CHAPTER 5

CONCEPTUAL E-INFORMATION LITERACY MODEL FOR UNIVERSITY LIBRARIES

5.1 Literacy to E-Information Literacy:

The spectrum of the literacy (Caroline, 2002) has five different forms viz. alphabetic literacy (e.g. writing name), functional literacy (e.g. reading and writing), social literacy (communication in a cultural context), information literacy (critical location, evaluation and use of information), e-information literacy (application of information literacy in the digital environment). Even the Chartered Institute of Library & Information Professionals (2007) has defined information literacy (IL) as: knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner. This definition implies several skills. It is believed that the skills (or competencies) that are required to be IL require an understanding of:

- A need for information
- The resources available
- How to find information
- The need to evaluate results
- How to work with or exploit results
- Ethics and responsibility of use
- How to communicate or share the findings
- How to manage the findings.

The above notions of the information literacy reveals that it is strongly bonded with the critical and reflective thinking focusing on the broader skill sets rather than the heavy emphasis on ICT. It is worth mentioning that the attributes of the Information Literacy listed above are seen successfully tackled by the Eisenberg and Berkowitz (1990) information problem solving approach popularly known as “Big Six” in the LIS community.
5.2 E-Information Literacy in Changing Paradigms of ICT

The term *information literacy* achieved its current prominence within the scholarly community with the advent of the information explosion. Although the term was first introduced in 1974 by Paul Zurkowski (Shirley, 1994) —long before the advent of the World Wide Web (WWW)—it was not until the 1990s that interest within the field of library and information science (LIS) was manifested in the appearance of books and articles in professional journals, sparked by the appearance in 1989 of the final report on information literacy by the American Library Association. (1989). A casual search of the online database *Library Literature and Information Science* for the expression information literacy indicates a steady and substantial increase in the attention the topic has received in the literature since 1980, an increase that correlates to the increasing availability of electronic information (Verelene, 1998). Information literacy which is considered as one of the most vital skills of 21st century, facilitates ability to locate, organize, evaluate and use information. It endows the individual for lifelong learning on its own. However, computer or information technology skills are seen to be linked mistakenly in regards to the information literacy. The computers, internet and information and communication technology (ICT) skills are merely the tools for the information literacy and the term and scope of the term go much beyond this. It is not merely an ensemble of the ICT skills, but an incessant process that can be inculcated in the academic lifestyle of the individuals by inspiring a paradigm shift in their thinking process by convincing that “The Knowledge is Power”. Through the advent of present communication technology an attempt has been made to put forth the evolving perceptions of the information literacy in the predominance of Internet and present some of the mysteries and future strategies to tackle with them.

The information explosion reported above necessitates innovative technological means for information storage and management. In 2007, first time the situation arised when the amount of global information created was seemingly surpassing the available storage capacity. However, it was revealed later that the situation was due to non removal of unwanted information by the users. In these kind of situations only the LIS professionals can create the awareness through the e-information literacy.

In a nutshell to reiterate that the information literacy and e-information literacy are almost merging each other and the only way to cater to the information explosion for
the benefit of the individuals is through incorporation of several initiatives presently missing in the academic spheres. The new multidimensional aspect of e-information literacy conceptualized has been summarized in figure 5.1. It is worthwhile here to take a note of the measures already implemented on a global scale.

![Figure 5.1 Multidimensional perceptions of the e-information literacy](image)

**5.3 Existing Information Literacy Models and Standards:**

Following imperative information literacy models and standards mentioned below and discussed in detail in Chapter-3 have summarized the process of information literacy starting from need of information, its selection, organization, synthesis and finally up to its evaluation and final use. They have highlighted that, how each of the
steps in the entire process, would result in improving the information literacy skills of researchers or users of information. Looking into the influence of Information and Communication Technology (ICT) on the information seeking process, few of the models such as SCONUL have even talked about ICT skills and their importance in seeking information in the digital environment.

Information Literacy Models:
A) Kuhlthau, Information Seeking Model
B) Bruce’s 7 Faces
C) Eisenberg and Berkovitz, Big Six Model
D) Society of College, National and University Libraries (SCONUL) - Seven Pillar/Seven Faces Model
E) Empowering-8 Model
F) Pathways to Knowledge Model (Pappas/Teppe)
G) Louisiana, Information Literacy Model for lifelong learning

Information Literacy Standards:
A) ACRL, Information Literacy Competency Standards for Higher Education, 2000
B) ISTE Standard
C) ANZIIL Standard, 2004
D) AASL And AECT Information Literacy Standards, 1998
E) OSLA Information Literacy Standards
F) IFLA Information Literacy Standards

However, looking at lacuna of many of the models failing to fit into the new digital environment and their suitability for the university library system a need was felt to conceptualize e-information literacy model for university libraries to enable libraries to inculcate e-information literacy among the clientele for the effective use of information.

