INFORMATION AND COMMUNICATION TECHNOLOGY LITERACY (ICTL): SKILLS FOR LIBRARY PROFESSIONALS IN THE DIGITAL ERA

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Abstract

Highlights the concepts of literacy, information literacy and information and communication technologies (ICTs) and its purpose, scope and appropriateness among library professionals in the 21ˢᵗ century. Discusses the role of library professionals in setting vision towards learning and educating their clients to become ICT literates. Indicates the areas where the ICTs can be applied in library and information centres and the role of library professionals to effectively use their knowledge and skills for the ultimate benefit of the society. Projects the importance of creating awareness on ICT literacy among the user group to enhance the use of services and facilities offered by the library and information centres.

Keywords : Literacy, Information and Communication Technology (ICT), Library Professionals, Information Literacy (IL).

Introduction

The current age is information age where information society creates and makes use of information the development, which it essentially requires "information literacy". Information and Communication Technology (ICT) is undergoing revolutionary changes in the dynamic environment. Libraries are playing a crucial role in promoting ICT activities for their day to day transactions since many years. The value of ICT-based resources and services are that it can be easily shared, distributed, updated, manipulated, and rapidly searched. (Haneefa, M.).

Library and information centres of the modern world are provision of and effective resources for information access. The role of library professionals demands quality information services to different types of information seekers having different kinds of complex information needs. Hence, it is a must for library professionals to recognize, locate, evaluate, manage and retrieve the needed information effectively and efficiently to meet the specific needs of the users. Awareness of Information and Communication Literacy (ICTL) among library professionals helps them groom to develop new skills and gain competencies that are required to cope up with the exponential growth rate of information. The library professionals have a need to possess ample knowledge to handle ICT-oriented library services such as automation, management of electronic resources, searching and analyzing the databases, and internet resources. As part of modern librarianship, it is vital to be well versed with ICT applications to manage digital libraries, institutional repositories, electronic theses and dissertations and other web based services to cope up with the increasing information demands of the clients.

Information Literacy (IL)

Information is an organized and logical form of data made up of symbolic elements which communicates scientific and technical knowledge, irrespective of its nature, form and material carrier. Information is needed for both professional and personal activities and it requires accessing and evaluating information, which is possible through the communication technology. In brief, literacy means the ability to read and write, and information literacy is the ability to effectively use information, including locating, evaluating, storing, retrieving, and communicating. Literacy about information and its communication enables users to be lifelong learners and critical thinkers. It is also considered to be a fundamental

principle of higher education. People need to be ICT literate in order to be involved in and contribute to society. There is a need for a fundamental shift of library professionals from the traditional practice of document handling to information literature. The core function of modern library professionals needs to be changed from conventional bibliographic instruction to information and communication literacy.

According to Chartered Institute of Library and Information Professionals of UK, "Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner." The Association of College & Research Libraries (ACRL) defines information literacy as: "The set of skills needed to find, retrieve, analyze, and use information."

Literacy on information and communication technology enables library professionals to identify, evaluate, organize and disseminate information as and when it is required for solving problems and making decisions, thereby meeting the specific information needs of their organization. Scope of Information Literacy ranges from alphabetical literacy, social, functional, information and now digital information literacy. Information literacy makes the individual understand many of the economic, legal, and social issues encompassing the use of information and makes them aware of access and usefulness of information ethically and legally.

Information and Communication Technology Literacy (ICTL)

Information and Communications Technology Literacy (ICTL) emerged in 2002 and comprises literacy of both Information technology and communication technology. In an academic, higher education or research institution, it increases the skills of teachers, students and librarians for problem solving and appropriate decision making. Information literacy can be understood as the overarching term to describe the skills needed to use information and communication technologies (ICTs) effectively, and to access appropriate digital information resources (Wallis, J.,2005). ICT proficiency is the ability to use digital technology, communication tools, and/or networks to define an information need, access, manage, integrate and evaluate information, create new information or knowledge and being able to communicate this information to others (International ICT Literacy Panel, 2002). The changes which happened in information sector over past decades clearly show that the information society is drifting towards new adoptions for better information utility. The print medium has undergone

