driven skill is aimed at providing services as per the users’ expectations.

**Goals and Challenges of LIS**

Change is the rule of life. In Library and Information Science (LIS) as in any other sector; the professionals have to face changes. The developments happening in various sectors, innovations, technological advancements and so on will definitely have their impact in Librarianship too. The future depends on how we understand the changes, how we plan the transition and how we manage it.

The prime goal of library and information centers is user satisfaction. Any change ultimately results in users getting the maximum benefit. A properly planned change can definitely lead achievement of the institutional goals.

On the other hand, advent of internet and digital technology seem to have challenged the existence of librarianship. Some of noticeable challenges are:

- Libraries are considered as the custodian and provider of information. This crown appears to be slipping and the libraries are viewed as outdated with introduction of internet based services
- Information Explosion, Information overload, uncontrolled ICT revolution and change in information seeking behavior of the clients etc are the new problems.
- Explosive growth and usage of web resources without any quality check. Thus librarians have to develop new tools to guide through the jungle of knowledge.
- Dwindling Library budgets, escalating prices of printed documents, new patterns of scholarly publications and communication, online bookshops and Information Services are the order of the day.

**Changes in the Library Environment**

A library’s collection is important to the institution, users and to
the staff who build and maintain it. The library collection is never been static. The development in information technology has a great impact on every aspect of library operation and information services.

i. Print to Electronic Media

Electronic books and electronic journals are gradually occupying their position in a library’s collection. These are physically stored in some remote external devices (servers). Standards, reports, patent and many other grey literature are now available in the online format.

ii Changes in Access

Over the years retrieval tools have evolved from printed library catalogues, card catalogues, indexing and abstracting journals to OPAC, WEBOPAC, Citations with full text linking and RSS Feeds, etc.

iii Change In Library Services

With the changes in library collection, their organization and expectation of the user, the library services have also changed.

a. Computerized circulation of documents using various software
b. OPAC and WEB OPAC
c. Document delivery system through Internet
d. Resource sharing through consortia
e. Links to web resources through library portals and electronic resources
f. Digital archiving, institutional repositories
g. Change in information seeking behavior of the user

With the change in the technology, the day-to-day activities performed by a Librarian have undergone a change. Some select changes can be seen at a glance as listed below.

a. Library → Automated/Virtual library
b. Collection → Manuscripts, Print Collection, E-Books, E-Journals
c. Acquisition → Content Access
Changing Role of Librarian

Information scenario is dramatically changing the accessibility of information, and librarians are adapting to the evolving needs of the users that emerge from new technologies. The librarians may take on different roles depending on the nature of their job, the parent organization to which the library is affiliated to etc. The broad variety may be corporate librarian, academic librarian, scientific officer, public librarian etc., but the basic skills required will be almost the same irrespective of the job environment.

In this technological age the librarian can no longer be simply a custodian of knowledge. The technological changes and use of electronically stored and retrieval of information systems has changed and its access has also drastically changed. A librarian or information professional must be able to participate actively in the professional activities of generating information rather than collecting and disseminating the available information. Some of the new and revived roles considered for a librarian are given below.

**Information Broker**

Today information has become a major economic commodity. Therefore, a librarian has to be a middleman or a broker between the information seller and buyer or information creator and consumer.

The work of librarians is increasingly varied as it expands to keep up with the flow of information. A librarian is responsible for locating, acquiring, disseminating and tracking information resources of many types for efficient retrieval by the user. In such a scenario it is imperative...
for the traditional librarian to acquire necessary skills in negotiating and obtain the information. In addition, the effective use of modern gadgets, associated software to locate and retrieve the widely spread information is necessary before functioning as a broker.

**Educator**

Creating awareness of information has been the prime role of librarian in the present day. Librarian’s skills in the area of technology, educational design and teaching technique are crucial in their new re-educational role. The librarian in an organization trains the user to perform their searches more effectively. However, no matter how sophisticated interfaces and search engines are, the user still requires training or guidance in their usage. Thus, librarian plays an important role as a trainer or an educator. Librarian is a human interface.

**Researcher**

Librarians are highly skilled in research processes. They possess unique knowledge of the necessary breadth and depth of information resources in various subject specialties. Librarians study to keep themselves up-to-date on the expanding trends and paradigms in not only library profession, but also in any discipline. They need to understand the changes in the technology and different sources of information, by facilitating access to information, finding it, delivering, summarizing it—librarians will move to the beginning of the information production cycle, playing a more substantial role in the information creation process.

**Skills for the New Generation of LIS Professionals**

Skill is a practical ability, a facility in carrying out an action. In the present day environment, each and every professional shows greater responsibility and interest to be effective information professional. A closer look at the existing abilities of the professionals reveals that for facing the challenges of today and tomorrow, they not only need to acquire wider range of skills but also need to keep themselves up-to-date. The personal skills required for a new generation of LIS professionals include being analytical, creative, technical, flexible, reflective, ability to deal with a range of users, detective-like nose for news, adaptability, responsive to others’ needs, enthusiasm and self-motivation to ever challenging library work
It is important to note that library professionals serve many roles: a helpful facilitator in searching and evaluating the required information; an effective communicator with command on speaking, writing and presentation; a critical thinker updating the fast pace of digital era; a collaborative practitioner in problem solving with leadership qualification. This calls for several generic skills on the part of the Librarian.

1. Information literacy: It is a means to “empower people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals.” (Horton & UNESCO, 2008, p 18)

2. Communication: It is “the ability to exchange feelings, ideas and information with others in an appropriate manner. Communication consists of the two key aspects of oral and written skills. Oral communication involves using the human voice to effectively articulate a message to an intended audience. Written communication involves using text or graphics to effectively transmit a message to an intended audience.” (Partridge and Hallam, 2004, p. 19)

3. Critical Thinking: This is the “ability to reach conclusions through reflection and evaluation by applying independent thought and informed judgment.” (Wolinski, 2010, p. 20)

4. Teamwork: This aspect relates to “the ability to work effectively with others in a group with a view to achieving the dened goals. Two distinct roles required for teamwork are to be a team member and the team leader. A team member makes a productive contribution to the collaborative effort of the group by participating in the pursuit of group goals under the guidance of the team leader.”

5. Ethics and Social Responsibility: This aspect of personality is “an awareness of the need for and commitment to the maintenance of high professional standards and social justice.”

6. Problem Solving: This important skill is “the ability to nd effective solutions to problems through creative reasoning.” (Partridge & Hallam, 2004)

7. Leadership: This is both skill and a quality. It is a “... relationship
that involves the mobilizing, influencing and guiding of others toward desired goals.” (Wolinski, 2010)

Conclusion

Librarians act as a catalyst in enhancing information flow. Now a librarian has to keep track of current information, distills it and make it available to the needy client. These are the multiple roles that a modern librarian is required to play. These roles are very interesting yet challenging. It is therefore pertinent on the part of the librarian to acquire new skills required for developing and managing the modern library.

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Changing Role of Library Professionals

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[Abstract: This paper highlights the difference between Traditional Libraries and Digital Libraries in terms of the resources, services and activities. Change in expected roles and responsibilities of Library Professionals are discussed in this paper. It also describes how the LIS professionals play various roles such as an Information Manager Network Manager, Knowledge Manager, Facilitator, Trainer and Innovator to satisfy the different approaches of the end users.]

Keywords: Digital Libraries, LIS Professionals, Innovator, Manager, Facilitator etc.

Introduction

Change is one reality with which individuals, groups and organizations must constantly cope with in order to survive. The needs for progressive changes in people’s attitudes and behaviors are essential for global acceptance. Nevertheless for Library and Information Science (LIS) professionals, a change is often linked with modern information technologies and management issues. Over the past few decades, the nature of library environment and mode of service has changed drastically. With the development and application of information and communication technologies (ICTs), the library environment has shifted from the traditional library to hybrid library, to automated library, to digital library, to virtual library and presently it is being adapted to Library 2.0. With such changes, the structure, nature of library and the LIS profession have changed in a dynamic way. In this present situation the LIS professionals are playing all-round multimodel roles to satisfy the different approaches of the end users.
Traditional Vs Digital Libraries

In a Traditional Library the following characteristics are observed.

- Emphasis is on storage and preservation of physical items, particularly books and periodicals.
- Cataloging is at a macro level rather than one of detailed analytical level pointing at micro document.
- Passivity, information is physically assembled in one place, users travel to the library to learn what is there and make use of it.

A Digital Library has the following features.

- Emphasis is on access to digitized materials wherever they may be located, with digitization there is no need to own or store a physical item.
- Cataloging is down to individual word level.
- Browsing is based on hyperlinks, keyword or any defined measure of relatedness; Materials on the same subject do not need to be near one another in any physical sense.
- Owing to Broadcast Technology, users need not visit a digital library except electronically. For them the library exists at any place they can access it. Eg: Home, School, Office or a Car.
- Digital Library has collection in a digital form having a various e-databases of information resources and it offers its services in a digital environment it means users can access whatever information they want on a single platform through computers connected through LAN, MAN, WAN. Many users can access the same information at a time.

Library Resources

Traditional Library Resources may be divided in two types such as Print and Non-print resources.
Print Resources
- Books
- Periodicals
- Standards
- Theses
- Dissertations
- Reports

Non-print Resources
- AV Cassettes
- CDs/DVDs
- Online/Offline Databases

Digital Library Resources
- Search Engines
- Library Portals
- E-books
- E-journals
- E-Newspapers
- E-Statistics
- E-Theses & Dissertations
- Databases
- Library Networks
- Subject Gateways
- FAQ’s
- Digital Archives
- Discussion Forums
Services and Activities

*Traditional Library Services and Activities*

- Reading
- Acquisition
- Writing
- Cataloguing
- Document Delivery
- Inter-Library Loan
- Literature Search
- Resource Sharing
- Classification
- Cataloguing
- Indexing and Abstracting System
- SDI & CAS Services
- Circulation Services
- Reservation Services
- Reference Services

*Digital Library Services and Activities*

- Digitizing Research and Institutional Intellectual creations
- Converting images, text, audio and video into digital content
- Designing Metadata based on Standards and best Practices
- Developing Repositories for Open Access Publications
- Organizing Digital Collections that foster access, growth and collaboration
- Publishing Digital Collections and Indexes
- Making Scholarly Journals accessible on the web.
- Link to relevant web resources (licensed and free) through library portal and e-resources databases.
- Citation analysis through *Web of Science*
- Digital Archives
- Reference Help Desk to Ask a Librarian Online

**Role of Library Professionals**

We live in an information society, where the development of information technology & telecommunication networks is accompanied by a corresponding increase in knowledge with a rapidly growing flow of information. This new information environment requires new skills in seeking, processing and using information.

Librarians assist people in finding information and using it effectively for personal and professional purposes. The traditional concept of a library is being redefined from a place to access, paper records or books to one that houses the most advanced media including CD-ROM, the Internet, Virtual libraries with remote access to a wide range of resources. Consequently Librarians or information professionals are increasingly combining traditional duties with tasks involving fast changing technology.

Library Professionals are responsible not only to provide traditional library services but also increasingly to deliver online information services according to the actual users’ needs. Librarians need to keep up with their users’ expectations to survive and serve them. Librarian need to become information knowledge navigators who distill data into usable information. As the role of LIS professionals is changing to face the new challenges posed by ICT, they must be keen to stay at the forefront of innovation in the library world.

Library Professionals need to be confident and competent, and they can prepare for new challenges to deal with emerging technologies, manage change effectively and play new professional roles.

LIS Professionals shall play multiple evolving roles in the 21st century. Therefore, today’s Librarian need to work as an Information Manager, Network Manager, Knowledge Manager, Facilitator, Trainer and Innovator to satisfy the different approaches of the end-users.
1. **Information Manager**

The work of librarians is increasingly varied as it expands to keep up with the flow of information. Librarians work with computer experts to create and manage web sites and intranets for the library. Librarians have to analyze, describe and organize the digital resources such as e-books, scanned images etc for efficient retrieval by the patrons. The librarian is responsible for managing the information resources, the infrastructure and staff to meet the information needs of the user.

2. **Facilitator / Trainer**

Librarians also play the role of information facilitator / trainer. Their main business is to enhance the information literacy among the users of an organization. In addition to training, other activities (e.g. the development of support tools and services) would be incorporated to help facilitate the ease with which users can access information more efficiently and effectively.

3. **Network Manager**

The library and information professionals must often be network specialists. This includes not only the physical networking technology to connect computers, workstations and peripherals with the central institutional computer, with CD-ROM and other physical information servers at the institutional level and also the integration of various computer technology within an institutional network. It also includes the networking technology of the Internet Protocol (TCP-IP) and various...
other aspects of virtual connections with the world wide network of information sources.

**Innovator**

Information resources from the Internet influence the content of the library's collection policy and require inclusion of electronic journals, current awareness services, document delivery and even ephemeral information resources from the Internet. Librarians and information professionals will have to be familiar with key Internet resources and even provide their own content. Library 2.0 has become the buzz word. Librarians have to begin to become Librarian 2.0. This requires them to know several web 2.0 technologies such as RSS (Really Simple Syndication) Wikis, Blogs, Web tools, Technology standards and protocols.

**Knowledge Manager**

Identification, Verification, Acquisition, Organization and dissemination—these are the traditional services provided by librarians since the emergence of the library services. In the last few years librarians have again had to expand their area of expertise to include digital information. They are expected to redefine themselves as knowledge managers to manage the explicit and tacit knowledge of the organization. Librarians are the ideal persons to manage the knowledge generated in an organization. Being the Knowledge Manager means that creating value to the firm by facilitating access to high quality information and by networking people along with their ideas and the technological infrastructure. The emphasis will shift from technical skills in the library to communication, facilitation, training and management skills.

**Professional Competencies for Librarians**

Continuing Professional Development is an essential part of the current library information professional's successful career planning prospects. The LIS Professionals with better personal, professional and technological competencies have great opportunities and bright future in the modern libraries. Application of new ICT into the libraries requires improvement of different kinds of skills and knowledge in library information science professionals. Continuous staff training on emerging
technologies is essential to learn, improve and develop various kinds of professional skills, knowledge and competencies.

Professional competencies can be thought of as flexible knowledge and skills that allow the librarian to function in a variety of environments and to produce a continuum of value-added, customized information services. The technology is complex and librarians have not fully developed the skills to understand it, exploit it or create it. Those few who do have such skills find they have a highly marketable commodity and can make a better living elsewhere.

There is an urgent necessity to learn a great variety of professional competencies to accomplish the role of professional librarian in the constantly changing but challenging web environment. Professional competencies enable librarians to respond effectively and efficiently to the constant development of new technologies.

Conclusion

In digital environment, we need Libraries and Librarians more than ever before in order to make effective use of the information that is available. The role of Librarians has changed in the digital era. Librarians need to be aware of the implications of the changes and develop technological and managerial skills, which will enable them to make effective use of information and to meet their organization's changing information need.

Thus, the role of the librarian is evolving to network specialist, information broker, systems designer and knowledge manager to mention only a few possibilities. A manager aim at marketing and promotion of their products, but the LIS Professional aims at marketing and promoting of library service. We can say LIS Professional is playing the role just as a manager.

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Information Literacy Programmes and Role of LIS Professionals

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[Abstract: This article presents the importance of the role of LIS professionals in information literacy (IL) programme. This paper also provides an overview of information literacy in libraries and among information professionals in digital environment.]

Keywords: Information Literacy, Library & Information Science, Online Information Literacy.

1.1 Introduction

The greatest challenge for society in the 21st century is to keep pace with the knowledge and technological expertise necessary for finding, applying and evaluating information. It is acknowledged that we live in an information-rich society where the amount of information in the world is presently doubling every three years. Therefore, it is necessity of the 21st century to include information literacy in education.

Information literate people have a number of qualities and skills (Engeldinger 1998). Information is the basic requirement for every human activity, and it is as important as food, air and water. Information in itself has no value, but its value lies in its communication, context and use. Information literacy plays a transformational role in building the information capability at large (Rao and Nagar, 2005). Information literacy is a skill that is widely relevant and extends beyond the walls of the classroom into the world of social responsibility (Idiodi 2005).

1.2 Definitional Analysis

1.2.1 Information

Information can be defined as “the meaning that a human assigns
to data by means of conventions used in their presentation”. In other words, information is data that has given shape. It may be considered as processed data. Thus, information is data plus the meaning, which has to be a result of human action (Seetharama 1999); some active principal governing the human capacity to process fragments which are meaningless in isolation into a coherent and meaningful whole the receiver (Losee 1997).

1.2.2 Literacy

Literacy (derived from Latin literates) is a concept that has been evolving over time and has had a variety of meanings, to include the skills needed to perform well in society. The simplest form of literacy involves the ability to use language in its written form: a literate person is able to read, write and understand his or her native language and expresses a simple thought in writing (Bawden 2001).

The term literacy as the quality of state of being literate, knowledge of letters, ability to read and write (OED 1978, Chambers English Dictionary 2003); ability to read 40 words per minute, write 20 words per minute and do 2 digits arithmetic (India 2008); ability to read, write and do arithmetic. It comprises other skills needed for an individual’s full autonomy and capacity to function effectively in a given society (Unesco 2002).

1.2.3 Information Literacy

Information Literacy is an understanding and a set of abilities requiring individuals to recognize when information is needed, have the ability to locate, evaluate, use effectively the needed information and create information within cultural and social context (Abid 2004; ACRL 2000; ALA 1989; CAUL 2004; Dudziak 2006; CILIP 2005; UNESCO 2003; Webb and Powis 2004; Karisiddappa and Kavita 2005) and then to use that information to make wise decisions or choices (Kuffalikar and Rajyalakshmi 2006); Some experts consider it simply an old material (i.e. bibliographic instruction) in a new package (Lawrence 1991).

The standard definition of information literacy now used in Australia is found in the Council of Australian University Librarians’ (CAUL) information literacy standards, released in March, 2001.
Accordingly an information literate person is able to:

1. Recognize a need for information;
2. Determine the extent of information needed;
3. Access the needed information efficiently;
4. Evaluate the information and its sources;
5. Incorporate selected information into their knowledge base;
6. Use information effectively to accomplish a purpose;
7. Understand economic, legal, social and cultural issues in the use of information;
8. Access and use information ethically and legally;
9. Classify, store, manipulate and redraft information collected or generated; and

An information literate person must be able to learn to know, to do, to be and to work together; to make sense, ensure quality, learn independently, think critically, use information ethically and strategically (Jagtar Singh, 2008).

2. Evolution of IL Concept

The term ‘information literacy’ achieved its current prominence within the library community with the advent of the information explosion. An information environment characterized by an exponential increase in information, that is freely available over the internet, along with the rapid development of information technologies that facilitate the access and dissemination of this information (Grafstein 2007).

The term “information literacy” was first introduced in 1974 by Zurkowski (the President of the US Information Industry Association), in a submission to the US National Commission on Libraries and Information Science, to identify people trained in the application of information resources to their work (Carbo 1997; Joint 2005; Jagtar Singh 2008; Faust 2001).

The idea of information literacy, emerging with the advent of information technologies in the early 1970s, has grown, taken shape
and strengthened to become recognized as the critical literacy for the 21st century. He recognized that ‘information literates’ would be better able to exploit information resources (Bruce 2002).

The information Literacy is built upon and has expanded the decades-long efforts of librarians to help their users learn about and how to utilize research tools and materials in their own libraries. Librarians wanted users to be able to transfer and apply this knowledge to new environments and to research tools that were new to them. Information literacy expands this effort beyond libraries and librarians, and focuses on the learner, rather than the teacher (Grassian 2004).

3. Aims of Information Literacy

Information literacy aims are given by American Library Association (2005) as follows.

• To teach students how to find information and prepare them for lifelong learning because they can “always find information needed for any task or decision at hand.
• To form the basis for lifelong learning. It is common to all disciplines, to all learning environments and to all levels of education.
• To enable learners to master content and to extend their investigations, become more self-directed and assume greater control over their own learning.
• To ensure that people understand how to, and why they need to learn about sources in the information society.
• To prepare students to enter the world of scholarship. The shift in focus from teaching to learning in higher education can be paralleled in the shift from bibliographic instruction to information literacy.
• To facilitate learning. Learning theories state that successful learning includes the person’s ability to increase their knowledge, to memories and reproduce that knowledge, to apply it and understand what was done, to see something in a new way, and finally to change as a person.
• To give people the ability to question, research, find meaning, develop ideas, analyze, evaluate, synthesize, reason, communicate, transfer, solve problems, make decisions, understand nature of information, reflect, use technology effectively, use information safely and responsibly and produce new knowledge.

• To make the learners feel more confident and to enhance the skills in their ability to manage information (ALA 2005).

• To apply the principles of scholarly communication to problems of information handling.

• To gain confidence in using and achieving satisfaction in carrying out information searching (Ghosh and Das, 2006).

The basic aim of Information Literacy is to develop sense-making ability among the stakeholders (Jagtar Singh, 2008).

4. Benefits of Information Literacy

Following are the benefits of information literacy.

• Expansion of knowledge through substantive operations of knowledge creation.

• Synthesis of data and information into knowledge.

• Appropriate and critical application of information and knowledge in problems solving.

• Enhancement of the critical thinking

• Incorporation of validated information in the personal or corporate knowledge base.

• Motivation for self-directed learning.

• Appreciation for lifelong learning (Dhiman, 2006; Khairah, 2005).

5. Approaches

The approach chosen for this study is qualitative in nature for a number of reasons. Since federated search tools are relatively new,
access to quantitative data would be limited; similarly, chances of gathering quantitative data especially during the summer vacation was limited. Quantitative data in this area was unlikely to further understanding of the implications for information literacy training. Focusing on librarians' and information professionals' experience of the implementation of the tools and the concerns and issues that they experienced could provide more understanding of the effect of the tools and hopefully guide other libraries who are planning to implement information literacy programmes. This was a potential outcome of the research, and not creating generalisable results. The focus was more on understanding issues within their context.

Mellon (1990) describes qualitative studies or naturalistic studies as those that view experiences from the perspectives of the people involved and try to understand a situation in-depth. The type of qualitative research undertaken was descriptive as it was involved with examining and describing the phenomenon encountered in terms of behaviors, beliefs, attitudes related to searching for information and information literacy. The research was inductive because it did not start with a predefined theory but examined specific cases and allowed conclusions to be drawn from them (Gorman & Clayton 1997).

The Big Six Problem-Solving Approach

This approach to information literacy is a comprehensive and empowers students to be successful in an information environment (Berkowith 1997); approach of 'Big Six Skills' is similar to the one advocated in much traditional library user education; thinking through the information search process before actually conducting the search. The Big Six Skills are a general problem solving approach, used here to library and information instruction. The skills are process based and allow a logical order (Webb and Powis 2004).
1. **Task Definition**
   1.1 Define the problem
   1.2 Identify the information needed

2. **Information seeking strategies**
   2.1 Determine all possible sources
   2.2 Select the best sources

3. **Location and Access**
   3.1 Locate sources
   3.2 Find information within sources

4. **Use of Information**
   4.1 Engage (e.g., read, hear, view)
   4.2 Extract relevant information

5. **Synthesis**
   5.1 Organise information from multiple sources
   5.2 Present information

6. **Evaluation**
   6.1 Judge the result (effectiveness)
   6.2 Judge the process (efficiently)

The big six model describes the six thinking steps a person goes through any time there is an information problem to solve. The following are the six steps of the model (Eisenberg, 2008; Loo and Chung, 2006).

In an emerging information-based society, it is essential for students to learn how to think actively and critically about information rather than to passively receive pre-packaged facts or materials. The methodology centers on the cognitive psychology theory which states that new knowledge is always constructed on what is already known (Boud and Feletti, 1991). It promotes critical and analytical thinking skills by applying the learner’s own expertise and experience to the initial problem solving and information retrieval process.

As more and more students begin their fact finding by using search engines on the WWW, university instructors can take on a more significant role in the development of critical thinking skills by introducing information literacy as a natural part of the learning process. The ‘Big Six Problem Solving Approach’ is a teaching strategy that can take everyday situations and create learning opportunities from them.

This approach is collaborative in nature and uses interactive applications to engage groups of learners fully by introducing real-life or simulated problems to be solved. As the instructor presents specific
problems, students begin the process of formulating a hypothesis and finding information to support their ideas for proposed solutions. The most likely of these solutions are tested, sometimes by trial and error; an answer that best solves the problem is offered. Finding an answer that really works is the driving force for each learner to participate actively, resulting in the acquisition of knowledge and problem-solving skills - both individually and as a contributing member of a team.

**Education Approach to Information Literacy**

Bruce has provided a perspective on the educational approach to information literacy. She describes three strategies:

- **Behaviorists approach:** The information user to be described as information literate must exhibit certain characteristics and demonstrate certain abilities. So there is emphasis on measurable skills. The approach used in the ACRL standards, mentioned in section 2.1 above, seems to fit here;

- **Constructivist approach:** with the emphasis on the learner constructing his or her own picture of the domain through for example, problem-based learning;

- **Relational approach:** This starts by describing a phenomenon in terms of the way in which it is experienced. (Bruce 1997).

**Current Approaches**

A variety of approaches and combinations of approaches have been taken depending on the particular needs of the institution. The following sections provide some recent examples.

- **Online Information Literacy**

  With an increase in remote access to information and a demand for more rapid, anytime-anyplace sharing of information, many academic libraries have started to offer Information Literacy through the Internet. The most common online instructional tool is the Web-based guide (e.g., pathfinders, webliographies). Another trend that has gained popularity is the information literacy tutorial which is an interactive, Web-based program designed to introduce students to general information literacy concepts and information resources.
• The Information Literacy Course

According to Jacobson and Mark (2000) instruction is most effective when offered in context with content-based courses and assignments. Academic libraries have incorporated meaningful learning experiences into information literacy courses in a variety of ways.

Some institutions offer formal information literacy courses. Ranges of varies from required to elective and from distance to face-to-face. They can involve integration with a core curriculum, specific discipline or course, or general information skills. Such courses have gained popularity because they offer opportunities for in-depth instruction and reinforcement of research skills through course activities.

• Information Literacy across the Curriculum

Some Universities go beyond the stand-alone information literacy course by integrating information literacy into the overall curriculum. An across-the-curriculum approach is favored because it ties information literacy into all students’ experiences. This model requires collaboration among the library, other academic departments and administration to meet the common goal of teaching information literacy skills.

Specific approaches include integration of information literacy objectives into general education and first-year programs (Jacobson & Mark, 2000); development of campus-wide information competency initiatives where librarians, faculty and others work together to provide information literacy at the point of need (Nagbhushnam and Javeer, 2005).

6. Role of LIS Professionals in IL Programme

LIS professionals have to play a significant role to promote information literacy in society. Obviously there exists a gap between librarians and the users’ information needs. There is no need to bridge this gap. Librarians need to educate and re-educate themselves to acquire new skills and competencies for a new role and they need to cultivate the concept of lifelong learning of information literacy skills. At the same time, certain rudimentary skills have to be imparted.

Librarians require students to be information literate and technically proficient. To promote information literacy, LIS professionals should come forward to organize the courses which enable students to
develop technical and communication skills necessary to ensure that the course content is of immediate benefit to the students. There are two levels of the course for information literacy in academic institutions;

- **Orientation**

This is a first level training concerned with introducing the users with the general techniques of library usage, services/facilities available and to the organizational layout. During orientation library staff delivers a lecture, which introduces the program, demonstrates the use of the catalogue and shows students how to access the self-paced on-line tutorial. Students work through the library catalogue unit of the tutorial and also complete an exercise. They are able to create a network account and configure and e-mail account during one of their orientation sessions.

- **Instruction**

This is a second level instruction dealing with the information resources available on specific subject disciplines. It consists of library staff demonstrating CD-ROM network and web-based databases, and searching the internet using search engines and subject gateways. A lecture by library staff about researching a topic is a great motivation for students to appraise critically the material they find, especially information found on the Internet (Jayaprakash and Gupta, 2005).

Depending on the nature of users and their research commitments, contents related to the University Grants Commission (UGC) efforts such as UGC-INFONET E-Journals Consortium project and other consortiums and union catalogues and method of literature surveys, international Document Delivery Services should be introduced.

7. **Evaluation Indicators**

The emphasis on a process approach requires a concomitant shift in forms of assessment. Instead of completing a teacher-prepared examination requiring remote memorization of facts, students are asked to demonstrate and assess their own learning. Through authentic assessment, students reflect on their own learning, growth, and the processes by which skills have been acquired. Some of the forms of authentic assessment include portfolios learning and research logs and rubrics.
a. Portfolio Assessment

Portfolios allow students to demonstrate learning and growth over a period of time. The portfolio should be deliberate compilation, gathered according to a plan, for use by an identified reader or readers for specific needs or purposes (Callison, 1993). It may contain not only a student’s final products or best work but also items that provide evidence of the processes used in the development of such items. The portfolio may include references to, reflections on, resources that have influenced the student’s learning. They can describe the processes they used to identify and gather the resources, they can reflect on how and what they learned about their information-searching skills.

b. Learning and Research Logs

Reflection allows students to assimilate new information and identify processes that are helpful in completing the task at hand. Learning logs are especially useful in extracting information (Stripling, 1993). Students may note their feelings about the information, questions for further research connections to known information, or comments about usage of that particular information.

A research log may be used to document the processes used in completing a particular project. Students may note their accomplishments as well as any problems, questions, or frustrations they encountered. The library media specialist may comment by offering suggestions, encouragement for further exploration.

c. Rubrics for the Assessment of Information Literacy

Rubrics describe what learners should know and be able to do. Designed in the form of a matrix, rubrics contain target indicators and key behavior skills. Information literacy rubrics were designed by the Colorado State Department of Education (1996) to help educators assess students’ progress toward achieving the goals of that state.

