

# INFORMATION LITERACY PROGRAM IN POST-GRADUATE MEDICAL COLLEGE LIBRARIES IN NORTH WESTERN INDIA: A REVIEW STUDY

**Ms Poonam Virmani**

Head Librarian, CT Group of Institutions, Jalandhar

Email: [poonam.nandwani87@gmail.com](mailto:poonam.nandwani87@gmail.com)

**Abstract:** Information literacy has become an important concept since the arrival of information age. Information Literacy would also equip Medical professionals with abilities to keep most up-to-date and authoritative information that would assist them to do their work more effectively. It would be able to constantly adapt to changes to keep up with the demands of ever increasing information needs that they encounter. In the present study, the researcher has attempted to review the literature available in books, journals proceedings and internet on Information Literacy Program keeping in view the peculiarities of Medical Professionals with the a set of objectives i.e. to understand the status of implementation and developing trends in Information Literacy Programme along with to come across the influence of Information Communication Technology (ICT) in planning, designing and delivering the Information Literacy Programmes.

**Key Words:** Information Literacy Programme, Information Communication Technology, Medical professionals.

## **1.0 Introduction:**

With the ascent of knowledge and information the need for (IL) Information Literacy programs has become a pre-condition for developing independent learners and critical thinkers. Information is a critical resource today for managing success at home and work. In fact, information is a source of instant power as it facilitates decision-making, problem solving, and action taking. It eliminates uncertainty and makes the stakeholder confident. Information Literacy is the ascent of library instructions through user education as library is not the only source of information today.<sup>1</sup> The internet and the web are the mines of valuable data, information and explicit knowledge. E-mail, a scholarly discussion lists and similar other services are empowering the end-users with the tacit knowledge as well. But, even then the gap between the info-rich and the info-poor is widening day by day in the developing countries. Information Literacy is the ability to make sense of information for managing success and staying ahead of change and competencies.

In today's rapidly changing environment Library and Information services are gaining the importance as essential means for the empowerment and development of any community and the nation. Thus library services can be defined as a process by which users' fulfill their information needs, desires, wants and demands. Although the ultimate goal of any library service is to ensure that the clients are able to access the information to the purposes for which they require it. Only information literate students can build the society in this information age. In this process it is the need of a person to get information whether it may

---

<sup>1</sup> Abid Adbelaziz (2004) UNESCO: Information Literacy for Lifelong Learning.

<http://www.unesco.org/webworld/mdm>

be professional or personal reason, thus it helps the person to learn and acquire information.<sup>2</sup>With the developments in information and communication technology as well as globalization of information technologies it is easier for an individual to access information from anywhere and at anytime. “Being literate does not mean to be empowered with knowledge”. Thus to survive in the rapid information explosion one needs to know not only how to retrieve the information but also the mode of evaluating, organizing, analyzing and applying information so that it becomes knowledge.

It is said that various approaches have been adopted since 1974 when Paul Zurkowski used the term Information Literacy for the first time. The spectrum of Information Literacy (IL) is rich in rhetoric but poor in practice in diverse context in the developing countries. Information Literacy is related to information technology skills, but has broader implications for the individual, the educational systems and for the society Information Literacy is a natural extension of the concept of literacy. Information Literacy education is the catalyst required to transform the information society of today into the learning society of tomorrow. Information Literacy is a key component and contributor of lifelong learning.<sup>3</sup> It ensures maximum utilization of the information resources as well as optimization of information handling capabilities. It extends learning beyond formal classroom settings and provides practice with self directing investigations as individuals move into internships, first professional positions, and increasing responsibilities in all arenas of life.

Information Literacy as defined by CILIP<sup>4</sup> is “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 basic definition of Information Literacy is “The condition of being literate”. According to the Chambers of English dictionary (2003). Further the concept of Information Literacy defined by AASL is “Information literacy is the ability to find and use information –is the keystone of lifelong learning”.

Information Literacy (IL) has been known by many different names such as User education, Library orientations, Information skill training etc. These all the forms are somewhat very closely related to the term (IL) Information Literacy. Evaluation of access tools, knowledge of resource types etc have given rise to the need for Information Literacy. It enables people to interpret and make informed judgments as users’ of information and thereby become more powerful participants in society. It is about developing people’s critical and creative abilities.<sup>5</sup>It is important to know the different concepts that are related to information literacy to identify a clear direction for an information literacy program. Information thus is a resource that has varied definitions according to the format, and media used to package or transfer it, as well as the discipline that defines it. Thus the need for information has become a vital source for world economies and is certainly the basic component of education.<sup>6</sup>Information is a vital element to technological and scientific change. It poses several challenges to individuals of all walks of life: students, workers, and citizens of all types. The current information overload requires people to validate

---

<sup>2</sup> Bruce, C. S. (1996) Information literacy: A phenomenography. Unpublished doctoral thesis. Australia: University of New England. <http://educate.lib.chalmers.se/edback.html>.

<sup>3</sup> American Library Association. Presidential committee on information literacy: Final report, (1989). Washington, DC, January 10, para.3. <http://www.ala.org/ala/acrl/acrlpub/s/whitepapers/presidential.htm>.

<sup>4</sup> American Library Association. Presidential committee on information literacy: Final report, (1989). Washington, DC, January 10, para.3. <http://www.ala.org/ala/acrl/acrlpub/s/whitepapers/presidential.htm>

<sup>5</sup> Eskola Eeva-Liisa (2007) Information Literacy in Medical Education: Relationships with Conceptions of Learning and Learning Methods available online from 25<sup>th</sup> may.

<sup>6</sup> Mohktar, Intan Azura and Majid Shaheen (2007). Information literacy standards and guidelines and their implementations: An analysis. DESIDOC Journal of Library and Information Technology. 28(2),5-12

and assess information to verify its reliability. Information by itself does not make people information literate.

Libraries and librarians act as information literacy change agents. Information literacy is important beyond the domain of libraries and librarianship. Therefore librarians can serve as change agents to help other domains develop and put their information literacy policies, programs and projects in place. In this context the librarian can serve as an expert consultant and should not be bashful about offering his/her services in other domains.

## **2.0 Information Literacy programme of various organizations,**

The IL at IFLA section existed previously as the User Education Round Table but due to increasing interest in Information Literacy activities worldwide the Round Table became the Information Literacy Section in 2002. The primary purpose of the Information Literacy Section is to foster international cooperation in the development of information skills education in all types of libraries. The Section focuses on all aspects of information literacy including user education, learning styles, the use of computers and media in teaching and learning, networked resources, partnerships with teaching faculty in the development of instructional programmes, distance education, and the training of librarians in teaching information and technical skills. It is the mission of the Section to disseminate information on information literacy programmes and trends. The Section is very willing to work closely with other IFLA bodies and other organizations in the development of programmes, workshops and projects related to information skills instruction.<sup>7</sup>

**2.1 Information literacy** has been known by many different names: library orientation; bibliographic instruction; user education; information skills training by **CILIP**. Each has built on the other. Library orientation concentrates on how to use a physical building and bibliographic instruction and user education on the mechanics of using particular resources. Information skills training and finally information literacy concentrates on cognitive and transferable skills, such as problem solving, evaluation and communication skills<sup>8</sup>. Information literacy skills allow library and information professionals to create, develop and manage a library or information unit which meets the specific information needs of their organization.

**3.0 UNESCO's** action to provide people with the skills and abilities for critical reception, assessment and use of information in their professional and personal lives. UNESCO's main strategy in this area consists of awareness-raising about the importance of information literacy at all UNESCO's main strategy in this area consists of awareness-raising about the importance of information literacy at all levels of the education process – basic education, primary and secondary education, technical and vocational training and lifelong education – and of establishing guidelines for integrating information literacy issues in curricula. A particular focus will be on training teachers to sensitize them to the importance of information literacy in the education process, to enable them to incorporate information literacy into their teaching and to provide them with appropriate pedagogical methods and curricula<sup>9</sup>. An essential element of the strategy is the integration of libraries into information literacy programmes as they provide

---

<sup>7</sup> <http://www.ifla.org/VII/s42/index.htm> (accessed may 2008)

<sup>8</sup> [http://www.informationliteracy.org.uk/Information\\_literacy.aspx](http://www.informationliteracy.org.uk/Information_literacy.aspx)

<sup>9</sup> <http://portal.unesco.org/ci/en/ev.php> URL\_ID=15886&URL\_DO= DO\_TOPIC&URL\_SECTION =201. html

resources and services in an environment that fosters free and open inquiry and serve as a catalyst for the interpretation, integration and application of knowledge in all fields of learning.