5.4 Conceptual E-Information Literacy Model:

Information literacy is roughly associated with the skills like research skill and technology skill whereas E-information literacy is interlinked and interconnected with each other by three words viz. Content, Communication and Technology.
Information literacy is such a complex phenomenon that it requires a multifaceted interdisciplinary approach. Mackey & Ho (2005) explained the co-relation between Information Literacy and Information Technology in practice which concludes that “research and technology skills are equally important within a complementary framework.” Keeping in view the importance of e-information literacy in higher education and non suitability of existing information literacy models, it has been proposed to develop a conceptual e-information literacy model for University libraries.

**Proposed Model Tenets:**

The model is designed as per the definition of information literacy which navigate the stages such as location and access of e-information, managing of search skills, analysis and synthesis of derived information and communication of information. Diagrammatically this object oriented model is shown below:
Fig. 5.2: Conceptual e-information literacy Model for University Libraries
The steps (attributes) involved in model are explained below:

1. Formulation of a research question
   - Information need
   - Query submission through e-mail/social networking medias

2. Identify appropriate objectives
   - Users’ profile
   - Matching with research question/theme and type of e-information
   - Reference Interview

3. Scrutinizing closely with the available information
   - Awareness and Consultation of information sources/e-resources at the library/referral sources (Web resources)
   - Identify the search terms/resources and query province related to question
   - Creation of profile database

4. Skills to access the information
   - Adaptation of search procedure (search strategy, controlled vocabulary etc.)
   - Link available at library website/portal (Knowing web address)
   - Entail development of E-information literacy competencies, self-efficacy
   - Federated search
5. Analysis and synthesis of accessed e-information

- Filtration
- Evaluation of the outcome through validity, reliability, copyright, economic/legal/social issues (ethics) and its impact
- Use of Mind Maps/Concept Mapping techniques
- Organization and Validation of e-information

6. Communication and presentation of information

- By E-mail/alert services
- Library orientation/instruction
- Periodic training/awareness series on information products and services by Library Staff/Expert Assistance, to acquaint with e-information skills/technology
- Provide Services (Document Delivery)
- Access to virtual platform
- Exchange of electronic files
- Security of Information
- Consult tutorials on use of e-resources

7. Feedback

- Discussion, Suggestions
- End/Repeat the Process

Above listed attributes are interdependent to each other.
5.4.1 Learning outcomes of conceptual e-information literacy model:

i. Mobility with regard to higher degree of flexibility and applicability for all stakeholders of the university, irrespective of the discipline;

ii. Aid in using definite e-resources and e-services;

iii. Re-direct to deeper searching and learning processes and help in strengthening of ICT skills, research communication and fluency in searching of e-information;

iv. Best suited in self-directed learning strategy, stare tutoring, collaborative learning environments and use as learning and problem solving method in e-learning (computing) environment;

v. Serve as a desktop workbench which guide through methods/procedures and tools to make the learning process as real as possible;

vi. Act as syntax for users to navigate e-information by making available it on University/Library home page;

vii. Improved library services within ICT environment to gain abundant e-resources;

viii. Mostly depends on the phrase What You See Is What You Get (WYSIWYG); and

ix. Explore the need to arrange orientation, awareness program for the users (teachers) whose e-information literate index is low.

5.4.2 Instructional Strategies:

i. Departmental, faculty wise one/two session of 120 minutes instructional sessions on information products and services then interactive presentation followed by practical’s (tutorials) once in a month/two months at a departmental ICT laboratory well equipped with computers and internet connectivity.
ii. Evaluation through tests and measurement of performance level to meet their e-information need.

5.5 Getting e-information literacy Readiness Index from Model:

India needs to follow the worldwide scenario and in particular The Information for All Programme (IFAP) by UNESCO aiming at “Living Information”, that implies bringing together two important concepts – access to information and the use of information. At the outset there is a need to investigate the ‘e-information literacy readiness index’ in the Higher Education Sector based on the following questions:

- How the teachers and student use the information in their workspace and everyday life?
- What is their perception of Information Literacy? Whether it is same as that of ICT or something else?
- What is the penetration of e-information literacy resources in a particular institute? Whether time has come to launch the e-information literacy awareness in a big way to compliment the available resources?
- Amongst the current information sources, to what extent ‘Internet’ is valued?
- Whether the faculty and students can use at least one search engine?
- Can they take care of computer hoax or cyber security issues while online?
- To what extent the new information resources such as blogs are used to communicate with patrons?
- To what extent the innovative online resources such as wikis are used by joining the domain specific community?
- How is the usage pattern of the online journals made available to University’s under the UGC Infonet Program?
- Whether the researchers are aware about the importance of the subject specific databases such as MATHSCIENCE and SciFinder databases?
- What is the percentage of researchers and faculty interested in finding the citation index for their papers?
- Whether the faculty and researchers are aware of the new copyright issues in digital domain and issues related to information ethics?
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• Whether the faculty encourages the students to produce results such as a webpage or online-publication rather than a hard copy paper?
• How much is the percentage of the students identifying their learning resources on their own by taking help of World Wide Web?
• Whether the courses in Mass Communication and Journalism in Universities encourage their students to scan RSS and news feeds for their assignments?
• Whether the faculty and student can make effective search on internet by using the techniques such as Boolean logic, truncation and fielded data?
• Whether the thesis, dissertations and project reports of the students follow the appropriate citation style and conventions such as use of footnotes / end notes?
• Whether the individuals can handle the new devices for information accessing such as sony players?
• How much is the use of the new online delivery mechanisms such as webinars, podcasting, vodcasting, mobile learning?