The Colorado Rubrics for the Assessment of Information Literacy tool allows teachers to identify what their students already know, and what they need to learn in several broad areas of information literacy including
• Constructing meaning from information
• Creating a quality product,
• Learning independently,
• Participating as a group member, and
• Using information and information technologies responsibly and ethically.

To sum up, Information Literacy is a key contributor to lifelong learning. Since higher education institutions vary widely in mission, information literacy programmes are to be designed or tailored to meet specific needs of the users rather than a prescribed set of fixed criteria.

Reference


Role of College Librarian in the Information Literacy Programme in ICT Environment

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[Abstract: The paper discusses role of college librarian in the development of Information Communication Technology (ICT) environment. It includes development of ICT skills by the library in the Information Literacy (IL) programmes. Objective of the paper is to find out the present needs of the users and how to fulfill the needs with the help of ICT and save the time as well as money. The paper also describes the use of ICT in the college library and the level of satisfaction. Methodology used for this paper is case study method and the personal observation of the users of library by a college librarian. The availability of various technology and services has been highlighted.]

Introduction

As research and teaching increasingly rely on global networks for storage and dissemination of knowledge, the need to have information literate users has become more widely recognized.

Information literacy is a set of abilities to recognize need for information, to locate to identify appropriate information sources and to know how to search the relevant content stored in those sources, to evaluate quality of information obtained and finally the skill to organize information using presentation techniques.

In a college library, librarians collect the information material in print media in the form of books, journals, reports etc. and electronic media for the benefit of their users. They perform various processes to bring into light on the library collection. They should make every effect so that the scattered resources reach the users. The library
resources can be put to maximum use by the provision of information literacy (IL) programme.

Objective of the Study

- To find out the present needs of the users.
- To fulfill the needs with the help of ICT and save the time and money of the users.
- The paper also describes the use of ICT in the college library and the level of satisfaction achieved.

Information Literacy

The American Library Association (ALA) states that the ‘information literacy is a survival skill in the information age and calls for restructuring of the learning process itself rather than the curriculum.’

Information Literacy, in its broadest sense is a set of instruction given to readers to help them to make the best use of the library. According to Fjall and Mally, user education is concern with the whole information and communication processes, and this involves the total interaction of the user with the library.

In short, Information Literacy is nothing but education of the library users regarding the use of library resources—both physical and electronic.

Information Communication Technology (ICT)

ICT is the electronic technology used for collecting, storing, processing and communicating information. There are two types of devices or factors involved here. First, those which process information such as computer system and second, those which disseminate information such as telecommunication systems.

IT means application of various technologies such as computers, telecommunication, fiber optics, lasers, reprographies and micrographics for effective information handling. ICT has tremendously increased and enhanced user satisfaction, cost effectiveness, rapid responses and easier operational procedures. The information centers and libraries have been employing ICT and electronic resources and services to
cater and satisfy the interdisciplinary, multidisciplinary and diverse information needs of their users. The traditional print and manuscript documents are getting replaced with E-books, E-journals, Databases: online/offline, Web Based resources and variety of other electronic resources.

Following are the services and technology which show the development in the area of library in ICT environment

- Paper and Ink
- Optical Fiber Communication
- Electronic Mail
- Micrography
- Mavica
- Computers
- Internet
- RF-ID
- Open Access Resources
- Document Delivery
- Database
- Information Literacy
- Blog
- Pod cast
- J-Gate
- Knowledge Management
- Outsourcing
- Portals
- Gateways
- Telecommunication System
- Communication Satellite
- Reprography
- Microforms
- Video Disc
- Minicomputer
- Wireless Technology
- Digital Library
- Multimedia
- E-Publications
- Archives
- Social Networking Services
- Wikis
- Library Consortia
- Intranet
- Six Sigma
- J-Store
- Vortal
Role of the College Librarian in the ICT Era

Aim of college librarian is to build a balanced collection in the light of objectives and levels of education curriculum and the needs of students. Role of college librarian in the increasing presence of variety of media, is getting more demanding. Teachers and students require services which have to be user focused, user friendly and be able to assist user to gain information literacy skill.

Information Technology has changed the world and has become an important tool for creating information. In modern era library collection are not limited to printed document but also in electronic resources. We also know that internet is an ocean of worldwide information. It has changed a way of people to access the information and exchange ideas. Here the focus is on the role of librarian towards the students and teachers for providing the following information services/products for achieving information literacy.

1. Orientation Programme

The library should offer orientation programme to the users. The main idea behind this is that the uses should know all the details about the library and the information sources/materials in order to use of library efficiently and effectively. It also sets up a channel of communication between the libraries, the students and the faculty. Information Literacy programme should takes place at the beginning of the year. The basic information about the library should be given including the library timings, layout of library building, rules, the staff, membership procedures, the library catalogue, arrangement of the books on the shelves, facilities available such as Borrowing of library material, Photocopying, Interlibrary loan, Audio-video room, reading hall, internet, online databases, CD Rom databases, information retrieval and using various search engine.

For the post-graduate students, subject wise instruction can be given at the beginning of each academic year. The instruction should be based on bibliographic path finders. The pathfinder should be updated at the time of orientation programme. Students should be taught to use electronic products and services. Thus, the orientation and training programmes in laying the foundations at lifelong education.
2. **Library Brochures**

Publication of library handbook/brochures containing detailed information regarding library. Sometime libraries have to publish user manual such as 'Know Your Library', 'Our Library' etc for distributing among the users.

3. **College Prospectus**

It is the responsibility of librarian to include detailed information regarding procedure, process, collection, services, rules and regulation about the library facilities etc. in college prospectus which is updated yearly.

4. **E-Information Literacy**

To give the information about the network technology with multimedia, digital storage, digital delivery, OPAC and online sources etc.

5. **Provision of Extension Services**

Librarian should constantly keep in touch with changes in curriculum and in other educational environment and design services which will ensures libraries growth and contribution in the activities of the college. There are a number of extension services which will help in information literacy programmes.

6. **Web Page/Web Site**

College librarian has to design an exclusive web page in the website of the college. There should be a separate web site of the library. Through the web page or website library can provide the following information to the users.

7. **Special Services**

   a. List of new arrivals
   
   b. List of books whenever there is a special occasion such as national event, local event, special courses lectures on special subject. Besides, the relevant books must be displayed with detailed information.
c. To render service such as providing vital information useful to students.

d. Information about the scholarship and free ship etc. to the students.

e. Advertisement for recruitment and career guidance information

f. To prepare List of Collection of local interest including documents written by local persons.

g. List of books for the students for completion of their project work

h. Prepare bibliographic details either in response or in anticipation.

i. Scanned documents appeared in periodicals, newspapers, written by the students and displayed on the web page.

j. Online Library facility given to the external students for examination and also passed out students.

k. Question paper sets of previous years and syllabus made available for the students with the help of web page or website.

8. **E - Resources and Related Services**

Which includes

a) E-Books

b) E-Journals

c) OPAC

d) Abstracting and Indexing Services

e) Selective Dissemination Information

f) Current Awareness Service

g) Online Services e. g. N-List Programme of INFLIBNET, Google Alert etc.
9. Other Services

Introducing non-book material e.g. CD-Rom, maps, charts etc.

Provision of journals, newspapers etc stress the importance of the latest information.

Keep a suggestion box or books in the library to expecting Better opportunity to serve.

Reprography or photocopying facility should be made available.

Library should produce its own selective abstracting service if it is not possible to acquire abstracting journals.

College librarian should take interest in establishment of a bookshop on the campus.

Inter-library loan facility should be provided.

College library should implement modern technology and devices in the library operation and service provision to save the time of the library.

Library should be open for maximum hours and during holidays sufficient reading material should be made available.

Book bank facility should be provided to the students

Selected groups of the students may be given short intensive courses and literature searching skills in their chosen subject.

In the college teachers are the important, influential and responsible persons so that the library should give perfect and latest information to the teachers. This will ensure that the latest information reaches to the students.

Conclusion

In the information literary Programme, college librarian is the most important person. This role is of great responsibility. In the system of education, there are tremendous developments. Information literacy will help in creating information conscious generation which knows how to handle information overload.
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Abstract: In the twenty first century information literacy has become a key-factor for social, economic, political, cultural development. It is a great contributor for lifelong learning, which extend beyond formal class room setting, and provides practice with self-directed understanding suitable to the role and responsibility of the learners. This article briefly explains the concept of information literacy, its objective, importance, its various kinds, challenges and impact.

Keywords: Information, Information Literacy

1. Introduction

In the twenty first century information literacy has become a crucial factor of social, economic, political, cultural development in all countries. Information literacy can also be considered as a vital component and contributor for lifelong learning, which extends beyond formal class room setting and provides practice with self-directed understanding suitable to the role and responsibility of the learners. Information literacy is a survival skill in the information age. Instead of drawing in abundance of information that floods our lives, it is wiser to use information effectively to solve a particular problem or make a decision. It just does not matter whether the information they select comes from a computer, a book, a library, a government agency, a film, a web site or any other possible resources. Today information literacy has become a global phenomenon. It is the information gap that helps in closing this gap.
2. Meaning of Information Literacy

Information literacy can be defined after knowing the concepts of information and literacy. According to Faibisoff & Fly, “Information is a symbol or set of symbols which has the potential for meaning.” Literacy is the ability to use language in its written form; a literate person is able to read, write and understand his or her native language and expresses a simple thought in writing.

Definition of information literacy stems from the above understanding. A widely accepted definition of Information Literacy is the statement given in 1989 by the Presidential Committee on Information Literacy of American Library Association (ALA). According to this statement, “To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information.”

3. Objectives of Information Literacy

- To recognize an information gap.
- To construct alternative strategies to reduce the information gap.
- Recognition of importance of and responsibility for information.
- To store the information for future use.
- To acknowledge the sources of information and ideas.
- To select a strategy.

4. Kinds of Literacy under Information Literacy

4.1 Library Literacy

Library Literacy relates to an individual’s ability to explore the library efficiently with ease. Thus, the proficiency in the use of library resources and services is referred as Library Literacy.

4.2 Media Literacy

Today an individual receives information from a variety of media of communication like books, newspapers, magazines, television, radio, Internet or even cell phones. Media Literacy refers to the ability to
access and evaluate the information received from such diverse sources of information.

4.3 Computer Literacy

Computer literacy is generally thought of as familiarity with the personal computer and the ability to create and manipulate documents and data using word processing, spreadsheets, databases and other software.

4.4 Network Literacy

The ability to type in the computer alone is not enough if one wants to access and use the billions of documents available on the World Wide Web. It is essential to have the ability to navigate the Internet or any other computer network. Such ability is called Network Literacy.

4.5 Digital Literacy

Digital literacy considers the broad range of resources that are accessible online, and it underscores the importance of looking at each of these resources with a critical eye. Emphasis is placed on the format of the information presented and the special considerations that each type of resource presents.

4.6 Visual Literacy

When we look at visual information such as photographs, illustrations, or computer graphics, we rely on our previous perceptions of the world to make sense of the visual images. Visual literacy is defined as the ability “to understand and use images, including the ability to think, learn, and express oneself in terms of images.”

5. Importance of Information Literacy (IL)

- IL helps to become an independent lifelong learner.
- IL is important for a strong democracy.
- IL develops a critical thinking approach which is necessary for the progress of a society.
- IL is important to assess and filter the information in the electronic environment.
• IL helps to develop respect for the ownership of information, especially in the digital environment to avoid the ‘copy-paste’ culture.

• IL is important for ethical use of information.

• IL is essential for sound decision making and personal empowerment.

• IL leads to understanding of different cultures and empathize with the view point of others.

• IL helps in detecting and avoiding disinformation.

6. Challenges in Implementing Information Literate

• Inadequacy of technological infrastructure

• Lack of IT skills

• Traditional system of education

• Political hurdles

• Lack of collaboration between libraries and teaching faculty

7. Impact of Information Literacy

A wide range of impacts of information literacy are shown in a schematic diagram. One can see the extent of reach of information literacy. See the figure on the next page.

4. Conclusion

Information literacy requires sustained development throughout different levels of formal education, primary, secondary and tertiary. As students progress through their undergraduate years and graduate programs, they need to have repeated opportunities for seeking, evaluating, managing and applying information gathered from multiple sources and obtained from discipline specific research methods.
Achieving information literacy requires an understanding that such development is not extraneous to the curriculum but is woven into its content, structure and sequence. Furthermore, information literacy ‘cannot be the outcome of any one subject’. It runs through all the subjects, their learning and teaching processes.

References


Figure 1: Impact of Information Literacy
Information Literacy and the Role of College Library

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[Abstract: These are the days of information overload. Information has become basic need to survive. An individual needs certain skills considered as information literacy to navigate through this information ocean. This paper discusses the concept of information literacy, its objectives and need in the present scenario. It also suggests some methods and activities to be implemented in library to literate the information user.]

Keywords: Information Literacy, Literacy programmes, Information sources

Introduction

Man lives in community. This is possible only because of information or communication from one person to another person. Information can be generated, created, transferred and communicated through schools, colleges and libraries.

The collection of documents in libraries is meant for transferring information from person to person, generation to generation, culture to culture. The role and responsibility of librarians have undergone many changes. In present scenario, he has to provide pin-pointed information to the users. This responsibility keeps on increasing as the information overload and interdisciplinary nature increases. Librarian needs to help the users by training them to access the required information at the right time and the right way. In short, librarian has to turn the user into an 'Information Literate' person.
What is Information Literacy?

Paul Zurkowski defined information literacy. “People trained in the application of information resources to their work can be called information literates. They have learned techniques and skills of using a wide range of information tools as well as primary sources in molding information solutions to their problems”.

The American library association (ALA) Presidential Committee on Information Literacy, in its final report states that, “To be information literate a person must recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information.”

Information Literacy is a broad concept. It means the following points.

1. It includes -visual literacy, web literacy and media literacy.

2. Information literacy consist of—understanding of processes of identifying, accessing and delivering of information, both current and retrospective; formulation of different search strategies to access relevant information; evaluating the reliability of various information channels; and master certain basic IT skills for e-resources.

3. Information literacy is defined as individual ability to recognize the need for information; identify and locate appropriate information sources; know how to gain access to the information contained in those sources; evaluate the quality of the information obtained; organize the information; and use the information effectively. (Tankar, 2011)

Objectives of Information Literacy Programmes

Objectives of information literacy programmes included the development of skills and competences that enables the user-

- To recognize an information gap
- To consider alternative strategies
- To act on strategy to retrieve information
- To store information for future use
- To assess the effectiveness of strategy
• To become more self-directed
• To enable learners to master the contents and extract their essence. (Shelke, 2011)

**Need for Information Literacy**

This is the era of information explosion and developments in Information and Communication Technology (ICT) has increased chaos in Information use. Information users are forced to learn new skills which will help them to access the information produced in this information age. Everyone needs to become competent and confident information user. User needs to master the skills of finding, handling, evaluating and using information because it is scattered in print, electronic and digital forms and various formats. Thus, the Information Literacy may be essential due to the following reasons.

• Rapid increases in the quantum of information due to information explosion
• Advent of Information and Communication Techniques (ICT)
• Vast variety of information sources
• Changing shape of libraries
• Wide dispersal and dissemination of information
• Increase in number of users
• Research on complex and interdisciplinary topics (Halvegar, 2011)

**Present Scenario of College Libraries**

Present urbanized society observes a changing face of new generation, where children have access to various modes of entertainment and amusement. Every middle class household in India is equipped with at least one electronic gadget like television, music system, DVD player, internet, videogames, etc. All these gadgets may be detrimental to our new generations as well as older generations that may be one of the reasons for declining number of regular users of libraries.
It is known that libraries build up collections of local, national and international literature. A library user can get higher satisfaction if he/she reads classics, contemporary literature and know cultural heritage of India and the state he/she belongs. Other than books on literature, many informative books and magazines that enhances knowledge, such as handbooks, encyclopedias, directories, dictionaries, journals etc. are also accessible in libraries. Reading habit not only helps a person to become knowledgeable, socially responsible and economically productive person but also help in personality development. Information literacy competency development programmes may be initiated to impart necessary skills and reading habit to library users in maximizing utilization of library resources.

**Methods of Implementing Information Literacy Program**

To prepare the informed citizens, there is an urgent need to implement and promote Information Literacy by way of

- a. General Education
- b. Training the fresh users
- c. Offering training across the curriculum at all levels
- d. Collaborating with faculty, librarians and other staff
- e. Carrying out surveys and studies on the usefulness of Information Literacy
- f. Forming a national Information Literacy forum
- g. Frequently conducting the workshops/seminars like training the trainers to upgrade the Information Literacy knowledge and skills of both librarians and faculty
- h. Preparing a modular curriculum targeting teacher education programmes
- i. Designing the National Policies, standards and guidelines (Tankar, 2011)

**Library Activities towards Information Literacy**

College library has a number of avenues and activities to literate
users about proper and optimum utility of reading materials. These avenues/activities are as follows:

1. **College Prospectus**

Inclusion of detailed information regarding procedure, process, collection, services, rules and regulations etc. in college prospectus which is updated every year.

2. **Library Brochures**

Library handbook/brochures which includes detailed information regarding library.

3. **Book Talk**

Some 10 to 15 students can be selected to take part in discussion about a specific book and script reading sessions can be arranged at regular interval.

4. **Counseling Center**

Latest Information regarding the syllabi of various competitive examination and employment opportunities are provided through this Center.

5. **Readers’ Club**

Readers’ club can be established to promote reading culture among the students and teachers.

6. **User Education Program**

This program can be introduced through lecture method and by arranging visit to the library.

7. **Help in Co-Curricular Activities**

Newspaper clipping files and books related to the conducting co-curricular activities play an important role in developing reading habit and use of information.

8. **Book Exhibition**

Book exhibition can be organized to encourage readers to inculcate reading habit. The subject experts can train them
as to how to use or search information in the exhibited books can provide special guidance to the readers.

9. **Help in Educational and Research Work**

Provide assistance to get access to research ideas through different sources.

10. **Discussion with Authors**

Frequently organized meetings or discussions with authors help enhance the use of books.

11. **Best Reader Awards**

These awards can be given annually to encourage and promote the reading habit and use of library.

12. **Writing Thoughts on Board Daily**

These promote reading, extracting and reuse of information.

13. **Film/Movie Club**

The historical, cultural movies motivate to get more information about the presented situation. It prompts further reading.

14. **Use of Information and Communication Techniques**

Such programmes save the time of user in getting pinpointed information.

15. **Class Room Teaching/Orientation by Librarian**

The librarian can take initiatives by teaching information searching skills. This creates free atmosphere and affinity towards the library and librarian.

16. **Quiz and Debates**

The eagerness created by quiz and debates force the users to know the width and depth of information.
Role of Librarian

Librarian plays an important role in educational process by making users aware of need and motivating the use of information. Knowledgeable and able librarians are key personnel in the implementation of resources based information literacy programmes. World wide web is a new tool in the hands of librarians. Librarians are in the most favourable position to be the leaders in developing an information literate communication. For the librarian to understand this core activity effectively there is a need to -

a. Educate and re-educate them and acquire knowledge, skills and competencies.

b. Cultivate the concept of life-long learning through Information Literacy skills.

c. Prepare them to become effective users through Information Literacy programmes.

Barriers in Information Literacy

1) There is no standard information policy to guide Information Literacy.

2) There is lack of awareness among users about Information Literacy session on offer.

3) There is lack of available resources, such as CD-ROMs to support hands-on practice especially in rural areas.

4) Inadequate library staffing.

Conclusion

Library is originated as a hub of ‘Information sources’. Information is seen as a commodity, the power of an individual and ultimately of the nation. Therefore, each and everyone is after it. The number of these information resources is ever increasing. There are so many changes in forms and standards. Today’s demand is to give confidence to the users by inculcating some skills to cope with the explosion of information.
Information literacy programmes are helpful to meet such needs to some extend. To create an information literate society is the collaborative responsibility of the LIS profession, the government and the user. The attempts are expected from all the sides in the form of new programs, policies and enthusiasm.

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Enhancing the Reading Habit in Academic Library

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[Abstract: In the 21st century libraries have become knowledge centers. Users have become customers of the libraries. With the expansion of information, people require most up-to-date information from libraries. The technological developments have to be adopted in libraries to meet the needs of users. But due to the electronic resources users are going away from libraries. They are having remote access to the library materials. While this may serve the purpose of information provision, library professionals should try to attract the users to the library premises. This article briefly explains the library users’ expectations from libraries, and library programmes like computer awareness, E-resources awareness etc.]

Keywords: Users, Reading Habits, Academic Library

1. Introduction

In general, we see on College campus that the students don’t like to go to the library in their free time. The reason is that they have not been encouraged to use of the library, and the library habit was not inculcated during their school days. They like sitting and gossiping outside in the corridors or on the college lawns. Without knowing what the resources and services of the library have to offer, the students become needlessly discouraged to use it only while studying for their three-
years degree course in the College. Without proper training, it would be of little avail for user to make efficient use of those information materials available in the library. Here the librarians have a great opportunity to win these newcomers to their side and prove themselves that first of all, they are teachers and are involved actively in teaching programmes. Using a library effectively is the route to intellectual treasure.

The library is the backbone of all the academic activities and it is the core or the heart of a educational institution. The primary purpose of a library is to support teaching and research. Without information the academic world never flourishes, i.e., teaching and research can not happen.

The Internet has emerged as one of the most powerful tools for global communication. The volume of information available on the Internet is growing exponentially, and it is being regularly updated with the latest information from all fields. The society changes every day. Presently we are living in knowledge society where information is the key resource. Progress in this age depends largely on frontline knowledge/information gained by the society. In this era of information, the Internet is very important and useful source for fulfilling the requirements of the society. All the computers are able to share the information with each other, because there is a common communication protocol. When computers are connected to the Internet they are able to communicate and share information.

In recent years, Internet has emerged as a powerful educational and informational tool. With the increasing impact of information technology on higher education, all those concerned with higher education today are attempting to grasp how information technology could help in modernizing the process of teaching, learning and research. In this context, Internet has emerged as a formidable social and academic institution of global proportions facilitating access to a wealth of information for the academic community to support their academic and research activities. An internet user has access to a wide variety of services.
2. What is Reading?

Reading is a process involving exact, detailed, sequential perception and identification of letters, words, spelling patterns and large language units. More simply stated, reading is a psycholinguistic guessing game. It involves an interaction between thoughts and language. Efficient reading does not result from precise perception and identification of all elements, but from skill in selecting the fewer, most productive cues necessary to produce guesses which are right the first time. The ability to anticipate that which has not been seen, of course, is vital in reading, just as the ability to anticipate. What has not yet been heard is vital in listening. Today, the reading has social, academic, economical and survival significance, because democracy of a country can survive when people at large have reading competence. Reading is always a means to an end and not an end itself. Further, reading is the process of using 'eyes' and 'mind', to understand the literal as well as the implied meaning of what the writer was attempting to convey. Therefore, reading gives both power and pleasure with understanding. By reading a material as a unified whole, one can expand the frontiers of knowledge and scholarship.

3. Why Motivate Student to Read?

With too much of information the students are sometimes confused regarding what kind of information they need, from where to get it, how to evaluate it, and how to use it because information now a day's comes in many different formats. These skills help the students to learn how to locate, evaluate and use the information in all forms. Therefore, the information literacy skills are very important for the students. Each and every student must develop these skills to be successful not only in their course of study but throughout their life. No doubt these skills must be taught to the students, but by whom? Who can better teach these skills to students? It is believed that the librarian with the collaboration of the teaching faculty can successfully teach these skills to them. Therefore, it is necessary for the librarians to include another skill in their professional training, and that is the teaching skill. Students must be taught effectively about the reading skills so that they will be information literate Students.
Conclusion

The main motto of The National Assessment and Accreditation Council (NAAC) is to ensure quality services from the educational institutions. Being a part of an academic institution, libraries are providing yeomen service to the stakeholders. In this direction, the above mentioned practice is a sort of benchmarking facilities to the student community.

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Digital Library and Information Literacy

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[Abstract: This paper describes the need and importance of information literacy and the use of information technology in the libraries. This is the prime necessity in the digital era. In this research paper we will come to know about the concept of the digital library with Definition, Objective, Function, etc. As well as this research articles tells about the Role of librarians in the digital era. It also deals with importance of information literacy about the uses. I am sure that this paper will provide an effective platform for interaction among digital library experts, researchers, academics and students in this fast advancing area.]

Keywords: Digital Library, Information Literacy, Digitization, Technology, Preservation

Introduction

Information and communication technology (ICT) has now become an integral part of our day-to-day activities and in the working environment. In the recent past, it has changed the face of many institution. The new technology has not only created and developed some modern libraries, but also transformed many existing libraries onto modern society.

Modern society is based on information. The traditional concept of libraries, which was completely based on print media, is changing to digital form with the help of information technology. A digital library is highly organized collection of electronic learning resources.

Digital library is a media server and with search engine it can be accessed online. Access of information in which all the functions of acquisition, storage, preservation, retrieval, access and a display has been carried out through the use of digital format. Many users have problem in using this kind of facility due to lack of information literacy.
Library

digital Library is a computer-based system for acquiring, storing, searching and distributing digital materials for end user.

A digital library may allow either online or offline access to the items it organizes and houses. It may include multimedia as well as linguistic data. Digital library is an evolving area of research, development and application. Workers in the area have offered multiple definitions. Two of the selected definitions are,

“Controlled Collection of Information Bearing Objects (IBOS) are in digital form and that may be organized, accessed, evaluated used by means of heterogeneous and extensible set of distributed services that are supported by digital technology.” Smith (1977)

“A managed collection of information with associated services are the information is stored in digital format and accessible over a work.” Aarms Willamy (2001)

Objective of Digital Library

The major objectives of digital library are listed in as under:

• To collect, store, organize and retrieve digital information.
• To reduce cost involved in various library operations.
• To introduce and provide new services to the library users.
• To provide personalized and retrospective services to the user.
• To provide coherent view of all information within library in any format.
• To minimize massive storage and space problem in libraries.
• To provide facility for networking and resource sharing.
• To save the time of library staff by avoiding routine jobs.
• To access national and international journals which are being published only in machine-readable form.
Function of Digital Library

- Provide access to very large information collection.
- Support multi-media content
- Provide user-friendly interface.
- Support advanced search and retrieval.
- Information availability for a very long time.
- It also supports traditional library mission of collection development, organization, access and preservation of information.

Process of Digitization

- Manual data entry (Born-Electronic Documents)
- The scanning process.
- Optical Character Recognition (OCR)

Hardware Requirement

The requirements of a digital library are as follows:

- 24 hours Internet connectivity.
- Computer servers
- LAN or WAN
- Scanners
- Storage media: high power hard disk
- Wi-Fi tower and CDs.
- Digital camera
- High power UPS
- Converters
- Network topologies
- Multimedia interfaces
**Software**

The software requirement of the DL are as indicated below:

- Computer Operating systems (Linux, MS)
- OCR
- Digital library software like Greenstone or D Space (open source software)
- Editing software.

The processes must be carried out in the following steps:

a. Clean up  
b. Page analysis  
c. Recognition  
d. Checking  
e. Saving.

**Information Literacy and Role of Librarians**

Information literate person is one who has analytical and critical skill to formulate research questions and evaluate result and the skills to search for and access a variety of information types in order to meet his or her information needs. Information literacy skill assists learn and relearn to train and retrain as the various vicissitudes of living in a rapidly changing world; it is required of them to be adaptable and flexible with speed and competence in a way hardly imaginable a few years ago.

Librarians will have to play the following roles in the information age:

- Knowledge Mediator
- Information Architect
- Hybrid Librarian and
- Knowledge Preserver
Librarians should accommodate student learning process in their day-to-day working. Librarians can initiate ideas and projects in close cooperation with their patrons. Library plays a vital role in supplementing classroom teaching, and it is the libraries by which the knowledge contained in documents is transferred/disseminated to its users.

**Prerequisites of Information Literacy**

- Recognize the need for information
- Formulate questions based on information needs.
- Identify potential sources of information and develop successful search strategies.
- Access sources of information including computer based and other technologies.
- Evaluate information.
- Organize information for practical application.
- Integrate new information into existing body of knowledge.
- Use information in critical thinking and problem solving.

**Conclusion**

Information literacy is a problem mainly concerned to the user. Majority of the users have no skill in using digital information. So educating user to handle the digital library resources and technology is the main aspect of information literacy. The special training program must be arranged to make users literate. These programs may be in the form of seminars, workshops of short duration of about two to four days. If the library systems are user-friendly, then shorter duration programs would be appropriate to literate users. The library must have special funds for implementing literacy programs.

Digital information is, and will be, treated differently than paper-based information. It is likely that in the near future, the terms of accessibility and collection of electronic information will not be determined by the library profession. The change of traditional library collections to digital or virtual collections will have to be considered as an opportunity to the librarian.
Combining the two ideas of 'Information Literacy' and 'Digital Libraries', one can say that these two concepts can be supplementary to each other. Information literacy should introduce and promote the digital libraries through its programmes. Digital libraries, on the other hand, should have certain training programmes, PowerPoint presentations and tutorials about information literacy.

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Managerial Issues:

Quality Standards, Copyright, Training, Automation
Quality Standards in Libraries

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[Abstract: In a library care for service should be of maximum priority. To provide better services better standards are needed to be followed. The standards set out the role of a library within the context of the institution's information policies and academic goals. Quality Standards are at the core of the Quality Framework. Standards are a powerful tools for organizations of all sizes, supporting innovation and increasing productivity. Standardized services are widely accepted, commonly trusted and highly valued.]

Keywords: Quality Services, ISO, IFLA, Quality Standards

Introduction

Libraries are best known for their services for students and teachers. The services can be considered better when they have some quality. Quality services are always in demand, hence higher quality leads to better standards. In a service providing organization like library the quality of service should be of maximum priority, and to provide better services better standards are of needed.