#### **4.0 Information Literacy at the Global Level:**

Information literacy has become a global issue calling for greater attention, as a result many countries have taken initiatives for National and International programmes. The UNESCO, IFLA, ALA and hosts of other organizations and associations have developed large number of plans and strategies. The attempt by UNESCO for its Prague declaration entitled, 'Towards an Information Literate Society,' is an outcome of the Information Literacy meetings of experts (20-23<sup>rd</sup> September 2004, Geneva) which highlighted the immediate action to be taken for the promotion of Information Literacy by all the countries of the world. The following are some of the International efforts for developing Information Literacy:

#### **5.0 The American Library Association (ALA)**

Information Literacy Competency Standards for Higher Education provides a framework for assessing the information literate individual. It also extends the work of the American Association of School Librarians Task Force on Information Literacy Standards, thereby providing higher education an opportunity to articulate its information literacy competencies with those of K-12 so that a continuum of expectations develops for students at all levels. The competencies presented here outline the process by which

faculty, librarians and others pinpoint specific indicators that identify a student as information literate.

#### **5.1 The United Kingdom:**

The United Kingdom Standing Committee for National and University Libraries (SCONUL) first convened and proposed the Seven Pillars of Information Skills in their position paper in December 1998. The base of the paper was the relationship between *information technology skills and information handling skills*. It sought to determine the difference between the two and the need for information skills, especially in UK.

#### **5.2 Australia and New Zealand:**

The council of Australian University Libraries (CAUL), made up of representatives of various Australian and New Zealand universities, the school sectors the Technical and Further Education (TAFE) sector and other related organizations September 2000 reviewed the US Information Literacy Standards for Higher Education by ACRL for adaptation and implementation in the Oceanic studies. CAUL approved the ACRL standards and named the revised set of benchmarks Information Literacy Standards, which were specifically intended for Higher Education. The second edition was renamed the Australian and New Zealand Information Literacy Framework (ANZIIL) and provided four guiding principles and more comprehensive details for each of the six core standards were given. The ANZIIL IL framework has been extensively adopted.

#### **5.3 Canada:**

The Information policy of the Canadian Government among many other information concerns promotes an information-literate population. During the past three decades; Canadian academic librarians have been teaching their students library and information skills. Instructional Librarians in academic libraries are continuing to address the challenge into the total curriculum.

#### **5.4 Africa:**

Librarians in several African countries are working on global information environment by teaching information skills. At the University of Botswana, librarians and teachers have collaborated to improve

learning instruction for lifelong learning. A noteworthy project with the help from the Ford Foundation and the Readers Digest Foundation has helped the western Cape Librarians develop curriculum-integrated IL programmes in academic institutions.

### **5.5 Information Literacy in India:**

In India the concept of Information Literacy in the Library and Information Science (LIS) literature has been very recent, whereas the terms similar, concepts and services were available since 1990's. The National Literacy Mission in India was set up in 1988, with an objective to assess the strengths and weaknesses of the earlier programs, and to start the new sense of urgency, emphasis with fixed goals, clear target groups. The NML defines IL as acquiring the skills of reading, writing and arithmetic and ability to apply them in day to day life

### **6.0 Significance of Information Literacy in context of Medical Professionals:**

While many of today's educators are concerned about creating learning activities that require engagement with today's ICT environment; it is attention to information practices that are fundamental to effective information use. It is bringing these information practices into the curriculum, and ensuring that students have the capabilities to engage in, and reflect upon such practices, that constitutes information literacy education. Information practices may vary somewhat across disciplines, but they clearly underpin academic and professional practices in.<sup>10</sup> The significance of information literacy education lies in its potential to encourage deep, rather than surface learning, and in its potential to transform dependent learners into independent, self-directed, lifelong learners. Without information literacy people are condemned to lack of information, dependence upon others for access to knowledge and information, and even to acute levels of information anxiety.

Without information literacy skills, there will be barriers to the access to information, especially in scientific and technical areas. Thus libraries must embrace these concepts and develop programs to enhance these skills in information seekers. Information literacy is a means of personal and national empowerment in today's information rich environment. It allows people to verify or refute expert opinion and to become independent seekers of truth.<sup>11</sup> It provides them with the ability to build their own arguments and to experience the excitement of the search for knowledge.