changes to become Web2.0 where as information literacy 2.0 has successfully replaced user education (Figure 1).
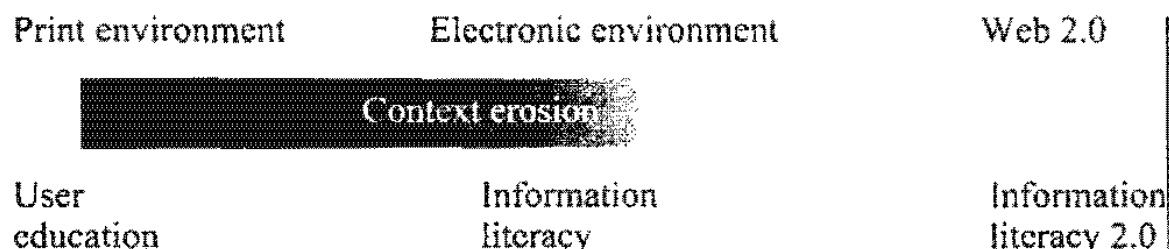
Print environment   Electronic environment   Web 2.0

User   Information   Information
education   literacy   literacy 2.0

Figure 1 : Erosion of information contexts as a driver towards IL 2.0

ICTL for Library Professionals

ICT applications are very important in library and information centres in the context of changing user needs. Knowledge of ICT applications is necessary for library professionals to meet the ever changing and complex requirements of users. Literacy on ICT application makes both the user and the library professional better make use of the information.

It is imperative that the libraries must accord priority to ICT adoption if they are to continue in the business of providing information to the users and to continue to be main point of access for researchers/students (Ani, O.E, et al.).
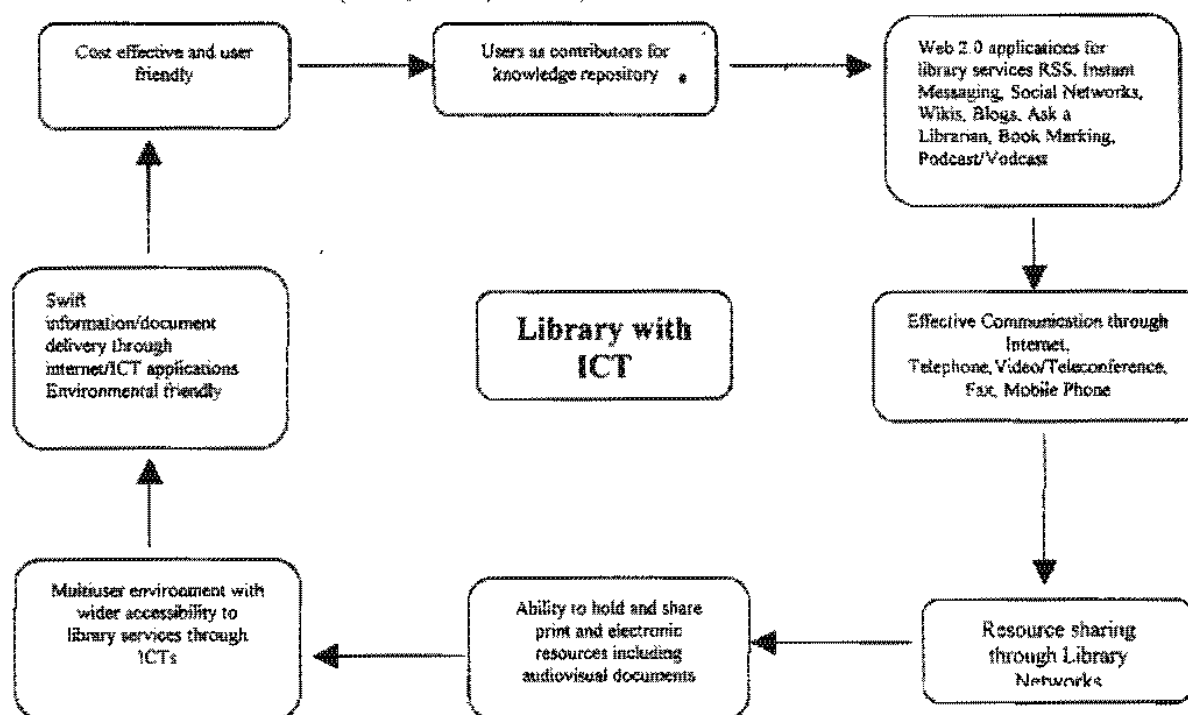

Figure 2 : Library with ICT

There is a need for additional training to augment the traditional skills and knowledge base with competencies in ICT use. LIS professionals must be flexible and adapt traditional skills to incorporate the requirements of technological advances (Mahmood, Khalid. 2007). Libraries with the help of new inventions in ICT have touched all heights of information world and aim to provide high-quality service in less span of time (Figure 2).