Quality Standards provide both a quantitative and a qualitative approach to assess the effectiveness of a library. The library should establish, promote, maintain and evaluate a range of quality services that support the institution's mission and goals. The library should provide competent and prompt assistance for its users. Working hours of the library should be reasonable and convenient for its users. References and other special assistance should be available when the institution's users need them the most.

Standards begin with a basic statement of purpose, explain the underlying assumptions and lead to a statement of expectations.

Quality Standards set out the role of a library within the context of the institution's information policies and academic goals. The mission
of the library is to provide information services in support of the teaching, research and public service mission of the institute. The accomplishment of the mission of an organization requires the development of standards to address the ways in which goals should be developed and measured, the required resources be estimated and success in achievement of goals be evaluated.

More than half a million standards are produced by over one thousand standard-setting organizations worldwide. Whether domestic or global, standards apply to thousands of products and industries. These can be classified by their functions or by origin, and may be of more than one type. There are various types of standards such as,

- Basic standards
- Product standards
- Design standards
- Process standards
- Specifications
- Codes
- Management System Standards
- Personnel Certification Standards
- Performance Standards

Advantages of Standards

Standards are powerful tools for organizations of all sizes, supporting innovation and increasing productivity. Effective standardization promotes forceful competition and enhances profitability, enabling a business to take a leading role in shaping the industry itself. Standards allow a company to:

- attract and assure customers
- demonstrate market leadership
- create competitive advantage
• develop and maintain best practices.

Standardized products and services are valuable ‘confidence builders’. Standardization is being perceived as:

• Safe
• Healthy
• Secure
• High Quality
• Flexible

As a result, standardized services are widely accepted, commonly trusted and highly valued.

Standards provide the foundation for many of the innovative communication features and options are taken for granted, and they contribute to the enhancement of our daily lives - often invisibly.

Quality

Quality can be interpreted as “Customer’s expressed and implied requirements are met fully.” This is a core statement from which some functional definitions of quality have been derived. Some of the definitions are: “the totality of features and characteristics of a product or service that bears on its ability to meet a stated or implied need” (ISO standards of 1994); “fitness for use” (Juran and Gryna 1998); ‘Fitness for the purpose; and “conformance to requirement” (Crosby, 1979).

Standard

Standards are an indispensible aid to library authorities and librarians. Standards can be helpful in developing adequate book stock employing trained staff and maintaining a level of services. Standards bring uniformity and order in libraries. Standards are also necessary as a guide for establishment of new libraries and improvement of existing ones. Library standards are essential for the planning and evaluation of library services.
Quality Standards

Quality Standards are statements outlining the key elements of a quality programme. They can also be described as elements of good practice. Quality Standards are at the core of the Quality Framework.

While Quality Standards are established, they cannot be absolute, or equally applicable to all colleges/institutions but can vary according to the availability of resources. These standards are not a series of expectations or prescriptive sets of figures. They set forth the process by which expectations may be established, and enumerate the topics that should be addressed in the evaluation of library performance.

Functions of the Quality Standards are:

1. Good Practice
2. Centre Development Planning
3. Internal Evaluation
4. External Evaluation

General Standards Available are:

1. ISO
2. British Standards
3. BIS (Bureau of Indian Standard)
4. ITU
5. IFLA (International Federation of Library Associations and Institutions)
6. NAAC (National Assessment and Accreditation Council)
7. UNICEF
8. TQM (Total Quality Management)
9. Six Sigma

Standards are sometimes known by the issuing authorities and sometimes by the philosophy involved. In the above list the first seven are the professional bodies that establish standards and the last two are philosophies.
Standards for Libraries

ISO 11620:2008


ISO 11620:2008 is applicable to all types of libraries in all countries. However, not all performance indicators are applicable to all libraries. Limitations on the applicability of individual performance indicators are also listed with each indicator.

ISO 11620:2008 does not specify performance indicators for all services, activities, and uses of the resources of the library, either because such performance indicators had not been proposed and tested at the time of formulation of ISO 11620:2008, or because they did not fulfill the criteria specified

ISO/TR 28118:2009

ISO/TR 28118:2009 implies Information and documentation – Performance indicators for national libraries. It establishes the performance indicators that are relevant to the special tasks and services of national libraries. These services include the collection and preservation of the national documentary heritage, the publication of a national bibliography and a leading role in international cooperation. The indicators address the following topics:

- Coverage of the national imprint (= all documents – print and electronic – published in a country)
- Speed and comprehensiveness of the national bibliography
- Efforts to preserve the national documentary heritage
- International involvement of the library.
The Technical Report (Note the abbreviation TR in the title of the standard.) provides standardized terminology and definitions for data to be used in the performance indicators. Furthermore, it contains concise descriptions of the performance indicators, of the collection and the analysis of data needed, and of examples where the performance indicators have been used. It also describes what types of services or activities would benefit most from using the individual performance indicator as well as limitations to its application.

The performance indicators in this Technical Report facilitate achievement of the main objectives of national libraries:

- Building the national collection
- Making the collection accessible
- Preserving the collection
- Offering reference services
- Building potentials for development
- Managing efficiently.

**IFLA**

The International Federation of Library Associations and Institutions (IFLA) is the leading international professional body representing the interests of library and information services and their users. It gives the standards for Public libraries. It provides standards for all aspects of public libraries.

**NAAC (National Assessment and Accreditation Council)**

NAAC is an autonomous body established by the University Grants Commission (UGC) of India to assess and accredit institutions of higher education in the country. It is an outcome of the recommendations of the National Policy in Education (1986) that laid special emphasis on upholding the quality of higher education in India. Currently there are seven criteria for assessment of an educational institution. The fourth criterion relates to ‘Infrastructure’ carrying 100 points, Library related assessment. Library carries 35 points out of 100 dedicated to infrastructure.
TQM (Total Quality Management)

TQM is a philosophy. Spigelman (1992) considered TQM as a triangle built on ‘customer orientation’, ‘employee involvement’ and ‘process improvement & management leadership’.

Six Sigma

Six Sigma project carried out within an organization follows a defined sequence of steps and has quantified financial targets (cost reduction or profit increase). The term *six sigma* originated from terminology associated with manufacturing, specifically terms associated with statistical modeling of manufacturing processes. The maturity of a manufacturing process can be described by a *sigma* rating indicating its yield, or the percentage of defect-free products it creates. A six-sigma process is one in which **99.99966%** of the products manufactured are statistically expected to be free of defects (3.4 defects per million).

Conclusion

Standards are very important for development of any institute. When any institute is following some Standard, people’s opinion about that institute definitely changes for better. Disregard of the type of library, if it has some standard then its image in society is definitely better than other libraries. In this world of information overload, when we follow standards and provide quality information, it is always valued high by the users.

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Online Book Buying in Libraries

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Introduction

The fast changing information technology and convergence of various communication technologies has virtually taken the library practices by storm. E-commerce is becoming the order of the day. The use of internet has made the world small and business is conducted globally at a faster pace.

In India, Internet penetration became more widespread with bandwidth becoming readily available, Internet tariffs coming down and computer hardware becoming cheaper. The Indian Internet and E-commerce market however is nowhere close to its expected potential. E-mail applications still constitute the bulk of net traffic in the country. Some of the various ways in which online marketing is done in India are company websites, shopping portals, online auction sites, e-choupal, etc.

The business model built for excellent service quality is based on five fundamentals: low price, wide range of choices, availability, convenience and comprehensive information about products. [Please see the figure on the next page.]
The most commonly found ingredient in commercially successful websites, apart from original ideas, is careful analysis of how people use the site. Hence, for the success of such a business model, it is critical for an organization to understand its customer’s preferences and behavior.

The Online bookstores provide all kinds of books and service at the doorstep of the e-customer at the click of a mouse button. This paper attempts to track the responses of the Librarians to determine the trends or patterns in online book purchase in India.

Online stores have overcome most of the difficulties and made the online buying very simple. They have studied the problems faced by purchasers and started so many services for buyers. Still there is no substantial rise in online buying of books by libraries.

In a study being carried out presently on a sample of 72 libraries (i.e. librarians) suggest the following trend.

It was noticed that nearly 93% of librarians were using the internet for 12 months or more and only 7% were using for less than six months.
The time spent on internet can be shown by the following pie-chart.

Online Buying Pattern

It was noticed that 55% librarians have already done the online purchasing. Most of them have adopted the online purchasing for rare materials. This 55% is only suggestive on those who have done it at least once. These are not regular book buyers from online stores. It was noticed that 47% librarians prefer to buy the material from Amazon whereas 24% librarians prefer to buy the material from flipkart. But, 38% librarians prefer to pay through Demand Draft / Cheque.

The main reasons for not adopting the online purchasing are presented below.
Table 2: Online Buying Readiness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you done online Purchasing</td>
<td>Yes</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>45%</td>
</tr>
<tr>
<td>Reasons for adopting online purchases</td>
<td>Lower price</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Easement of online buying procedure</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>Rare Material</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>Various payment options</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Compare the price with other online bookstore</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Other reasons</td>
<td></td>
</tr>
<tr>
<td>Reasons for not adopting online purchases</td>
<td>Security and Privacy</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Need to physically examine the product</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>Do not use credit card</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Unaware about the buying procedure through internet</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Shipping Delays</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Other reasons</td>
<td></td>
</tr>
<tr>
<td>Which site you prefer to buy online</td>
<td>Amazon</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>Indianplaza</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Flipkart</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>Infibeam</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>10%</td>
</tr>
<tr>
<td>Payment Option</td>
<td>Credit Card</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>Debit Card</td>
<td>4%</td>
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<td></td>
<td>Internet Banking</td>
<td>16%</td>
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<td></td>
<td>Demand Draft / Cheque</td>
<td>38%</td>
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<td>Cash on Delivery</td>
<td>18%</td>
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<td>Other</td>
<td>8%</td>
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Conclusion

The study suggests that there is a need to train the librarians in online buying. Most of the librarians are having the fear of credit card and they don’t know the new services like ‘Cash on Payment’. Librarians are not adopting the online purchasing because they want to examine the documents physically, here online bookstores should come up with new services where Librarians will demand the books through...
online and bookstores will send those books on approval. Librarians will be more comfortable in transacting with an online bookstore who is present in both formats; a ‘clicks-and-bricks’ hybrid model in which the bookstore has both physical and virtual presence. Librarians are mostly using the online bookstore for rare books only whereas they can compare the prices of their general books also because they may get the more discount. Comparison of prices is one of the challenge for librarians. Majority of the librarians want the rating of online bookstores, if Library association takes the part in accreditation of online bookstores or rate them according to their services then that will be more beneficial to all the librarians.

References


Training for Library Staff

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[Abstract: Today HRD’s main concern is the development of skills, abilities, knowledge and competencies of people. At the micro level training is the core of all improvements in the quality of executives, managers and employees of the organization, and at macro-level there are conventional education programmes. As new technologies create needs for new or changed occupational skills, appropriate information must be communicated to those responsible for curriculum design and achievement and competency testing so that skills are taught in occupational settings. This paper explores various training avenues for Indian libraries.]

Introduction

Human Resource Development (HRD) is the framework for helping employees develops their personal and organizational skills, knowledge and abilities. HRD includes such opportunities as employee training, career development, performance management and development, coaching, mentoring, succession planning, key employee identification, tuition assistance etc. The focus of all aspects of HRD is on developing the workforce so that the organization and employees can accomplish their work goals in service to customers. HRD can be formal such as in classroom training, a college course, or an organizational planned change effort. Or, HRD can be informal as in employee coaching by a manager. Healthy organizations believe in HRD and cover all of these bases.

HRD can be defined simply as developing the most important section of any business, its human resource, by attaining or upgrading employee skills and attitudes at all levels to maximize enterprise effectiveness. The people within an organization are its human resource. HRD from a business perspective is not entirely focused on the individual’s growth and development; “development occurs to enhance
the organization's value, not solely for individual improvement. Individual education and development is a tool and a means to an end, not the end goal itself” (Elwood F. Holton II, James W. Trott Jr.)

**HRD Activities**

There are many HRD practices observed in an organization. However, the following three are the main activities.

**Employee Training**

Mostly this is covered as ‘on the job training’.

**Employee Career Development**

Training in general skills and sponsoring employees for higher education at the IITs, IIMs, NITIE etc. for regular or Management Development Programmes (MDP) are included under this category.

**Training and Development**

This is aimed at the organizational level. These program prepares the individual to undertake a higher level of work, “organized learning over a given period of time, to provide the possibility of performance change.” (Nadler 1984).

High quality education and training are essence of HRD, and it is necessary for the following reasons.

- To be profitable
- To be recession-proof
- To improve service
- To gain customer confidence
- To increase customer satisfaction
- To increase competitiveness
- To decrease the cost

**Modes of Training**

To improve the technical skills of the staff, there are certain modes of trainings can be adopted. These can be considered as set of activities. The following are the training modes:
Continuing Education: It is a boon for the library staff to improve their education and knowledge level instead of getting struck up with routine activities. To know the changing concepts and new areas in LIS field, one has to attend professional seminar, short-term courses, winter institute, workshops, etc.

In-Housing Training: An in-house training programme can be held at the computer center or training centre of the institute. The employer can invite some resources persons and organize some short term courses for the library staff. It is a good exercise for developing technological skills in-house. The in-house programme can be about use of computer, application of software or a specific database, or how to search internet, writing skills etc. The topic of training should be such that maximum number of staff can get the benefit of the programme.

Outside Training: Whenever in-house training is not possible, selected professionals can be sent outside the library or information center. This option can be expensive. When a library staff undergoes training in this way, she/he can educate the other staff of the library.

Deputation to Academic Course: A few of the library staff may be deputed to peruse the higher studies in Library and Information Science. They may be granted permission to join either regular or courses being run by open universities. Sometimes only paid leave is granted and in certain organizations tuition fees and paid leave are granted. A short-term specialized technology training or higher studies in information science and continuing education programme.

LIS Training Programme: Short-term training courses/programme are offered by the various institutions, organizations, professional associations and private bodies. The organization such as NISCAIR, DRTC, INFLIBNET, NIC, DST, IASLIC etc.

Annual Conferences and Other Training Programmes: Such programmes are organized by national, international professional associations and library schools of various universities are the other avenues of HRD.

Performance Management: The main purpose of training is to improve the individual and organization’s performance. For example:
A competent library professional may be ineffective due to lack of interpersonal skills. Imparting training in interpersonal skills or soft skills may help the librarian to perform more effectively on the job. Such training helps in developing personality of librarians.

There are some other types of HRD which are not much practiced for the library staff. But one can consider application of these modes of HRD in libraries. These are:

- **Developmental Training:** Corporate organizations like HDFC gives upgrades of 35.00 hours of formal training to its employees, which works out to about six to seven days of training per year per person. Infosys spends over US$ 125 million for Training & Development. Such trainings are rare in libraries as most of LIS professionals undergo rigorous training in library schools. They do not need such trainings on the job.

- **Coaching:** It is a process where a trainee works directly under a senior professional. This process helps the person to learn the ropes of the job. Some company like Proctor & Gamble have a coaching programme. This type of coaching takes place in libraries in an informal way. Such coaching are redundant for LIS professionals.

- **Mentoring:** This refers to a personal developmental relationship in which a more experienced or more knowledgeable person helps a less experienced or less knowledgeable person. The person in receipt of mentorship may be referred to as a *protégé* (male), a *protégée* (female), an apprentice or, in recent years, a mentee. Such training leads to all-round development.

In Library and information centres no formal mentorship is carried out. However, there are informal mentors in all large libraries.

- **Internship:** Generally, all large libraries have internship or apprentice training programmes for the benefit of new entrants in the profession. Every year the library schools send their students for such programmes. Some of these programmes are compulsory where no payment is made and the duration is two to three weeks. But, if the internship is for those who have completed the course, the duration is six months or one year and payment is made. The internees get hands-on experience.
Succession Planning: This generally not done in Indian Libraries. However, in British Council and American Centre, there is a practice that the outgoing and the new incumbent work together for at least for a few months, so that proper succession takes place.

Employee Identification: It determines which employees require training, and, equally importantly, which do not. Duration of LIS course is too short to give them sufficient training supported by hands-on training and practice. Therefore, they need training in the areas related to

- The application of information technology.
- Provision of right information to right persons at right time in the right format for the rural population.
- A regular flow of information for the library staff; this is possible by wide reading of books and journals. Joining discussion forums is another way to update one's own professional knowledge.

Performance Appraisal & Evaluation: Performance Appraisal is a continuous process in the library. Personal appraisal has become a very significant activity because it provides data about past present and expected performance of the personnel which is helpful in making decision. Selection, career development, increase in pay, promotion, transfer etc. are decided based on training.

Conclusion

Organizational Development effected through training and development provided to the employees and managers in the healthy organizational climate. HRD system plays an important role in the interest of organizational effectiveness. LIS has many avenues of training.
IPR Issues and Libraries

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[Abstract: In a knowledge economy, where ideas generated by talented people and the inventions they make are the new currency. Research and innovation are seen as the key differentiating factors determining the market value of a product or service. Intellectual property rights are legal rights, which result from creative activities in the industrial, scientific, literary and artistic fields. The Librarian should see carefully handle the copyright issues and should not violate the rule because many inexpensive pirated reading material are available in the market. Copyright comprises two main sets of rights: The economic rights and moral rights. Economic rights include the right of reproduction, broadcasting, public performance, adaptation, translation, public relation, public display, distribution and so on. Moral rights include the author’s right to object to any distortion, mutilation or other modification of his work that might be prejudicial to his honor and reputation.]

What is Intellectual Property?

Intellectual Property (IP) refers to creations of the mind: inventions, literary and artistic works and symbols, names, images and designs used in commerce. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.

We live in a knowledge economy, where ideas generated by talented people and the inventions they make are the new currencies.
Research and innovation are now seen as the key differentiating factors determining the market value of a product or service. The emphasis today has graduated from cost arbitrage and quality deliverables to IP creation and R&D.

Intellectual property rights are legal rights, which result from intellectual activity in the industrial, scientific, literary and artistic fields. These give statutory expression to the moral and economic rights to creators. Intellectual property rights safeguard creators by granting them certain time-limited rights to control the use made of those creations. Such rights promote creativity, dissemination and application of its results and encourage fair-trading, which contributes to economic and social development.

Ideas and knowledge constitute an important part of trade. Creators or generators of ideas have a right to prevent others from using their inventions, designs or other creations. The extent of such protection and enforcement vary widely around the world and these differences were a source of tension in international economic relations. There was thus a need for harmonization and predictability for disputes to be settled more systematically.

The World Trade Organization (WTO) and Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), which came into force in 1995, brought with it a new era in the multilateral protection and enforcement of IP rights. Provisions in the TRIPS Agreement concerning copyright and related rights, patents, trademarks, geographical indications, industrial designs, and layout designs of integrated circuits, directly complement the international treaties administered by the WIPO secretariat. An Agreement between WIPO and the WTO since 1996 provides for cooperation concerning the implementation of the TRIPS Agreement, such as notification of laws and regulations and legislative assistance to member countries.

**IPR is divided into two categories:**

- **Industrial property** takes a range of forms. These include patents to protect inventions, and industrial designs, which are aesthetic creations determining the appearance of industrial products. Industrial property also covers trademarks, service marks, layout-designs of integrated circuits, commercial names and designations, as well as
geographical indications and protection against unfair competition.

- **Copyright**, which includes literary and artistic works such as novels, poems, plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures and architectural designs. Rights related to copyright include those of performing artists, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs.

**Copyright**

Copyright is a legal protection extended to the owner of an original work of creation. Copyright protects expressions and not the ideas. There is no copyright on an idea. Copyright comprises two main sets of rights: The economic rights and moral rights. Economic rights include the right of reproduction, broadcasting, public performance, adaptation, translation, public relation, public display, distribution and so on. Moral rights include the author’s right to object to any distortion, mutilation or other modification of his work that might be prejudicial to his honor and reputation.

Copyright subsists in the following classes of works:

- Original literary, dramatic, musical and artistic works
- Cinematographed films
- Sound recordings

The original creators of works are protected by copyright, as also their legal heirs have certain basic rights. They hold the exclusive right to use or authorize others for use of the copyrighted material. The creator of the right can prohibit or authorize:

- Reproduction in various forms such as printed publication or sound recording
- Public performance as in a play or musical work
- Recordings in a disc or cassette
- Broadcasting by radio, cable or satellite
- Translation into other languages
Adaptation, such as novel into screenplay

Subject to certain conditions, a fair deal for research, study, criticism, review and news reporting, as well as use of works in library and schools and in the legislatures, is permitted without specific permission of the copyright owners. In order to protect the interests of users, some exemptions have been prescribed in respect of specific uses of works enjoying copyright. E.g.

- For the purpose of research or private study
- For criticism or review
- For reporting current events
- In connection with judicial proceeding
- Performance by an amateur club or society if the performance is given to a non-paying audience
- The making of sound recordings of literary, dramatic or musical works under certain conditions.

The period of Copyright protection in India is 60 years. In the case of original literary, dramatic, musical and artistic works the 60-year period is counted from the year following the death of the author. In the case of cinematographed films, sound recordings, photographs, posthumous publications, anonymous and pseudonymous publications, works of government and works of international organizations, the 60-year period is counted from the date of publication.

Neighboring rights include rights of performing artists in their performances, rights of producers of phonograms in their phonograms and the rights of broadcasting organizations in their radio and TV programs.

**Why is Intellectual Property Important?**

Intellectual property protection is critical to fostering innovation. Without protection of ideas, businesses would not reap the full benefits of their inventions and would focus less on research and development. Similarly, artists would not be fully compensated for their creations, and cultural vitality would suffer as a result.
• **Fair Use**

The fair use of a copyrighted work for criticism, comment, news reporting, teaching including multiple copies for classroom use, scholarship, research and similar purposes is not considered an infringement of copyright (IP Code, Sec.185.1)

• **First Sale Doctrine**

The **first-sale doctrine** is a limitation on copyright that was recognized by the Supreme Court of the United States in 1908 and subsequently codified in the copyright Act of 1976, U S C 109. The doctrine allows the purchaser to transfer *(i.e., sell, lend or give away)* a particular lawfully made copy of the copyrighted work without permission once it has been obtained. This means that the copyright holder’s rights to control the change of ownership of a particular copy ends once ownership of that copy has passed to someone else, as long as the copy itself is not an infringing copy. This doctrine is also referred to as the “right of first sale,” “first sale rule,” or “exhaustion rule.”

In other words, ‘First Sale Doctrine’ allows purchasers of copyrighted material to sell that which they have purchased without violating the copyright laws. The theory here is similar to that of the exhaustion doctrine in patent law. The copyright owner must derive all revenue from the so-called first sale, and cannot control the future disposition of the article originally sold (Quinn, retrieved 2009, par.2).

**Digital Millennium Copyright Act** *(DMCA, 179 ALR Fed. 219)*

- gives copyright owners the right to control access to protected works through technological means
- penalizes circumvention of technological barriers to access information in digital format

**Licensing of e-Resources**

- a contract binding on the licensor *(the aggregator)* and the licensee *(the library)*
• Fair Use

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Licensing of e-Resources

o a contract binding on the licensor (the aggregator) and the licensee (the library)
usually “all or nothing” contracts

terms usually dictated by licensor

*Some negotiating points* (Alford, 2002):

- Pricing
- Users
- Access
- Uses

*Libraries must further negotiate...* (NCSU Libraries, 2003)

- terms that limit access of patrons
- terms that limit fair use rights.

*Librarians must...*

- consider pricing mechanism
- consider who fall under term “users”
- consider how users will access electronic material
- be aware of restrictions on fair use

*License should allow...*

- copies for course packs
- loan to other libraries
- copies by users to the extent of fair use
- formatting of electronic materials in another form, within limits of fair use

*“Undesirable Terms”* (NCSU Libraries, 2003)

- agreeing to indemnify vendor, e.g., for violations of copyright by users
- agreeing to be governed by foreign laws
- agreeing to submit to mandatory or binding arbitration
California Digital Library (2009): Terms that should be included are ...

- Archiving (for preservation purposes)
- Perpetual license to materials accessible during term of agreement
- Completeness of content of electronic format
- Linking to and from content (of citations, indexes, abstracts)
- Name of technical support contact person
- List of journal titles licensed
- Reasonable assurances on availability and performance of vendor’s servers and continuing improvements and updates at no additional cost
- Permitted uses should allow fair use (interlibrary loan, use in course packs and electronic reserves, classroom use)
- Permitted use of incidental, walk-in clients

Copyleft (GNU Project, 2009)

- A general method for making a program or other work free, and requiring all modified and extended versions of the program to be free as well
- Guarantees that every user has freedom to use the work as long as person also passes the freedom to further use, copy or change it.

Creative Commons

- A nonprofit corporation dedicated to making it easier for people to share and build upon the work of others, consistent with the rules of copyright.
- Also known as "some rights reserved copyright"
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2. National seminar on information policies and cyber laws. 4-6 December 2000.


Introduction

Copyright is an issue of importance in all walks of life as in of Library and Information Science. In ever growing intellectual activity around the word, the copyright law plays an important role, particularly in the light of modern communication technology. Copyright and their implementation in letter and spirit have acquired international dimensions, especially in view of the expansion and leading role of the publishing industry in the economic, political and cultural development of the world systems. In copyright landscape some issues are more subtle, particularly in digital environment. Issues that cause confusion and concern to the applicability of the copyright law include re-reserves, licensing, document delivery and fair use.

What is Copyright?

Copyright is generally understood as a right or license for free copying. However, in reality it is a legal right to prevent others from illegal copying. Copyright is an economic system for encouraging the creation of new knowledge by rewarding their creators and their agents by granting an assurance that the creator can determine how, where and which from his or her creation can be used. Copyright provides the creators of literary or artistic works the rights of ownership and legal protection against unlawful reproduction of their works.

According to World Intellectual Property Organization (WIPO) copyright is defined as a legal term describing rights given to creators for their literary and artistic works. Copyright is a form of protection provided by the law of any country to the authors of original works of authorship including literary, dramatic, musical artistic and certain other intellectual works. This protection is available for both published and unpublished works. Copyright is a statutory term define in Black's Law
Dictionary as “the exclusive legal right to the publication, sale etc. of a literary or artistic work.”

Copyright in Digital Environment

In the digital environment the meaning of ‘copy’, as a verb, is to read data from a source, leaving the source data unchanged and to write the same data elsewhere in a physical form that may differ from that of the source. For example, to copy a deck of punched cards onto magnetic tape. The degree of editing that may be carried out at the same time depends upon the circumstances in which the copying is performed. In word processing the reproduction of selected records from storage or a recording medium to another recording medium.

To understand how copyright law applies to the electronic environment, it is necessary to ask whether digital content is treated any differently from hard copy content. Physical formats of electronic materials differ from those in hard copy. Instead of print medium books, directories, newspapers, magazines are made readable from electronic form, such as CD-ROMs, floppy discs, PDF documents, Online databases, Digitized images, e-mails, websites, e-journals, newsfeeds, e-books, online encyclopedias and online newspapers. Due to technological developments, countries like USA (Digital Millennium Copyright Act) Australia (Digital Agenda Act), India (Information Technology Act and Communication Convergence Act), Japan, Malaysia, Singapore etc. have taken steps to strengthen the existing copyright legislations to protect Intellectual Property Right.

Electronic Material under Copyright

- **Written Material**: Original Written material such as advertising narrative and advertisement are protected as a literary work.

- **Images**: Original images such as drawings, charts, maps, plans, diagrams and photographs are protected as artistic works.

- **Databases**: These have full copyright protection. Databases are currently protected as a literary work even if computer generated.

- **Software**: Software are protected under the Information Technology act.
• **Computer Programs**: These are protected as literary works and therefore have full protection under copyright law.

• **WebPages**: Design of web-page consists of an arrangement of elements such as text and graphics it is protected under copyright as an artistic work.

• **CD-ROM**: The supply of most CD-ROM is determined by a contract, which should be checked to determine whether copying is permissible or not. In order to access publications on CD, a user has to make a copy of publication in the memory of a computer being used to access. It is usual for the purchaser of an electronic copy of publication to acquire a license to carry out this. However, the license may be personal to the owner of the electronic copy.

• **World Wide Web**: Copyright and database rights apply to material available on the Internet. If a person permits their works to be placed on the website then it is presumed that they consent to the downloading of the work for at least some purpose, unless there is an expressed notice contrary to this.

**Indian Copyright Law**

The Indian Copyright Act was first passed in 1957. A few amendments were made in 1983 and in 1984. However, keeping in view with the latest developments in the field of technology, especially in the field of computers and digital environment, the amendment Act called the Copyright (Amendment) Act, 1994 (38 of 1994) was passed and this was made the Indian Copyright Law one of the toughest in the World. This included the definition of “Computer Program” also in its ambit. The rights of the copyright holder, position on rentals of software, the rights of the user to make backup copies and the heavy punishment and fines on infringement of copyright of software. It also makes it illegal to make and distribute copies of copyrighted software without proper or specific authorization. Main changes in the New Amendment Act: “Literary work” includes “Computer” and “Computer Programs”.

**Some Select Offences**

1. **Section 63**: This Act provides for the provision of the punishment for infringement of the copyright.
Section 63A: Whoever having already been convicted of an offence under Section 63 is again convicted of any such offence shall be punishable for the second and for every subsequent offence, with imprisonment for a term which shall not be less than one year but which may extend to three years and with fine which shall not be less than one lakh rupees but which may extend to two lakhs rupees.

Section 63B: Any person who knowingly makes use on a computer of an infringed copy of a computer program, shall be punished with imprisonment for a term which shall not be less than seven days, but which may be extend to three years and with fine, which shall not be less than Rs.50,000/-, but which may extend up to Rs 2,00,000/-. 

Section 64: This relates to power of police to seize infringing copies.

Section 65: Any person who knowingly makes, or has in his possession, any plate for the purpose of making infringing copies of any work in which copyright subsist, is punishable with imprisonment which may extend to two years with fine.

Information Technology Act 2000

This Act provides for investigation trial and punishment for certain offences under different Sections like Section 65 for tampering with computer sources and documents (imprisonment up to three years or fine up to Rs 2,00,000/-): Section 66 for hacking with Computer system (imprisonment up to three years or fine up to Rs 2,00,000/-) Section 67: Publishing of information which is obscene in electronic form (imprisonment up to five years and fine up to Rs 1,00,000/- ). Similarly there are Section 71 for misrepresentation, . Section 73 for publishing Digital Signature Certificate False etc are available. Some

Select Cases of Copyright

JustDial Vs Askme.in

JustDial is a popular search engine that people call to get telephone numbers of various businesses, products and service providers. JustDial 'alleged' that a website called askme.in, which was operating in the
same field of business, had taken its list of phone numbers and was using it as its own. Delhi high Court gave a decision in favour of JustDial in Feb. 2010.

Google Vs Viacom

The Viacom copyright infringement case against Google and YouTube has been a long strange journey since it started. The Federal Court in 2010 ruled that Google falls under the “safe harbor” provision of the Digital Millennium Copyright Act (DMCA) which protects service providers from liability for user content. Google and YouTube won the case against the Viacom.

Notice to NDTV and Zee TV in Copyright case

In 2007 Delhi High Court has issued notices to New Delhi Television Ltd and Zee Telefilms Ltd on a suit filed by a California-based This is Your Life (TIYL). Production for allegedly infringing its copyright by producing and telecasting famous show Jeena Isi Ka Naam Hai.

Conclusion

Copyright laws were conceived to enhance, and not to prevent, the information access and usage. The attempts for ensuring and enforcing copyright may be seen by the end users as non-user friendly. The mechanisms developed for rights protection may restrict the access and use of digital information only to the privileged few who can afford to pay defeating the main purpose of copyright law. It is also difficult to draw a boundary line between what is permissible, to what extent, and what is infringement. Even browsing is a violation of fair use (the existing fair use is applicable only to print works) and amounts to infringement. The major problem in a digital library environment is the difficulty of providing rights violations when they occur.

In digital environment, the librarians should have the same kind of fair dealing arrangement for printed books. Digital technologies are continuously evolving, but the critical role of libraries in leveraging copyright protected resources to support the public good remains the same. Libraries have an important role to play in digital landscape, not just as reluctant consumers but also as the designers and implementers of the next generation of digital rights management that embraces the important concepts of privacy, user judgment and responsibility of
commercial and open source resources for information. The librarians should keep themselves aware of the latest changes in Copyright and Information Technology Act and to oversee their proper implementation while purchasing the documents for their libraries. Librarians can also bring a balance back to copyright, particularly with regard to the competing but equally important needs of the rights holder and the user.

References

Evidence Based Librarianship:  
A Method of Research

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[Abstract: This paper presents a practical framework for the implementation of EBL. It is a new way of thinking about research in librarianship. As a profession, librarianship tends to reflect more qualitative, social sciences-centred thinking in its research methods and study types which tend to be less rigorous and more prone to bias.]

Keywords: Evidence Based Librarianship, EBL, PICO, SPICE

Introduction

Evidence Based Librarianship (EBL) is a relatively new concept for librarians. It is an approach to information practice. It promotes the collection, interpretation and integration of valid, important and applicable evidence. These evidences are derived from working experience, moderated by user needs and their preferences and observations by librarians and researchers. The best available evidence is moderated by user needs and preferences. It is applied to improve the quality of professional judgments.

EBL aims at increasing librarians’ skills in reading, interpreting and applying their professional literature. EBL is a movement that will certainly expand to serve and excite the entire profession. It is a means to improve the profession of librarianship. It is done by asking questions as well as finding, critically appraising and incorporating research evidences from library science. It also involves encouraging librarians to conduct high quality quantitative and qualitative research. (http://www.eblib.com)

The main focus of EBL is on practical solutions to the problems faced by librarians in their everyday work.
Background

It is a full decade since the term evidence based librarianship entered the vocabulary of Library and Information Science research. It was used by Elderdge (1997) in his article, “Evidence – Based Librarianship: a commentary.” EBL is one of many derivations of evidence-based practice which began with evidence based medicine.

Evidence based practice began within healthcare but has recently migrated to social work, education, law, HR and management. It involves applying results from rigorous research studies to professional practice in order to improve the quality of services to clients, customers and users.

The Evidence Based Librarianship movement derives from earlier movement towards ‘evidence based medicine (EBM)’ and ‘evidence based health care (EBHC)’. Just as health professionals should use the best available evidences to make a decision, so should librarians too. The EBL adopts its core characteristics from the EBM and EBHC movements.

EBL is empirical, logical and rooted in the scientific method. Familiarity with these methods has caused an increasing number of information professionals to turn a critical eye to their own practice.

Three main definitions of EBL came into published literature in the early 2000s. These were by Jonathan Eldredge, USA, Andrew Booth, UK and Denise Koufogiannakis and Ellen Crumley, Canada. These definitions are presented here.

“Evidence based librarianship seeks to improve library practice by utilizing the best available evidence in conjunction with a pragmatic perspective developed from working experience in librarianship. The best available evidence might be produced from either quantitative or qualitative research design, depending on the EBL question posed, although EBL encourage using more rigorous forms over less rigorous forms of evidence when making decisions.” (Eldredge)

“Evidence Based Librarianship (EBL) is an approach to information science that promotes the collection, interpretation, and integration of valid, important and applicable user reported, librarian observed, and research derived evidence. The best available evidence
moderated by user needs and preferences is applied to improve the quality of professional judgements.” (Booth, 2002)

“Evidence Based Librarianship (EBL) is a means to improve the profession of librarianship by asking question as well as finding, critically appraising and incorporating research evidence from library science (and other disciplines) into daily practice. It also involves encouraging librarians to conduct high quality and quantitative research.” (Koufogiannakis and Crumley, 2002)

The common things among the above definitions are:

- A context of day-to-day decision making.
- An emphasis on improving the quality of the professional practice.
- A pragmatic focus on the ‘best available evidence’.
- Incorporation of the user perspective.
- Acceptance of a broad range of quantitative and qualitative designs.

**Process of EBL**

The evidence based practice process can be described in the following steps:

- Formulate a question
- Find the best evidence to answer the question
- Appraise the evidence
- Apply the Evidence
- Evaluate the Result
- Disseminate the results.

These steps will be examined in detail.
Formulate a Question

The first stage of evidence based practice is focusing or formulating a question. It involves converting a precise and vaguely expressed, information need. The proponents of evidence based medicine, developed a model known as PICO, which consisted of breaking down the question into the following components:

* A Population - recipients or potential beneficiaries of a service or intervention;

* An Intervention - the service or planned action to be delivered to the population, and optionally;

* A Comparison - an alternative service or action that may or may not achieve similar outcomes.

* The Outcomes - the ways in which the service or action can be measured to establish whether it has had a desired effect.

A number of alternative models have been developed to help structure the question for different types of information need and different subject areas. There is one method based on PICO model, namely SPICE, as it was developed specifically for questions generated from information practice:

- Setting – Where?
- Perspective – For Whom?
- Intervention – What?
- Comparison – Compared With What?
- Evaluation – With What Result?

Exploration questions are useful for exploring users' views, attitudes and values. It may not be possible to focus exploration questions into the question formulation models described above, but some breakdown is always useful for formulating the question. Once the question has been set, then it will have more clarity in deciding what type of research design is most appropriate for questions asked, and what type of information sources should be searched.
Find the Evidence

The second stage in the EBP process requires a comprehensive and thorough search of the literature. It helps to identify evidence relevant to the topic in question. Finding evidence to answer questions in the domain of library science is a complicated task, due to the fact that the evidence base is contained in multiple and varied information sources such as people, their experience, literature, observation etc.

In terms of research quality, LIS research typically utilises designs of limited applicability, such as the user survey. While constructing a search strategy to answer a LIS question, it is important to plan the search carefully, and to ensure that search parameters are clearly defined.

Generic principles of literature searching, such as focusing the question, free text searching, thesaurus searching, Boolean and proximity operators etc can be applied to the LIS databases. Evidence based practice requires that the type of question being asked determines selection of the most appropriate research methodology.

Qualitative research is common in librarianship, and often the studies found will include questionnaires, focus groups or interviews. Audits and surveys are also used to obtain data on user groups.

Finally, it will be necessary to evaluate the search results and modify them accordingly, and to remember to document the search process thoroughly, so that it can be reproduced if needed.

Critical Appraisal of Evidence

Critical appraisal is to weight up the evidence critically to access its validity. Critical appraisal uses intrinsic factors such as author, journal, institution.

Many practitioners can identify the features of a good research article.

Therefore, extrinsic factors, are more often used to filter articles. Such as whether the author is well known, whether the article is published in a peer-reviewed journal, or emanates from a reputable institution. Although these factors bear some relation to the quality of
an article, they are not automatic indicators of research quality.

Critical appraisal uses intrinsic (design) rather than extrinsic (author, journal, institution) factors to help the practitioner decide whether an article is worth reading. The more rigorous intrinsic factors that relate to research design and aspects of methodology, more are the focus of critical appraisal, described by David Sackett, a founder of evidence based medicine.

Three broad issues need to be considered when appraising a paper:

- To what extent is the study a close representation of the “truth” (validity)?
- Are the results credible and repeatable (reliability)?
- Will the results help me in my own information practice (applicability)?

Apply the Evidence

It is important that the final stages of the EB process, applying the results and evaluating your performance are followed through processes such as audit, accreditation, benchmarking, and ongoing evaluation alongside innovation.

A number of issues have been hypothesised to explain why barriers to evidence based practice remain for library and information staff (Booth & Brice, 2004). It has been suggested that as a profession librarians place a great emphasis on anecdote and experience. There are also problems inherent in the lack of a high quality evidence base, as described by Booth (2002) as a “paucity of studies with transferable results impacting on daily practice”. The lack of competence in the skills involved in critical appraisal and research design will need to be addressed. However, this paper has demonstrated that the processes of evidence based practice can be applied to the social science setting.

The EBL process provides a framework for making important decisions based upon the best available evidence. Each of the five steps in the Process require librarians to integrate their professional experience in judging the relevance and appropriateness of the best evidence.
Evaluate the Results

Results can be evaluated with the help of follows:

- Audit
- Accreditation
- Benchmarking

Ongoing evaluation alongside innovation

Disseminate the Results

Prepare a request and send it to the authorities. Directly upload on to the net, if necessary.

Barriers and Enablers

Barriers that have been identified include: time constraints; limited access to the literature; lack of training in critical appraisal skills; emphasis on practical rather than intellectual knowledge. Other structural barriers may be present in the work environment itself or in lack of knowledge about sources of research evidence.

Possible enablers to help practitioners apply the skills of EBL identified above could include the use of local journal clubs; the inclusion of evidence based roles in job descriptions; the provision of structured abstracts to research articles; secondary journals where research is synthesized and aimed at practitioners' needs and more systematic reviews. The introduction to critical appraisal training included in this paper could be supplemented by further training in statistics and further basic training in research methods.

Benefits of EBL

If librarians are encouraged to pursue research opportunities, it will enhance the literature base, and it will also allow librarians to conduct those studies which are best suited to their environment and time availability. Following are the needs of EBL:

- EBL creates awareness and promotes new learning.
- It keeps librarians interested in the profession and encourages them to do research to find an answer if one does not already exist.
It impel librarians to do better search and find other solutions if they are not satisfied with what they find in the literature. It encourages librarians to learn more about what they can do to strengthen the profession.

EBL seeks to improve library and information services and practices by bringing together the best available evidence. EBL encourages the pursuit of increasingly rigorous research strategies to supports decisions affecting library practice.

EBL values research in all its diverse forms and encourages its communication, preferably through peer-reviewed or other forms of authoritative dissemination.

EBL represents a global approach to information seeking and knowledge development, involving in research but not restricted to research alone.

EBL supports the adoption of practice guidelines and standards developed by experts committees based upon the best available evidence but not as an endorsement of adhering to rigid protocols.

EBL applies the best available evidence, whether based upon either quantitative or qualitative research method.

EBL attempts to integrate user-reported, practitioner observed and research derived evidence as an explicit bases for decision making. (http://onlinelibrary.wiley.com)

Conclusion

EBL offers a possible framework for making a number of decisions under conditions of uncertainty by providing a system of evaluating different forms of research evidence. Due to the EBL, librarians increase understanding about their unique challenges and invite collaboration from outside librarianship. EBL can advance the mission of librarianship faster and more effectively.

As EBL continues to evolve, librarians undoubtedly will find an increasing number of research project conducted at the higher level of
evidence that are capable of facilitating practical decisions. Research studies are essential ingredients in making critical decisions. Although EBL provides a framework for focused thinking about decisions, it still requires librarians to think about their decisions.

As Dauten stated, "Just because we increase the speed of information, doesn’t mean we can increase the speed of decisions. Pondering, reflecting and ruminating are undervalued skills."

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Cloud Computing and Its Applications in Libraries

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Abstract: Cloud computing exists in several different forms. This paper discusses how services, platform and infrastructure forms of cloud computing have been used to serve library's needs. After giving an overview of how libraries' IT infrastructure is migrating to a cloud environment and concluding with a model for assessing cloud computing, how can libraries use the cloud to both preserve and cloud save libraries resources by using computing devices more efficiently?

Keywords: Cloud Computing, Libraries

Introduction

This paper examines some of the key issues related to the use of different forms of cloud computing in libraries. Cloud Computing is a completely new IT technology and it is known as the third revolution after PC and Internet in IT. To be more specific, Cloud Computing is the improvement of Distributed Computing, Parallel Computing, Grid Computing and Distributed Database. The basic principle of Cloud Computing is making the tasks stored in large amount of distributed computers but not in local computers or remote servers. In other words, by collecting large amount of information and resources stored in personal computers, mobile phones and other equipments, Cloud Computing is capable of integrating them and putting these on the public cloud for serving users. (1)
An issue raised, "Just because we increase the speed of information does not mean we can increase the speed of innovation."

Pondering this, the following text is offered:

"The primary driver of innovation is often the need to achieve a competitive advantage."
Cloud Computing and Its Applications in Libraries

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[Abstract: Cloud computing comes in several different forms. This paper documents how service, platform and infrastructure forms of cloud computing have been used to serve library's needs. After giving an overview of how libraries’ IT infrastructure is migrating to a cloud environment and concludes with a model for assessing cloud computing. How can libraries use the cloud to both personalize and localize the user's information seeking experience? Can the cloud save libraries money and resources by using computing devices more efficiently?]

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Introduction

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Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction [2].

Whereas according to Encyclopedia Britannica, cloud computing is a method of running application software and storing related data in central computer system and providing access to customers or other users through the Internet. [3]

**Types of Cloud Services**

The following are the three major types of Cloud Services.

**SaaS (Software as a Service)**

This is the most popular services. The service provider offers software to support the service on offer. The software is built by the service provider while the end users can configure it to suit their needs. With SaaS, a single application is delivered to thousands of users from the vendor’s servers. Customers don’t pay for owing the software; rather, they pay for using it. Users access an application via an API accessible over the web. Some of these Web-based applications are free such as Hotmail, Google Apps, Skype, and many 2.0 applications, while most business-oriented SaaS, such as SalesForce, is leased on a subscription basis. There is usually little customization or control available with these applications. However, subscribers benefit from low initial costs, have access to (usually 24/7) support services, and needn’t worry about hosting, installing, upgrading, or maintaining the software.

**PaaS (Platform as a Service)**

Offers a platform to clients for different purposes. For Example, the Windows Azure offers a platform to developers to build, test and host applications that can be accessed by the end-users. The end-users may or may not know that the application is hosted on the cloud. E.g. Google App Engine, Windows Azure etc.

**IaaS (Infrastructure as a Service)**

IaaS offers infrastructure on demand. The infrastructure can be anything from storage servers to applications to operating systems.
Office 365 offers a combination of these infrastructure and falls under this category. Amazon’s Web Services, one of the major players in this area, offers two main products including the Elastic Compute Cloud (EC2), which provides computing resources and Simple Storage Service (S3) for data storage.

The table [4] below shows which library applications have already been migrated or are in the process of being migrated to cloud environments.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SaaS</td>
<td>OpenURL resolver, journal listing service, instructional guides, reserves statistics, IM/chat service</td>
</tr>
<tr>
<td>PaaS</td>
<td>ILS, archives management software, initial website applications</td>
</tr>
<tr>
<td>IaaS</td>
<td>Institutional repository discovery layer, ILS discovery layer</td>
</tr>
</tbody>
</table>

**Cloud Computing Advantages**

The advantages of cloud computing include reduced costs, easy maintenance and re-provisioning of resources, and thereby increased profits. Cloud also helps save the environment. There are many advantages a company would have if they would consider cloud computing as a part of their business plan. Chief among them is the ease of operations. Every employee will be able to have access to the system wherever they are.

Cloud computing can save a library’s time and money by enabling convenient, on-demand network access to resources like servers and applications. Libraries that take advantage of the cloud have fewer IT headaches because data centers provide continuous updates and mobility that standard computing cannot easily provide. This means less time and energy is spent on software, and more time and energy is devoted to the library’s day-to-day mission and services.

**Cloud Computing in Libraries**

Anyone who has used any of the popular Web 2.0 services over the past few years (e.g. Gmail, Wikipedia, Flickr or Twitter), has already
got some experience with cloud computing, as most of these applications are hosted in the large online data centers that are the hallmark of cloud computing. The following effects of cloud computing will probably have positive impact libraries and other small-to-mid-sized organizations.

Cost Savings

In an era of shrinking budgets, it gets harder with each passing year to justify the purchase and maintenance of servers that aren’t in use most of the time. Cloud computing offers price saving due to economies of scale and the fact that one only has to pay for the resources actually used.

Flexibility and Innovation

Organizations of all sizes can take more risks when it comes to creative, innovative technology ideas when the new application will run on someone else’s infrastructure. Libraries don’t have to decide between devoting their limited server resources to the OPAC’s overflow traffic and a new mobile web application that one of colleagues wants to develop. If they’re both hosted in the cloud, the resources devoted to each will shrink and expand as traffic rises and drops. Furthermore, creating and configuring new virtual server instances is fast and easy in the cloud.

Broad, General IT Skills Vs Deep, Specialized Skills

Cloud computing increases the pressure on IT professionals to become well-rounded employees with highly-developed managerial skills. Knowing how to configure and network a server isn’t enough. Systems librarians have to manage complex projects and evaluate competing vendors on a variety of criteria. Holding vendors accountable is especially important when they manage a significant chunk of library’s online data and IT infrastructure. Therefore, as long as cloud security remains a significant concern, techies may be called upon to help write binding conditions, enforceable contracts that hold vendors to certain standards with regards to reliability and security of their services. Furthermore, techies will likely be part of the teams that periodically audit cloud vendors and ensure they’re performing up to the contracted standards.
Cloud OPAC and Cloud Integrated Library System (ILS)

Over the past year, more and more ILS vendors have started offering cloud-hosted versions of their products. OCLC joined several other vendors last year when they began offering a cloud-based ILS tools that complement their existing cataloging tools (e.g. WorldCat and FirstSearch). As individuals and members of organizations, it is necessary to choosing between desktop applications and cloud applications when it comes to e-mail, RSS, file storage, word processing and other simple applications. Sooner or later everyone has to make this choice for mission-critical enterprise applications.

Private Clouds, Hybrid Clouds and Community Clouds

The hybrid model would let libraries maintain more control over the applications and data-stores that contain sensitive, private information about patrons. Moreover, libraries can continually adjust and fine-tune the balance between the tight control of a private IT infrastructure and the flexibility and savings of cloud-hosted infrastructure. [5]

Cloud Services and Major Providers for Libraries

Early pioneers of cloud computing include salesforce.com, which supplies a popular business application for managing sales and marketing efforts; Google, Inc., which in addition to its search engine supplies an array of applications, known as Google Apps, to consumers and businesses; and Amazon Web Services, a division of online retailer Amazon.com, which offers access to its computing system to Web-site developers and other companies and individuals. Cloud computing underpins popular social networks and other online media sites such as Facebook, MySpace and Twitter. Traditional software companies, including Microsoft Corporation, Apple Inc., Intuit Inc. and Oracle Corporation have also introduced cloud applications. [6]

DuraCloud

The DuraCloud project is a pilot program that is exploring the use of cloud computing technologies to test the perpetual access to digital content. The pilot will focus on a new cloud-based service (DuraCloud) developed and hosted by the DuraSpace organization. Among the National Digital Information Infrastructure and Preservation
partners participating in the DuraCloud pilot are the New York Public Library and the Biodiversity Heritage. DuraCloud is particularly focused on providing preservation services and access services for academic libraries, academic centers and other cultural heritage organizations. [7]

Web-scale Management Services

OCLC® Web-scale Management Services (WMS) stand apart traditional ILS systems by offering member libraries Web-based library management tools for metadata management, acquisitions, circulation, license management and workflow movement. By moving these functions to the Web, libraries are able to share infrastructure costs and resources, as well as collaborate in a way that free them from the restrictions of local hardware and software.

Features

Acquisitions for Physical and Electronic Collections

All of required acquisitions functions are available in one service; need to shuttle back-and-forth among multiple systems. A centralized Vendor Information Center makes B2B (Business to Business) services more efficient and cooperative.

• Circulation and Patron Management for the 21st Century

• All functions are handled centrally using a simple, Web-based interface.

• Discovery and delivery as users expect it

• WorldCat Local’s single search connects users to all of the library materials (physical, electronic and digital) and the delivery services that get them what they need.

• Cataloging tools for data creation and enrichment

• WorldCat metadata powers or enables thousands of libraries’ cataloging activities. With Warehouse Management Systems (WMS), this process is integrated with acquisitions—where the local holdings are stored in a single place for easy updating.
and cross-functional use. The results expected are more records, lower costs and better data. [8]

**Amazon Simple Storage Service (Amazon S3)**

Amazon S3 is designed to make web-scale computing easier for developers. Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, secure, fast, inexpensive infrastructure that Amazon uses to run its own global network of web sites. The service aims at maximizing benefits of scale and to pass those benefits on to developers. [9]

**Amazon Elastic Compute Cloud (Amazon EC2)**

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It is designed to make web-scale computing easier for developers. Amazon EC2’s simple web service interface allows to obtain and configure capacity with minimal friction. It provides the user with complete control of users’ computing resources and lets him/her run on Amazon’s proven computing environment. [10]

**Google App Engine**

These services come in the form of the Google App Engine, which enables developers to build their own web applications utilizing the same infrastructure that powers Google’s Powerful applications. The Google App Engine provides a fully integrated application environment. Using Google’s development tools and computing cloud, App Engine application are easy to build, easy to maintain, and easy to scale.

**Conclusion**

We know that library is not only a ocean of knowledge; its ultimate aim is to provide satisfactory services for all the people. So in the new era, library should improve itself constantly by adopting to many new IT technologies. With the introduction of Cloud Computing to library, services of libraries will have a new leap in the near future. Services provided by libraries will become more user-centric, more professional and more effective, etc. We all believe that libraries will create more knowledge benefits for our country with the help of Cloud Computing.


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Library Automation and Networked Services

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[Abstract: In India there are many libraries where automation and networking are in planning stage. This is an overview of successful library automation, In general a life cycle of five years is considered to be acceptable for a computer system before some significant upgrade (installation of additional hardware and/or software providing for increased capability or capacity) or replacement will be necessary. As technology represent a fundamental change in the way libraries function, there should be an ongoing commitment to keeping pace with change. Therefore, plans must also change with time. A library should conduct a major re-evaluation of its plan in every five years, and should review its plan on an annual basis.]

Keywords: Automation, Library Automation, Networked Services

Introduction

Library automation, which started in India in late 1970s in few special libraries, has now reached most of the academic libraries. Development and use of information and communication technology (ICT) has enabled the libraries not only to offer their clientele the appropriate information available within their libraries but also to access information from other libraries, both local and global.

Developing an integrated software system applicable in libraries has been one of the greatest challenges. The level of automation reached
in the libraries surveyed is an aspect that has a direct link with the provision of a high value-added service through the new technologies. From data collected, it can be deduced that libraries’ priorities at the beginning of the automation process were the collection cataloging, followed by acquisition and reference at a similar level. The emphasis in libraries is shifting from collections to access. Providing access to information has become the principal goal and activity, coping with technology and change are the principal driving forces of the emerging information age library. The explosion in the quantity, cost and communicability of information is a new phenomenon which calls for new responses. Among these responses must be a willingness to embrace new technology and accept change.

The famous line from Thomas Carlyle, “the true University is a collection of books” may have been true in his day, but it is not true today. This is an electronic age where universities and the libraries that serve them must be much more than collections of books. Knowledge is being created and communicated at expanding rates and this is causing changes in both the economics and technology of libraries in the developed countries.

Library Automation Expectations

1) Automation of Acquisition

- Ordering, • Receiving, • Claiming, • Accounting, • Enquiries (order status, receiving status), • Accessioning, • Bill Processing, • Payment, • Reports and Statistics.

The objectives of automation of acquisition are cost containment, speeding up of the receipt of materials, improving fund control and developing single function systems into integrated systems. It is expected to perform managerial and clerical functions like pre-order searching, creating purchase orders, etc. Systems are usually designed to handle regular as well as the standing and blanket orders, exchanges, regular receipts and non-receipts, out-of-print documents with wrong billing, unwanted documents with right billing, prepayment, on approval, and so on. The system should be able to handle reorder to another vendor and should provide retention of records under conditions such as items out of print, items never published, orders cancelled, etc. Thus, functions of automated acquisition control systems include pre-order
searching, ordering, claiming, cancellation of orders, receipt processing, payment, routing, fund accounting, vendor accounting, currency control, statistics and report compilation, etc. The system should be able to handle orders to a variety of documents, viz. monographs, monograph series, law reports and statutes, musical scores, etc., irrespective of their physical formats like print, microfilm, microfiche, micro card, film, videotape, audio cassette, compact disc, audio disc, magnetic tape, software.

2) Automation of Serials System

- Order placement and renewal of subscription,
- Receiving and claiming,
- Binding control,
- Fund accounting,
- Cataloguing of serials,
- Enquiries (arrival of serials issues),
- Reports and statistics.

General objectives of an automation of serials system are to handle serials and to maintain holdings. The system must perform the following functions: Subscribing to new serials: Sending Have special instructions such as subscription letters; keying-in serial data retention, special routing, holding, special and maintaining subscription file check-in procedures, Accessioning of individual issues as and when the issues are received, Sending reminders if necessary, Claiming the issue (request for replacement of defective copy, follow up of missing copy, etc.), Preparation of various lists: List of periodicals to be renewed; list of periodicals received/cancelled during a specified period, List of holdings with their statuses: In shelf, in binding, in circulation, etc.; union listing (the lists can be by subject, by country of origin, by title, etc.), Keeping track of amount spent on serials subscription, binding, etc, Estimation of budget, Binding control The system must handle all types of serials like, periodicals, continuations, law reports, news papers, annals, memoirs, indexes, supplements, loose leaf materials, etc, The system should also store all data pertaining to serials, holdings, subscription, vendor, current issue status.

3) Automation of Circulation

- Setting of user privileges,
- Issue, return and renewal,
- Reservation,
- Fine calculation,
- User management,
- Reminders and recalls,
- Enquiries (about item, borrower, reservation),
- Reminders and notices,
- Reports and statistics and patron self services.
Circulation is a very specific and well defined operation. It has many clerical function of keeping track of documents taken out or returned by the user. The automation of circulation is designed to record and manipulate the information such as, who borrowed what and when. High accuracy in processing this information is achieved by the use of barcodes.

4) Automation of Catalogue

- Standard format support,
- Authority control,
- Shared cataloguing,
- Z39.50 based copy cataloguing,
- Output generation,
- User services.

Crucial objective of a computerization of cataloguing is to create user bibliographic file, consisting complete cataloguing elements, as required by MARC, CCF, etc. Authority control files Catalogue/database, often known as online/off-line public access catalogue (OPAC). Item file consisting of records for each documents Shelf-list which is separately maintained in the automation of cataloguing for convenience and security reasons Accession file, which strictly speaking is a part of an automated acquisition control system. The bibliographic and authority control files are usually accessed only by the library staff i.e., those who are involved in cataloguing. Users may be allowed free access to the catalogue/databases; sometimes users are even allowed to access authority control file but not allowed to edit the authority control file. An item file is primarily maintained and operated by the library staff to provide services like circulation, document location, the shelf-list and accession file are usually operated and maintained by the librarian.

It should be possible to adopt any authority control service of any other bibliographical information system. In any automation of cataloguing system, the provision should be made to share the bibliographic file by all its components. It must have the capacity to provide full MARC bibliographic records and the necessary index. It must accept, retain and output complete bibliographic records either in MARC or Common Communication Format (CCF) or any other format similar with ISO 2079 standard. It must be able to accommodate and allow access by a variety of classification schedules. Item file consists of records pertaining to items; items may be monographs, serials, Govt.
documents, media, or any other type of materials. Item records contain an item-specific label number, indication of adult or juvenile level, fine level, call number, location, holding facility, and loan period. It also contains the due date, last discharge date, number of circulations since a specified date, holds against the item.

Steps for Perfect Library Automation

Redefining and Planning for Library Automation

Library automation is a very complex process and needs exhaustive planning considering present and future needs of the users. This includes hardware, software, manpower, materials and mechanics, obsoleteness, updating, adoptability and very fast changing IT environment.

Selection of library software & others required software

While selecting the hardware is the joint responsibility of purchase committee, HoD of Computer division etc, the librarian has to take lead in choosing software. Some of the criteria used for selecting the software are as follows.

- **Vendor Validity**: The following questions judge the validity: Is the vendor also a software developer, or is the vendor a distributor or an agent for the software developer? Is there an international presence or is the company localized? How long has the software developer been in the library systems industry? How long has the library system, you are interested in, been on the market? Who are using their products? How many times the software has been revised since the time of its first launch, how many parameters are available for each module? Whether the software has facility to import bibliographic data available in MARC 21 format and similarly export of data in this format? Whether available on major operating systems? Whether it is web inter faceable? Whether it can be interfaced with the e-mail system of the campus network? How many installations it has got in the country? Whether it can offer OPAC and different rights to different logins? Also gather information about database architecture, database migration, Maintenance, Database security.
• **Services Availability Checklist**: The following are the core services to be included: Acquisition, Cataloguing, Circulation, OPAC, Serials control, bibliographic format support, data exchange format support, article indexing, retro conversion, standard report and system administration. Enhanced services: Customized report generation, GUI based user interface, reservation facility, interlibrary loan module, multi-lingual support, union catalogue, authority file support and controlled vocabulary, online help, online tutorial, power search facility, internet support, intranet support, web access OPAC, multimedia interface, barcode support and backup utility. Value-added services: Patron self service through RFID and smart card (self circulation, self reservation etc.), online user training/orientation, stock verification facility, members photo ID card generation, barcode generation, fine calculation and receipt generation, gate pass generation, bulletin board services and e-mail reports, electronic SDI, CAS support, digital media Introduction archiving support.

• **Functional Checklist**: The following general features are part of software module testing, and each should be tested or conducted during the evaluation process: Searching Capabilities (All modules), Data Entry and Editing (All modules), Bibliographic/item File and Maintenance, Bibliographic Interface Software, Authority Control, Inventory (Circulation), Check-out (Circulation), Renewal (Circulation), Circulation/Management Reports (Circulation), Check-in (Circulation), Fines and Fees (Circulation), Notice Production (Circulation) holds (Circulation), Recalls (Circulation), Patron File (Circulation), Reserves (Circulation), Portable Back-up Units, Report Writer, Acquisitions, Serials, Electronic Databases, Gateways, Network Operations, Z39.50 Server, Inter-Library Loan.

• **Data Conversion and Backup Utility**: The ability of a package in terms of support for data conversion from other library systems and adherence to the international bibliographic data standards and protocols should be checked extensively. In this age of shared cataloguing systems and
web integration, the LMS should also support metadata schemas and interoperability issues like XML, RDF and OAI/PMH. Backup facility in suitable media is also to be checked in view of data recovery at the time of need.

- **Training, Documentation and Customer Support**: The vendor must provide adequate training facilities without fees to supervisor and operators to: manage and operate the system on a day-to-day basis, run backup operations, software utilities and cataloguing utilities, troubleshoot and solve simple problems and load software enhancement received from the vendor. Complete documentation (in hard and soft form) must be available with the package along with regular documentation updates and release notes available for local printing or downloading via web. The package must have support from the software vendor for maintenance, data conversion, emergency and on-call support and disaster management. Hardware and Third Party Software Requirements: The vendor should provide a complete list of hardware requirements (processor type and RAM) for server and client machines, operating system requirements and back end RDBMS (with version) requirements. Evaluation should be based on total cost for minimum hardware and third party software requirements of the package. Performance Testing: Any LMS should be evaluated by checking some performance testing like transaction throughput capacity and response time, hardware functionality, module functionality, conversion testing, database loading, index building.

**Prominent Library Automation Software**

- LIBSYS
- VIRTUA
- ALICE FOR WINDOWS.
- KOHA
- SOUL BASISPLUS AND TECHLIBPLUS
Challenges and Issues

The challenges of library automation are concerned with training programme, standards to be selected for the bibliographical formats and records, retrospective conversion of the manual catalogue so that the library users will have access to the machine-readable catalogue for the entire collection, indexing policy, hardware and software.

Integrated Library Network Services

Network Services are viewed as digital information services accessed through network. The following are a few such services.

- **Electronic Data Interchange (EDI) services**: EDI is the process of obtaining and acquiring library materials that involve selection, order, receive and invoice actions.

- **E-Catalog (E-CAT) services**: E-CAT services facilitate in browsing, searching, finding and retrieving library documents such as books, journals.

- **E-Circulation (E-CIR) services**: E-CIR services intend to check-out, check-in, renewal, reservation, etc. of library materials.

- **Electronic/Virtual Reference (E/VR) services**: E/VR services make real-time interactions between library staff and users in order to enquire and get reference materials through various modes such as e-mail, chatting, and instant messaging.
• **Online services**: Online services provide access to information resources (either licensed or non-licensed resources such as e-books, e-journals, abstract databases and open access journals) which are stored at remote locations.

• **Multimedia Database (MD) services**: MD services as medium of storage and retrieval, offer mixed media (CD-ROM and audio/video, etc) materials of user interest.

• **Network Communication (NC) services**: NC services use fast-paced communication tools (Internet, e-mail, telephone, facsimile, videotext/teletext, video and audio, etc) for information transfer and delivery.

• **E-Current Awareness (E-CA) services**: E-CA services (in the form of current contents, Selective Dissemination of Information (SDI), alert, new arrivals, newspaper-clipping) notify latest documents of various disciplines of user interest.

• **Electronic and Web-based Document Delivery (E/WDD) services**: Digital revolution shapes libraries and their collections more visible, accessible and usable.

The amount of digital information used in libraries is largely network-based. They prefer to use and access networked information resources, rather than physical access. Therefore, the majority of academic libraries today create a network shelter in order to extract optimum use of their networked resources and services for meeting the preeminent academic needs. Growing proportion of library services through network is enhancing the academic excellence in terms of teaching, learning and research. Library of an academic setting provides different kinds of NSs for different purposes.

**Conclusion**

All libraries should use standard software packages for automation and database creation to facilitate the exchange of bibliographic records between libraries. Databases may preferably be created in the MARC21 format because most libraries at the international level follow this. There is need for continuous monitoring of automation activities for improvement of the situation and for meeting the future needs.
Reference


Innovative Information Services

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[Abstract: The advancement of Information Communication Technology (ICT) has bought a lot of changes not only on the library and information services but also the roles and expectations of librarians and information professionals. Due to the changes in information storing and handling in digital and hybrid formats, work of library professionals has changed in the new environment. To manage the library effectively, the librarian should have knowledge of computers, networking, content management, information analysis, internet surfing, digital resources, websites and organization of collected data. It is important that librarian should change and upgrade themselves as per the requirement of the changing time. This paper attempts to focus on the need of different innovative information services in the present modern era. The article covers the different trends in library services in the internet age and various types of information services like e-library, e-services, podcasts, twitter, drupal etc.]

Introduction

Nowadays there is enough talk about innovation. Does innovation mean incrementally changing systems and/or services to be better than what they were? Or does it mean really doing things differently, fundamentally changing our products and/or operations? Stephen Abraham, an information industry watcher and thought leader, provides his perspective on how to recognize innovation. Innovative ideas can come from anywhere, but it takes a certain skill set to be able to recognize great ideas. This type of ‘recognition’ is a skill that can be honed. One simple way to recognize innovation is to ask whether it brings change with it.
The terms change and innovation are often used interchangeably. An innovation, or a change, is traditionally defined as any idea, practice or object, which is seen to be new by the individual or the organization either adopting or rejecting it.

Basically why there should be innovation in library services? Due to dramatic changes in the information environment and the ICT sector, library managers have an interest not only to adapt to these sweeping changes, but, more importantly to trigger innovative ideas from their personnel with a view to remain at the frontiers of knowledge rather than as mere passive observers.

The successful implementation of innovations in libraries largely depends upon various policy instruments, the library ambience, administrative lookout, readership, the size, technological infrastructure, investment capacity and such other factors.

All these changes noticed owing to ICT can be grouped into the following three trends.

- The library is shifting its focus from concentrating on supply towards what is asked for by its customers. In correspondence with this trend, information and reference are becoming more and more significant.

- As a result of growing internet influence, the library services are blending with the teaching process. A similar trend can be observed in the process of research. Here, the fundamental stages are the identification of sources, the exchange of information with colleagues, the interpretations and analysis of data and the dissemination of findings.

- A third trend is related to the so called information chain. The role of the library is often described as a link in this information chain.

These trends have led to the introduction of the following innovative services.
Innovative Information Services

E-Library

Many libraries view their role as "stewards of contents". This impacts the way in which they are acquiring and managing content and their involvement in digitizing content. They are creating specialized databases or e-resources for users. A small public sector library manages a specialized wiki, populated by users for its unique subject areas.

Some of the e-library services for the public sector libraries include the following:

1. Delivering content and research via email and the intranet.
2. Presenting and curating specialized paper publications for the organizations.
4. Providing access to e-books via intranet.
5. Digitizing special collections and rare books by topic, adding context to full-text and surfacing the collection for special occasions.
6. Creating and developing a database of foreign law produced by an international consortium into which participants upload their country’s laws using common standards and taxonomy.
7. Embedding content into the workflow of users through portals.
8. E-services: The value added services layered on the content to increase its utility for clients. Using the idea Library of Congress which offers an "Ask a Librarian" service and a global digital reference-cum-research service providing answers on demand for specialists, political experts and lawyers.

Joint-Use Libraries

A ‘Joint-Use Library’ can be defined as a unique facility which has been jointly created or contracted for by two or more entities to
serve their combined library needs. A key element of such activity is the formal written inter-institutional agreement, or contract, which defines each partner’s role and responsibility in the operation, management and financial support of the facility. It is well understood that the reasons for which Joint-Use libraries have become popular and sought after in more developed countries, are very much applicable to Indian conditions also. But, the challenge of providing library services to distance learners has made ‘joint-use libraries’ almost a necessity in the Indian context.

Application of SMS in Libraries

SMS could be used to provide quick, easy access to library services. The SMS facility can be used as a medium for the communication of reference queries in libraries. It is a form of virtual reference service. The text messaging technology can be used for referral services, to guide the users to the source of information.

Podcasts

Podcasts are audio or video programs posted online in standard formats such MP3 and MP4 and distributed by subscription via RSS syndication. Since the ability to record and upload content is now within reach of just about anyone with a laptop, a portable headset a free blogging account, the range of topics and perspectives available is truly staggering.

RSS Feed Readers

RSS feed readers aggregate news headlines, blog posts, articles and other dynamic content from across the web, all in a single convenient preview and reading environment. Also known as news readers, these applications provide a convenient way for users to subscribe to their favorite web sites and to monitor each new item posted, without ever having to visit the site directly.

Web-Based RSS Readers

Web-based RSS readers like Google Reader, Bloglines and Shyftr stands for “Share Your Feeds Together,” is a new online feed reader that combines RSS with a social network that’s built solely around the feeds you read and share with your friends. You can use Shyftr to read
your own feeds, read the feeds of other users by viewing their feed list, or search through the content of the Shyft network to find new feeds that interest you.

Shyft offer free, flexible platforms for users to follow as many websites as they like. Web-based readers are similar to popular webmail services like Hotmail and Yahoo Mail. They allow users to create personal accounts and log in from anywhere in the world, retaining personal settings and content.

**Twitter**

Professionals should also consider adopting Twitter (http://twitter.com), the popular Web 2.0 messaging service, as a connection to breaking news and insights as they first stream out across the web. Many libraries have already started experimenting with library Twitter accounts as an outreach tool to share news, events and links with their patrons.

**Web Publishing**

WordPress started out as a quick, free, open-source solution (blogging solution) just a few years ago; today it is a perfect alternative to building a web site from scratch. In addition to being free to use (and easy to install), the WordPress community has exploded, with thousands of users and programmers creating custom themes and plugins to completely change the way the software looks and operates.

**Drupal**

Drupal is a free software package that allows you to easily organize, manage and publish your content, with an endless variety of customization. It is another open source web publishing option that some libraries may want to consider. One of the most important aspect of any library is its community, and that's where the technology behind Drupal might come in to play a little better. Many have used the software to build rich community based web sites where many different users can control a large amount of content.

**MediaWiki**

MediaWiki is a free open source software wiki package written in PHP, originally for use on wikipedia. It is now used by several other
projects of the non-profit Wikimedia Foundation and by many other sites. It allows users to create and edit information from a very simple to use text interface.

Another open source wiki platform is **TWiki**, a flexible and powerful enterprise wiki that is perfect for project management. **TWiki** is a Perl-based structured wiki application, typically used to run a collaboration platform, knowledge or document management system, a knowledge base, or team portal. Users can create wiki applications using the TWiki Markup Language, and developers can extend its functionality with plugin.

**Synthesite.com**

Synthesite.com is one of the free web publishing sites. Librarians should make their website free of cost on this site and also can publish their documents easily.

**Conclusion**

In short, a lot of strategies can be adopted to develop the knowledge innovation culture of libraries. These additional features help in creating a learning culture, shaping knowledge-based team organization, improving trust and cooperation and enhancing human resource development.

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Digital Preservation: 
A New Challenge

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[Abstract: Preservation is a type of preventive measure to protect documents. It is a never ending process; libraries have been adopting and applying different kind of methods for preserving their materials right from the past. Digital preservation is the new emerging techniques. This paper defines digital preservation, its needs, basic requirements, strategies, process and future of digital preservation. Digital collections facilitate access, but do not facilitate preservation. Being digital means being ephemeral. ]

Keywords: Preservation, Digital Preservation, Preservation Techniques, Digital Documents

Introduction

Digital preservation refers to the management of digital information over time. The preservation of paper or microfilm, the preservation of digital information demands ongoing attention. This constant input of effort, time and money to handle rapid technological and organizational advance is considered the main stumbling block for preserving digital information beyond a couple of years.

1. What is Preservation?

Preservation is the process of keeping an object safe from harm, loss, damage, destruction or decay, and maintaining it in a reasonably sound condition for present and future use.

Preservation is an indirect method of treatment in which the environment around an item is changing. This includes stabilizing, maintaining and monitoring temperature, humidity, light exposure, air pollution, dirt, dust and mold. Preservation also includes surveying the condition of the building and the collection, the construction of protective
enclosures using acid-neutral or buffered materials, proper storage and handling techniques, security, disaster prevention.

2. What is Digital Preservation?

Digital preservation is the active management of digital information over time to ensure its accessibility. Preservation of digital information is widely considered to require more constant and ongoing attention than preservation of other media. This constant input of effort, time and money to handle rapid technological and organizational advance is considered a major stumbling block for preservation of digital information. Indeed, while it is still possible to read the written heritage produced several thousand years ago, the digital information created merely a decade ago is in serious danger of being lost. That would create a digital Dark Age.

Digital preservation is the set of processes and activities that ensure continued access to information and all kinds of records, scientific and cultural heritage existing in digital formats. This includes the preservation of materials resulting from digital reformatting, but particularly information that is born-digital and has no analog counterpart. In the language of digital imaging and electronic resources, preservation is no longer just the product of a program but an ongoing process. In this regard the way digital information is stored is important in ensuring its longevity. The long-term storage of digital information is assisted by the inclusion of preservation metadata. There are three types of digital preservation.

- Long-term preservation: Continued access to digital materials, or at least to information contained in them, indefinitely.

- Medium-term preservation: Continued access to digital materials beyond changes in technology for a defined period of time but not indefinitely.

- Short-term preservation: Access to digital materials either for a defined period of time while use is predicted but which does not extend beyond the foreseeable future and until it becomes inaccessible because of changes in technology.

According to Kelly Russell, "Digital preservation is a process by which digital data is preserved in digital form in order to ensure the
To preserve the maximum amount of information carried by the original.

To provide for the longest period of preservation, practicable with the present technology and compatible with the other requirement.

To provide for the continuous and ready availability of the preserved materials to any one who needs them.

To avoid unnecessary duplication of effort and expenses.

5. Types of Digital Documents

Digital preservation concerns two types of documents.

- Born-Digital documents.
- Digitised documents.

Born digital documents: These refer to those materials that were initially created using some form of digital technology. These 'electronic records' could be grouped into two generations such as:
  
  - First generation of electronic records. (flat file or comma delimited ASCII files)
  - Second generation of electronic records. (object oriented databases and multimedia files)

Digitised Documents: These refer to those materials, which have been transformed from analog to digital through some reproductive means such as re-keying the information or scanning the document or object etc.

6. Digital Preservation Techniques

There is no one single solution to the challenges of digital preservation. Digital preservation continues to present a complex challenge which is why there are so many different strategies and a number of different applications currently being undertaken by various organizations around the world to address the digital preservation challenge.
still when you open it, you see the content as it was intended by the author/publisher. The same approach of benign neglect to a digital object is almost a guarantee that it will be inaccessible in the future.

3.2 Hardware Obsolescence

Even if you return to the digital object after five years to find whether the disk is in working condition and you have a software that can open the file, but if that file is on a disc your computer doesn’t have a drive for, you will not be able to access it.

3.3 Software and Format Obsolescence Problem

Alternatively, the software or file format can become obsolete for a number of reasons. For example, software upgrades may not support the old legacy files; the format take up is low and the industry does not produce compatible software; software which supports the format may be bought by a competitor and withdrawn form the market place. Without the intervention of digital preservation techniques the information contained will no longer be accessible.

In short, need for Digital Preservation is due to the following reasons.

- Records become old.
- Diversity and complexity of recorded materials increases and there is limited budget.
- Escalation of prices.
- Increasing concern for preserving artifact values of information materials with innovative technological know-how.
- Emergence of digital products.
- Integral part of librarianship life span of information materials sources are artificial Nature of individual entities of the collection.
- Protected and Preserved for current and future generation.

4. Objectives of Digital Preservation

- To preserve all recorded materials of significant value.
The advantages of emulation are that the original data is not altered in anyway which helps to maintain the data and records integrity and functionality. It is also an efficient process in that once the data is emulated no further action is required, until it needs to be emulated again as a result of technology advances.

This strategy of emulation can be a costly and time consuming process.

While emulation is a used method of preservation, its practical benefits are again currently not widely demonstrated, but whatever testing has been done, has been positive. More study is required to be carried out.

There are differing views on emulation as some experts think that it will be a solution to digital preservation, whereas the others consider that it is only a small part of the overall strategy for digital preservation.

- **Encapsulation**

  Encapsulation is the grouping together of digital objects and metadata needed to provide access to the object. It is seen as a solution to technological obsolescence for file formats because all the information to interpret the 'bits' is available.

  Encapsulation is an element of emulation and a number of methods are being developed using its theory, notably the universal preservation format.

- **Normalization**

  Normalization involves the migration of digital records to standard formats. Normalization is the most frequently used preservation strategy. What occurs is the data file format is detected and converted to an open format for preservation. Using this technique the records authenticity may be lost if essential metadata is affected during the conversion.

  Normalizing converts the record to an open standards based format that allows it to be documented and accessible. The normalized
There are some digital preservation strategies available currently for addressing digital preservation. The choice of strategy depends on the nature of digital material to be preserved, the purpose of retention and the organization. Some of the strategies available are given below.

• **Migration**

Migration is the transfer of digital materials from one hardware or software type to another or from one generation of computer to another. Migration can also be the transfer to non-digital media such as paper or microform, or the transfer to a more suitable medium for example floppy disc to CD-ROM. Migration ensures the integrity of the object, preserving the essential characteristics of the data and retaining the ability to retrieve or view despite changes to technology.

It is important that organizations must determine what aspects have to be migrated, what needs to be preserved and to determine if migration is appropriate.

Another aspect to migration includes migrating to standard formats. Standard formats are seen to be less volatile than other formats. However, standards also are always in a state of flux and cannot be solely relied upon as a preservation strategy.

Migration is a costly and time consuming process. Its use has also not been fully tested on complex file formats. Further investigation is required but migration offers a most promising approach.

The Process of migration can also include refreshing. Refreshing is copying digital information from one long term storage media to another without changing the object or the bit stream. Refreshing ensures that the information is stored on a newer media before the old media becomes obsolete.

• **Emulation**

Emulation is duplicating the functions of one system using a different system so that the second system behaves and appears to be the first system and the original digital material is thought to be still available in its original form. Emulation is a way to combat technological obsolescence, as it provides a way of preserving the functionality of access to digital information which may be lost with the software or hardware when it becomes outdated.
7. Difficulties in Digital Preservation

* Hardware and software are becoming obsolete in very short time.
* Incompatibility of different versions of hardware and software.
* Finding knowledge of how to use older hardware and software.
* Aging and decaying storage media.
* Loss of information.
* Rapidly increasing number of digital objects and proliferation of document standards and formats.
* Lack of consideration of long-term access requirements when creating digital products.
* Copyright/intellectual property rights that may interfere with the ability to preserve digital objects through systematic copying.
* Unstable storage media with limited life span.
* Lack of technical expertise in collections managers and preservation experts.
* Frequent Changes in hardware, software and media technology.

8. Precautions for Digital Preservation

* Storing in a stable and Controlled environment.
* Implementing regular refreshment cycles to copy into newer media.
* Making preservation or back-up copies.
* Implementing appropriate handling procedures.
* Transferring into standard storage media.
version of the digital record is also 'wrapped' in metadata. During the normalization process some information may be lost, thus the new version is not considered an original copy.

Xena (XML Electronic Normalizing Archives) is free and open source software designed and implemented by the National Archives of Australia. It is meant for long term preservation of digital documents. Xena is a standalone application that converts digital documents from the original format to an open fully documented format, bit stream and normalized for digital preservation.

- **Bit Stream Preservation**

  Bit Stream Preservation is storing the binary code of the digital object. It is not a stand alone process. Bit stream preservation is to be used as a foundation for other preservation strategies. The object will not be viewable without the original creation hardware and software, thus it needs to be used in conjunction with other preservation strategies to ensure accessibility.

- **Technology Preservation**

  This involves preservation of working replicas of key computer hardware with the programs that run it and on it. This is not a viable preservation option in the long run due to the costs associated with maintaining the ageing computers and the staff and training required to maintain and run the technology.

**Open Archival Information System (OAIS)**

Open Archival Information System (OAIS) is the only official standard in digital preservation. A reference model is available that provides a model and framework for building and maintaining repositories for long term preservation and access to Digital materials.

**Digital Preservation Policy**

The choice of technology is not the only consideration of digital preservation. Successful digital preservation also requires the creation of a preservation policy or guidelines, so that staff and stakeholders are clear on what, how, when, where and why records are digitally preserved.

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The digital library and digital information created merely a decade ago may not be easily accessible. Nowadays digital libraries are becoming familiar with people. Similarly everywhere digital material is available and even heritage material is getting digitalized. Therefore, libraries are having preservation departments. In future, many digital libraries will be established everywhere. Professional training will be required for preserving the digital documents.

There will be improved diagnostic tools to analyze and find data regarding preservation need. In addition, there will be longer surviving computer systems will be designed and made available. Digital documents will be ‘self aware’ of their own preservation needs. There will be high degree of automation within digital preservation processes. In future every library should be have own digital preservation department.

Conclusion

Preservation is an important activity of a library. Today preservation of digital documents has become an imperative because of obsolescence of hardware, software and standard file formats. Libraries and archivists need to study thoroughly various issues and concerns about digital preservation because more number of collection is now available in digital format.

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Meaning of the Digital Library

A digital library is a library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible through computers. The digital content may be stored locally, or accessed remotely via computer networks. A digital library is a type of information retrieval system. Depending on the specific library, a user may be able to access magazine articles, books, papers, images, sound files, and videos.

According to E.A. Fox a digital library may be defined as the “New way of carrying out the functions of libraries encompassing new types of information resources, new approaches to classification and cataloguing, intensive use of electronic systems and networks and dramatic shifts in intellectual, organizational and electronic practices”.

A digital library is an organized and focused collection of digital objects, including text, images, video and audio, along with methods for access and retrieval, and for selection, creation, organization, maintenance and sharing of the collection.

Characteristics of Digital Libraries

Digitized library requires digital technologies and is the combination of traditional and media collection. So it encompasses both paper and electronic material. Digital library consisted of mostly electronic documents, which are more of reference type.

- Digital Library has a digital object, which may be text, audio, video, image, and numeric multimedia components.
- Digital library can be accessed from users’ work place.
- Digital library support formal and informal learning procedures.
- Digital library provides remote access to rare and expensive material.

File Names And Identifiers

File names and identifiers are the basic buildings block for the digital library.
Future of Digital Library

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Introduction

The term “Digital Library” has a variety of meanings, ranging from a digitized collection of material that one might find in a traditional library to a collection of all digital information along with the services that make that information useful to users. As the Working Group (WG) discussed possible scenarios, challenge and problems there is a need to come to at least a loose agreement on the scope of the digital library. This document is intended to serve that purpose.

How broad a view should be taken of the digital library? Does it encompass all of information management or is a more tightly constrained view appropriate? In this document, and for the purposes of the deliberations of the WG, we choose to take a very broad view. This is driven by the recognition that to do otherwise would require setting boundaries that are fairly artificial.
• **No physical boundary**

The user of a digital library need not to go to the library physically.

• **Round the clock availability**

People can gain access 24/7 to the information.

• **Multiple access**

The same resources can be used simultaneously by a number of institutions and patrons. This may not be the case for copyrighted material: a library may have a license for “lending out” only one copy at a time; this is achieved with a system of digital rights management where a resource can become inaccessible after expiration of the lending period or after the lender chooses to make it inaccessible (equivalent to returning the resource).

• **Information retrieval**

The user is able to use any search term (word, phrase, title, name, and subject) to search the entire collection. Digital libraries can provide very user-friendly interfaces.

• **Preservation and conservation**

Digitization is not a long-term preservation solution for physical collections, but does succeed in providing access copies for materials that would otherwise fall to degradation from repeated use. **Space:** Whereas traditional libraries are limited by storage space, digital libraries have the potential to store much more information;

• **Added value**

Certain characteristics of objects, primarily the quality of images, may be improved. Digitization can enhance legibility and remove visible flaws such as stains and discoloration.
Names are a vital building block for the digital library. Names are needed to identify digital objects, to register intellectual property in digital objects and to record changes of ownership. They are required for citations, for information retrieval and are used for links between objects.

These names must be unique. This requires an administrative system to decide who can assign them and change the objects that they identify. They must last for very long time periods, which excludes the use of an identifier tied to a specific location, such as the name of a computer. Names must persist even if the organization that named an object no longer exists when the object is used. There need to be computer systems to resolve the name rapidly, by providing the location where an object with a given name is stored.

Features of Digital Libraries

The advantages of digital libraries as a means of easily and rapidly accessing books, archives and images of various types are now widely recognized by commercial interests and public bodies alike. Traditional libraries are limited by storage space; digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain it. As such, the cost of maintaining a digital library is much lesser than that of a traditional library.

A traditional library must spend large sums of money paying for staff, book maintenance, rent and additional books. Digital libraries may reduce or, in some instances, do away with these expenditures. Both types of libraries require cataloguing input to allow users to locate and retrieve material. Digital libraries may be more willing to adopt innovations in technology providing users with improvements in electronic and audio book technology and presenting new forms of communication such as wikis and blogs. An important advantage to digital conversion is increased accessibility to users. They also increase availability to individuals who may not be traditional patrons of a library, due to geographic location or organizational affiliation.
Metadata Creation

In traditional libraries, the access to documents is directly related to how well they were catalogued. While cataloguing electronic works digitized from a library’s existing holding may be as simple, complex and born-digital works require substantially more effort. To handle the growing volume of electronic publications, new tools and technologies have to be designed to allow effective automated semantic classification and searching. While full-text search can be used in some case, many common catalog searches cannot be performed using full-text. Such difficulties arise in the following cases.

- finding texts which are translations of other texts
- linking texts published under pseudonyms to the real authors (Samuel Clemens and Mark Twain, for example)
- differentiating non-fiction from parody (The Onion from The New York Times, for example)

The process of creating a digital library is shown schematically in fig. 1.
Challenges

- Digital Preservation

Digital preservation aims at ensuring that digital information systems are still accessible and interpretable for indefinite future. Each necessary component of the must be migrated, preserved or emulated. Typically lower levels of systems (floppy disks for example) are emulated, bit-streams (the actual files stored in the disks) are preserved and operating systems are emulated as a virtual machine. Migration to new versions is possible only where the meaning and content of digital media and information systems are well understood.

- Copyright and Licensing

Some people have criticized that digital libraries are hampered by copyright law. The republication of material on the Web by libraries may require permission from rights holders, and there is a conflict of interest between them and publishers who may wish to create online versions of their acquired content for commercial purposes.

There is a dilution of responsibility that occurs due to the spread-out nature of digital resources. Complex intellectual property matters may become involved as digital material is not always owned by a library. Some digital libraries, such as Project Gutenberg, work to digitize out-of-copyright works and make them freely available to the public. An estimate of the number of distinct books still in library catalogues from 2000BC to 1960, has been made.

The Fair Use Provisions (17 USC § 107) under copyright law provide specific guidelines under which circumstances libraries are allowed to copy digital resources. Four factors that constitute fair use are purpose of use, nature of the work, market impact and amount or substantiality used.

Some digital libraries acquire a license to “lend out” their resources. This may involve the restriction of lending out only one copy at a time for each license, and applying a system of digital rights management for this purpose.
Key Challenges

- Disparate content formats
- Interface design
- Maintenance (workflow, responsibilities, training)
- Naming and identification of digital documents (e.g. DOI, PURL)
- Rights management and Authentication
- Content creation
- Multilingual issues
- Metadata standards

Indian Scenario of Digital Libraries

- A few, random attempts (IGNCA, C-DAC, IISc, etc.)
- There is tremendous interest in setting up DLs
- Perception problem:
  - DL is often thought of as a replacement of the conventional library!
  - Nothing wrong with the idea, but impractical

- There will be increasing compulsions for DL efforts
  - Digitization of intellectual content generated internally (e.g.: reports, theses, faculty publications)
  - Improved access to internal information ('Access to the corporate memory' – Verity)
  - Local archiving of licensed electronic publications (e.g. electronic journals)
  - Hosting of Indian journals

- Current solutions
  - Integration using freeware on intranets

- Requires local system level expertise
  - Integrated, commercial software (e.g. IBM DL)
- Expensive, complex
Some DL Examples

- NCSTRL - Networked Computer Science Technical Reports Library (www.ncstrl.org)
- NDLTD - National Digital Library of Theses and Dissertations (www.ndltd.org)
- New Zealand Digital Library (www.nzdl.org)
- CORR – Computing Research Repository (xxx.lanl.org)

The Future of Digital Libraries

Large scale digitization projects are underway at Google, the Million Book Project and Internet Archive. With continued improvements in book handling and presentation technologies such as optical character recognition (OCR) and eBooks, development of alternative depositories and business models, digital libraries are rapidly growing in popularity as demonstrated by Google, Yahoo! and MSN’s efforts. Just as libraries have ventured into audio and video collections, so have digital libraries such as the Internet Archive.