### **7.0 Literature Review:**

**Nair Raman R (2008)**<sup>12</sup> in his article described and highlighted the interdependence of Right to Information and Information Literacy as well as the role of public libraries which acts as catalyst between two. He further divided information into two categories the basic and the administrative Information.

**Crawford John and Irving Christine (2007)**<sup>13</sup> the authors here described in their article "Information Literacy: The link between secondary and tertiary education project and its wider implications" that Information Literacy as a framework linking both secondary and tertiary education and arises out of research conducted in both the secondary and tertiary sectors.

---

<sup>10</sup>Bruce, C. S. (1996) Information literacy: A phenomenography. Unpublished doctoral thesis. Australia: University of New England.

<sup>11</sup> ibid

<sup>12</sup>Nair Raman R (2007). "Role of Libraries in Ensuring Information Literacy and Rights to Information". *University News*. 46(12): 24-30

<sup>13</sup>Crawford John and Irving Christine (2007). Information Literacy: The link between secondary and tertiary education project and its wider implications. *Journal of Librarianship and Information Science*. 30 (1): 17-26.



**Cameron Lynn; Wise Steven L and Lotteridge Susan M (2007)**<sup>14</sup> in their article “ The development and validation of the Information Literacy Test” examined the need for a standard instrument that measures students proficiency regarding the ACRL Information literacy competency standards for Higher Education. These can be used to help institutions, measure student’s information literacy outcomes and delivering the effectiveness of instructions programs.

**Horton Forest Woody Jr. (2007)**<sup>15</sup> in this article the author studied what is Information Literacy, where did it come from, how is it related to lifelong learning, and to other kinds of literacy, and why is it critically important to every nation, its institutions and its citizens, in order for them to perform competitively and productively in a digital world. The concept of Information Literacy is said to be the work of not a single author but it needs many authors to collaborate the work.

**Karisiddappa C.R and Rajgoli Iqbalahmad U (2007)**<sup>16</sup> the authors here studied that the instructional needs of the users have changed dramatically as new methods for teaching and learning have emerged. Information Literacy has become an important concept since the arrival of the information age. The paper discusses the study of the selected library and information centers of higher learning and research in Bangalore city.

**Mohktar, Intan Azura and Majid Shaheen (2007)**<sup>17</sup> in their article studied the Information Literacy Standards and their implementations. The paper provides an overview of a number of documented IL standards and guidelines, and based on the distinct characteristics of these standards and guidelines they proposed several recommendations which can be immediately employed for effective outcomes.

**Petrak Jelka; Markulin Helena and Matic Tomislav (2007)**<sup>18</sup> in their paper “Information Literacy in continuing professional developments of medical practioners: creation examples have focused on the reports on training of medical practioners in Information Literacy. The course is carried out by an academic medical library in collaboration with its parent institution and the local physicians licensing body. The course provides participation with the information on the most important medical information resources and with the skills needed for their effective usage.

**Satarkar S.P and Kulkarni Jagdish N (2007)**<sup>19</sup> studied that illiteracy is the curse to our society. Here literacy is the key requirement of the community for all phase developments. They also said that to acquire exact information from different sources one needs certain knowledge that can be termed as Information Literacy. The main objective of the papers were to narrate the change in the traditional literacy to Information Literacy; to introduce information literacy; to describe concepts related to the information and lastly to explain in detail the information skills.

---

<sup>14</sup> Cameron Lynn; Wise Steven L and Lotteridge Susan M (2007) “The development and validation of the Information Literacy Test”. *College and Research libraries*. May 2007: 229-236

<sup>15</sup> Horton forest Woody Jr. (2007). Understanding Information Literacy: A primer. [www.unesco.Org / web world](http://www.unesco.Org/web/world).

<sup>16</sup> Karisiddappa, C. R and Rajgoli, Iqbalahmed U (2007). In Search of Information literacy Programmes and Practices: Survey of Selected Institutes at Bangalore. *DESIDOC Journal of Library and Information Technology*. 28(2), 28-38.

<sup>17</sup> Mohktar, Intan Azura and Majid Shaheen (2007). “Information literacy standards and guidelines and their implementations: An analysis”. *DESIDOC Journal of Library and Information Technology*. 28(2),5-12

<sup>18</sup> Petrak Jelka; Markulin Helena and Matic Tomislav (2007). “Information Literacy in continuing professional development of medical practiniors: a Croatian example. *Health Information and Library Journal*. 25 : 46-49

<sup>19</sup> Satarkar S.P and Kulkarni Jagdish N (2007). “Information Literacy and Skills”. *Information Age*. 1(1): 26-29

**Wijetunge Pradeepa (2007)**<sup>20</sup> the author took a case study of the postgraduate students of NILIS University Colombo for Improving information Skills. The study provides a brief introduction of library schools in Sri Lanka and its main functions, education and information training programmes introduced in their curricula.

**Lau Jesus (2006)**<sup>21</sup> International Guidelines on Information Literacy have been compiled by the Information Literacy Section (Infolit) of the International Federation of Library Association and Institutions (IFLA) with the aim of providing a pragmatic framework for those professionals who need or are interested in starting an Information Literacy Program. The guidelines will aid information professional engaged in educational programs i.e. basic and higher education, in their efforts to meet their current information needs.

The thrust area of access to electronics health care information Research especially in developing countries with special reference to University of Nigeria has been undertaken by **Watts and Ibegbulum (2006)**.<sup>22</sup> The finding points out towards the rare facts i.e. both library staff and library user show requisition for necessary information seeking and ICT skills to find appropriate resources. The researches indicate towards twin basic needs regarding electronic health care information making relevant information available to healthcare professional; and providing reliable and affordable physical access to that information.

**Hearn R. Michael (2005)**<sup>23</sup> in the article has described Information Literacy as a component for an undergraduate programme and to discuss the design and Implementation of a librarian who is to be assigned to be as a co-instructor in the course and the findings implement the benefits and the difficulties of adding an IL (Information Literacy) component on a college campus.

**Abid Adbelaziz (2004)**<sup>24</sup> a senior program specialist in UNESCO in his report Information Literacy for Lifelong Learning to CDNL said that Information Literacy is concerned with teaching and learning about the whole range of information sources and formats. He further gave the objectives proposed strategy and the proposed activity for the Information Literacy.

**Karisiddapa C. R and Kavita H. C (2004)**<sup>25</sup> described that Information Literacy is a means of empowerment. It helps people to become independent seekers of truth as well as provides the experience of excitement of their own successful quests for knowledge. It also helps in creating young people to

---

<sup>20</sup> Wijetunge Pradeepa (2007). "Improving Information Skills of the Postgraduate Students of NILIS of Colombo: A Case Study". *DESIDOC Journal of Library and Information Technology*. 28(2), 16-27

<sup>21</sup> Lau Jesus (2006). "Guidelines on Information Literacy for Lifelong learning". [www.ifla.org](http://www.ifla.org).

<sup>22</sup> Watts, Chris & Ibegbulam, Ijeoma. "Access to Electronic Healthcare Information resources in Developing countries: Experiences from the Medical library, college of medicine University of Nigeria." *IFLA Journal*. 32.1(2006):54-61

<sup>23</sup> Hearn Michael R (2005). "Embedding a librarian in the classroom: an intensive information literacy model". *Reference Service Review*. 33(2): 219-227

<sup>24</sup> Abid Adbelaziz (2004) UNESCO: Information Literacy for Lifelong Learning. <http://www.unesco.org/webworld/mdm>

<sup>25</sup> Karisiddapa C.R and Kavita H.C (2004). "Information Literacy as a means of Information Empowerment". *University News*. 42(49): 11-15

motivate for further learning. Information Literacy is becoming a global priority as society moves further into the digital information environment. Thus every one will need training for effective information use in order to function productivity in any type of work and social environment.

**Larkin Judith. E and Pines Harvey A (2004)**<sup>26</sup> the authors here describe the necessary requirements of how to engage faculty in the task of developing Information Literacy in the students. They also provide a model for incorporating information retrieval into social science research project so that literacy becomes an integral part of the course. The result showed significant changes in the information search progress in the students.

The case of user education programme as implemented in the Integral Institute of Advanced Management (IIAM), Visakhapatnam library has been undertaken by **Rao (2004)**<sup>27</sup>. The case study focuses on the status of UEP in the institute. The feedback arrangement reveals that a considerable majority of the users found to be satisfied with regards to user training in the using of the library. The study revealed continuous programme efforts to improve the programme in stages so as to enable the users to make use of all the reading materials available at the library.

**Bradley Fiona (2003)**<sup>28</sup> in the title "Information Literacy and News libraries: the challenges of developing information literacy instructions programs in a special library environment" studied the current situation of training provided to journalists by news librarians in the United States and Australia. The study examines factors affecting the provision of training and the potential for information literacy instruction to comprise most of the context of the training provided. The result indicated that the news libraries were willing to plan and conduct training for the journalist so that it would help them to locate information from various sources.

**Burnham Erica (2003)**<sup>29</sup> has said that health literacy is becoming an important issue for the medical professionals as well as other health professionals. The studies currently suggest that low health literacy affects the different aspects of medical literature. Also the health information available to the consumers is increasing day by day because of them being more literate these days. Thus the paper gives an overview of the key issues surrounding the health literacy and also discusses the role of libraries and the librarians in the health literacy.

**Medical Library Association (2003)**<sup>30</sup> the MLA is a non-profit organization which serves worldwide through its programs and services. Regarding Information Literacy it tells us that what does Health Information Literacy means and what can be done for the effective information needs. This also helps in making the people aware of many tasks about Information Literacy which they are not able to understand and thus they cannot make use of information abundantly

---

<sup>26</sup> Larkin Judiath E and Pines Harvey (2004). "Developing Information Literacy and Research Skills in Introductory Psychology: A case study." *Canisius College*.

<sup>27</sup> Rao, K. Rammohana. "User Education Programme as Implemented in the IIAM Library: a profile." *ILA Bulletin* 40.1 (2004): 28-32.

<sup>28</sup> Bradley Fiona (2003). "Information Literacy and News libraries: the challenges of developing information literacy instructions programs in a special library environment". *Department of Media and Information, Curtin University of Technology*

<sup>29</sup> Burnham Erica (2003). "Libraries as Partners in Literacy". *Macdonald Campus Library*. [www.haworthpress.com](http://www.haworthpress.com)

<sup>30</sup> Medical Library Association (2003). "Putting Information into health Literacy". [www.mlanet.org](http://www.mlanet.org)



**Rader (2002)**<sup>31</sup> also refers to some information literacy activities at several academic institutions in Ireland. However, in-depth interviews with lecturers from social science faculties in five Irish universities indicated that information literacy holds a relatively insignificant place in academia

**Council of Australian University Librarians (CAUL) (2001)**<sup>32</sup> in its document titled "Information Literacy Standards" described the Information Literacy standards for higher education approved by the ACRL in January 2000. The association further explained the information Literacy as an understanding and set of abilities enabling individuals to recognize when information is needed and have the capacity to locate, evaluate and use effectively the needed information.

The primary purpose of the User Education RT is to foster international cooperation in information literacy in all types of libraries'. The priorities and action plan as well as the goals of the group are tightly connected with information literacy. One planned activity includes: 'to set up a committee to work a first draft on international guidelines on information literacy. (**IFLA, 2001**)<sup>33</sup>.

**Arp Lori and Woodard Beth S (2000)**<sup>34</sup> in the title "Lognitive development: the missing link in teaching Information Literacy skills" bring out awareness that use these assumptions to guide their learning helps, educators understanding the basis for students persistent efforts to find out the right answer and the right length of paper, the right concept to study for a test.

**Webber and Johnston (2000)**<sup>35</sup> differ from many other authors by advocating that information literacy can be treated as a discipline of study in its own right, rather than favoring the curriculum integration model. There is also a shift towards increasing emphasis on faculty-librarian partnership and implementation of modern ICTs in delivering information literacy courses. There is a considerable experimentation with using ICTs in European higher education institutions in general, sometimes to improve the on-campus learning experience, at other times to deliver distance learning.

**Hepworth Mark (1999)**<sup>36</sup> concerns himself with due inclusion of information literature and skills training in the undergraduate curricula. The students were studied to determined there strengths and weakness in terms of their information literature and skills. It was found that students had limited skills in the area of information literacy. The major areas of difficulty included defining the problem, defining where to go for information, developing search strategies, finding material in the library and developing insight and extrapolating. Based on these finding, recommendations were proposed to help develop information literature and skills and incorporate their delivery in the university curriculum. The paper argues that incorporation in the curriculum is a necessity for their successful delivery. This is in contrast to treating the search as a separate subject. In addition, the implications of these changes for faculty, staff and librarians have been defined.

## **8.0 References:**

<sup>31</sup> Rader (2002) "Information Literacy 1973-2002: A Selected Literature". [www.eric.ed.gov/ERICWebPortal](http://www.eric.ed.gov/ERICWebPortal)

<sup>32</sup> Council of Australian University Librarians (CAUL) (2001) "Information Literacy Standards". <http://www.jstor.org>

<sup>33</sup> User Education programme. [www.ifla.org](http://www.ifla.org).

<sup>34</sup> Arp Lori and Woodard Beth S (2000) "Lognitive development: the missing link in teaching Information Literacy skills" *Reference and User Services Quarterly*.28-32

<sup>35</sup> Webber and Johnston (2000) "Conceptions of Information Literacy: New perspectives and implications". *Journal of Information Science*.26 (6);381-397.

<sup>36</sup> Hepworth Mark (1999) "A Study of Undergraduate Information Literacy and Skills: The Inclusion of Information Literacy and Skills in the Undergraduate Curriculum." In: Proceedings of the 65th Conference of IFLA. Bangkok:IFLA(1999)< <http://www.ifla.org/iv/ifla65/papers/107-124e.htm>>

1. Abid Abdelaziz (2004) UNESCO: Information Literacy for Lifelong Learning. <http://www.unesco.org/webworld/mdm>
2. American Library Association. Presidential committee on information literacy: Final report, (1989). Washington, DC, January 10, para.3. <http://www.ala.org/ala/acrl/acrlpubs/whitepapers/presidential.htm>
3. Association of College and Research Libraries. (2000) Information Literacy Competency Standards for Higher Education Chicago: American Library Association. <http://www.ala.org/acrl/standards/informationliteracycompetency>
4. Asta L. M (1998) Medical Libraries Today <http://www.annals.org/cgi/content/full/128/10/881>
5. Bhattacharjee, R. (2002). Public library services in India: systems and deficiencies. In: *Proceedings of the 68th IFLA International Congress and Council*, Glasgow, 1-9 August 2002.
6. Bruce, C. S. (1996) Information literacy: A phenomenography. *Unpublished doctoral thesis*. Australia: University of New England.
7. Campbell, S. (2004). Defining Information Literacy in the 21<sup>st</sup> century. IFLA 70<sup>th</sup> Conference Retrieved September 21, 2004, from <http://www.ifla.org/IV/ifla70/papers/059eCampbell.pdf>
8. Cameron Lynn; Wise Steven L and Lotteridge Susan M (2007) "The development and validation of the Information Literacy Test". *College and Research libraries*. May 2007: 229-236.
9. Canadian Association of Research Libraries. Canadian research libraries information literacy portal, (2006) <http://apps.medialab.uwindsor.ca/crlil/wiki/FrontPage/>
10. Case, D. (2002). *Looking for Information: A Survey of Research on Information Seeking*. Needs and Behavior. New York: Academic Press.
11. Christine Bruce, "Information Literacy as a Catalyst for Educational Change: A Background Paper," July 2002 <<http://www.nclis.gov/libinter/infolitconf&meet/papers/bruce-fullpaper.pdf>>
12. Crawford John and Irving Christine (2007). Information Literacy: The link between secondary and tertiary education project and its wider implications. *Journal of Librarianship and Information Science*.30 (1): 17-26.
13. Colorado Department of Education. Colorado information literacy, (2006). <http://www.cde.state.co.us/cdelib/slinfolitindex.htm>
14. Darch, C. & Underwood, P. G. Dirt road or yellow brick superhighway? Information and communication technology in academic libraries of South Africa. *Library Hi-Tech*, 1999, 17(3), 285-97
15. Eskola Eeva-Liisa (2007) Information Literacy in Medical Education: Relationships with Conceptions of Learning and Learning Methods available online from 25<sup>th</sup> may.
16. Fjallbrant Nancy. "Why User Education and how can Information technology Help?" *IFLA Journal*.16.4 (1990):405-413
17. Ford, N. (1986). Psychological determinants of information needs: a small-scale study of higher education students. *Journal of Librarianship* 18(1), 47-61.
18. Grassian Esther S., and Kaplowitz, Joan. R (2002). Information Literacy Instruction: Theory and Practice. *Journal of Medical Library Association*. 2002 July; 90(3): 351
19. Hayden K. Alix and Schretlen Laurie. (1996)"Information literacy at the U of C". [InfoServe 3.5](http://www.ualberta.ca/~librarianship/InfoServe/InfoServe3.5)
20. Hearn Michael R (2005). "Embedding a librarian in the classroom: an intensive information literacy model". *Reference Service Review*. 33(2): 219-227
21. Hepworth, Mark. (1999). "A Study of Undergraduate Information Literacy and Skills: The Inclusion of Information Literacy and Skills in the Undergraduate Curriculum." *Conference Programmes and Proceedings 20-28.August1999* <<http://www.ifla.org/IV/ifla65/papers/107-124e.htm>> (accessed on May 2007)