ICTL has been the main ingredient of digital librarianship. ICT applications are invaluable to LICs in several ways:

- Help the library professionals to identify and acquire current and relevant materials for their clients
- Help to identify and acquire sources of information that are most relevant, and organize and manage them for the easy access and retrieval
- Enable to staff training to access and exploit relevant information resources in the most effective and efficient way
- Enhances the professional image of library staff as they take the read in raising ICTL level within the organization and thus contribute to organizational development.
- Allow library and information professionals to create, develop and manage a library or information unit which meets the specific information needs of their parent organization.

How to make Library Professional ICT Literate

Library Professionals should quickly learn and implement ICT tools and techniques to provide faster access to and retrieval of information. Due to the lack of ICTL, most of the library professionals are not confident enough to handle many of the ICT tasks in libraries. Library professionals must acquire knowledge about the basics of computer and communication technology. Updating themselves with contemporary knowledge at regular intervals is equally important for delivering quality services. This, in turn, aids to improve the rapport with the user, reliability and regularity of library services.

Library professionals should have the necessary skills to handle information, communication and computer technologies to provide ICT services to the user community quickly and effectively. ICT skills, web skills, skills to use social networks, information gateways, etc., to be acquired by the library professionals and should have a general consciousness of the operation of Computer Mediated Communication

(CMC), TELE, digital devices, word processing etc to gratify the information requirements of user community in the digital era. Familiarity in handling databases for literature analysis and citation analysis is the basic requirements users demand.

Many doors have been opened for library professional to learn ICT technologies. Organizations like National Institute of Science Communication and Information Resources (NISCAIR), Defense Scientific Information and Documentation Centre (DESIDOC), the National Social Science .Documentation Centre (NASSDOC), etc., are organizing short term courses on computer and communication technologies. Moreover universities, academic institutions, library associations and organizations are organizing workshops, training programs, credit courses, etc., for the benefit of LIS community. ICT literacy can be enhanced effectively through the following:

- Relevant and contextual use of ICT based materials, tools and technology.
- Informal and short term computer courses like DCA/PGDCA
- Use of ICT-based materials, tools and techniques
- Library professionals who are in lower cadre and assisting their immediate higher officers may be assigned with digital projects through which they can learn more. They can build their ICT skills by experiencing with their expertise, documents and hands on training.
- Individual instruction, orientations, tours, and workshops
- Subject-specific and general bibliographic instruction
- Web-based instruction/tutorials/self-help guide
- Consultation with faculty/assignment design
- Membership to online professional groups, discussion fora, etc., by for sharing experience and avail the expertise from the professionals
- Installing and using library management software for creation of Institutional Repositories/Digital Libraries/Electronic Theses and Dissertations, etc.
- Implementing a common communication platform via internet/intranet at institutional level which can be used for obtaining instructions from higher authority, decision making and resolving professional issues.
- Making all the library correspondence such as procurement of books happening electronically via emails and video teleconferencing is considered to be environmental friendly and also brings more accuracy and rapidity to work.

- Training programmes to get the library staff learning ICT skills may be conducted at institutional level. This may gradually get them away from 'technophobia' the fear of technology and acclimatize to the electronic environment (Spacey, R., 2003).

It is very essential to revise and update the curriculum of Library and Information Science concentrating more on the application of ICTs to library services. Though various organizations/institutions conducting training programs, seminars, workshops, short term courses, etc., for the benefit of LIS community, the quality of the program, provisions to attend, registration fee etc for the programme should be justified. LIS professionals who attend seminars, conferences, symposiums, etc., should be encouraged by honoring them with certificates, awards, rewards, etc. Hands-on training programs to acquaint with the library management software, digital library, institutional library and Electronic Theses and Dissertation software should be given either free or at nominal of cost. LIS professionals should be encouraged to join in online communities, forums, social networks, blogs, etc., to share their experience and expertise, and get solutions for their ICT related problems. Constant training, orientation programs and retraining opportunities on digital library software, institutional repository integrated library management software etc for library professionals must be provided. Use of ICT-based resources and services such as reference service, Selective Dissemination of Information, Current Awareness Service as well as self learning through websites/manuals/ documentation prepared by other professionals and continuing education programmes make library professionals information literate.