According to Larry Lannom, Director of Information Management Technology at the nonprofit Corporation for National Research Initiatives, “all the problems associated with digital libraries are wrapped up in archiving.” He goes on to state, “If in 100 years people can still read your article, we’ll have solved the problem.” Daniel Akst, author of The Webster Chronicle, proposes that “the future of libraries—and of information—is digital.” Peter Lyman and Hal Varian, Information Scientists at the University of California, Berkeley, estimate that “the world’s total yearly production of print, film, optical, and magnetic content would require roughly 1.5 billion gigabytes of storage.” Therefore, they believe that “soon it will be technologically possible for an average person to access virtually all recorded information.”

What Future Do We See?

- Structured access
- Browse and search features appropriate to the content
- Importance of metadata, as approach to the digital document
- Distributed digital collections – transparent access
- Submission support, alerting services
Reference:


• Lack of support
  – Extension of library automation packages to support DL
• Poor architecture
• Scalability issues

Conclusion

There is much interest today in digital libraries with the advancement and new technology in the field of information. Librarians need to improve new skills using the new technology and it requires reorientation of traditional skill of librarianship and information profession. Librarians must acquire the new skills such as networking, web based technologies, online searching of electronic database, CD-ROM Products e-journals etc. In Multidisciplinary Knowledge and Skills are required if information professionals have to survive.

Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities. Library community has used several different phrases over the years to denote this concept as electronic library, virtual library, library without walls-and it never was quite clear what each of these different phrases meant. “Digital library” is simply the most current and most widely accepted term and is now used almost exclusively at conferences, online searches and in the literature. Librarians have discovered that, with a few exceptions, making a business case for digitization and investments in digital technology is more difficult than first envisioned, especially given the technical and legal constraints that must first be overcome. As with most other technical developments in libraries over the years, we will have to move forward in small, manageable, evolutionary steps or say, baby-steps rather than in rapid revolutionary manner.
Open Source Software

The selection of library management software is affected by a variety of social, economic, and political factors. Given to these factors, the software may not be best suited to a particular library’s needs. Open Source Software (OSS) is one of the choices preferred by libraries.

This is both a philosophy and a process. As a philosophy, it promotes the effective use of software and a method for its distribution. Not only a process leading to creation and maintenance of software, OSS software and for which the source code is freely available to be known. The source code can be used and modified to suit the needs of the end-user. The licensing conditions facilitate continued and widespread availability of the OSS software in both commercial
Use of OSS in Academic Libraries

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[Abstract: Libraries organize the information for the purpose of making information resources accessible to the public. Similarly, OSS provides computer application with freely accessible source code that is open to revision and improvement. OSS allows individuals to organize the information that will suite to their needs. Open source library software does not require initial cost and enables the libraries to opt for that. Computer application in libraries can be categorized mainly into three different types viz., for supporting housekeeping functions, technical processing and circulation work. The present paper discusses the use of OSS in libraries, identifies different OSS available for automation, gives advantages and disadvantages of OSS.]

Keywords: OSS, Content Management, Blogs, Wikis, ILMS.

Introduction

The selection of library management software is affected by a series of social, economic and political factors. Owing to these factors the final choice may not be best suitable to a particular library’s needs, its features and functions. Open Source Software (OSS) is one of the options often preferred by libraries.

OSS is both a philosophy and as a process. As a philosophy, it describes the effective use of software and a method for its distribution. OSS is also a process leading to creation and maintenance of software. OSS is software and for which the source code is freely available to the end-user. The source code can be used and modified to suit the requirement of end-user. The licensing conditions facilitate continued re-use and wide availability of the OSS software in both commercial
with acquisitions, cataloguing, circulation and searching modules. Over 2500 libraries across different countries are using NewGenLib.

2. **OpenBiblio** ([http://obiblio.sourceforge.net](http://obiblio.sourceforge.net))

OpenBiblio or obiblio is also an integrated library management system, created in 2002 under General Public License. It is designed for small libraries. The catalogue is in UNIMARC format but records may be imported from other compatible formats.


PhpMyLibrary is a Library automation application. It consists of cataloging, circulation and the WebOPAC modules. It is also associated with an import-export feature. It follows USMARC standard for adding new material.


Koha is an Integrated Library Management System (ILMS) with a growing user community. It is written in Perl by Using MySQL as the fundamental DBMS. Koha makes it simple to create and manage a small or tiny to medium-sized ILS. It is equipped with acquisitions, cataloguing, Circulation and searching modules.

5. **Evergreen**

Evergreen is an open source Integrated Library System (ILS), and it is initially developed by the Georgia Public Library Service (GPLS) for PINES and PINES which is a statewide resource-sharing consortium. The system developed can fit the needs of the user at lower cost. Programmers in the GPLS have developed the project in two years and PINES effectively completed the transition to Evergreen on 5 September 2006.

6. **PMB** ([http://www.sigb.net](http://www.sigb.net))

It is a library automation system created by the French Government in 2002 under the CeCILL license. This offers the same conditions and freedoms as the General Public License for open source software. It is designed for medium and large sized libraries. PMB is a completely free ILS (Integrated Library management System).
and non-commercial environment. The cost of purchase to the end-user is often minimal. Developers can build on what’s been already available, without recreating it from the beginning. They can concentrate only on features which are not available so far. Libraries might benefit by leveraging some of OSS tools that are most commonly used as these can be added to academic libraries without additional investment of time and money.

Blake Carver’s modified and adapted the concept of Ranganathan’s Five Laws to suit Open Source Software. (Source: http://infomotions.com/musings/ossnlibraries/)

Software is for use

Every Computer its users

Every reader his Source code

Save the time of the users

A system is a growing organism

An ‘Open Source Software’ is defined as follows.

1. According to PC Magazine Encyclopedia, OSS is the “Software that allows to be modified and recompiled by the user.”

2. According to Techopedia “Open-source software (OSS) is a software available with source code that can be read or modified by users.”

OSS Products for Library Automation

There are many OSS are available for computerisation of libraries. Among these the most commonly used ones are as follows.

1. NewGenLib (http://www.newgenlib.org)

NewGenLib (NGL) is an integrated library management system. NewGenLib version 1.0 was released in March 2005 and in January 2008 it was declared open source software. It is the result of collaboration between Verus Solutions Pvt. Ltd and Kesavan Institute of Information and Knowledge Management. This product is equipped
4. **Helps in stock verification:** Stock report can be easily obtained by checking the number of books issued, no. of books lost, no. of books on shelf, no. of the books withdrawn etc.

5. **Generation of all kinds of reports:** All the reports can be generated systematically; it reduces time of Library staff.

6. **Helps in adding new records to the existing base:** New records can be added and the system will automatically generate the accession number etc for later identification.

7. **High performance of software at reduced cost:** Since the software is freely available, it reduces cost with high performance.

8. **E-books and E-Journals can be uploaded through software which helps in easy accessibility:** Freely available E-Books, E-Journals can be added and accessed through software which helps both students and staff to refer the information at any time through OPAC.

**Digital Libraries**

Collection of digitized documents, images and sounds can be accessed and read by the users on computers. Such OSS can handle the following tasks.

1. **Institutional Repository:** It helps in creation of Institutional repository by adding institutions’ books, papers, thesis, dissertation and other works. Many of the repositories are made available to general public with few restrictions.

2. **Multi user:** More than one user can access information at a time without any restriction.

3. **Multi-platform:** User can access from anywhere without the physical presence of resources.

4. **Easy retrieval of information.**
domain of software for libraries is almost exclusively occupied by proprietary products. We are some librarians, users and developers deploring this state of affairs.

PMB is based on web technology. This is what we sometimes call a 'web-app'. PMB requires an HTTP server (such as Apache, but this is not an obligation), the MySQL database and the PHP language.

**OSS in Libraries**

Principles of OSS are extremely similar to that of librarianship. Both are driven by the ideology of providing free and equal access to information. With an OSS libraries can take control of the look, functionality and design of their public and staff interface. Changes can be made by the individuals, employees or staff in a suitable manner to accommodate specific needs. OSS is not limited or restricted to any particular vendor, if any problem persists the community of that particular OSS will help them, or they can take outside technical support.

Libraries need software solution with varying degrees of intensity and complexity depending on context. We can categorise them based on requirement, functionalities and services for our needs.

- **Integrated Library Management System (ILMS)**

Integrated library management system is also known as Library Management System (LMS), and it is an Enterprise Resource Planning system for the library. It is used to track items ordered, items owned, bill status, items loaned, and borrower details. Most of ILMS are included with acquisition, cataloguing, circulation, serials & OPAC modules.

1. *It helps in maintenance of record:* The records of both students and staff can be maintained. This helps in easy generation of circulation reports.

2. *Reduces the clerical work of Library staff:* It enters all the data through system, which in turn helps in quick searching of the records.

3. *Easy searching of the books through OPAC:* Checking the status, availability of the books can be done.
ask and answer questions. Transcript of such question-answer session would serve as a resource for library to provide as a reference.

This gives an overview of various forms of OSS that can be used in a library. Considering these some select advantages and disadvantages of OSS are listed here.

Advantages of adopting OSS

1. The Software can be freely run for any purpose.
2. The software can be modified according to the local needs.
3. It is free to redistribute.
4. The modified versions of the OSS software can be freely circulated
5. The OSS license shall not restrict any party to sell or give away software
6. The source code can be freely circulated (distributed).
7. The license will permit modifications and derived work of the software
8. Sometimes the license may restrict if patched are applied.
9. The license will not restrict against any person or group.
10. The license may not restrict about the software usage.
11. The rights attached to the program should apply to all whom the software is redistributed
12. The license should be generic in nature, not specific to particular product
13. The license must not contaminate other software by placing restrictions on it

Disadvantages of OSS

1. Unanticipated Efforts: A library need to work more to adapt the software for the local needs.
5. *Preservation and conservation:* All the materials which are old and are repeatedly used can be preserved and conserved for future use.

6. *Available 24/7:* It is open all the days of the year, although 24 hours.

7. It reduces space problem in the library.

8. *Multimedia:* all kinds of material can be accessed through digital library software.

- **Content Management**

  It is the set of process and technology that support the collection, management and publication of information in any form or medium.

1. *Creation of Library website:* It helps to Create, edit and publish the content on a website.

2. Information can be published easily on the website.

3. It allows for the design of common and reliable information architecture (metadata, classification, search, navigation, layout and design).

4. It increases efficiency of search process by the consistent management of metadata through content template structure.

5. It helps in measuring the success of publishing activity.

6. It facilitates better content security.

**Blogs**

Blogs are increasingly used by libraries as a promotional alerting and marketing tools. It helps in promoting new services, alerting users to changes and offering advice. In library practice blogs posting includes information about new arrivals, e-databases, news and services rendered can be flashed to wider effects.

**Wiki**

Wikis can be used as a communication tool to facilitate social interactions among librarians and users. Users can share information,
Application of Open Source Software in Libraries - KOHA

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[Abstract: This paper presents information about the open source software in digital library with reference to KOHA. It describes digital library and its importance. It discusses with illustrations how to build a digital library using KOHA. Searching and browsing full-text information is also described taking example from New Zealand Digital Library. It gives features of KOHA. Owing to its cost effectiveness and flexibility, KOHA can be a powerful tool in bridging digital divide in India.]

Keywords: Digital Library, KOHA, Open Source Software

1. Introduction

Commercial software companies distribute their software in compiled form. Once a software is compiled, it is practically impossible to understand the functioning of the software, and it cannot be modified. Thus, the software companies have monopoly on improving their software by adding features or fixing bugs and adding further value. This is how the software becomes expensive.

The strategies adopted by commercial software companies have given rise to an unhealthy dependence on proprietary software, huge licensing fee, growth of gray market of pirated software, troublesome environment in local software industries and most importantly discouraged innovation in the software industry at global level. In this background a development, which is attracting the interest is the freedom of research and development offered by Open Source Software (OSS). In OSS the source code (human readable set of
2. Lack of coordination: Since the OSS are developed on a decentralized basis progress/resolution of problems can be confusing, and there could be delays in addressing bugs.

3. Inadequate technical support: The Documentation tend to be limited and aimed at developers. Usually there is limited technical support, that is especially for users of the software.

4. Customization: Open source software offer lesser level of customization when compared to proprietary software.

Conclusion

Libraries need to undergo change by adopting new technologies to provide superior services to the users. Since OSS is freely available we can easily adopt this software and modify according to requirement of the library. If any problem persists they can actively get support from respective OSS developer community or they can use other technical support.

In short, libraries can not ignore the presence of OSS, more so in these days of shrinking budgets.

Reference

Koha is an open source Integrated Library System (ILS), used world-wide by public, school and special libraries.

Background of Koha

Koha was originally created in 1999 by Katipo Communications, Ltd, a consulting firm with a wide range of projects, for a small consortium of libraries in New Zealand called the Horowhenua Library Trust to replace an aging automation system not able to handle the transition to Y2K. The first installation went live in January 2000. The software initially found use in a relatively small number of libraries. Koha came to the United States in 2002 when it was adopted by the Nelsonville Public Library, OH, to replace Spydus, a commercially-provided Integrated Library System (ILS) from an Australian-based company. Nelsonville’s implementation of Koha was spearheaded by Joshua Ferraro.

In 2001, Paul Poulain (of Marseille, France) began adding many new features to Koha, most significantly support for multiple languages. By 2010, Koha has been translated from its original English into French, Chinese, Arabic and several other languages. Support for the cataloguing and search standards MARC and Z39.50 was added in
instructions, which makes the software) is distributed along with the executable form (the computer readable set of instructions). More precisely, OSS refers to four kinds of freedoms, for the users of the software:

- Freedom to run the program, for any purpose
- Freedom to study how the program works, and to adapt it to users’ needs.
- Freedom to redistribute copies so one can help another.
- Freedom to improve the program and release the improvements to the public, so that the whole community can get the benefits.

Being free to do these things means that the developer does not have to ask or pay for permission. The license must allow modifications.

OSS are copyrighted and distributed with General Public License (GPL) terms to design to ensure that the source code will always be available. Some selected Open Source Software are presented here:

- **Operating Systems** - Linux (or GNU/Linux), FreeBSD/ OpenBSD, NetBSD
- **Browsers** – Mozilla, Netscape 6
- **Servers** - Samba, Apache, PHP, Zope,
- **DBMS** - MySQL, PostgreSQL
- **Office Suites** - Open Office, KOOffice
- **Productivity Applications** - ABIWord, GNU Image Manipulation Program
- **Digital Library** - D-Space, Greenstone, Koha, NewGenLib

Different software achieve this in different forms. In this paper, features of Koha, an OSS, as a tool for digital library creation is covered.
• Simple, clear interface for librarians and members (patrons)
• Various Web 2.0 facilities like tagging and RSS feeds
• Union catalog facility
• Customizable search
• Circulation and borrower management
• Full acquisitions system including budgets and pricing information (including supplier and currency conversion)
• Simple acquisitions system for the smaller library
• Ability to cope with any number of branches, patrons, patron categories, item categories, items, currencies and other data
• Serials system for magazines or newspapers

Is Koha ideal for designing a digital library? This is the focus of this paper. Before answering this an overview on Digital Libraries is presented.

3. Digital Libraries

It is a challenge for the library professionals to acquire, organize, store and retrieve information available in digital format. This has initiated the concept of ‘digital library’. Digital library has a number of machine readable study materials in text, images, sound, videos and any combination of these in digital form. Digital Libraries facilitate 24X7 remote access to several databases.

The basic concept behind a digital library is to exploit the facilities of IT with a mission of sharing resources available globally. Hence, a typical digital library has a media server connected to high speed networks. It is also called ‘Virtual Library’. A digital library is a group of repositories that users see as a single repository. The functioning of a digital library is controlled by machines with minimum human interventions.

There are a number of reasons for creating digital library. In a library, even in an automated library searching information is time

In 2005, an Ohio-based company, Metavore Inc., trading as LibLime, was established to support Koha and added many new features, including support for Zebra sponsored by the Crawford County Federated Library System. Zebra support increased the speed of searches as well as improving scalability to support tens of millions of bibliographic records. In 2009 a dispute arose between LibLime and other members of the Koha community. The dispute centred on LibLime's apparent reluctance to be inclusive with the content of the http://koha.org/ sites and the non-contribution of software patches back to the community. A number of participants declared that they believed that LibLime had forked the software and the community. A separate web presence, source code repository and community was established at http://www.koha-community.org/. The fork continued after March 2010, when LibLime was purchased by Progressive Technology Federal Systems, Inc. (PTFS).

In the 2010 LibraryTechnology.org survey of ILS perception, independent Koha support and Koha support from 'ByWater Solutions' outranked support from LibLime in every single question of the survey.

In 2007 the state of Vermont began testing the use of Koha for all Vermont libraries. At first a separate implementation was created for each library. Then the Vermont Organization of Koha Automated Libraries (VOKAL) was organized to create one database to be used by libraries. This database was tested in 2010 and is being rolled out in 2011. As of May, twenty-six libraries have chosen to adopt Koha and thirteen have moved to the shared production environment. Previously Vermont used software from Follett.

**Features of Koha**

Koha is web-based ILS, with a SQL database backend with cataloguing data stored in MARC and accessible via Z39.50. The user interface is very configurable and adaptable and has been translated into many languages. Koha has most of the features that would be expected in an ILS, including:
was, "Not really. You could take a look at http://kete.net.nz which is an open source digital library product developed by Katipo Communications who wrote Koha back in the day. It has been designed with inoperability with Koha in mind - although it hasn’t been developed yet (although there is talk..)" (19 Sept 2008)

On the other hand, Shri Ram Pandey and Pankaj Kumar Singh in their paper titled 'Enabling ILAP as Digital Library Software: A case study with KOHA' emphasizes that Koha can support digital library functionality. This possibility is more visible and possible after version 3.00.

http://shodhganga.inflibnet.ac.in/dxml/bitstream/handle/1944/1616/26.pdf?sequence=1

This paper narrates a specific case where Koha was used for creating Digital Library. On going through the paper and discussion with two librarians who had used Koha for creating Digital libraries, it can be said that the following are the phases of implementation.

- Requirements Analysis and Specifications
- Storage - Database or File Structure (MySQL)
  - The E-resources database
  - Data analysis and Database Creation
- Security Aspects

Current Status

The latest stable release of the Koha is 3.4.3 (written as koha-3.04.03 in the download file). Koha is currently a very active project. According to ohloh, an open source directory that anyone can edit, it has a very large, active development team and a mature, well-established codebase. The analysis of the size of the code base may be deceptive because koha stores user interface translations alongside actual source code and ohloh cannot always distinguish them.

Impact on Libraries

What about the libraries that have contracted with LibLime for support or sponsored development? LibLime has amassed a relatively large customer base, with 108 active contracts representing over 500
consuming and sometimes impossible. This is because, information to be searched is not structured in these documents. In digital resources, searching is possible, if those are organized with the help of metadata sets. In a digital library the delivery of the materials is different; the book in digitized form can be copied to a user’s computer for reading, but the book still remains with the source computer (server). It can again be loaned in the name of another user.

It is very easy to share the digital resources through network, even multiple seekers can use the same digital resources at a time. Therefore, it becomes essential to acquire, organize, store and disseminate information available in digital form.

There are two possibilities:

a. The materials originally available in digital form (born electronic) and
b. The material is in digitized form.

The first process is straight and simple. The second one is the conversion of physical medium, say a printed book, into digital representation. This is done by using scanners. It has no effect on the information content of the original material.

After scanning, the next step is to make the computer extract information from the digitized image by using Optical Character Recognition (OCR) software. This stage allows the information from original book or document to be made available to the computer, and to make it possible to index the text for retrieval and is also able to reformat the text for different forms of output such as compressing, changing the font size & type and graphical manipulation etc. However, once digitised, the problems are not over. Including meta data, searching, retrieving and delivery may be problematic in real life.

It is necessary to examine, whether Koha is suitable for Digital Library?

4. Is Koha Suitable for Digital Library?

This is debatable.

This question was floated on internet in 2008. The answer given
Developing and Maintaining a Website for Information Dissemination: A Post-Modernistic Paradigm

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Web, Web 2.0, Library 2.0 etc.

Keywords: Informatization, Website Development, Web Design, Management, Women Managers

The language of cyberspace is really a recognition of a new

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libraries reliant on LibLime for support services. While an open source ILS provides more independence from vendors than proprietary software, they still have a great deal at stake in how well those companies provide critical support services. These libraries also have a strong interest in the forward development of the software, and many have made large investments in sponsored development. PTFS assumes responsibility for an extensive slate of software development commitments that libraries contracted with LibLime to fulfill.

**Conclusion**

Growth of OSS concept can be viewed as an opportunity for the library and information professionals to come out from under the yoke of the proprietary platform. Owing to its cost effectiveness and flexibility, Koha, can be a powerful tool in bridging the Gap of digital divide in India. The aim of the Greenstone software is to build digital libraries. Digital libraries are radically reforming how information is disseminated and acquired in UNESCO’s partner communities and institutions in the fields of education, science and culture around the world, particularly in developing countries. It is hoped that Koha will be an additional tool for the effective deployment of digital libraries.

**References**

Developing and Maintaining a Website for Information Dissemination: A Post-Modernistic Paradigm

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[Abstract: With the proliferation of information, limitations of time and habituation to computer use, users require and expect tailor made services on their desktops. The website is therefore emerging as the prime medium for information dissemination and is particularly useful when the target users are geographically scattered. In fact, in the post-modernization paradigm, the website functions as a library itself, where information is collected, stored, organized and disseminated. This paper gives an overview of the important issues associated with developing and maintaining a website and utilizing it for providing optimum services to users. It is based on the author’s experiences of participation in the development and maintenance of the website of the UGC Programme on Capacity Building of Women Managers in Higher Education.]

Keywords: Informatization; Website Development; Web Content Management; Women Managers

1. Post-Modernization and ‘Informatization’

"The anthropology of cyberspace is really a recognition of a new human condition"

— Hardt & Negri

This quotation comes from a rather controversial work entitled Empire. Here, the authors, Michael Hardt and Antonio Negri argue that while classical imperialism has largely disappeared, a new empire is emerging in a diffuse blend of technology, economics and globalization.
As a first step, there are workshops for building up sensitivity/awareness/motivation (SAM Workshops). There are also workshops for Training of Trainers (ToTs Workshops) to create a panel of trainers for the SAM Workshops. At the next stage there is a series of Management Skills Workshops.

3. Information Support for the UGC Programme

Considering that information is an important resource for the Capacity Building programme, it was decided to set up a Networking and Information Dissemination Cell (NID Cell). The main objective of the NID Cell is to reinforce the capacity building activities by collecting and disseminating relevant information. As the persons associated with the UGC Programme to whom various types of information is to be supplied are located in different parts of the country, it was decided that a website would be the best medium for disseminating information.

The SAM workshops are the basic level workshops under this programme. After a person participates in a SAM workshop, it is necessary to sustain her interest and motivation and reinforce the knowledge gained so that she can utilize it for her career growth. The ToTs Workshops train persons to become trainers at forthcoming SAM Workshops. Thus, a panel of trainers is being developed. Trainers should be encouraged to read further on their topics. Therefore, the users should be provided with a bibliography of relevant reading material, as well as some full text documents. The bibliography would serve as the document base for providing SDI Service.

Whenever a SAM Workshop is to be conducted, the local coordinator needs to identify trainers from those in the respective region. The website has to help in this, by providing lists of trainers, searchable by region and by their specialization.

In addition, there is a need to promote networking within the community of women managers and with other similar groups at national and international level. Another objective is to support a programme of mentoring for women academics. The website would also generally create visibility for the UGC programme by showcasing its activities.
(From the Amazon book review of *Empire*) More significant than this quotation is the authors’ concept of ‘informatization’. According to them, there has been a “succession of economic paradigms” from agricultural societies to industrial to the information society. They talk about the passage “from the domination of industry to that of services and information, a process of economic post-modernization, or better, informatization.” Other authors such as Inglehart and Frissen also discuss post-modernization and informatization.

In the context of libraries, modernization has generally meant automation, the replacement of manual work by the computer. The next phase was that of digitization, accompanied by the new paradigm of service delivery – through the Internet or intranets. Thereafter in the post-modernization phase, the emerging technologies have opened up diverse models for information delivery to the user. The library website has established itself as the prime medium for information dissemination. So it is only a short step forward for the website to become a library. This paper views the website as a post-modernistic paradigm of information storage and information service provision.

The main functions of a library have been defined as collection, storage, organization and dissemination of information. This definition endures, from the age of traditional to the modern and post-modern libraries. In describing the website of the UGC Programme on Capacity Building of Women Managers in Higher Education, the author shows how the website plays the role of a library.

2. Background: the UGC Programme and the Networking and Information Dissemination Cell

Women managers are heavily under-represented in the management cadres of the University system. The UGC’s Programme on Capacity Building of Women Managers in Higher Education seeks to bring about a more equitable representation of women in administrative positions in universities and colleges. The scheme aims to bring about change by developing sensitivity/awareness/motivation as well as management skills among women academicians and administrators. The programme functions at an all-India level, with a national Consultative Committee and Regional Coordinators and Sub-Regional Coordinators in each region.
2 Digital Library

At present this contains a selection of open access full-text articles. The browse and search facilities are provided as for the Bibliography.

3 Calendar of Events

This section contains a listing of all workshops conducted under the UGC Programme. It also lists forthcoming workshops, so that interested persons can apply for them.

4 Resource Persons and Participants

This Section, which is accessible only to registered members, is a listing of all the persons associated with the programme, i.e. committee members, SAM participants and trainers.

The other units on the website are:

Your Space, a section open only to registered members, where they can share their views on and reactions to the activities of the UGC programme.

A Bulletin Board for announcements and reports of interesting events, and for sharing news.

A list of Women's Studies Centres/Departments in India with brief information about each.

A Brochure about the NID Cell and the Website and a Website Guide have also been uploaded.

The activities involved in the preparation phase included:

1. Interacting with the computer professionals for designing the website structure and navigation

The work of developing the website was assigned to a commercial organization. The NID Cell interacted continuously with their representatives in the process of developing and refining the structure. Besides the main website, the backend or Content Management System was also developed. The Webmaster at the NID Cell controls the information on the website through the backend.
4. Website Planning and Development

The information to be collected and provided to the users is of three types:

a. Reading material to help the members to extend their knowledge and sustain their interest in the mission of the UGC Project

b. Information about the activities of the project – the workshops (past and forthcoming), the persons involved, the teaching materials produced.

c. Information contributed by the members as part of the inter-member networking objective of the website.

A library serves its designated community by collecting, storing, organizing and disseminating information to the members of the community. Therefore, the planning phase of the library is carried out to suit the requirements of the users.

Simultaneously the planning of the website was carried out in the light of the objectives of the UGC project, and the information needs of the members. In fact one of the roles of the website is to foster the desire to access and use information relating to the project, and also contribute to it.

In the light of the background outlined above, the website was structured to have four main sections, as well as other smaller sections. The four main sections are described below:

I Bibliography of Resource Materials

This is a bibliography of books, chapters in books, conference papers, journal articles and theses. The items cover issues relating to capacity building of women academics, also included are materials relating to management in general, to help in the development of management skills. This is a facility for authorwise browsing through the items of the bibliography. It is also possible to search for items by author and by keyword, using a pull-down list of keywords.
6. The Post-Modernization Paradigm of the Website

As proposed earlier, this website carries out the functions which would be assigned to a library serving the UGC Project.

The archival part of the website’s “collection” is the section of ‘Past Events’ in the Calendar of Events. It gives the Data about the Workshops which have been conducted under the UGC Project. The companion section, ‘Forthcoming Events’, functions as an alerting service. This section is aimed at the public at large, and all women faculty in particular. The dynamic collection of the library is represented by the ‘Bibliography’. Open access materials are added to the ‘Digital Library’ section. Based on the Bibliography, a selective ‘Dissemination service’ has been started. Members were given a list of topics and asked to choose three topics of their interest. Each member receives a list of documents on the topic and she can request a copy of them for personal academic use. The concept of the library as a community centre was generally restricted to public libraries in the pre-internet era. However, on this website, we provide a section ‘Your Space’, where members can share their views about the UGC Project and its activities.

7. Increasing the use of the Website

The website as described above provides a veritable library to the members of the project. But there is still a need to motivate the users to access it and use the information on it. The users are from different disciplines - Women’s issues are not necessarily an area of prime concern for them. Being busy career women with the added responsibilities of home management most of them have little time or inclination to read.

