E-INFORMATION LITERACY: AN OVER VIEW

Vijaykumar D Nayak   Ramesh .R. Nayak   S G Murgod

Abstract

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 twenty-first century. Sometimes interpreted as one of a number of literacies, information literacy is also described as the overarching literacy essential for twenty-first century living. Today, E-information literacy is inextricably associated with information practices and critical thinking in the information and communication technology environment' This paper examines the developments in information literacy and provides an over view of E-Information Literacy.

Keywords : E-Information Literacy

1.   Introduction

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 twenty-first century. Sometimes interpreted as one of a number of literacies, information literacy (IL) is also described as the overarching literacy essential for twenty-first century living. Today, E-information literacy is inextricably associated with information practices and critical thinking in the information and communication technology (ICT) environment.

E-Information literacy is conceivably the foundation for learning in our contemporary environment of continuous technological change. As information and communication technologies develop rapidly, and the information environment becomes increasingly complex, educators are recognizing the need for learners to engage with the information environment as part of their formal learning processes. IL is generally seen as pivotal to the pursuit of lifelong learning, and central to achieving both personal empowerment and economic development.

E-information literacy is a natural extension of the concept of literacy in our information society.

As research and teaching increasingly rely on global networks for the creation, storage and dissemination of knowledge, the need to educate E-information literacy students has become more widely recognized. Students often lack the skills necessary to succeed in this rapidly changing environment, and faculty need training and support to make use of new technologies for effective teaching and learning. The current environment provides an opportunity for librarians to play a key role in the evolution of an integrated information literacy curriculum, in contrast to past efforts which were sporadic and rarely programmatically based.

In a 1989 report, the American Library Association states that "Information literacy is a survival skill in the Information Age", and calls for a restructuring of the learning process itself, rather than the curriculum. Revamping the process would ensure that students

- know when they need information
- identify what information will address a particular problem
- find the needed information
- evaluate the information
- organize the information
- use the information effectively in addressing the problem

There are many challenges inherent in changing the learning process, and often the results are mixed. However, since our patrons, collections, and campus connections span all disciplines, librarians are uniquely situated to create and foster new ways of teaching and learning information technology. According to Fowell and Levy, "Information professionals have the opportunity to take a leading role in developing and delivering the learning support strategies which will be appropriate to this new environment, acting as significant culture change agents in their institutions". Perhaps our greatest challenge is to act on this opportunity, and create the necessary changes.

We are now in an information age characterized by Internet which is used widely and rapidly all over the world. E-Information literacy, defined as "the ability to locate, evaluate and effectively use needed information" with "a set of skills and attitudes for lifelong learning" is a product of information society. Network technology (LAN, WAN, Intranet, Internet and telecommunications) with multimedia, digital storage and digital delivery, makes information as networked information and tremendously extends the usefulness of information resources and services. Information society is a networked and electronically information society. Network literacy, defined as "the ability to identify, access, and use electronic information from the information network" is information literacy based on network technology in a network environment. It will be an essential skill for people to live a successful and productive life in a networked information society. From schools to colleges or universities, from public libraries to academic or special libraries, from government relevant agencies to education associations or library associations, teachers, librarians and other educators have been emphasis sizing, experimenting and working to educate various types of people to become as "e-information-literate persons" to meet the society changing. While libraries function as information resources centers and are moving toward digital/virtual libraries, it becomes very critical to educate users in network literacy.

2. Aspects

E-information literacy for library users consists of two aspects: knowledge of networked information and skills to locate, select, evaluate and use the networked information. Knowledge of e- information is:

a. To recognize the range and uses of global networked information resources and services;

b. To understand the role and use of networked information in problem solving and in performing basic life activities; and

c. To know the system used by which networked information is created, managed and made available.

3. Skills

The skills include:

a. To define information needed for specific purpose;

b. To locate information needed from networks with efficient information retrieval methods, skills and tools;

c. To select and evaluate information gained from networked information on a given topic;

d. To manipulate and organize E- information with other resources to enhance its values;

e. To use, analyze and present networked and E- information for problem solving and life-long learning.

4. Requirements

To acquire E-information literacy as defined above, users should first of all possess other basic literacy:

a. Traditional notion of literacy - to read and write;

b. Computer literacy - to understand and operate computers which are interfaces between networked information and end-users;

c. Media literacy - to understand different media storing networked information and use them; and

d. Traditional Information literacy - to locate, select, evaluate and use information effectively [6].

e. User Education on E-Literacy - Librarian's New Task

4.1 Roles for Librarians in a E- Information Environment

In a networked and E- information environment, librarian's role becomes "more expansive and complex because of technological advances in information handling as well as information users' demands for more efficient and complex information de-livery". In addition to the traditional library services based on the traditional print and AV resources, librarians are now information professionals managing, retrieving, analyzing, organizing and serving networked information to information consumers in an information-driven society. Librarians are asked how to use information rather than just retrieve it, and, are asked to assist and train users to locate, evaluate and use information effectively as information navigators rather than traditional bibliographic instructors. Librarians act not only as "the intermediaries" to assist in connecting users with networked resources, but further as partners with teachers to educate the target groups for network literacy. To retain their professional credibility, librarians must enhance themselves to understand and manage the complexities of networked information. Librarians must assume a leadership role in educating the community about the impact of information and network technology on teaching, learning, effectively working and productively living in an information age.

5. E- Literacy for Librarians

As educators of library users on E-literacy, librarians must first acquire E-literacy literacy themselves. That is, librarians should be conversant with course-ware and networked information resources, and possess both knowledge and skills needed in a network environment. Besides the knowledge of and skills in networked information described above as library users' network literacy, librarians should further be:

a. Knowledgeable in globally recognizing, organizing and serving networked information resources and services;

b. Knowledgeable in networked information in different subject fields to match the information needed with the problem solving;

c.   Knowledgeable in creating, designing, organizing instructional programs for library users and for cooperative with teachers and computer/network specialists for network literacy curriculum;

d.   Familiar with different network systems and technology with different networked information available;

e.   Comfortable with network technology and computer technology related to information resources and services;

f.   Knowledgeable in developing networked information resources and services;

g.   Skillful in operating computerized interfaces and other network facilities to access, use and process networked information (microcomputer operations, modems, multimedia devices, software applications, etc.); and

h.   Knowledgeable in database management, system analysis and evaluation as well as project management for information services. The way for librarians to become self-literate for network literacy could be considered as:

i.   Professional education from library and/or other professional schools as information professionals;

j.   Various training on media, computer, and network systems from continuing education, workshops, seminars, vendor training sessions, and conferences;

k.   Working on in-formation services to enhance network literacy through hands-on practices; and

l.   Self-learning through readings, professional conferences, networked information, and other self-learning channels.

6.   User Education on E- Literacy

For librarians providing instruction in user education on network literacy, there are three elements that are different from traditional bibliographic instructions.

First, librarians should organize and design an efficient teaching environment including facilities and select a suitable teaching method to provide instructional programs on network literacy to users. Networked information must be based on a networked environment. To setup physical equipment or facilities for network training should involve collaboration with computer/network specialists, and al so it should be based on the existing library network systems. In the University of Wisconsin Whitewater, there is a Computer Lab (called Bibliographic Instruction Lab) with 21 PCs linked to a Novell Netware LAN. All computers can access CD-ROM LAN databases, Internet (both Gopher and WWW) and library online cataloging system (NOTIS, run by an IBM mainframe) through software in LAN server and c amp us network backbone. Students can follow instructor step-by-step and have hands-on practice using these networked workstations. There have been many discussions, practice models, guidelines and principles for instruction methods on electronic or networked information, such as University of Arizona Library's Model for teaching Internet, RASD's Electronic Information Sources: Guidelines for Training Sessions, "Five principles for effective Information literacy instruction" by Ross Todd, and Brandon University Library in Manitoba Canada offering new learning processes.

In summing up, the methods for network literacy instruction could be:

a.   Classroom presentation and lectures with computer demonstration;

b.   Workbooks and other printed texts (system and/or database manuals) for learner to practice with a networked terminal;

c. Multimedia and computer assisted/aided instructional programs (CAI) such as kiosk programs, computer programmed projects and audio/video instruction programs;

d. Point-of-use signage;

e. Individual instruction or counseling; and

f. Electronic user guides in HTML for-mat with full text and/or full image, published on the WWW.

The University of Wisconsin-Whitewater has video tapes created for how to use email on Internet and how to create Web home page, printed manuals for Internet guides, HTML formatted CD-ROM database guides and Online Cataloging System guides in library's web home page, and many instruction sessions offered every semester by librarians and network/computer specialists for networked information. Also, to establish additional library communication channels is a good way for distributing network literacy such as through library newsletters, library guides, reference desk services, individual consultation and electronic information instruction combined with teachers' curricula.

Second, librarians need to determine what course contents should be provided in the instruction. The contents for e-information literacy instruction differ in terms of systems, purposes, target groups and subjects of networked information. In general, the basic contents of e-information literacy instruction should be:

a. Computer operation knowledge and skills, (which constitute computer literacy), such as how to operate OPACs or microcomputer workstations, how to use modem with communication software to dial in systems and to download files, how to use stand-alone or net-worked printer to print information, how to use CD-ROM devices, etc.;

b. Network knowledge such as some basic concepts on networking technology, overview of library network environment, different network systems' features and usage of LAN and online cataloging systems, WAN especially Internet related Gopher, WWW, Email, and FTP functions, CD-ROM databases, necessary functions and commands to use networking systems such as login/out;

c. Multimedia knowledge and skills for graphic/image resources, sound information resources, and other devices such as scanner with OCR applications;

d. Networked information available in network systems, in their contents of databases (in subjects), coverage and formats, structure of files and records, information intended market for users and uses, information delivery services, types of information such as utilities and index tools (Yahoo and Lycos in WWW, Veronica and Jewels in Gopher), resource guides and subject guides, bibliography lists and full text/full-image electronic publications, email discussions groups (listserv) and training resources of different purposes;

e. Information retrieval skills such as Boolean logic searching; and

f. Standards and methods to evaluate information results for effective use of information.