24. Horton forest Woody Jr. (2007). Understanding Information Literacy: A primer. [www.unesco.org/webworld](http://www.unesco.org/webworld)
25. Information Literacy: Definitions and Models. (2004). Retrieved April 24, 2008, from The Information Literacy Place Web site: <http://dis.shef.ac.Uk/literacy/definitions.htm>
26. Karisiddapa C.R and Kavita H.C (2004). "Information Literacy as a means of Information Empowerment". *University News*.42 (49): 11-15
27. Karisiddappa, C. R and Rajgoli, Iqbalahmed U (2007). In Search of Information literacy Programmes and Practices: Survey of Selected Institutes at Bangalore. *DESIDOC Journal of Library and Information Technology*. 28(2), 28-38.
28. Kuhlthau, C. (1999). Literacy and Learning for the Information Age. In *Stripling, B., Learning and Libraries in an Information Age*. Principles and Practice. Littleton: Libraries Unlimited. 59.
29. Lal, Banwari. (2004). Public library system in Delhi. In: 2nd International CALIBER-
30. 2004 Souvenir, 11-13 February, 2004
31. Lau Jesus (2006). "Guidelines on Information Literacy for Lifelong learning". [www.ifla.org](http://www.ifla.org).
32. McGowen, J.J. (1995). The role of health science librarians in the teaching and retention of the knowledge, skills, and attitudes of lifelong learning. *Bulletin of the Medical Library Association* **83**(2), 184-189.
33. Minchow, R. (1995). Changes in information-seeking patterns of medical students: second-year students' perceptions of information management instruction as a component of a problem-based learning curriculum. *Medical Reference Services Quarterly* **15**(1), 15-40.
34. Mohktar, Intan Azura and Majid Shaheen (2007). Information Literacy Standards and Guidelines and their Implementations: An analysis. *DESIDOC Journal of Library and Information Technology*. 28(2), 5-12
35. Nair Raman R (2007). "Role of Libraries in Ensuring Information Literacy and Rights to Information". *University News*. 46(12): 24-30
36. Petrak Jelka; Markulin Helena and Matic Tomislav (2007). "Information Literacy in continuing professional development of medical practiniors: a Croatian example. *Health Information and Library Journal*.25: 46-49
37. Satarkar S.P and Kulkarni Jagdish N (2007). "Information Literacy and Skills". *Information Age*. 1(1): 26-29
38. Siitonen, L. (2004). *Information Literacy: Gaps Between Concepts and Applications*. Retrieved April 20, 2008, from the IFLA web site: <http://www.ifla.org/IV/ifla62/62-siil.htm>
39. Schmidt, H.G. (1983). Problem-based learning: rationale and description. *Medical Education* **17**(1), 11-16.
40. Thomas, Nancy Pickering. *Information Literacy and Information Skills Instruction: applying research to practice in the school library media center*. Westport, Conn.: Libraries Unlimited, 2004
41. Watts, Chris & Ibegbulam, Ijeoma. "Access to Electronic Healthcare Information resources in Developing countries: Experiences from the Medical library, college of medicine University of Nigeria." *IFLA Journal*.32.1 (2006):54-61
42. Webber, S. and Johnston, B. (2000). Conceptions of information literacy: new perspectives and implications. *Journal of Information Science* **26**(6), 381- 397.
43. Wikipedia. (2005). Information literacy. <[http://en.wikipedia.org/wiki/Information\\_literacy](http://en.wikipedia.org/wiki/Information_literacy)>
44. Wijetunge Pradeepa (2007). Improving Information Skills of the Postgraduate Students of NILIS of Colombo: A Case Study. *DESIDOC Journal of Library and Information Technology*. 28(2), 16-27