To encourage the use of the website and guide users to find information in different sections, a ‘website guide’ has been uploaded on the site. The guide was also e-mailed to the members. On a regular basis, whenever any new feature was added to the website, users were informed by e-mail. Now that the number of registered members is large, it is not convenient to send our emails, so a Google Group of members has been formed. Members are invited to share academic/professional information that may go beyond the scope of the project. Thus, the Group supports the networking function of the website.
2. Identifying the information to be uploaded and preparing it in the required format

   a. For the Bibliography and Digital Library: The bibliographic information to be uploaded on the website had to be collected from scattered sources. The literature falling within the defined scope was searched out from a variety of sources and the bibliographic details were noted down. Members are invited to contribute details of their own works or works known to them, which fall within the scope of the bibliography. This makes up the Bibliography section of the website. Open access documents are included in the Digital Library section.

   b. For the Calendar of Events: Over the years around 400 workshops have been conducted under this programme. The website becomes a medium to record the data of these programmes. It also provides information about forthcoming workshops (dates, venue, area of coverage and local coordinator’s contact details) so that anyone interested in participating in a SAM Workshop can contact the local coordinator.

   c. For the Persons Section: The website also records the information about all the persons associated with the programme. The information is obtained by asking the Local coordinators of all workshops to send lists of participants.

3. Designing the structure of different types of records (bibliographic and non-bibliographic), identifying the search facilities and output formats

   Careful attention had to be paid to the design of the record structures. The search facilities and output formats were designed and were tested with sample data. Consistency of record structures between the main website and the backend was ensured while the structures were being modified.

4. Providing the required user interfaces

   Clear and polite messages were provided at all the required places.

5. Providing guidelines for the use of the website

   A website guide was developed and uploaded.
Introduction

Information technology has developed very fast in the last four to five decades. Owing to information technology most development took place in the field of computer, communication and internet. These have a combined effect on the library operations and library services. This development led to library networks.

Web 2.0

In 2004, O'Reilly Company engineers Mr. Tim O'Reilly and Mr. Dale Dougherty had thought of the Web 2.0 concept, for progressing beyond the limits of dot com (.com) technology. Web 2.0 technologies are more advanced than web 1.0 technology. Web 1.0 was static, but web 2.0 is a dynamic and interactive. Web 2.0 is collaborative, dynamic and most interactive technology.

According to a general introduction in Wikipedia (2006) Web 2.0 is advanced second generation of services based on internet. It includes,

- RSS Feeds
- Weblogs
- Instant Messaging
- Streaming Media
- Wikis
- Social Networking
- Social Bookmarking
- Tagging
- Mash up
- Flicker
Conclusion

In the mission to provide information support to those associated with the UGC Programme on ‘Capacity Building of Women Managers in Higher Education’, the website was developed as the medium of communication. As the website grew, it assumed wider functions relating to information storage, searching, alerting, information dissemination, etc. It also serves the function of a kind of convergence centre for sharing of information. The future development of the website envisages the expansion of the Digital Library, the addition of a webliography to enhance the resource discovery capability and a mentoring section to extend on the networking function. Thus, it fits a post-modernistic paradigm by functioning as a library for a geographically scattered clientele, while its Content Management System represents its managerial facet.

References


Further Reading

of the concerned website by e-mail. Steps involved are as follows.

- Click on the RSS feed link and fill the E-mail ID at proper place which is given and subscribe to the RSS feed by selecting the sites of your choice.
- After subscribing you can get updates of the concerned selected websites by e-mail.
- If you wish to unsubscribe this service please click on unsubscribe button which is available with every e-mail feed you receive.

We can create a RSS feed link on library webpage and provide the updated information to the users regarding New Arrivals, New Facilities, New Programs, New Journal/Periodicals Issues list.

2. Weblogs

Weblogs is a web based publication. Features of Weblogs are:

a. Blogs are space for individuals to share their ideas/views.
b. Step by step or chronological information presentation.
The following table shows how much Web 2.0 is developed in comparison with web 1.0.

<table>
<thead>
<tr>
<th>Web 1.0 : Internet services</th>
<th>Web 2.0 : Internet services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Websites, Online Directories, Online Dictionaries, E-Mails, Chatting, etc.</td>
<td>Weblogs, Wikipedia (Wiki), Streaming Media, Instant Messaging, Flicker, RSS feed, Social Networking, Social Bookmarking, Mash up, tagging, etc.</td>
</tr>
</tbody>
</table>

**Library 2.0**

Web 2.0 is an advanced technology. While Web 1.0 was static, web 2.0 is a dynamic and most interactive. This has an affect on library operations and library services. All technologies of Web 2.0 are used in the library, therefore this technology called Library 2.0

The following are the Web 2.0 features for a library:

- **User friendly**: Web 2.0 technology is used for OPAC services, users can save the reading material list in web 2.0 technology. e.g. Social Bookmarking.

- **Use of multimedia**: Share the audio, video, animation format information. e.g. Flicker etc.

- **Communication**: Users can contact with library, also same subject researchers can contact with each other. e.g. Instant Messaging.

Library 2.0, according to Jack Mannas is, “Application of interactions and collaborative multimedia web based technology to web based library services and collection.”

**Web 2.0 Implementation in library**

The following are some of value additions or benefits of Web 2.0 in a library.

1. **RSS Feed**

   RSS feed is an orange coloured link available on the for certain websites. As per this technology, one can get updates
1. Helps users to save information in encyclopedia about a new concept or any point not covered in the Wikipedia.

2. Wikis produces enormous new information.

3. Webpage editors have control on this work to maintain the quality of information.

We can create an in-house wiki of library, to generate new information for library users. Information can be saved in text, audio, video and animation formats.

4. **Streaming Media**

Streaming media technology provides the information in audio, video, animation format. This technology is useful for library orientation programs, seminars, etc. These could take the form of multimedia chat rooms and users will interact with each other and the learning object. With this technology librarians can provide the e-resources to user. e.g. E-Books, E-Journals etc.

5. **Instant Messaging**

We can chat with professional contacts through Google, Yahoo, Orkut sites. Files sharing, screen capturing of images, data sharing, co-browsing can be achieved by instant messaging technology.

Librarians can use this technology for reference services. With this technology, users can contact librarian. Librarian can send audio-video clipping, data files, links to users and even users can form a group and interact with each other.

6. **Tagging**

Tagging technology allows the users to add and change, not only the content (data), but the content describing the content (Metadata) on certain web pages. With implementation of this technology on OPAC, user can add and change to, an accurate and appropriate access term and additional scope note etc. to help all users. This is very effective and easy way to facilitate searching and retrieval through subject approach.
c. Provide the updated information on selected theme.

d. Generates discussion on certain issues with likeminded individuals

We can use www.blogger.com website for creating a blog. This is freely available for use. Further we can search an available blogs with http://blogsearchgoogle.com.

We can create a library blog and provide the information to user regarding library timing, library holidays, new arrivals, new programmess, any announcements etc. Librarian can discuss with users on any subject and get a reactions, opinions and responses about library.

3. Wikis

Wikipedia is an online encyclopedia. Wiki is a pronoun and Wikipedia is proper noun. Wikis means online open webpage. The following are some features of wikis.
Steps in using FURL in a library?

a. Create an account on the www.furl.net
b. Install the diigo on OPAC.
c. Look for the icon Diigo on the OPAC.
d. Sign in Diigo account.
e. After above action Diigo icon is activated on OPAC.

This facility is of great use for providing links to E-Journals
- E-Books
- D-Databases
- Publisher's websites
- Useful sites of users

9. Flicker

Flicker is perhaps the best online photo management and sharing application in the world. Features of the Flicker are:

a. Upload: There are multiple ways to upload your photos to Flicker-through the web, your mobile device, email or your favorite photo applications.
7. Social Networking

Social Networking technology enables us instant messaging, blogging, streaming media. e.g. Facebook, MySpace etc. This technology can be used in the library by researchers to share their knowledge, experience etc. A library can create a group of readers to share ideas/knowledge.

![Facebook](image)

8. Social Bookmarking

Favorite and bookmarking facilities are available on most of the browsers. With this facility we can save the important websites on the browser, but there are some limitations for this. After successive savings this list becomes very large. It creates difficulty in searching certain specific sites. Social Bookmarking is an ideal facility to solve this problem. Social Bookmarking can be availed through www.furl.net and Delicious (formerly del.icio.us, pronounced “delicious”) These are social bookmarking web service for storing, sharing, and discovering web bookmarks.

Furl (from File Uniform Resource Locators) (www.furl.net) site is fully free for using.
together in mashup technology. Sites like Yahoo, eBay, Amazon and Google provides access to their data, making it possible for developers to come up with all sorts of interesting applications that merge multiple sources of data. In short, mashup is a web application that combines data from more than one source into a single integrated tool.

In a library this technology can be used for the following purposes.

a. Provide better services to users
b. Add value and multiple access to the websites and catalogues (e.g. tagging)
c. Put your library map there. (e.g. flickr.com)
d. Create a RSS Feed for library content
e. Share personal collections (e.g. flickr.com)
f. Maintain contact with users and library professionals (e.g. facebook)

These features of Web 2.0 can be used in libraries to implement Library 2.0.
b. **Discover:** It helps to keep in touch with your friends and share your stories and photographs with captions, comments and notes. It is possible to add rich information like tags, locations and people.

c. **Share:** Photographs have to be once uploaded to Flicker, then easily and safely share them through facebook, twitter, email, blog and any other such medium.

d. **Community:** Join one of over ten million active groups to take part in the conversation, learn from our other 60 million photographers and share your story through photos.

e. **Privacy:** You can share photos only with the people you want to with the site’s easy privacy settings. Flicker’s multiple-backed storage system makes sure that you will never lose a photograph.

f. **Mobile Flicker:** Flicker is always in your back pocket with applications for I-Phone, windows 2007. Use m.flickr.com from any mobile device to share photo on the go.

g. **Explore:** Flicker is home to over five billion of the world’s photos.

Flicker is very useful technology for exchange the photographs, drawing etc. on the web. With flicker technology it is possible to share

- information, geographic maps, sites
- videos, audio, animation format information
- information, photographs with library professionals.

10. **Mashup**

A **mashup** is a web page or application that uses and combines data, presentation or functionality from two or more sources to create new services. The term implies easy, fast integration, frequently using open API and data sources to produce enriched results that were not necessarily the original reason for producing the raw source data.

Thus, blogs, wikis, streaming media, instant messaging, social networking, maps, photographs, video, music, messaging are used
Impact of Web 2.0 on Scholarly Communication Process

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[Abstract: Web 2.0 refers to a perceived second generation of web-based applications and services. The use of web has enhanced particularly as a platform for user-generated content and web-based communities, including social networking, wikis and folksonomies. There is no doubt that the Web 2.0 has changed and transformed the access to information and communication. It provides user-created content platform applications allowing users to contribute their knowledge in different formats like text, data, video and audio. The present article aimed to explore the impact of Web 2.0 on scholarly communication. Web 2.0 has affected the way knowledge is created and disseminated. The article points at future of scholarly communication and the challenges ahead.]

Keywords: Scholarly communication, Web 2.0

Scholarly Communication

Scholarly Communication involves a network of complex relationships between a number of players such as researchers, editors, publishers, distributors, librarians and consumers of scholarly information. According to Shearer and Birdsall (2005) the traditional/formal process of scholarly communication consists of four major groups of players with distinct roles:

1. Researchers, who produce scholarly research,
References


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7. www.flickr.com

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and distribution also existed for scholarly monographs. For both types of publications, the campus library played a central role in gathering these scholarly outputs for the academic community.

Today, the university library still plays a central role in distributing both print and online resources, but the networked digital environment has enabled the creation of many new kinds of works that are accessible to end-users directly. The decentralized distribution of these new digital resources can make it difficult to fully appreciate their range and number, even for university librarians tasked with being familiar with valuable resources across the disciplines (Association of Research Libraries, 2008).

Web 2.0

Web 2.0 refers to a perceived second generation of web-based applications and services, and in particular, the use of the web as a platform for user-generated content and web-based communities, including particularly social networking, wikis and folksonomies (O’Reilly, 2005).

There is no doubt that the Web 2.0 changed and transformed access to information and communication. It provides user-created content platform applications allowing users to contribute their knowledge in different formats like text, data, video and audio. This term was also developed and associated with other terms like Library 2.0, Learning 2.0, etc. These terms reflect the implementation of Web 2.0 in different domains (Al-Daihani, 2009). Garcia, Rey, Ferreira and Puerto (2009) noted that Web 2.0 has potential for universities in developing new models of interaction and new forms of exciting education.

According to Menefee (n.d.) the “journal” itself has performed well over time and has even evolved (e.g., Letters, News, Reviews) following various changes in scientific communication. Now, the new era begins with new technologies, specifically Web 2.0, that challenge the traditional role of the journal. Let us examine various modes of Web 2.0, and how they affect scholarly communication.
2. Publishers, who package scholarly research and create information products,

3. Libraries, who collect, disseminate and preserve scholarly research, and

4. Users, who translate the content into new research initiatives, government policy, commercial products, public services, etc.

One of the fundamental characteristics of scholarly research is that it is created as a public good to facilitate inquiry and knowledge. A substantial portion of such research is publicly supported, either directly through central government-funded research projects or indirectly through the support of researchers at the state higher-education institutions. In addition, the majority of scholars develop and disseminate their research with no expectation of direct financial reward.

Scholarly Publishing

As electronic resources for scholarship proliferate, more and more scholars turn to their computers rather than to print sources to conduct their research. While society journals, university presses and conference proceedings still form the backbone of the scholarly publishing enterprise, alongside them many new digital scholarly resources have appeared, sprouting up wherever there is a devoted individual or team of scholars willing to create and nurture them. Born-digital blogs, wikis, and other forms of online publishing and discussion appear in every discipline. While some of these digital resources resemble their print predecessors, others are quite novel, making use of the space, speed and interactivity that the Internet allows. Though many digital scholarly resources are small in scale, this does not necessarily make them marginal; some have already gained widespread acceptance in their fields on par with the print publications that, until just a decade ago, held an unchallenged monopoly on disseminating scholarly work.

This rapid proliferation of Web-based resources has had an impact on how scholars conduct research and keep abreast of new work by their peers. In the past, a university professor might expect to learn about new research in her field by reading articles published in scholarly journals. Well-articulated systems of selection, review, publication
which in turn integrates, with word processing software for authoring purposes. So the bookmarks can be considered as a new information access method based on collaborative selective searching.

**Social Networking**

The massive popularity and explosive growth of social networking sites such as Facebook, Bebo and MySpace (and LinkedIn in the business/professional sphere) is well known. These sites allow the building of online communities of shared interest or practice, and provide a variety of means for users to communicate and to share content. Networking is as important to academics as to any professional. It is of great value whether to find research partners or just to discuss the latest findings – witness the popularity of the academic conference

**Workflows**

A newer idea is that of social websites like myExperiment 12 (“A Web 2.0 Virtual Research Environment” from the universities of Manchester and Southampton) for the sharing of scientific workflows and experiment plans. Workflows are formal descriptions of processes in specialised computer languages like Taverna, originally mainly used in computational biology and bioinformatics, but with growing use in chemistry, social statistics and even music information retrieval. The myExperiment had over 1250 users and 490 workflows. Although the nature of the content is arcane, the site itself in structure and function is a standard Web 2.0 media-sharing environment, similar to say YouTube (for video) or Slideshare (for presentations) (Ware, n.d.).

**Podcasts**

A podcast, similar to webcast, is a show that is broadcast over the web and is broken up into parts or parts/episodes. It is another example of user generated content. Authors can share multimedia presentations, written documents and images etc. One can download such material for free usage. Within academic publishing, podcasts are becoming increasingly common.

**Wikis**

“A wiki is essentially a website constructed in such a way as to allow users to change content on the site” (Graeme, 2006). A wiki is
Web 2.0 and Scholarly Communication

**Collaborative Knowledge Generation**

The collaborative and open way of generating, organizing and managing knowledge has been growingly used in several applied fields. The computer science field was the first to be affected by this collaborative revolution: free/open source software initiatives are well known examples of this. Nowadays the WWW represents the most common platform through which people interact and collaborate in order to create, share and disseminate generalist knowledge (e.g., Wikipedia, the online encyclopaedia), co-design and co-produce services and products (e.g., Threadless.com, an online t-shirt merchant crowdsourcing its apparel design), connect with other persons, etc. Such a collaborative knowledge generation becomes important for those authors who are geographically separated from each other.

**Blogs**

A blog is a way of distributing information/news. Some key elements according to Bartolome (n.d.) are as follows:

- There are one or several authors that produce entries/content
- Visitors can add comments
- New entries and comments do not substitute older ones
- It is possible to subscribe in order to receive news via email or through RSS readers.
- Entries usually include the source of information, thus validating it.

These features give blogs their social power, converting them from one-way publishing platforms to a web of interlinked conversations.

**Social Bookmarking**

Social bookmarking refers to systems that allow users to store internet bookmarks and categorise them (with "tags") so that they can be shared, as well as being available for the user’s own future use. The systems also generally allow the captured information to be downloaded to local reference management software such as EndNote,
these elaborated research platforms. Libraries of the future will not provide books, periodicals and databases for its customers, but integrated portals geared towards the needs of individual research disciplines.

References


used to refer to the document created, the site where it is located and the software to produce it. The key elements of a wiki are Hypertextual structure and Social authoring - collaborative production.

Wikipedia is not just the best known general-purpose user-generated encyclopaedia but for many people defines what a wiki is. There were initial and ongoing skepticism about the quality of its content. It is now increasingly used by researchers and academics. Although they might not rely on it for critical information (e.g. to support an argument in a grant application or peer-reviewed publication) they do use it for example for quick reference in areas with which they are already competent or for quick overviews of new areas, and see it as a helpful teaching resource. Wikis can be used in education to support collaborative work, or to knowledge generation and subsequent distribution.

These web 2.0 applications are changing the face of traditional scholarly communication: it is giving power to author to generate knowledge collaboratively, validation of data, ‘so called peer review’ through blogs and social bookmarking. In addition social networking and podcast may help authors to give wide publicity.

**Future of Scholarly Communication**

Web 2.0 affects the creation, distribution, dissemination and repackaging of information and the sharing of knowledge which are the essential steps of traditional scholarly communication. Web 2.0 technology offers tremendous potential to enhance scholarly communication. May be its penetration or adoption rate is slow but it will be worth to generate knowledge.

According to Ball (2011) the media of the scholarly communication of the future will be different. There will be no more separate contents and objects that need to be assembled physically and intellectually, but there will be complex electronic platforms that allow using both primary and secondary sources. These platforms will also offer effective communication software that interconnects the scientific community, and professional systems for the collaborative production and publication of scientific research products. Integrated additional tools, e.g. data sheets, calculations and drawing programs or Yellow Pages, will be specifically adapted to the needs of individual disciplines, thus completing
Information and Communication Technologies (ICTs) have changed the face of traditional library. The Web 2.0 technology has added an element of flavor to the user's expectation to get tailor-made information. Web 2.0's principles and technology offers libraries many opportunities to serve their users better, and to reach out beyond the walls. The Web 2.0 technology gets into library to form the concept of Library 2.0.

Library 2.0 is the application of interactive, collaborative, and multimedia web-based library services and collections. It encourages collaborative two-way social interactions between library staff and library customers. Library 2.0 requires user participation and feedback in the development and maintenance of library services.

The term “Library 2.0” was coined by Michael Casey on his blog Library Crunch in September 2005.

Maness defines “Library 2.0” as “the application of interactive, collaborative, and multimedia web-based technologies to web-based library services and collections.”

**Principles of Library 2.0**

Library 2.0 is a new way of providing library services through new web technologies focusing more on the user - centered change and participation in the creation of content and services. It is depending on some principles. They are:
Facets of Library 2.0

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[Abstract: Web 2.0 is second generation of the Internet. There are many services and application in the concept of web 2.0 like blogs, wikis etc. It covers the feature of web 2.0. It also discuss about which technologies are included, Advantages and Disadvantages. The paper describe how “web 2.0” is useful for libraries as “Lib 2.0”. It also highlights principles, application and limitation of Lib 2.0.]

Keywords: Web 2.0, Library 2.0

1. Introduction

There is rapid development in the use of Web Technology. In 2004, there was revolutionary change the web. That is called as “Web 2.0”. Now Web 2.0 is really combination of the technology enabling the users to interact with the information. Web 2.0 is an extension of the original ideas of the Web. The Concept of “Web 2.0” began with a conference brainstorming session between O’Reilly and MediaLive International in 2004.

Web 2.0 refers to a ‘second generation’ of internet. There are a number of web based services and applications in the concept of" Web 2.0". These includes Weblogs, wikis, podcasts and social networking sites such as YouTube, MySpace and StudiVZ facilitate communication, information sharing, collaboration, community building and networking.


2. Web 2.0 Tools and Applications

i. RSS (really simple syndication)

ii. Blog/ Web Blogs
Several libraries use blogs to disseminate information about their library news, new book lists, new resources and others. The librarians however should ensure that posts are kept on topic and relevant to the blogs scope.

4.2 Wikis

Wikis means a collaborative web site which is a collective work of many authors and allows anyone to edit and modify content. Wikis provide mechanism that supports participatory librarianship as it enables users to make original and genuine contributions to subject contents a library aims to cover. Some academic libraries integrate wikis with the blog at its student learning platform. Wikis allows the discussions, suggestions, additions, modification.

4.3 RSS (Really Simple Syndication)

RSS is an emerging technology which enables users to get feeds of data from content publishers via a browser or special newsreader tool. Items come to user free of spam, on-demand, and in an easy to digest format. RSS is a format for delivering regularly changing web content. It is a family of web feed formats used for syndicating content from blogs or web pages. Many news-related site, weblogs and other online publishers syndicate their content as an RSS Feed to whoever wants it. RSS solves a problem for people who regularly use the web.

RSS feeds highlights new book on the library catalogues in library. Based on the subject interest, feed can be added to any web page. RSS feeds save time by not needing to visit each site individually.

4.4 Social Networking Sites

These are the sites that allows librarians to create library profiles, link to “friends,” share what’s new, and just generally network in a virtual environment. Libraries can create accounts on social networking sites to promote events. A social networking site can also be an excellent way to connect with teenagers by linking to popular authors. for example, MySpace and Face book

4.5 Photo Sharing Sites

This type of sites to post pictures of various library and community functions, services, and activities. For example, Flicker
i. Library is everywhere: Library 2.0 moves beyond library boundaries and must be visible in all places such as portals, virtual learning environments, online commercial spaces etc.

ii. Library has no barriers: Library 2.0 ensures that library information resources and services are available for use by the user community anywhere, anytime and any way they want.

iii. Library invites participation: Library 2 facilitates and encourages users to participate and contribute their views and ideas in design, implementation and modification of library services. The success of library 2.0 services depends on high levels of user participation.

iv. Library uses flexible, best of breed system: Library 2.0 collaborates with a wide range of technology partners to use the flexible, responsive and best of breed components ensuring the delivery of core services to the users.

v. Latest Technology: Library 2.0 utilizes the latest technologies potential and users capabilities to deliver timely, relevant, valuable and need based value added world class services to the users.

vi. Continuous Assessment: Library 2.0 constantly evaluates, update and improve its services with newer and better services.

vii. Professional Support: Library 2.0 must have competent and skilled professionals who can assist users in satisfying their information requirements.

4. Applications of Lib 2.0

4.1 Blogs

Blogs are diaries or journals on various topics posted online so that others can read and reply to them. Librarians can use blogs to share thoughts and ideas in the library community and to get feedback from library users. Librarians can blog about library events and activities, or write book reviews.
requirements to modernize a library.

5.3. Lack of Training & Orientation Programme

Training and orientation programme are the key to be update with the latest and emerging technologies. But in Indian libraries this type of activities are not organized, therefore library staff are not being trained with new technologies.

6. Web 2.0 and After

The New Version of Web 2.0 technology is Web 3.0. This phrase coined by John Markoff of the New York Times in 2006, calling it third generation of Internet. Web 3.0 will be more connected, open, and intelligent with semantic Web technologies, distributed databases, natural language processing, machine learning, machine reasoning, and autonomous agents. Web 3.0 technologies are evolving and establishing themselves as authentic web development technologies.

With the assistance of 3.0, Web pages can be read like humans. Web 3.0 technology is ‘natural-language search’, which exhibits the ability of search engines to answer full questions.

- The development drawn by Web 3.0 will be driven by new hybrid innovation strategies that will support new business models.
- It is also competent in creating and amassing unique user profiles based on an individual’s browsing history.

http://www.richappsconsulting.com/blog/blog-detail/web-30/
http://lifeboat.com/ex/web.3.0
http://www.a3logicsweb.com/services/web-development

The following are the few of the prominent features or aspects of library 3.0 generation in brief.

Semantic Web

Semantic web will provide us with the option to share, unite, search and organize the web information in easy manner?
4.6 Audio and Video

This type post digital audio or video (of library and community functions, interviews, events, resources, and tours) to sharing sites such as YouTube in streaming format or in downloadable formats such as podcasts.

4.7 Instant Messaging (IM)

These services provide instant messaging for queries.

4.8 Folksonomies

In library catalogs, users can add their own categories and keywords with frequently used words appearing in a cloud of hyperlinked words.

4.9 Podcast

A Podcast provides users access to sound files or music recording on demand. Once the podcasts have been published on the Internet, users can download them to their MP3 players. In podcast collection, there are also library tours, speeches by visiting authors.

4.10 Mashups

Mashups is a web application that combines data from more than one source into a single integrated tool. Mashups provide better services to user and promoting library services where the users are.


5. Limitations of Library 2.0

5.1 Technical Illiteracy in Library Staff and Users

In most Indian libraries, library staffs are working manually, so they are not aware about emerging technologies and latest advancements in the field of computer and information technology incorporate new and latest technologies in their routine works.

5.2 Lack of ICT Infrastructure

Indian libraries are lacking of basic ICT Infrastructure. Most of the libraries do not have computers, networking, internet and other basic
This, Web 2.0 technology is convert into library as “Lib 2.0". Through Lib 2.0, Library’s collection will become more interactive and fully accessible to users.

We are approaching web 3.0 very fast. Consequently Library 3.0 envelops lot of challenges to the librarians as well as new dimensions to the profession Web 2.0 is bringing Individual together and information scattered all over the web. Whereas it is being expected that Web 3.0 will bring information together.

References

6. Koltay, Tibor (2010), Library 2.0, information and digital literacies in the light of the contradictory nature of Web 2.0, Webology, 7(2), (December- 2010)
In library 3.0, Web OPACs of various libraries which are forming a part of visible or invisible web would be brought together.

**Ontologies**

These are the techniques to give richer semantic relationships between terms and thoughts of knowledge. These give more standardization in managing the web contents instead of merely indexing the terms.

**Ubiquitous Contents**

The ubiquitous computing offers various contents which can be used or re-used frequently and will also not get absolute in near future.

**GeoTagging**

This helps users to find specific information located at specific location.

**Virtual Reference Service**

In this service, apart from helping the users in personal or telephonic way, librarians are now developing the contents which can easily be transferable and readable in cell phones and other mobile devices to help the users at any point of time.

Librarians should know how to get the required information and make it available to the users without concerning about the location. They should also help the users to make use of the given information. Librarians will have to work on the alternative way of providing information if one mode of communication gets failed.

**8. Conclusion**

Web 2.0 technology is very popular for their tools, such as blogs, wikis, Social networking sites, Flickers. These tools are playing a valuable role in community. People can communicate with each other and exchange their ideas, discussions. So Web 2.0 changed the view passive into active on the web.
presentation. It conveys a message or information to an audience. YouTube website is based on a streaming video technology. Today, multimedia (TVs, CDs, DVDs, iPods, cell phones, smart phones, or ATMs) is an inseparable part of our life.

Multimedia certainly has the potential to extend the amount and type of information available to learners. For example, an online encyclopedias can provide links to videos and additional articles. News stories can reference links to audio commentaries, replays of video footage and links to relevant websites with additional resources. Too many resources and media, however, and the benefits get crowded out by the need to figure out what’s what.

2. Concept of E-learning

Library and Information services with the internet and World Wide Web are dramatically changing education and training. This has lead to e-learning. The Term E-learning includes a wide range of activities and processes. An educational network would allow students, teachers and researchers to share information and communicate quickly. With the growth of the Internet and technologies, web designers started creating tools such as interactive computer software and interfaces for e-learning.

The term e-learning (which is a short form for Electronic learning) was first used in a professional environment in Los Angeles in 1999 and describes all the teaching and learning that is supported with information and communication systems. Nowadays the term e-learning is (thanks to technology advances) very broad and includes many other categories of e-learning such as computer-based learning, web-based learning, virtual classrooms, and digital collaboration, which can be on one hand instructor-led, on the other self-paced (E-learning Fundamentals 2010).

3. YouTube

YouTube was invented by Steve Chen, Chad Hurley and Jawed Karim out of a garage in Menlo Park. The inventors became millionaires when they sold their invention for 1.65 billion dollars to the search engine Google. According to their fact sheet, YouTube was founded in February 2005, as a destination to watch and share original videos
YouTube as a Learning Tool

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[Abstract: This paper introduces YouTube as a learning tool. The creative use of technology has no limits for creative minds. YouTube has many features that can help educators with content delivery. It can enhance presentation, translate video caption to a different language to increase the accessibility to other language learners and allows one to embed videos needed at any location necessary to enhance teaching effectiveness. YouTube has quickly become a learning tool due to its ease of use and simplicity of content.]

Keywords: YouTube, YouTube EDU, E-learning

1. Introduction

We are currently living in a technologically driven world and the Internet has been highly-regarded as a need or necessity in life and not a want anymore. As the Internet is growing such as Google, Facebook and Twitter Schools and colleges are also catching up the trend too.

So, what is YouTube? A phenomenon that swept the whole world is a video sharing website. The company’s slogan “Broadcast Yourself” reflects the basic intent of the site creators. This site encourages people all over the world to share videos of any nature. The basic intent of the website is to make videos available to a larger audience. The website also serves as a new type of social networking system. The website has grown largely over the year with billions of subscribers across continents. This site being accessed in all fields including medical, academic, entertainment etc.

YouTube is a product of multimedia. Multimedia is the combination of various digital media types, such as text, images, sound, and video into an integrated multisensory interactive application or.
focused directly on YouTube. For the time being, the site remains an easy accessible source for valid education information and tutorials.

4.1 YouTube EDU

YouTube EDU is an enhanced version of YouTube which provides more storage space so that educational institutions can upload video recordings of public lectures and university lectures.

YouTube EDU is a collection of databases delivering some of the world’s greatest university courses to anyone with internet access (Greenberg, 2010). Since launching in February of 2005, this site has grown to include content from over 300 colleges and universities crossing over 10 countries and in seven different languages.

YouTube EDU has allowed colleges and universities across the world to jump into the technology of the 21st century by opening up a broad, accessible plethora of educational video content. The biggest value is that YouTube EDU breaks apart the academic channels as a distinct section, which makes it easier for people to find and possess scholarly content and access it to a broader audience, not to mention that it is totally free, easily accessible and auto-captioning, etc.

For Teachers:

• One can prepare their courses better by learning from the best;

• One can broaden their knowledge to better serve their students and do research in various streams through YouTube EDU.

• One can share interesting clips or resources with their student in class.

• One can offer it as the resource for students to learn by themselves.

For Students:

• The video content is easily accessible;

• One can view thousands of lectures from hundreds of different educational institutes and it’s all free;

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YouTube is an online public communications site. The site allows for registered users to upload their videos and have them available for the public for viewing. Anyone who goes to the site can view the videos that are posted on this site. The videos are anything from beginner videos to more professional videos.

YouTube - a video hosting service is experiencing tremendous growth...and that's not sitting well with established media. From an educational standpoint, there is much potential to use this service to enhance learning. A word of caution, however, some videos are very educational, but not in the sense we as educators would generally like them to be! Like everything else online, the space is open to abuse and inappropriate content.

YouTube began offering a premier service to universities and other educational institutions known as YouTube EDU. YouTube EDU allows account holders to upload long videos up to 1.5 hours as compared to 10 minutes for regular account holders. This feature makes YouTube EDU an excellent outlet for the recordings of lectures and other university events.

4. YouTube's Online Video Learning Experiment

Online educators are seeking innovative ways to put multimedia resources in and teaching their students. In recent years, YouTube has emerged as one front in the new paradigm of online video learning. YouTube provides a basis for education within the classroom as well. Teachers are now referencing videos from YouTube in their lectures. In using this in the classroom it is just more proof to why this video sharing site is so easy, simple and informative to viewers. Public speaking classes are even allowing students to post a speech on YouTube, rather than reading it aloud to an audience.

In papers and journals, YouTube can even be cited as a reference because the information presented is so viable. In five years the site has become splattered all over searches on Google as well as advertisements while surfing the web.

The employees at YouTube feel that in five years from now they may have doubled. If such an instance could occur, education could be
provide ‘live’ feedback. Teachers can make use of this process to their advantage.

5.5 Using Advanced Communication Styles

A US Department of Education analysis of over a thousand studies of online learning found that on average, students did better under online learning conditions than with face-to-face instruction. A survey of more than 200 medical students found that an overwhelming majority believed that technology, including video game applications — would enhance their instruction.

http://education.internet.com/articles/online-video-training-brings-the-classroom-to-your-ipod/

6. Disadvantages of YouTube in Learning

• Accessible only to those who have good broadband connectivity
• Personal Interaction takes a backseat
• Unwanted distraction due to other social networking attractions online-
• Reliability of the Source is sometimes questionable

Conclusion

Today, “YouTube” is as synonymous with “Online Video” as Google is with “Online Search”. It has become the internet’s third most visited website in the world. It is a source of information on every topic imaginable.

Probably our future generations will be studying in virtual schools whereby students attend lessons all on the web. Responsibility and ethics with internet use are certainly factors that play a strong role in making the best use of today’s technology. there is great potential for educators to create effective policies and allow students to participate in a positive and productive way.
• "Auto-Captioning" allows videos to be translated to one of fifty different languages.

5. Advantages of YouTube in learning

5.1 Overcome the barriers of distance

Traditional means of education necessitate the teacher and the student to be face to face. This requires travel and the resulting costs can prohibit the needy students from accessing quality education. With access to Online Education through internet, education can be brought to the door steps of any one across the globe.

5.2 Facilitating Frequent Training

In some fields, and especially in technology, change happens rapidly. Online technical training is one way to meet the demand for frequent updates of knowledge and techniques. Professionals who may not have time or money to pay for refresher courses can take advantage of online video training to stay abreast of current trends or brush up before certification or licensing exams.

A lesson once taught in class might never be repeated again. But if a tutorial is available online, the student can refer to it anytime he needs to. Homework lessons and projects that are available online, can further help students stay in touch and stay attune to progress in a class.

5.3 Enhancing Information Retention

One study found that introducing a video element to instructional programs enhanced long-term retention of the material, perhaps because of the heightened visual dimension of the content. Looking at the use of YouTube in the field of education is like a door opening into a new interesting world.

5.4 Increased Collaboration

Class projects that involve presentations or directions on how to do something could be enhanced with video uploading. Imagine completing a video project with classmates, uploading to a site, and linking the site to the class's portal for everyone to view, share, and rate based on the topic. It would be a great way to collaborate and
Social Networking: An Opportunity for Libraries

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[Abstract: A social networking service is an online platform, or site that focuses on building and reflecting of social relationships among people who share interests and/or activities. A social network service essentially consists of details about each user (often a profile), his/her social links and a variety of additional services. Online community services are sometimes considered as a social network service, though in a broader sense, social network service usually means an individual-centered service where as online community services are group-centered. Social networking sites allow users to share ideas, activities, events, and interests within their individual networks.]

1. Introduction

Social networking is a new approach in some academic and public libraries. With social networking potential library users can participate in a collaborative exchange with their libraries. It allows users to build relationships with the library staff and other library users.

In knowledge society technical skills, access to information technologies, diversified and supportive social connections are becoming increasingly important for people.

An important part of life is developing social and professional networks. Social fabric of relationships include family, friends, neighbors, co-workers and professional colleagues.

In academic, public and school libraries, Face Book plays a great role among the users. Social networks help the library professionals to learn as much as possible about the users. Social networking can lead to the categorization of individuals into specific groups, such as small
References


3. Need of Social Networking for Libraries

Consider two expert views regarding community participation in libraries. Lynch (2003) argues that the future of digital libraries lies not in supporting generic, broadly useful services such as information access to large collections and knowledge stores, but in supporting “customization by community”, i.e. the development of services tailored to support the specific, and real, practices of different user constituencies. Borgman (1999), on the other hand, considers digital libraries as being constructed by and for a community of users, with functionalities specifically designed to support their particular information needs.

Social networking technologies have many positive uses in school and library environments. Social networking medium allows teens to receive support from librarians, teachers, peers, parents and others and to provide feedback.

Social networking technologies create a sense of community (as do the physical library and school) and in this way are already leaning towards the services and programs at the library and/or school. Schools and libraries are working towards integrated positive uses of social networking into their classrooms, programs, and services. Members of social network have the opportunity to learn from adults how to be safe and smart when participating online. They also learn a valuable life skill, as these social networking technologies are tools for communication that are widely used in the educational institutions and workplace.

4. A-Z of Social Networking Services in Libraries

- A-active, in order for your library patrons to view you as being serious about your social networking and for it to work for you and your library, you need to use it on a regular basis.

- B- Blog, does your library have a blog. This is a great way for you to offer value and content for your library and it has become the standard for libraries to have one.

- C-Content- just like businesses have to offer valuable content in order to market their businesses, your library needs to
rural communities or a neighborhood sub-divisions. Although social networking is possible in person, especially in the workplace, universities, and high schools, it is most popular online.

2. Advantage/Disadvantage

Some people believe that social networks are harmful to society. They feel that social networking should be banned. These fears are based on the evil effects of such networks on children and teenagers. Some worry about Internet child stalkers. Some feel that their children are spending too much time on the Internet. A social network can supply you with pen pals from all over the globe. That is a better way to promote cultural understanding.

World peace can only come about with global communication. What if social networks were used as a teaching tool in the classroom? Social networking is a recent invention.

- The best advantage of social networking sites is that these allow us to keep in touch with our friends, classmates and relatives. It is also the most cost effective way to keep in touch with people with no geographical barriers.

- With social networking sites, you are not bound by any geographical and cultural differences.

- You can build a network of contacts and interact with a lot of people at the same time.

- The social networking sites also facilitate you to procure information on any subjects from anywhere. These sites also make it easier and faster to collect information.

- Social networking sites can also be a tool to promote business, services, products, or websites. Due to the huge number of people who regularly use networking sites, it has found huge takers among advertisers.

- The most glaring disadvantage of social networking sites is the risk of identity theft and fraud. The personal information of users can be used by dubious people for illegal activities.
• R-Reference- you may think that offering reference services via social networking is impossible but the reality is that so many of your patrons use face book, twitter and you tube that you can offer the answers to frequently asked questions as a form of reference services on these sites.

• S-Slide share, this heavy traffic and awesome social networking site lets you share power point-presentations. Use this site to embed your presentations and promote them on other sites as well.

• T-Text messaging- Is your library using it yet?

• U-Upstream- uses this program to broadcast live to your library patrons.

• V-Video whether on you tube or elsewhere, use video to enhance and engage with your users via social networking.

• W-Widgets- many database vendors provide these which can be used to promote library services and resources.

• Y- Youth- using social networking allows you to connect on a deeper level with young people.

• Z-zeal, is your library staff exciting about the possibilities that social networking can offer your library?

Social networking is influencing the information environment. Therefore, it is essential that librarians understand how best to use these sites and tools with their professional work and to provide better service to their users, and reach those people who have never before used the library. It gives librarians a start-to-finish guide for using and maximizing popular social networking sites in all types of libraries.

5. How Social Networking is Useful for Libraries?

• Libraries can create a page to reach out to new users

• Build network among the interested group for discussing the issues of common interest

• Circulating information about the parent institution and its services
offer valuable content that your patrons will read and appreciate.

- **Direction**- What are you planning to accomplish for your library with social networking?
- **E-books**- You can share these on social networking to increase their exposure.
- **F-**face book, having a presence on face book with a fan page or a group is a must.
- **G-Good Reads,** Do your patrons need some ideas of what to read?
- **H-Help-** relying on only one or two people to build your library’s social networking presence will not work.
- **I-Interesting-** Are your library’s social networking profiles and content interesting?
- **J-Joomla-** an open source web design program that can make editing your library website and adding in social networking features much easier.
- **K-Koha the best open source program for your library catalog,** you can also integrate social networking into this tool.
- **L-**library thing - use this great site to share your library collections with others.
- **M-Mobile,** more and more your library’s social networking needs to be able to be accessed via mobile devices.
- **N-**ning this free social networking site allows you to create a social networking specifically for your library.
- **O-Open Source-** use these programs and tools to enhance your social networking experience and to help your library save money.
- **P-Pod casting-** this is a great way to share interviews and valuable audio tips with your library’s audience.
6. Skills Required of Social Networking-Literate Librarian

The 'social networking' literate librarian possesses the skills necessary for providing services in and with online social networking sites. Such sites are extremely popular across younger age groups and are central forums for accessing and sharing information. Librarians are using the social networking sites and their expanding role in the creation, use, and sharing of information by engaging them as a medium for interacting with library users. They try to provide services to meet the users' information needs. Librarians need skills in using social networking sites to provide quality services and maintain their role as information experts in a Web 2.0 world. The world of information continues to evolve towards interaction, consumer creation, and flexibility in the platforms and behaviors of information and its purveyors. Social networking sites are becoming central forums for accessing and sharing Information.

The social networking literate librarian is capable of articulating the nature and roles of online social networking sites and their importance in scholarly research, communication and the information cycle. Librarians should be familiar with social media including the major sites relevant to their patrons. Librarians need to be able to articulate why online social networks are important to libraries to peers, administrators and patrons.

Such a librarian is able to effectively search and browse various online social networks for known and unknown contacts for information and resources in a variety of formats. The skills include understanding the search tools available in the sites, knowledge of using outside search engines to scour the sites, and fields that are searchable. They must also have skills for navigating and browsing within the sites and between a variety of individual networks and outside websites.

The librarian must be familiar with the methods of communicating over social networking sites and be aware of and able to apply the cultural norms and expectations of users. All social networking sites allow for interactivity that can serve as avenues for connecting with patrons. These processes for communicating include messaging within the sites, posts on profile walls, comments on status updates, notes, pictures, posted items and blogs' and the sites' various synchronous
- Provide the contact information of various interest groups
- User written content including book reviews or other comments can be added to the library blog

The use of online social networks by libraries and information organizations is increasingly prevalent and a growing trend that is being used to communicate with potential library users to deliver services.

The following are the types of information provided by library weblogs.

1. News or information for users, trustees and librarians
2. Links to recommended Internet Resources
3. Book reviews, information about new books
4. Recreation, entertainment or amusement for users
5. Book discussions
6. Research tips
7. Communication among librarians (in a library system) (Clyde, 2004)

Therefore, social networking is more important for libraries and information organizations. “A colleague of mine at work forwarded information about this to our reference librarians, our library has gone back and forth about using instant messaging (IM) at the reference desk for years, without actually doing anything. We have a student population of mostly residential students, with no distance learning component at all. It never seemed like IM would be necessary in our library.

However, I can see the benefits of using IM or chat in the library catalog, even on a residential campus. Questions about using our library catalog are probably the second most frequent interaction at the reference desk, behind searching for journal articles. ...If students could chat with a reference librarian while they were having difficulties in the catalog, we could help the students at that point of need, rather than interrupting their research and having them come down to the main floor or over to the reference desk to ask a question. The meebo widget could be a great solution.”
Intellectual Property/Copyright/Ethics: Implications to Teachers and Students

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[Abstract: Every library is trying to meet the needs of their readers. Books and other materials are made available to the readers. Photocopying and other ideas is also permitted to the readers. The readers are using the information for their researches and other needs works. The question is raised now, is it correct to supply the information to the readers within the library, and then the reader makes use of the researches for the purpose of exam? This paper discusses the issues related to Intellectual Property Rights (IPR). The article focuses on importance of copyright, what is covered by copyright, limitations on Copyright. Also it will throw light on ethics, direct and indirect liability, innocent infringement, fair use, four key factors of fair use, educational exception.]

Keywords- IPR, Information filters, copyright, information liability.

Ethical Issues
chat features. Librarians also need the skills for interacting over social networking sites through the popular mobile methods: including smartphone applications, through mobile webpages, by email, through software and third party clients and by text message.

The social networking literate librarian is capable of teaching these skills to the patrons and peers. This includes guiding and training patrons through targeted aspects of social networks as resources and tools, teaching about the use of social networks for scholarly purposes and for teaching faculty and instructors about their role.

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Intellectual Property/Copyright/Ethics: Implications to Teachers and Students

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[Abstract: Every Library is trying to meet the needs of their readers. Books and other materials are made available to the readers. Photocopying and download is also permitted to the readers. The readers are using this information for their researches and other project works. The question is raised now, is it correct to supply the information to the readers within the Library? In many cases the author himself allows the researcher to use his document on prior request. This paper I discusses the issues related to Intellectual Property Rights (IPR). The article focuses on Importance of copyright, what is covered by copyright, Limitations on Copyright. Also it will throw light on ethics, direct and indirect liability, innocent infringement, fair use, four key factors of fair use, educational exemption.]

Keywords- IPR, information filters, copyright, information liability.

Intellectual Property

Intellectual property (IP) refers to creations of the mind such as Inventions, Literary and Artistic works, Symbols, Names, Images, and Designs used in commerce. Industrial property includes inventions (patents), trademarks, industrial designs and geographic indications of products and services. Copyright includes literary and artistic works, such as novels, poems, plays, films, musical works, dance, artistic works such as drawings, paintings, photographs, sculptures, and architectural designs. It also includes works of performing artists, in their recordings and those of broadcasted in their radio and television programs.
...the ethical issues being addressed are expected by a number of researchers and educators. This includes the use of social networks and social media, the spread of misinformation, and the potential impact on public health and societal well-being.

References

Ethical Issues
...
and Teachers use the available information or work for their teaching, learning and research work. There should be a proper use of that work created by the original authors. The citation should be given and copying of the whole document should be avoided. Now-a-days copying and pasting is very common among the students and also by the teachers for preparing the notes. In educational community, it should be discouraged. In the Libraries the photocopying is allowed but if it is being used for commercial purposes, it is wrong. The photocopies of the books of high prices are kept in libraries for dissemination to the students. This is not recommended practice. So while using a creative work of others, the proper responsible and judicious behavior is expected. In academic libraries, it is the job of Librarian to guide the users in this regards.

What is covered under the Copyright?

**Literary Works such as Novels, Poems, Plays**

The literary work is the imagination of the author. Thinking of the author is reflected in the literary work. The creation is nothing but the extraordinary intellectual of the author. It should be used by the proper permission as well as for the proper use.

**Reference Works, Theses, Newspapers and Computer Programs; Databases**

Reference works are created by great efforts of publishers and authors. The efforts as such should be considered as creation of those authors. Efforts are not only in the form of personal, physical efforts but also in the form of money invested. The creator has to spend funds for that; hence reference works come under the purview of copyright. These are nothing but the facts, observation and findings of the researcher/author. He has conducted research for his study. Not only written materials but also computer programmes and databases are under the coverage of copyright. Programmers set their programmes by using their knowledge and prepare software. Each programme has different codes. In the same way the databases are prepared by the different organisations for their use. Now-a-days the use of databases is done by various companies for marketing purposes. This is also covered under the copyright.
What is ‘Copyright’?

Copyright is a legal term describing rights given to creators for their literary and artistic works. “The statutory privilege extended to creators of works that are fixed in a tangible medium of expression.” (Bruwelheide, 1995).

Importance of Copyright

It is necessary to respect intellectual rights of creators of information. The creator of any new thing whether it is commercial or non-commercial, takes efforts to polish and shape his idea. He must bring intellectual product forward to the society. He must get respect for his work or invention. The inventors expect monetary benefits for their inventions, but in many cases like literary contributions the creator expects respect, which makes some position in the society. The person is known by his contribution to the society. For his extraordinary work he deserves respect.

Creativity is an extraordinary contribution to the society. The authors create their literary works by their imagination as well as their thinking which gives the new dimensions to the life-style of the society. The creative works give legendary personalities to the society. The artists introduce new things which change the dimensions of art. Only an extraordinary thinking can give birth to the extraordinary works. In the same way musicians also give the new and excellent innovations to the society. The invention of new instrument and equipment is also a great contribution to the society. The composition is their work on par with the literature. These people must be rewarded for their extraordinary work which helped in the development of human society to a higher level. Proper credit should be given to his work.

In order to achieve such respect and reward for creativity, it is required to have a legal mandate. There is provision to legally reserve the rights for the work of these kinds to the concerns persons. If anybody wants to use this kind of work for their own creative or commercial purposes, he/she should take permission from the creator. If anybody wants to use another’s work for commercial purpose, he has to share the monetary benefits or pay for the permission to the credit holder.

The work of the authors is being used by the others in the field of education, rather it is created to be used. Research scholars, Students
Copyright Law can be broadly divided into the following two parts

A. Copyright Law in the strict sense of the word i.e. in the protection of intellectual creativity;
B. Law of neighboring rights.

Limitations on Copyright

Library and Classroom Exemptions

The documents coming under the umbrella of copyright is permitted to used in the library. The library can give access to this kind of materials to the readers for their study purpose. Classroom study is also exempted. Libraries have the collection of these materials for their reader only, and also they give this material for use and not for copying. The use is limited to their members and also for certain period. In some cases the library permits copying but only for study purpose. But at the same time, it is very difficult to observe the readers for fair use of the material.

Fair Use: The fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. Fair use gives certain users conditional permission to use copyrighted materials if certain criteria are met. It means that the use of material is noted with the owner of the copyright. Fair use protects freedom of speech. Any speaker can use the references of the original creations. Whatever is written or has been created is for the benefit of the society. Fair use promotes public benefits like education. This rule is applicable to all types of media.

There are Four Key Factors of Fair Use. These are as follows.

Purpose and character of the use: The purpose for which the material is being put to be used should be clear to the owner of the copyright. The nature of the use should be mentioned clearly while asking for the permission. The purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit
Films, Musical Compositions, and Choreography

Entertainment programmes like films, musical compositions are the creations of art and artists. It is also an intellectual work of the producer, director and artists. These works are the results of their devotion towards the work and hard working throughout life. They are really owners of that work. Choreography is also falls under this category. The artistic compositions like this should not be used by others. This kind of work comes under the copyright.

Paintings, Drawings, Photographs, Sculpture and Architecture

Artistic work such as paintings, drawings, photographs, sculpture and architecture also are considered the intellectual creation of the artists. Now-a-days, such works of creation makes lots of money also. Use of this material for study purpose is permitted but use for business is strictly prohibited.

Advertisements, Maps and Technical Drawings

This is the world of marketing and advertising. These creative activities are the major part of that. The jingles of advertising are the creations of the artists. Preparation of maps and technical drawing are also the part of intellectual creations.

Ideas, facts, recipes, blank forms, stock literary devices, works lacking originality (e.g. the phone book), names, titles or short phrases, works from the federal government are also the works done as the part of their creativity. These materials also come under the purview of copyright.

Although copyright is legal issues which differs from country to country and time to time, there are many International efforts to normalise these variations. Some of the main initiatives are listed below.

World Copyright Convention: Milestones

1886 Berene Convention for Protection of Literary and Artistic Work.
1952 Universal Copyright Convention.
1961 Rome Convention - Performer's, Producer's of Phonograms and Broadcasting Organizations.
1971 Geneva Convention - Producer's of Phonograms against Unauthorized Duplication of their Phonograms.
makes us to make some assumptions depending upon earlier material, we must note it for our readers that this statement is made on the basis of earlier material. It is called citation. Citation not only gives the authenticity to the statement made by us but it also gives the credit to the creator of that material that we refer earlier for our research. Of course we give the sole credit for that statement to the earlier author. This is a fair use of the documents.

**Educational Exemption:** Emerging technologies bring new challenges for today’s teachers. The Internet and availability of computers and digitizing equipment provide ready access to great reservoirs of information and knowledge. Newer technologies also allow teachers to transfer, copy and digitize learning materials faster and easier than ever. Digital images may travel great distances quickly, leaving no trail. Text and images can be copied instantly, and then easily saved in computer files.

- It is no wonder that in these environment teachers often do not understand just how much leeway they have in using other people’s work. The law may seem confusing, ambiguous and unclear. At the same time, the massive amount of information and images greatly diminishes the likelihood of exposure if works are copied illegally. The issue of copyright law enforcement, receives little public attention. While education institutions have begun to protect themselves from liability, some teachers, either from a false sense of security or lack of awareness, engage in illegal use or retention of materials.

One can use the material under copyright for the purpose of education, but it does not mean that it is the free license to copy anything you want. One cannot copy in place of purchasing. One cannot copy in anticipation of purchasing. One cannot copy in anticipation of a request and also not allowed to use for every time.

**Ethics**

Ethics is a branch of philosophy which seeks to address question about morality, that is about concepts like good and bad, right and wrong, justice, virtue, etc. in this regard we celebrate **World Intellectual Property Day on April 26.**

The Indian Copyright Act was first passed in 1957. A few amendments were made in 1983 and in 1984. However, keeping in
educational purposes should be clearly mentioned. The commercial purpose strictly comes through the monitory channels, and there should be clear agreement between the owner and the user.

Nature of the copyrighted work: - The nature of the copyrighted work usually refers to the style and content of the work. In other words, is it fact or fiction; merely descriptive or creative; published or unpublished; etc. For example, a newspaper article that is predominately factual (if copyrighted at all), would be viewed favorably under the "nature of the work" factor of the fair use test, while a newspaper's editorial column on the same topic containing more of the author's creativity and analysis would be viewed much less favorably under fair use.

Amount and substantiality of the portion used in relation to the copyrighted work as a whole: Although there are no numerical or percentage limits, the larger the amount of a work one uses, the less likely it will be fair use. This deliberate flexibility in the statute allows each situation to be judged on its specific facts and allows the doctrine to be practical in the higher education setting. This factor also takes into consideration the quality of the portion taken as well as the quantity. Sometimes, even if only a small amount is taken, this factor may weigh against fair use if the portion can be justly characterized as "the heart of the matter." It is not difficult to see how this factor and the fourth factor, market effect, work in tandem. The more of the original taken, in amount and substantiality, the greater is the negative impact on the market for the copyrighted work.

Effect of the use upon the potential market for or value of the copyrighted work: This factor examines the anticipated effect of the use on the market for the copyrighted work. If the proposed use is likely to become widespread and would negatively affect the market for or value of the copyrighted work, this factor would weigh against fair use. This factor is often cited as the most important of the four, although the factors all interrelate and must be evaluated in conjunction with each other.

Citations: If any researcher wants to use the work of the creator he should take permission from the main owner. Also if he is using the references in his work he must cite this. This makes the credits to the creator. This is the fair use. We always use the creations of others for our research work or study. If we are referring the material which
original material from the market, but also stop the users from copying the material. Though it promotes reading but it is not 'fair use'.

**Principals**

Principals are the leaders of the academic institution. Budgeting may be affecting the development of the institution. Library budgeting is having an effect on the collection of the reading material. The principal should take a decision that photocopying, should not be done for the circulation of the material in the institution. Neither such thing should be practiced at the level of teachers nor at the library.

**Curriculum Coordinators**

The affiliating institutions like universities have the curriculum development bodies. The coordinators should consider the available material for the curriculum. The recommended books should be mentioned in the curriculum itself. They should ensure the availability of the material in the market. If the material is out of copyright, the material can be copied by the university itself for the circulation amongst the students.

**Superintendents**

These are the persons working in the academic system. Under their supervision examinations are conducted and also the directives laid by these kinds of officers are important. They can have close watch on the use of materials for the various kinds of courses.

**Boards of Study**

These are the bodies in each university which frame polices in the education system. Curriculum is designed under their directions. Pressures of the various kind come to them as they are the designing the courses. They can give guidelines to the affiliated institutions regarding the availability and use of the learning material required for the specified courses.

**Indirect Liability**

When individuals infringe copyright, they often use tools, services and venues provided by other parties. An enduring legal question asked is, to what extent those other parties should be held liable for the
view of the latest developments in the field of technology, especially in
the field of computers and digital communication, the new amended
Act called the Copyright (Amendment) Act, 1994 was passed, and
this made Indian Copyright Law as one of the toughest in the world.
This included the definition of “Computer Program” also in its ambit. It
clearly explains the rights of Copyright holder, position on rentals of
software, the rights of the user to make backup copies and the heavy
punishment and fines on infringement of Copyright of software. It also
makes it illegal to make or distribute copies of copyrighted software
without proper or specific authorization.

In view of the above, there is an ethical issue, whether to promote
the information services at the expense of copyright or protect the
copyright at the expense of quality services. The exemptions indicated
above (Fair Use, Citations and Educational Exemptions) are some
efforts to resolve this issue.

But, the copyright violation is being done in many educational
institutions. The following sections point at this problem.

Who is Liable?

**Classroom Teachers**

Teachers have a moral obligation to practice integrity and
trustworthiness. Just as they expect students to refrain from cheating
on tests and from taking others’ belongings at school, teachers should
honor the law when it comes to ‘fair use’ and copyright. Thus, teachers
not only should protect themselves from legal liability but should also
model honesty and truthfulness by knowing when and what may be
copied for educational use.

**Library Media Specialists**

Library is the information center in academic environment. Collection development policies are always towards the uses of materials
and for trying to meet the needs of readers. While developing the
collection, pricing factor of the material plays the vital role; in this the
librarians may think of copying the material rather than purchasing it
from the market. The readers are not aware of the fact that copying
of the material is prohibited under the Copyright Act. This is the duty
of the librarian to bring it to their notice. Not only he should collect the
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infringement. For example, should a firm that produces photocopiers be required to compensate authors for any unauthorized copies made on that firm’s machines? What about firms that manufacture personal computers or offer Internet access; should they be held liable, at least in part, for online music piracy? We also know of infringement but do not report it; this also is a liability.

**Innocent Infringement**

So many times knowingly or unknowingly all the researches or scholarly fellows copy the material of the original work. Copying all material is infringing copyright. It is called as ‘innocent infringement’. The excuses are always made that “I am not aware of it, I don’t think, I am practicing it.” But all this is infringement. May be, infringer was unaware that material was copyrighted. Here again if librarians need to take care by bringing it to the users’ notice. Since 1976 all works considered copyright protected.

**Conclusion**

We the librarian are supposed to be the custodian of the information. At the same time we are responsible to disseminate the information and to support the scholars for their work. We always meet the needs of the users and at same time we should protect the intellectual property rights. We are responsible if the infringement happens at our work place. We are supposed to be responsible, if we fail to fulfill the needs of the users at the same time if we could not orient them from infringing the copyright. We should be able to convince our authorities i.e. Principals and Management not to purchase pirated works for the libraries. Similarly, we should avoid mindless ‘copy-paste’ in research reports. Further, wherever any idea borrowed should be acknowledged and properly cited. Such strict adherence to ethics regarding intellectual property is good for both creativity and quality of research.

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About the book...

The papers received for the one-day seminar on Post-Modernization Librarianship represent a range of changes and enhancement of services that can be introduced at a library's level. These papers indicate what one need to do after computerization and networking.

Although the papers are not aimed at presenting any cutting-edge technology application, these serve to trigger thinking. It opens up new avenues of what great services can be started with Web 2.0 applications. It also presents many new things like digital preservation, cloud computing, open source software etc. The papers hold mirror to the things possible in post modernization library scenario.

Every possible effort is made to maintain the standard and quality in preparing this volume without affecting the flow of ideas. Occasional pruning and value addition is carried out to meet the publication norms.

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(Reaccredited 'A' Grade by NAAC)