CHAPTER - 1

INTRODUCTION
CONTENTS

1.0 Introduction

1.1 Changing Scenario of Education System in India
   1.1.1 National Literacy Mission
   1.1.2 Higher Education Scenario in India

1.2 Use of Technology in Higher Education

1.3 Challenges to the Higher Education Sector

1.4 Recent Developments in India
   1.4.1 UGC-INFONET Programme
   1.4.2 E-governance Initiatives
   1.4.3 Right To Information Bill
   1.4.4 National Knowledge Commission

1.5 Complexities of Searching Scholarly Information

1.6 Changing Role of Information Professionals

1.7 Information Literacy Efforts in India
   1.7.1 Review of the Related Literature Published in India
   1.7.2 Conferences
   1.7.3 Workshops and Lectures
   1.7.4 Information Literacy Research
1.8 Need for the Study

1.8.1 Impact of Globalisation

1.8.2 Education as a Service Sector

1.8.3 Information Skills of the Information Age

1.8.4 Technology Revolution

1.9 Significance and Limitations of the Study

1.10 Statement of the Problem

1.11 Objectives of the Study

1.12 Methodology

1.12.1 Published Literature

1.12.2 Observations

1.12.3 Discussions

1.12.4 Interactions with Experts

1.12.5 Questionnaire Method

1.12.6 Sample Selection

1.12.7 Pilot Study

1.13 Chapterisation

Conclusion

References
1.0 INTRODUCTION:

Helping people to use library resources more effectively through directed and structured educational activities was one of the core services that libraries have traditionally offered to users. Libraries have long been involved in training their users in library use, its services and resources. Terms such as library instruction, library orientation, user education and bibliographic instruction have all been used at various times to indicate the process of helping users how to use the library, how to access information and teaching the various bibliographic tools. These methods are facility specific instructions i.e. enabling users in knowing the physical location of different sections, staff, collections and services of library.

The history of user education can be traced in the writings of Melvil Dewey and C A Cutter. The earliest evidence of library instructions is the librarian interacting with undergraduates to create the awareness about the libraries. Many instruction librarians have adopted and continue to adopt, the search strategy approach because it provides a conceptual framework for teaching research techniques. This idea has dominated library instruction as it is simple and adaptable teaching framework. It teaches the use of different types of tools and resources and provides an outline for systematic information seeking that is broadly applicable, comprehensive and time saving. In addition to teaching how to find information, librarians now recognise the importance of teaching critical thinking skills to enable users to evaluate and select the best information for their needs.

Knowledge explosion forces a greater stress on the ability to continue to learn for life. One may have developed a logical, creative
and critical approach to his subject but he may not have been taught independence. To be independent, one needs the knowledge and skills to find his own way. The increase in the production of knowledge and changes in higher education have become inevitable.\(^{(1)}\) In the process the growth in the number of interdisciplinary courses is another factor for the development of user instruction. Academic libraries underwent rapid collection growth and acquired new techniques of organisation and retrieval. Specialisations in education also lead to revived interest in library user education. Such courses, which cut across the traditional boundaries of subjects, have been a particular feature of the universities and are becoming increasingly important in all institutions of higher education. These courses bring with them greater problems in the location and organisation of materials for study. The quantity of materials to be searched because of the diverse discipline involved requires that effective instruction methods should be developed. It is not just the quantity of the material, which makes help essential but also the diversity of the sources, and formats. Without help it is impossible to make effective use of all the materials that is available and useful.

In the digital age, putting bounds around “library resources” has become a daunting task. Moreover, the instructional needs of users have changed dramatically as new methods for teaching and learning have emerged. How do these changing values and priorities in the educational experience affect the library and its roles in support of teaching and learning? Do traditional approaches of bibliographic instruction still resonate? While information sources and methods for finding information are still a useful component of library instruction, a
broader construct of information literacy has emerged as a framework for effective information inquiry. A number of perspectives have been brought to bear in understanding these new dimensions of learning and associated skills. These perspectives generally articulate two aspects of literacy. One of the aspects reflects the need for skills to exploit technology to use information effectively. The other aspect is the need for a conceptual understanding of information and knowledge processes. In reality, a marriage of these fluencies is needed. The traditional functions of identifying, finding, and evaluating information are joined with more conceptual notions of inquiry, information analysis, and use. These information skills are now interwoven with technology skills. In response to this, the goals of library user education have expanded from teaching tools to teaching concepts and from library instruction to information literacy and lifelong learning.\(^{(2)}\)

1.1 CHANGING SCENARIO OF EDUCATION SYSTEM IN INDIA:

The National Policy on Education 1986, as modified in 1992 envisages the empowerment and expansion of education in all sectors, elimination of disparities in access and laying greater stress on improvement in the quality and relevance of education at all levels, including technical and professional education. It also emphasises that education must play a positive and interventionist role in correcting social and regional imbalance, empowering women and in securing rightful place for the disadvantaged and the minorities. The nation is firmly committed to providing "Education for All", the priority area being free and compulsory primary education covering children with
special needs, eradication of illiteracy, vocationalisation, education for women's equality and special focus on the education of SCs/STs and minorities. This is evident from the range of initiatives undertaken by the government from time to time such as:

- National Programme for Education of Girls at Elementary Level
- District Primary Education Programme
- National Programme of Nutritional Support to Primary Education (commonly known as Mid-Day Meal Scheme)
- Kasturba Gandhi Balika Vidyalaya
- Mahila Samakhya
- National Literacy Mission

1.1.1 National Literacy Mission:

The National Literacy Mission (NLM) in India was set up in May 1988, following an objective assessment of the strengths and weaknesses of the earlier programmes, and to accord a new sense of urgency, seriousness and emphasis with fixed goals, clear time frame and age specific target groups. The NLM defines literacy as acquiring the skills of reading, writing and arithmetic and the ability to apply them to one's day-to-day life. Emphasis was laid not on mere enrolment of learners but on attainment of certain predetermined norms and parameters of literacy, numeracy, functionality and awareness along with institutionalization of Post Literacy and Continuing Education in a big way. The goals of NLM is to attain a sustainable threshold level of 75 per cent by 2007 by imparting functional literacy to non-literates in the age group of 15-35 years, which is the productive and reproductive age group and constitutes a
major segment of the workforce. Literacy as defined by NLM is not an end in itself but has to be an active and potent instrument of change ensuring achievement of these social objectives and creation of a learning society.

The NLM seeks to achieve its objectives through the following:

- by creating an environment conducive to teaching-learning process, provision of good and relevant teaching-learning materials and facilitating teaching-learning by good training, media and communication
- by improving the pace of learning and injecting confidence among the learners about their potential to learn and by ensuring that the process is not drudgery
- by integrating basic literacy with post-literacy and continuing education, and
- by developing the quality of human resources at all levels of functionaries through orientation and training

1.1.2 Higher Education Scenario in India:

The modern higher education system is only 150 years old. When the first three universities were set up in 1857 in Bombay (Mumbai), Calcutta (Kolkata) and Madras (Chennai). The period of 90 years from 1857-1947 saw slow development of higher education system in India where only 18 universities were established. Education provided was limited only to few subjects such as Literature, History, Philosophy, Political Science, Social Science and Natural Sciences. Science education was given least importance and hence took back seat. At the time of independence there were only 20 universities and 500 affiliated
colleges. But the country has witnessed phenomenal educational development both in qualitative and quantitative terms since independence. The higher education system of India has increased seventeen-fold in terms of the number of universities and thirty-five-fold, in terms of the number of colleges in comparison to the number at the time of independence. There are 335 universities and 215 state universities in all at present. The Indian higher education system comprises of 18 central universities, 90 deemed universities, 5 institutions established under states legislation acts and 13 institutes of national importance established by central legislation, nearly 17,625 Colleges, including around 1,849 women colleges. At the beginning of the academic year 2005-06, the total number of students enrolled in the formal system of education in universities and colleges was 104.81 lakh of which 13.88 (13.25%) lakh in university departments and 90.93 (86.75%) lakh in affiliated colleges.

Recognising the crucial role played by science and technology in the process of economic growth and social transformation, major emphasis was laid on higher science education during early years of independence. Because of the strong political leadership, conducive policy support and substantial investment, India today possesses one of the oldest, the largest and the most diverse infrastructure. For science and technology education and training several institutions comprising the Indian Institute of Technology (IITs), Indian Institute of Science (IISc), about a dozen institutes of national importance, two hundred and odd universities, and over 8,000 colleges exist. This infrastructure has already made a substantial impact on the country’s scientific, industrial and economic development. There has been impressive
development since independence in various fields such as agriculture, industry, atomic energy, space programmes, manufacturing and health care. More than the creditable performance of the science and technology personnel in India, the performance of Indian Diaspora cultured in the colleges and universities has been sought after and respected in the countries of their adoption. Some of the academic research institutions such as IISc Bangalore, TIFR Mumbai, IITs and a few universities such as JNU Delhi, Central University Hyderabad and Jadavpur, have developed global reputation from South Asia, Middle East and Africa. The best products of the Indian system are comparable to the best anywhere in the world.

1.2 USE OF TECHNOLOGY IN HIGHER EDUCATION:

The most striking development of the 20th century that history will record has presumably been the information revolution characterized by digitization of information enabling the building of information highways and superways, e-mail, Internet, Cyber cafes, multimedia, teleconferencing and the rest. Technological innovations have also transformed the way we look at higher education. Getting information from anywhere over the globe is just a mouse click away. Today, classrooms and libraries have been transformed into virtual classrooms and virtual libraries. During a very short span of time Information Technology has acquired an important place in almost all aspects of human life and particularly in the field of education. India has taken some bold steps to adapt and absorb the advances in Information technology by constitution of National Task Force on Information Technology. Satellite technology is widely being used
and with the help of this it has become possible to reach remotest and far-flung areas of the country. Satellite technology has also helped in enhancing services in the fields of telecommunications, broadcasting, education, extension education, etc. In India there is a growing demand for an interactive satellite based education system with the launch of EduSat, which is exclusively dedicated to education. 

In the recent time, there has been a sea change in higher education. Universities are providing education in the fast developing intensive subjects such as Biotechnology, Microbiology, Polymer Science etc. These subjects were the simple concepts two decade back, are now the subjects of higher learning. The changes taking place all over the world are being driven by the technologies such as Biotechnology, Information Technology, Food Technology, Gene Technology etc. The technological innovations that are taking place have changed the life style of the people and for that matter the whole society. Education is not an exception to this. The teaching methodologies all over the world have undergone a drastic change by introducing modern aids, methods and techniques. The change can be observed in both the content and the process of education system. There is a greater emphasis on student centered, activity-oriented, technology-based, participatory teaching and learning methods. Due to advent of Information Technology there has been a transition from the existing institution pattern of education to a networked and distance system of education.

In India, it has been seen that higher education institutions are using multi-technologies in imparting education. At the one end, some of the universities and colleges are having access to all facilities in terms
of educational technology such as multimedia system, LAN, WAN and World Wide Web and on the other hand, large numbers of universities and colleges are still depending only on stereotyped lecture methods in imparting knowledge. Therefore, the existence of a technology gap provides an opportunity to use Information Technology supported education technologies for better delivery of education, easier access to a number of knowledge sources, sharing through networks and quality distance education.

1.3 CHALLENGES TO THE HIGHER EDUCATION SECTOR:

The concept of information literacy has gained considerable attention in the higher education communities. There is a common belief that higher education institutions (HEIs) should include the teaching of lifelong learning skills in their missions. Universities have the responsibility of empowering their members so that they can contend with the world of information independently.

Since the 1990s, higher education communities throughout the world have stressed the importance of information literacy for the following reasons:

- Information literacy is essential to successful lifelong learning.
- Information literacy is a core competency in the information age.
- Information literacy contributes to the improvement of learning and teaching.
- Information literacy is one of the most critical literacies for an educated person in the 21st century.
- Higher education institutions (HEIs) are pioneers in society.
University students need to meet the challenges presented by the information age. They need to have basic computer skills and Internet familiarity before they can find information on the Web. They need to spend more time identifying, searching for and critically evaluating the information they acquire before using it because not all the information is reliable. In recent years, higher education institutions have recognized the necessity of training their students in library search and other research processes. HEIs actively help students equip themselves with the new literacy in order to maintain both the students' (including graduates) and the institutions' competitive edge in the market. The higher education sector must meet society's requirements by producing highly skilled people, it has always been the pioneer and leader for societal change, and it sets an example for society to follow. Macdonald et al. points out that the increased attention paid to information literacy is a result of the HEIs' response to their obligation to train students to cope with the information explosion. According to the American Library Association current educational practice, with its longstanding history of prepackaging information, is not adequately aware of the need to master information management skills. The higher education sector has an urgent obligation to explore the concept of information literacy and to change its knowledge transfer process accordingly.

Similar concerns have recently spread to the foundation education. Primary and secondary schools must also meet society's change to keep teaching and learning up-to-date. Providing appropriate training to students at an early stage can equipped them to cope with the information and learning society with less difficulty. Students who
understand the importance of information literacy and equipped with such skill will be more willing to engage and successful in lifelong or self-directed learning when they grow up. It is foundation education, especially high schools' responsibility to ensure students' smooth transition to their future involvement in academic and work lives. “What is called for is not a new information studies curriculum but, rather, a restructuring of the learning process.”

1.4 RECENT DEVELOPMENTS IN INDIA:

1.4.1 UGC-INFONET Programme:

The potential uses of ICTs in education are vast: from radio and television programme to the use of CD-ROMs, E-mails and the World Wide Web. The Internet has a number of uses within education: disseminating learning content, enabling communication between students and teachers and engaging in and publishing research. The electronic information resources are being increasingly made available to the higher education sector in different forms and formats. On 28th Dec. 2003, the honourable President of India Dr. A P J Abdul Kalam presented the unmatchable gift to the higher education sector by dedicating a bunch of e-journals to the nation. An UGC initiative, UGC-INFONET programme is executed by the Information and Library Network (INFLIBNET). Under this programme more than 4600 e-journals and databases from 25 publishers/vendors can be accessed full text by the universities. E-journals published by prominent publishers such as American Chemical Society, Institute of Physics, Elsevier Science, Kluwer and Blackwell Publishing are made available. The UGC-INFONET e-journal consortium contains 48% of collection in the
field of Science and Technology. With such a vast collection of resources being made available, it becomes mandatory to teach the students how to use, search, access and utilise the resources for maximum extent so as to fulfil the objectives of this programme.\textsuperscript{(13)}

1.4.2 E-Governance Initiatives:

Lack of information is one of the biggest obstacle to good governance and it dis-empowers poor people. Improving access to information is the most important reason to take the Internet to every village. Every villager does not have to own a computer. One Internet centre for a group of villages is sufficient. Thus e-governance has to be taken to the grassroots. There are many advantages of e-governance. Once the Internet facility is provided to the rural area, it is easy to create e-identities for every people. This will help to check the identity of a applicant, for any service from passport to a ration card, with the help of applicant's identity number. The e-governance revolution will bring transparency in the affairs of the government, as all the information will be freely available on the net. For the proper and effective functioning of e-governance, the ICTs should be utilized for their widespread application.

New Delhi took the first step towards e-Governance, made the provision for Central Board of Secondary Education (CBSE) results via the Internet and showed the power of new technology in day-to-day life.\textsuperscript{(14)}
1.4.3 Right To Information Bill:

We need information to empower ourselves. It helps us to realize our potential and prosper. A modern democratic state being answerable to the people, the people are entitled to know what programmes, policies, how and why being followed by the government. Information is imperative for exercise of free choice. It makes the governance accountable, transparent and participatory, which are a vital component of successful democracy. Indian Constitution envisaged objective of freedom of thought and expression to the citizens of India. Nevertheless, in practice citizens had no such right against administrative mechanism.¹⁵

The terms right to information and freedom of expression are often used interchangeably and have long been regarded as a fundamental human right. Freedom will be bereft of all effectiveness if the people have no access to information. Access to information is basic to the democratic way of life. Access to information is pivotal empowerment tool and underpins effective interventions in the area of democratic governance, which is central to sustained poverty reduction and the achievement of the developmental goals of nations. It is vital for strengthening accountability, transparency, participation and rule of law. Accessible and understandable information and the means and ability to communicate are important for enabling people to participate in policy making processes and the decisions that affect their lives. There has been an almost unstoppable global trend toward recognition of the right to information by countries, intergovernmental organisations, civil society and the people.
Right to Information Bill, 2004 was introduced before Lok Sabha on 23rd Dec. 2004 and referred to standing committee. It was tabled on 10th May 2005 and passed by Lok Sabha on subsequent date. After a day's scrutiny in Rajya Sabha it was sent for presidential assent, which was given on 15th June 2005. Right to Information Act is an act to provide for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission and State Information Commission and for matters connected therewith or incidental thereto. The act is extended to whole of India except the State of Jammu and Kashmir. The greater the access of the citizen to information, the greater the responsiveness of government to community needs. Alternately, the greater the restrictions that are placed on access, the greater the feelings of powerlessness and alienation. Without information people cannot adequately exercise their rights as citizens or make informed choices. The right to information is important for many reasons. Chief among these is the contribution it makes towards:

- creating a more open and democratic society
- reducing poverty and achieving national developmental goals
- challenging corruption and enhancing transparency

1.4.4 National Knowledge Commission:

The 21st century has been acknowledged worldwide as the 'Knowledge Century'. Every nation now finds itself operating in an increasingly competitive and globalised international environment
where the information infrastructure, research and innovation systems, education and lifelong learning and regulatory framework are crucial variables. Prime Minister while launching National Knowledge Commission said, “it is not military power or economic power that will, in fact, determine a nation’s place in the world in the making, but its brain power. Brain power should, of course, be reflected in a country’s economic competitiveness as well as military prowess”. India has, today, more than 250 universities and many more research and development units and professional colleges and institutions. India has the world’s largest chain of publicly funded research and development institutions. On an average more than 3,50,000 engineers and 5000 Ph.D. scholar graduate from universities and colleges in India. With such a vast pool of qualified, English-speaking scientific and technological manpower, India must have the ambition to become a large base of research and development activity.17 Today, research is carried in every field of study and the knowledge generated from these research activities is enormous. Keeping this in view on Aug. 02, 2005 the National Knowledge Commission was launched to monitor the knowledge creation, access, dissemination and application of new knowledge in the societal issues and to sharpen country’s knowledge base and promote excellence in the education system.

Following are the objectives of the National Knowledge Commission:

- Creation of new knowledge principally depends on strengthening the education system, promoting domestic research and innovation in laboratories as well as at the grassroots level, and tapping foreign
sources of knowledge through more open trading regimes, foreign investment and technology licensing.

- Application of knowledge will primarily target the sectors of health, agriculture, government and industry. This involves diverse priorities like using traditional knowledge in agriculture, encouraging innovation in industry and agriculture, and building a strong e-governance framework for public services.

- Dissemination of knowledge focuses on ensuring universal elementary education, especially for girls and other traditionally disadvantaged groups; creating a culture of lifelong learning, especially for skilled workers; taking steps to boost literacy levels; and using Information and Communication Technology (ICT) to enhance standards in education and widely disseminate easily accessible knowledge that is useful to the public.(18)

1.5 COMPLEXITIES OF SEARCHING SCHOLARLY INFORMATION:

Since the beginning man has been questioning the world around him. The pursuit of knowledge in medicine, mathematics etc. continues even today. What has changed is the medium used to spread by word of mouth or handwritten manuscripts. 15th century has witnessed the introduction of printed books, making information dissemination simpler and extensive. The surge of the Internet in the mid 90s of the last century revolutionised search and information management. The development of the World Wide Web has resulted in many technologies over the past several years. In just a few years a generation has grown up believing that everything can be found on the Web, and
indeed there are now more than 2 billion documents in Cyberspace, not including the 550 million documents that can be accessed via the deep or invisible Web.\(^{(19)}\)

The World Wide Web is revolutionizing the way people access information and has opened up new possibilities in areas such as digital libraries, general and scientific information dissemination and retrieval, education, commerce, entertainment, government and health care. The amount of publicly available information on the Web is increasing rapidly. The Web is gigantic digital library, a searchable 15 billion word encyclopedia. It has stimulated research and development in information retrieval and dissemination. The revolution the Web has brought to information access is not so much due to the availability of information (huge amount of information has long been available in libraries and elsewhere), but rather the increased efficiency of accessing information, which can make previously impractical tasks practical. There are many avenues for improvement in the efficiency of accessing information on the Web, for example, in the areas of locating and organising information.\(^{(20)}\) Searching on the Internet today can be compared to dragging a net across the surface of the ocean. While a great deal may be caught in the net, there is still a wealth of information that is deep and therefore missed.\(^{(21)}\)

The last three decades have been characterised by an intensive growth of publications in most science and technology disciplines, primarily as a result of more intensive fundamental research and a substantial increase in the number of research institutions and researchers, both in industrial and developing countries. The rate of diversification and specialization in scientific and technological fields
has increased. In addition to traditional scientific disciplines new fields with an exponential growth of information are emerging. Specialization in science and technology leads into the production of large amount of highly specialized publications, resulting in high dispersion and fragmentation of information. In order to cope with large sets of data, several information firms were established, offering different information services and products: traditional and specialized publications, yearbooks, reference directories, abstracting and data structuring services, computerized bibliographic databases, full text and factual databases, electronic journals or complete information systems.\(^{(22)}\)

Scholarly communication can take place via a number of documentary forms including seminar and conference papers, technical reports, theses and dissertations, journal articles and review papers, monographs, edited books and so on. Users in today's digital library world can get access to these scholarly publications through a variety of channels ranging from the websites of the producers or publishers of the information resources to a number of intermediaries and service providers, search tools and services and so on. Having all the various alternatives available to them, users often find it difficult to choose the best option to get access to the required scholarly information. Each of the alternative channels has its own policies and techniques for the identification, organisation and retrieval of information resources, and these not only influence the usability of these services, but also the reluctant output that the users are likely to get at the end of a search session. Usability and user friendliness of information systems depends on a number of factors. Traditionally access to scholarly electronic
publications was provided by specialized agencies that included database producers/publishers and online search service providers like Dialog. However, these issues have become more critical in today's digital information world for a number of reasons, mainly because access to scholarly information is no longer controlled by the specialized agencies. In fact, in theory anyone can be an information producer and information provider in today's world of Web of digital libraries. While this phenomena increases the opportunities for the users, it also creates a number of problems and confusion.(23)

Everyday the World Wide Web grows by roughly a million electronic pages, adding to the hundreds of millions already online. This staggering volume of information is loosely held together by more than a billion annotated connections, called hyperlinks. For the first time in history, millions of people have virtually instant access from their homes and offices to the creative output of a significant and growing fraction of the planet's population. But because of the Web's rapid, chaotic growth the resulting network of information lacks organisation and structure. In fact, the Web has evolved into a global mess of previously unimagined proportions. Individuals with any background, education, culture, interest and motivation can write web pages in any language, dialect or style. Each page might range from a few characters to a few hundred thousand, containing truth, falsehood, wisdom, propaganda or sheer nonsense. How then, can one extract from this digital morass high quality, relevant pages in response to a specific need for certain information? The answer is Information Literacy Skills...
Empowering Information Users Through Information Literacy:
The result of the information explosion is that the need for user empowerment is greater than ever before. Not only is there much more information in existence, but new technology has increased the number of ways to access it. In some respects access has been made much easier for end-users, but now there is a danger that they can be overwhelmed by the amount of material that they are able to retrieve. To retrieve the scholarly, authentic and appropriate information to solve the problem at hand, one should have information literacy skills. Information literacy is defined in terms of characteristics/skills one should possess to be called information literate person. To respond effectively to an ever-changing environment... people need more than just a knowledge base, they also need techniques for exploring it, connecting it to other knowledge bases and making practical use of it. In other words, the landscape upon which we used to stand has transformed and we are being forced to establish a new foundation called Information Literacy. Information Literacy, therefore, is seen as the foundation of lifelong learning. This in practice means the application of the learn-how-to-learn approach to empower the learner by firmly placing the process of research under his/her responsibility.

1.6 CHANGING ROLE OF INFORMATION PROFESSIONALS:
Librarians are suitably qualified and are in a position to assume an active role in the restructuring of the teaching-learning environment. They know the art of collecting, organising, evaluating and providing access to information in all formats. Also they are able to teach users how to become wise information users in print formats as well as in
electronic and Internet environment. It is time that librarians have to emerge as leaders in the electronic information environment and in the educational reform movement.\(^{(26)}\) Librarians have long been acknowledged great supporters of teaching, learning and research. These days they are serving as openers of doors and gateways to information; they are known as navigators in the ocean of information. Bundy\(^{(27)}\) put a different perspective to the role of librarian in information literacy and proposed that librarians must not only deeply involved in information literacy as an intermediary, but they must also be at the forefront of the concept itself to ensure that others are aware of the assistance provided by librarians in organisations.

The enhanced use of information technology in speeding up the retrieval of information, librarians have a lot to offer that can be tapped in the digital era – they provide access; they realise the importance of partnership; they are good at structuring knowledge; and can be useful in providing easy access; they are good at imparting skills and preserving heritage. Librarians have been trained to establish user needs and to select and evaluate appropriate information. Librarians can help towards the noble goal of building an information society.\(^{(28)}\) It is certainly true that the extensive multiple-source electronic access today requires learners to develop a discerning and critical eye toward sources and a set of access skills to locate them. Librarians need to recognise that information literacy is not a subject discipline and that they do not control it. Instead, they need to recognise the limits of their expertise and communicate to users the knowledge they have acquired as librarians. Librarians know how to use tools to find information. They know where information is kept. They know that the vast
majority of accumulated knowledge for the past 500 years is kept between the covers of books. They know how to construct a search, when precision is called for and when it is better to search more generally. They know how to distinguish between sources of information, how to evaluate the potential value of sources and their credibility. They understand that information is dynamic, ever-changing and valuable only so long as it is accessible. Present day technological environment is enabling them to strongly commit to equity of opportunity through information empowerment. In this information intensive society the most critical divide is between those who have the understandings and capabilities to operate effectively in that society and those who do not – and that this constitutes the information literacy divide, which the librarians are capable of bridging.

1.7 INFORMATION LITERACY EFFORTS IN INDIA:

1.7.1 Indian Literature on Information Literacy:

Glancing the literature published in India, it is observed that there is very little output. Very few studies being carried out in India. There are no specific standards, reports and policy guidelines for Information Literacy brought out either by Government, professional associations or the institutes of higher learning. Today claim is made about e-governance, e-learning, e-society, e-economy, e-business, e-trade etc. but when it comes to Information Literacy, which aims to develop both critical understanding and active participation, no national policy document is available to guide the people. Information Literacy enables people to interpret and make informed judgements as
users of information sources. Information Literacy is part of the basic entitlement of every citizen, in every country in the world, to freedom of expression and the right to information and is instrumental in building and sustaining democracy.

1.7.2 Review of the Related Literature Published in India:

Literature survey of the work done in India shows that few Indian authors have published some papers/articles related to Information Literacy. It is interesting to see that all the authors belong to library profession and are either teachers, research scholars or working professionals. Among these authors many have expressed that Information Literacy is the extension of Library Instruction and User Education and User Education programs have been used while discussing the Information Literacy Programs. Some of the authors have carried out surveys in the university libraries, where in they have mentioned that computer literacy and information literacy are synonymous. But the fact is that computer literacy (the ability to use a computer and its software to accomplish a task) is a component of Information Literacy. It has also been noticed that India lacks the forums, reports, standards and policy guidelines for primary, secondary, adult and higher education.

1.7.3 Conferences:

As far as the concept of information literacy is concerned few professional organisations have organised the conferences with the main or sub theme on information literacy. The Society for Information Science (SIS) in its 23rd Annual Convention has a sub theme on
information literacy. Though the conference was not entirely dedicated to information literacy aspects but this was the first time in India information literacy was discussed at national level. Authors belonging to different parts of the country presented seven papers related to different aspects of information literacy. UNESCO in association with Punjabi University, Patiala organised an international workshop to promote information literacy in South and South East Asia during 3-7, Oct.2005. The theme of the workshop was “Empowering 8 – Applying a problem-solving model in South and South East Asia to promote information literacy”. Delegates from Bangladesh, India, Malaysia, Nepal, Pakistan, Singapore, Sri Lanka and Thailand participated in the workshop. This was the first time information literacy was discussed at international level in India. Professional organisations at regional and national level have been found active in organising seminars and lectures on information literacy. Some of the universities have also taken initiatives and organised the workshops for the library professionals across the nation. In the 51st Annual Conference of Indian Library Association organised as part of its annual conference series was entirely dedicated to information literacy with the theme “Libraries, Information Literacy and Lifelong Learning”. This gave a strong platform to discuss various aspects related to information literacy and lifelong learning. Professionals from different parts of the country participated and presented 48 papers on planning, designing and implementation of information literacy programmes at different types of library set-ups. This conference even saw the participation of professionals from Bangladesh and Sri Lanka. The International Convention CALIBER organised by INFLIBNET also gave a platform to
discuss various aspects of information literacy. Professional from
different parts of the nation presented 32 papers.\textsuperscript{639}

1.7.4 Workshops and Lectures:

Some of the professional organisations at state and regional are
active in organising the lectures and brain storming sessions for wider
discussion and implementation of information literacy. State level
organisations such as Karnataka State Library Association (KALA) and
Madras State Library Association (MALA) have done brave attempts
and have provided a platform for open discussion on information
literacy. Some of the educational institutions and universities have also
shown knee interest in strengthening the information literacy
movement in India. One such example is the University of Bombay,
which organised a workshop for the library professionals in planning,
designing and implementing the information literacy programmes.

1.7.5 Information Literacy Research:

It is seen that few professionals are working on the different
aspects of information literacy for their doctoral degrees. Promotion of
information literacy in different types of libraries such as academic,
public and special are being studied.
1.8 NEED FOR THE STUDY:

1.8.1 Impact of Globalisation:

Globalization is a newly emerging phenomenon. It has been defined as “a set of processes by which the world is rapidly being integrated into one economic space via increased international trade, the internationalization of production and financial markets; the internationalization of a commodity culture promoted by an increasingly networked global telecommunication system”. Globalization transcends socio-economic and political barriers that the countries of the world are prone to build around themselves. It is not only a process “integrating just economy, but culture, technology and governance. It is giving rise to new markets, foreign exchange and capital markets linked globally, new tools, Internet links, cellular phones, media network, new actors; the World Trade Organization with authority over national governments, the multi-national cooperation with more economic power than many states, new rules, multi-national agreements and intellectual property, multi-lateral agreements on trade”.

1.8.2 Education as a Service Sector:

Education, as a service industry, is part of globalization process under the umbrella of General Agreement on Trade in Services (GATS). There is, however, distinct possibility that this might “force countries with quite different academic needs and resources to conform to structures inevitably designed to service the interest of the most powerful academic systems and corporate educational providers... breeding inequality and dependence”. Further, “Globalization... can
lead to unregulated and poor quality higher education, with the worldwide marketing of fraudulent degrees or other so-called higher education credentials..."(37) India, is likely to turn into "an increasingly attractive market for foreign universities and hence other nations are going to use GATS' provisions to their advantage".(38) While these are obvious problems, globalization can also have advantages, particularly for India, which has a large educational system and infrastructure and diverse human capabilities.

The emergence of a global education marketplace exhibits itself in the form of a variety of multinational higher education initiatives—ranging from "twinning" programs linking academic institutions or programs in one country with counterparts in another to universities in one country setting up branch campuses in another. The different kinds of cross-border higher education ventures include many that use the Internet and other distance education means to deliver their programs. Many for-profit companies and institutions have invested in multinational educational initiatives, as have a range of traditional higher education institutions.(39)

The modern advances in information technology have revolutionised, among others, the content of knowledge and the processes of educational transaction. The ever-growing use of electronic media has brought education to the doorsteps of the common man. Information processing technologies provide an efficient framework for the storage, management, analysis and application of information. In the process, popular culture and education alike have adopted what may be called 'computational paradigm', the use of computer metaphors, to understand how human beings cognize themselves and
the World. The basic objective of globalization is to enhance productivity and to make the educational system an instrument of preparing students, who can compete in the World markets as productive members of the society. This would necessitate making skill training as an integral part of the curriculum.

India though rich in human capital is poor in human development. The challenge is to reduce this gap and the responsibility lies with the three major stakeholders: government, the education system and the labour market. The responsibility of government is to develop the country, that of education to develop human capacity and of the labour market to develop productivity. These three circles are interlocked and overlapping, with shared responsibility and benefits. But so far, the various stakeholders have demonstrated little intention to synergise their efforts.\(^{(40)}\)

1.8.3 Information Skills of the Information Age:

Most frequently, the biggest problem students face is finding too much information and not knowing what to do with it. Before students can be taught to understand concepts and skills and be asked to use their multiple intelligences, they need specific tools to work with the large amount of information at their fingertips. Without these skills, students feel like innocent lambs being thrown to the information wolves. Disturbing trends about finding information and doing research are developing in students. The top three are (1) students believing that anything from a computer is better than anything that comes from a book, (2) students viewing the library as a last resort, and (3) students being more concerned with the quantity than the quality of

28
It is critical that students learn to find information from many sources and be able to analyze its quality relatively quickly. Only then are they able to move to the next step of using the information to produce a piece of work. These searching and analyzing skills are information literacy skills, and the sooner teachers begin helping students learn them, the better the students' chances are of succeeding in the Information Age.

1.8.4 Technology Revolution

The revolution of the technology that allows people to transmit and receive information has opened a new age in the history of mankind. The information age has radically extended the circle of persons, groups, organisations that are able to communicate with each other, has done away with the spatial limits of communication, in principle, anybody can communicate anytime, anywhere, about anything with anybody. The global network society is spanned by a uniform, lightening-fast communication network. The Internet is by and large considered as a panacea to many of the society's problems. With the rapid growth of e-commerce, e-health and even e-democracy, the Internet has been positioned as a strong potential protector and promoter saviour of lifelong learning and learning society respectively. Technology can be a tool in the support of learning; it has the potential to reinvent the relationship between teacher and learner by removing traditional barriers of time, distance, and mode of delivery. The information technology revolution is creating a new form of electronic, interactive education that should blossom into a lifelong learning system that allows almost anyone to learn almost anything from
anywhere at anytime. This visible new frontier of information sector has many similarities with gold rush and migrations of the previous centuries. Anyone can “stake a claim”, so there is great variation in the quality and credibility of the content.

Therefore, every democratic country strives to prepare the informed citizens for its longer survival. Information literacy is the meta competency of the knowledge economy. In the knowledge economy, the ability of the individual to become information literate and to engage effectively the operational skills of information literacy are attributes in which organisations should invest, in terms of both recruitment and training. However, great technical skills, attractive attitude and however deep commitment to excellence one has, the bottom line is that to be successful in the knowledge society one needs essentially to acquire a high level of information literacy skills. What India needs today to transform into complete knowledge society is the people who know how to absorb and analyse and integrate and create and effectively convey information – and who know how to use information to bring real value to everything they undertake. The information literate worker is a critical thinker and a problem solver. In the knowledge society, the prime objective of the educational setup in India, right from kindergarten to higher level of learning should be to produce informed citizenry. Hence, with all the reasons explained in the above paragraphs, this case study is the need of the hour in the Indian context where information literacy is in the emerging stage.
1.9 SIGNIFICANCE AND LIMITATIONS OF THE STUDY:

Information literacy has become an important concept since the arrival of the information age. Research in this area in Asian countries such as India is still in its preliminary stages, since these countries have only recently become fully immersed in the information culture. The scope of this study is limited to selected library and information centres of higher learning and research in Bangalore City only. The results will contribute in knowing the implementation status of information literacy programmes in the selected libraries. It will also provide some insight to the researchers who would like to do a comprehensive study on information literacy in the Indian context. The results could have implications for librarians to better organise their information literacy programmes and for users to better understand their own skill levels and their need to ask librarians for help. Faculty members and administrators may consider incorporating information literacy instruction in the regular curriculum after getting the picture of users’ competency levels and prominent usage patterns.

The parameters of the study are as follows:

• Data collection is confined to library and information centres of higher learning and research organisations/institutions in Bangalore City only.

• Data is collected using a questionnaire from the Heads of the libraries selected for survey.

• The study is mainly a qualitative, using a very small number of samples.

• Data analysis and interpretation are entirely based on the feedback received from the respondents.
The collection details, technological infrastructure, services/facilities rendered and implementation of information literacy programmes were up-to-date at the time of collection but this is an ever-changing field, the probability of new developments should be taken into account when reading this study and appropriate adjustments made.

This is a small-scale qualitative study exploring the planning, designing and delivering of information literacy programmes along with the technological gadgets used, methods adopted and the end impact of such programmes in productive use of information. This is an exploratory study that could be used as an initial step in a subsequent large-scale survey. As will all research there are limitations made to, the sampling procedures, sample size, analysis undertaken and conclusions made whilst the originality of the research remains unequivocal and hence the limitations are not detrimental but rather aimed at comprehensively and accurately describing the scope of the research undertaken.

1.10 STATEMENT OF THE PROBLEM:

The explosive development of the Internet and related information and communication technologies has brought into focus the problems of information overload, and the growing speed and complexity of developments in society. People find it ever more difficult to cope with all the new information they receive, constant changes in the organisations and technologies they use. Information revolution is changing what we think and how we think. It is changing the nature of information and the role of learning, so that many long
cherished truths are turning out to be little more than conventions of the scientific and industrial era.

An important aim of higher education is to produce information literate graduates. Students at the higher level of learning and research are expected to have mastery over information literacy skills. In order to survive today's information flow the capacity and skills to handle large amounts of information is needed. It is important to understand how information is organised, where to find it and how to use it effectively. The aim is not only to locate and access information sources but also to analyse them in a critical way and make constructive use of them. It is thus vital to know how to process, synthesise and evaluate information. Talents like cognitive competence, systematic thinking, energetic information seeking and an optimistic attitude towards problem solving are important in the information society.

Well-educated and skilled people are essential for creating, sharing, disseminating and using knowledge effectively. The knowledge economy of the twenty-first century demands a set of new competencies, which includes not only ICT skills, but also such soft skills as problem solving, analytical skills, group learning, working in a team-based environment, and effective communication. Fostering such skills required an education system that is flexible; basic education should provide the foundation for learning, and secondary and tertiary education should develop core skills that encourage creative and critical thinking. In addition, it is necessary to develop an effective lifelong learning system to provide continuing education and skill upgrading to persons after they have left formal education in order to
provide the changing skills necessary to be competitive in the new global economy.

Much of the research in information literacy is concentrated on the higher education sector. It includes work that investigates information literacy in a specific discipline or the information literacy experiences of university students, the development and evaluation of higher education information literacy programmes, information literacy as a generic skill or graduate attribute and information literacy as expressed in information seeking behaviour. A study of impact of information literacy programmes on the effective utilization of information is the need of the hour. For the effective utilization of information, information literacy programmes should be well planned, designed and delivered. Hence, the amount of work, techniques, methods, technologies and manpower required in designing such effective information literacy programmes in the higher learning and research environment where the library clientele are much mature information users is found immediate need. Hence, the following problem is chosen for research work.

"ROLE OF INFORMATION LITERACY IN MAXIMISING THE USE OF INFORMATION FOR PRODUCTIVITY AND DEVELOPMENT: A CASE STUDY OF SELECTED LIBRARY AND INFORMATION CENTRES OF HIGHER LEARNING AND RESEARCH IN BANGALORE CITY"
1.11 OBJECTIVES OF THE STUDY:

Following are the objectives of the study:

- To know the availability of information and communication technology infrastructure in the libraries selected for study
- To understand the implementation status and developing trends in information literacy programmes
- To know how the information literacy programmes are planned, designed and delivered
- To examine the influence of information and communication technology in planning, designing and delivering the information literacy programmes
- To take stock of the impediments in planning, designing and delivering information literacy programmes
- To know the impact of information literacy programmes on the utilisation of library resources
- To know the impact of information literacy programmes in enhancing the utilisation of library resources and research productivity of the users

1.12 METHODOLOGY:

1.12.1 Published Literature:

Researcher has done extensive literature search to understand the evolution, development, application and importance of the term "information literacy". To carry out this activity, researcher initially used different search engines such as Google, Googlescholar, Yahoo, Alltheweb, Altavista and many others. The literature published around
the world especially in the developed countries in the form of documentary sources, conferences and seminar proceedings, case studies related to universities, institutes, countries and websites, standards, policy guidelines and reports became the inspiring indications to the researcher to plan and design the study. Efforts were also made to retrieve the research papers published in different databases such as EBSCO, Emerald, ScienceDirect, ERIC, and InfoTrac to name a few.

1.12.2 Observations:

Researcher has made frequent visits to the library and information centres of higher learning and research selected for this study. During these visits observations were carried out as to know the users' perspective and approach to information literacy programmes. It was noticed that the clientele of these libraries are well educated and technologically advanced. Though the users of these libraries have good technological knowledge and are well versed with the computer operations, it is observed that they take the help of library staff in finding and evaluating information for effective and efficient use.

1.12.3 Discussions:

During the visits to the library and information centres selected for this study, efforts were made to interact with the learned and senior professionals working in these libraries. Interactions have also helped in knowing and understanding how information literacy programmes are planned, designed and delivered, what are the resources used in the planning and designing the information literacy programmes, use of
technological gadgets, how the library is collaborating with different sections of the institute/organisation and the users' approach towards information literacy programmes. Discussions were also carried out with the learned professionals from different parts of the country. Interaction with learned professionals was fruitful and encouraging and gave much insight in designing the study.

1.12.4 Interactions with Experts:

When the researcher started this study, there was enormous literature published by the developed and some of the developing countries. Information literacy models, guidelines and standards were also developed for different levels of education and even these models and guidelines were implemented in the national education policies. Researcher communicated with the outstanding experts who have done noticeable efforts in promotion of information literacy. Experts such as Alan Bundy, Michael Eisenberg, Sheila Webber, Patricia Senn Breivik, Christina Bruce and Shaheen Majid were communicated through e-mails. These experts showed keen interest and communication with them helped in further designing the study.

1.12.5 Questionnaire Method:

Questionnaires are often used in surveys as the primary data collection instruments. Utmost care is taken to develop the kind of questions in view to accurately measure what the researcher was aimed to investigate. The purpose of the research by applying questionnaire is to obtain valid and reliable data so that the objectives laid down in the initial stage could be fulfilled. For designing the questionnaire the
researcher had interactions with experts and learned professionals scattered geographically. The questionnaire is divided into seven major sections i.e., A, B, C, D, E, F and G containing 42 questions.

1.12.6 Pilot Study:

Initially when the questionnaire was designed, about 100 questions on different aspects of the study were framed. During the interactions with learned professionals and the outstanding experts in information literacy from different parts of the world, it is observed that the questionnaire is too long and takes much time in filling. It was also observed that some of the questions are repetitive and out of the purview of the study. After considerably editing the questionnaire the pilot study is carried out. Many suggestions were received to strengthen the questionnaire. Respondents were of the opinion that instructions should be provided wherever possible and the logical framing of the questions was also felt necessary. Some of the respondents also provided questions that can be included in the questionnaire which are important for the study. Many of the respondents were of the opinion that some of the questions should be framed in "Five-Point-Scale" so as to get clear response to the questions raised. Accordingly the last section of the questionnaire was designed as per "Five-Point-Scale". Finally, the corrected questionnaire containing 42 questions was circulated to 31 selected library and information centres of higher learning and research in Bangalore City.
1.13 CHAPTERISATION:

The entire study is organised in the following seven chapters:

**Chapter 1:** Deals with introduction, education system in India, Information Literacy efforts in India, Need for the Study, Limitations of the Study, Objectives and Methodology of the Study.

**Chapter 2:** Describes the concept of Information Literacy, role of Librarian in Information Literacy, technological impact and Information Literacy Education and other relevant aspects.

**Chapter 3:** Provides a picture of Information Literacy at the global level including the efforts made in the countries like Australia, United States of American, United Kingdom, New Zealand, Europe, Germany etc.

**Chapter 4:** This chapter is designed to provide brief outline of the institutions/organisations selected for the present study.

**Chapter 5:** This chapter presents the data analysis and interpretation of the collected data.

**Chapter 6:** This chapter enlists the findings of the study, and provides suggestions and future directions.

**Chapter 7:** This chapter provides conclusion of the study envisaged.
CONCLUSION:

In a print society, literacy has been the ability to read and write and through this to be a fully participating member of a democratic society. The need to acquire this literacy led to the development of a compulsory education system and a network of local public libraries. In the global knowledge society and its technological infrastructure of computers and multimedia, education is lifelong and literacy is being extended beyond reading print and writing with a pen. Many different concepts have influenced the growing appreciation of what constitutes information literacy, as opposed to traditional ideas of print literacy. Here one can see a convergence between the skills and perspectives of the teacher librarian, the computer specialist, the learning specialist, research skills and information technology. These days all are becoming learners as knowledge navigators, learning just-in-time and at the place of our choice, through a technological infrastructure which includes computer, e-mail, Internet and telephone and soon assisted by our electronic research assistants, the Intelligent Agents. This new paradigm is forcing a redesign of our education and library instruction training systems on a global scale. To sum, this chapter has given a framework of the study. The next step is to review the literature published around the world on different aspects of information literacy considered for this study.
REFERENCES:


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