Third is to combine library information literacy training programs with other educational programs such as teachers' course offerings in academic and school libraries, public education programs in public libraries, and special information workshops in special libraries, and, computer/network specialist's workshops on computer/network literacy. The cooperation between librarians and users, between librarians and other educators will be important. The instruction for computer literacy and network technology can be provided by network/computer specialists. Librarians focus on instructions on networked information. Librarians can cooperate with teachers to create network literacy programs in specific subject fields as needed in their courses. The teacher can also consult with librarians to update their courses for networked information needed.

7. The promising future

The future of the e-information environment seems to be absolutely promising. On the retrieval software and interfaces arena, the tremendous developments taking place the world over is highly encouraging. On the Internet front, the recent advances are amazing, though the fruits of the same may be reaching the developing countries like India after a little while. If we want to get the benefits straight away, the national information infrastructure (NII) needs further strengthening and immediate and careful attention. Thanks to the recent developments in national information policy and information technology bill. The timely awakening is noteworthy and strategically significant.

The suite of Internet standards and respective emerging technologies has been, in the recent years, massively used for 'content publishing' on the Web. Low-cost approaches deliver in many instances a high-value result, which if performed in the physical rather than the virtual world would require substantially more resources. One can also find a number of instances where the Web acts as a 'service provider' rather than just content publishing.

Human Computer Interaction (HCI) is already an established area of research, and the topic attracts information scientists and computer scientists the world over to embark on high-tech research leading to easy, reliable, relevant and faster retrieval of information both from massive bibliographic databases and Internet as well.

8. Conclusion

User education is a major task for librarians to serve users more effectively. The contents and teaching methods for user education vary with user's needs social changes. User education on e- literacy is different from traditional bibliographic instructions because of the high-tech based networked information. It re-quires librarians to undertake a new task, which calls for not only change s in in-situational contents and methods but more important the librarians must make them-selves network literate. Librarians must recognize this change and embrace it. With the new task in a networked information age, librarians will be also to provide greater contributions to society than ever before.

From the user perspective we have looked at the wealth of information available electronically, the technical problems one encounters, and also the potential and the promising future. 'IT' has made significant strides in the very way of acquiring, storing, retrieving and disseminating information. The real changes with the computer will come when we are able to do things significantly different. The FedEx parcel tracking system on the Web is just one example, which might not be possible to materialise through conventional activities. Having known the potential of electronic information it is our duty to make this accessible to the unreached, and there comes the role of the information professional.

9. References

1.   American Library Association Presidential Committee on Information Literacy, Final Report, Chicago: ALA, 1989. p.1.

2.   Cleaver, B. P. "Thinking About Information: Skills for Lifelong Learning." School Library Media Quarterly 16 :1 (1987): 29-31.

3.   McClure, Charles R. "Network literacy: A Role for Libraries?" Information Technology and Libraries 13:2 (June 1994): 115-125.

4.   McClure, p. 119.

5. Eisenberg, Michael B. and Berkowitz, Robert Z., Information Problem-Solving: the Big Six Skills Approach to Library & Information Skills Instruction Nor-wood, NJ: Ablex Publishing Co. 1991. p. 5.

6. McClure, p.122.

7. Reichel, Mary "Library Literacy." RQ 28:1 (Fall 1988): 31.

8. Foster, Stephen "Information Literacy: Some Misgivings." American Libraries 24 (April 1, 1993):344.

9. Lei, Yan "Training Library Staff to Adapt to the Internet Environment." CLIEJ (April 1996).

10. Greenfield, Louise, Gellman, Jenna Lyn and Beth Brin "A Model for Teaching the Internet: Preparation and Practice." Computers in Libraries (March 1996): 22-25.

11. Reference and Adult Services Division (RASD), ALA. Electronic Information Sources: Guidelines for Training Sessions, posted in August 1995. 8 pp.

12. Todd, Ross J. "Information Literacy: Philosophy, Principles, and Practice." School Libraries Worldwide 1:1 (1995): 54-68.

13. Bazillion, Richard J. and Braun, Connie "Academic Library Design: Building a 'Teaching Instrument'." Computers in Libraries 14:2 (Feb. 1994):1-5.

14. RASD, p. 2.

15. Kovacs, Diane K. and et al. "A Model for Planning and Providing Reference Services Using Internet Resources." Library Trends 42:4 (Spring 1994): 638-47.

About Authors
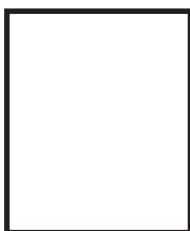
Shri Vijaykumar B Nayak is working as Assistant Librarian at Visvesvaraya Technological University Library Belgaum

Dr. Ramesh R Nayak is a Reader in Department of Library and Information Science,
Karnataka University Dharwar. He holds PhD in LIS, MSc, MLIS.

Mr. S G Murgod is working as Librarian in Belgaum Institute of Management Studies, Belgaum. He holds MLIS.