Hindrances for the Implementation of ICT

- Many of Indian libraries suffers with the personnel with less or no ICT skills
- Unwillingness of library staff to learn new technology
- Absence of policy and regulation.
- Lack of technical support.
- Lack of training programmes to nurture the ICT skills among library staff.
- Non-availability of less expensive multi-language software (Al-Ansari, H., 2011)

- Insufficient financial resources.
- Inadequate electricity supply
- Fear of technology or negative attitude towards technology
- Inadequate support from the parent institution

Advantages Of ICTL for the Clients

- Provides easy and speedy access to right information at the right time
- Online information services such as Ask the librarian, Instant Messaging are bringing revolutionary changes with great impact.
- Enables users to find information independently and avoids interdependency which is time consuming.
- Facilitates use of resources and systems to access and evaluate information irrespective of the storage medium.
- Offers clear and rapid communication to give users a voice to express their need for information.
- Successfully involves the users in the process of knowledge creation, and management and dissemination of information products.
- Enhances users' level of satisfaction.
- Helps gain knowledge about searching techniques and encourages use of information sources more frequently, independently and confidently.

Advantages of ICTL for Library Professionals

- Makes the concept of "The right information to the right person at the right time" a reality.
- Helps to provide better services to clients with less effort and time.
- Brings accuracy and reliability in all services being provided.
- Bridges the gap between information seeker and information provider by offering best modes for communication.
- Saves the time of both readers and library professionals which can be spent for research and development work for the benefit of society.
- Reduces considerably the cost of acquisition, correspondence, maintenance, management, organization and dissemination of documents because of the ICT implementation.
- Provides wider accessibility with fewer electronic resources like e-books and e-journals as ICT allows multi-user access of resources at the same time.
- Resource sharing is at its best with ICT applications which saves time, energy, effort and cost. Through information networks, now the

libraries have become more confident to serve users better than ever. Online document delivery has added a new dimension to the concept of resource sharing.

• Library without walls, the virtual library in other words, is fixing an innovative paradigm of information services with the encroachment of ICT applications.

Areas in Library where Applications of ICT can be Implemented

Circulation

ICT applications have great significance in terms of easy issuing, discharging and reserving the library materials. Using ICTs these activities can be performed with more accuracy and accountability than through the non-ICT method. Another latest invention of technology, RFID (Radio-frequency Identification) is also being used. Many libraries are using RFID vigilance for security purpose. Using mobile phones for delivering information has **** in a new trend in library services. Information about document due, new arrivals and upcoming events in the library can be sent to the user through text messages. It has already been a reality in some libraries such as District of Columbia Public Library iPhone software (dclibrarylabs.org/projects/iphone/), and Denton Public Library (library.cityofdenton.com) (Parvez, 2011).

Acquisition Process

The ever challenging task - selecting the most relevant information resources has been made much simpler and effective through ICT applications like internet, and on-line publisher's catalogue. A grid view of available stock on a particular subject/topic has been made possible from which the librarian would be able to select. In the digital age, the librarians can even communicate with the subject experts through internet for guidelines on selecting the most appropriate books for the library. Online reviews and alternative reviews would help to cross check about the quality of books. Further, ordering, receipting and reporting have been part and parcel of the library management software which can be customized according to the financial procedures of the organization.

Cataloguing

Rapid retrieval of information is one of the ultimate goals of any modern library. Library software provide searching options with advanced search strategies to bring out the required information in an effective manner. It is only through computers loaded with a library software which talks about the availability of the document if the user is merely aware of any of author, title, year, publisher, subject, ISBN, class, phrase and etc., Most of the library softwares including open source softwares follow standard format such as MARC21, Z39.50, AACR2, etc. for storing the bibliographic information which may be shared worldwide. The WEBOPAC of OCLC offers bibliographic database which may be used for bibliographic description of documents in the local libraries.

Resource Sharing

Information exchange is one of the wonders in information sector in recent years. In the name of consortium through the networks now the libraries can exchange their information sources for the benefit of counterparts. Through this, the concept of Inter Library Loan (ILL) took a new dimension. With the advent of ICT applications, the libraries are being able to initiate, track, and progress ILL requests. From the stage of approaching a library in the network for a document till returning the document, all the policies regarding cost, restrictions on use, time scales can be programmed in the software which in turn generates appropriate functions at times such as reminding the borrower, maintaining monetary calculations, and informing the next user in the queue about the status of the document.

Stock Verification

Performing the library stock verification and reporting has been exasperating job for the library professionals. By the time one can finalize and submit the current stock verification's report, it's time to perform the next stock verification. With applications being provided in library software for library stock verification, it has been possible for libraries to give accurate statistics about library collection within the given time.

Membership

Maintaining user profiles along with the all their details has become more effective and informative with the modern library software. Registration and deregistration, setting parameters for borrowing documents and active period, reminders for returning the documents, no due certification, and fine management have become very easy to manage through ICTs are the inventions in ICT.

Serials Management

From the point of subscribing to a journal, payments, budget allocations, reminders for missing issues, binding, till indexing, ICT applications are being used to bring accountability.

Core Management

The communication technology enable the librarian to get rid of isolation and deprivation by providing the opportunities to express, learn and share from all the directions. List serve, email, and instant messaging have brightened librarianship where the actual exchange of information take place. In India, LIS Forum has been catering to the timely information needs of library professionals. Being a discussion forum, LIS Forum was instrumental in decision making, problem solving and several other concerns of LIS.

Library Services

Web 2.0 is a new addition to the ICT. Web 2.0 technology has ushered in a new trend in library and information services. RSS, instant messaging (IM), social networking sites (SNS), blogs and Wikis have broadening the prospect of electronic libraries.

Outstanding services of modern libraries have embraced Web 2.0 technology that has brought a great difference in information sector. The RSS is successfully being used to feed messages regarding new arrivals and events in the library. Without even logging into the email account, now it is possible to get the syndication of latest information updates. Through the link, the user can reach the most relevant segment of information.

IM service has extended the scope of online information service to a new horizon. Even library websites are made to be communication points by providing option for the users to communicate through text messages with library professionals via 'Ask a Librarian' a tool for real time reference service. Instant messaging is considered to be one of the fastest ways of communication.

Social networking sites (SNS) is the most popular and successful Web 2.0 application which connects people from difference areas of the world. The members of SNS are can share text messages and audiovisual clippings, which will in turn be notified to other intended members. SNS such as Facebook, Twitter and Friendster have enormous impact on people by catering information according to their requirements. These SNSs are effectively being is utilized by many libraries for marketing and promotion of information, delivering information services and connecting to counterparts for information exchange.

Blog is a web site with regular entries of commentary, descriptions of events, or other material such as graphics and video. Entries are commonly displayed in reverse chronological order (Wikipedia.org). All the discussion forums have blogging facility where user has an opportunity to express his/her thoughts on the topic/issue being discussed. Thus, resolving issues based on the comments made by different people from different viewpoints has been made feasible. For libraries, blogs have a great use as they can successfully be used for book reviews, book discussions, information marketing, etc.   •

The electronic environment has enhanced the role users to the extent of contributing to knowledge. The concept of Wikis gets the users part in building knowledge banks divided into diverse units according to the subjects. Each user can contribute equally for constituting Wikis which may become a huge source of information and a tool for project planning over a period of time.

Conclusion

ICT has been instrumental for remarkable achievements happening in information sector. The essentiality of ICT application for libraries is unquestionable. There is a great need for ICT skills library and information professionals to retain their relevance to the society in the networked age. If a person is sound enough to approach the information effectively and expeditiously, to access and retrieve the needed information through ICT, he/she can be considered to be information

literate. Exponential growth of information and communication technology demands the changing role of information professionals from gatekeepers to guides. It is necessary to keep up with the tools and resources of social networks. In addition to skills necessary for managing traditional library, library professionals must be well versed in information storage and retrieval systems. Library professionals should also have additional skills and expertise in the modern information and communication tools, electronic and digital information management, and online data searching and analysis. The responsibility of transforming information seekers into ICT literates lies on the shoulders of library professionals.

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