Once the ‘e-information literacy Readiness index” is at place, a national agenda can be set for wide spread campaign.

5.6 Strategies and Way Forward:

India is emerged as the global superpower in the Information Technology. However, the awareness regarding the e-information literacy has not improved. Following are few of the measures suggested to create e-information literacy awareness in India:

• It is high time now that the Government of India should form a coordinating body for the e-information literacy inculcation amongst the masses. This body can be a common platform for UGC, CSIR, DST, State Councils of Higher Education;
• The Government with the Ministry of IT should strengthen the residential networking which will help in spreading the e-information literacy awareness easily;
• The curriculum of undergraduate and postgraduate courses should incorporate the e-information literacy aspects so as to expose the students at an early stage of their academics;
• Apart from the University and Institute Libraries, public libraries should also be facilitated with the connectivity mechanisms such as Internet and e-journals;

• The faculty and LIS community implementing the path breaking delivery mechanisms based on digital, multimedia be rewarded and encouraged. It is high time now to go for the e-content to ensure the lifelong and remedial learning through online means;

• Emphasis be laid on more vertical and horizontal portals for content delivery;

• LIS community and faculty be trained for the new pedagogical conceptual frameworks of e-information literacy and not merely the mechanical use of ICT;

• Research Students be given simple but useful assignments as a part of their research methodology course curriculum such as locating a research paper from JSTOR;

• Brainstorming amongst the research community should be arranged on pertinent but neglected issues such as devising keywords, citation index, impact factors of journals etc.;

• Students should be trained working in team by interdisciplinary engagement, for the information seeking from the web. This will inculcate inter and intra faculty exchange of knowledge and enrich the academic life;

• A compulsory exercise on domain specific effective searching on the Internet should be introduced and the collected resources may be maintained as a repository for complimenting the courseware;

• The individuals should be made aware about the peer to peer illegal file sharing on the web and pirating issues pertaining to e-books;

• The national strategy should emerge for founding of library networks, enhanced on-line access in libraries and information centers;

• Emphasis should be given on use of Web 2.0/ Web 3.0 technologies and social networking such as blogs to fit the students into place students through manifestation;

• Carving the domain specific digital libraries on specific issues such as women empowerment, child mortality, minority inclusion, HIV/AIDS, malaria awareness;
• Researchers should be made aware about the federated searching such as Google Scholar and Meta Searching tools rather than only Google; and
• There should be oral awareness campaigns to spread the e-information literacy apart from articles in journals, presentations in conferences, workshops and influencing the students in a pyramidal model of training to trainers.

5.7 Summary:

The conceptual model has been designed as per the definition of information literacy. The past studies show that students and teachers often do not attend library instruction programme. The proposed model will meet the information needs of the users to fortify their academic and learning obligations. So that right information to the right reader at the right time is served and help in confirming of fourth law of Library science originated by Dr. S. R. Ranganathan ‘Save the time of the reader’ and also helps in integrating the services and facilities of the libraries at the best possible order by meeting the mission/objectives of the parent organization/library.

The e-information literacy is a valuable tool for making use of relevant information for informed decision making. It is a must tool in today’s era of knowledge explosion for seeking information, creation and dissemination. The herculean task of spreading the e-information literacy amongst the masses is possible only with the collaboration of the faculty and LIS community. The LIS community has a big role to play here by becoming the facilitator for spreading the awareness regarding the e-information literacy. Even some simple tips pertaining to personal digital content management such as proper organization of the information in folders, refining the searches over the web, economic, legal and social issues surrounding the use of information and to use information ethically and legally will immensely help the academic community in a big way. With the information literacy assuming the role of survival skill in the information age, collaborative partnership is set to forge amongst the academicians and researchers with LIS community which is changing their face from a support service role to intellectual endeavors. They have to play a key role in spreading the LIS awareness as a basic human right in a digital world and will definitely a big leap to realize the social inclusion one of the goal set by the University Grants Commission for the XI plan. However, this will require a national strategy of formulation, ubiquitous communication infrastructure, and skills sets inculcation.
amongst the stake holders of Higher Education sector. But the humane role is vital and undisputed in bringing about the e-information literacy revolution as the mere technology can’t transform the individual behavior into invisible technology. Behaviors are not changed by technology alone and achieve values.
References:


