

INTRODUCTION

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INTRODUCTION

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1.1. INFORMATION

Information is the bedrock of national development. The availability of timely and accurate information plays a fundamental and dynamic role in the development of comprehensive policies and programme in country. Information has great potential value in decision making, problem solving and in the conduct of work and life (Kawatra, 2000).¹

In modern times, information is treated as the important source and base of the economic, social, industrial, educational and political development of a country. Information is an indispensable resource for all human activities. In the present information society, the quality of life as well as prospects for social change and economic development depends increasingly upon information and its utilisation.

1.2. INFORMATION SOCIETY

Information is a vital and necessary product of the modern society. The most important feature of modern information society is that more people are producing information faster than in the past. Information enlightens man's lives and helps in enhancing his knowledge. Ready access to information is indispensable to individual advancement as well as to national growth. In the present times, in view of the essential need for information and easy access to information resources, the society is being designated as information society (Mangala, 2003).²

Information society may be defined as one in which the quality of life and the prospects for social change and economic development depend increasingly on information and its exploitation. In such a society, the living standards, patterns of work and leisure, the education system, rural

development activities and the market scenario are all influenced by information. In an information society, information is considered to be more important than the materials that provide information. It provides greater opportunities for a wider interaction among wide range of cultures.

The rise of the information revolution has led to information becoming a major producer of wealth. This revolution has increased the importance of access and utility of information from a variety of sources, including information published electronically. The skills.net program was designed to increase electronic- information literacy skills by providing free or low cost access to training in online services and the Internet for those in the community who are least likely to have access. However the program did not adequately address the accepted training needs of its participants and therefore was not as successful as it could have been(<http://www/disabilityindia.org>)³.

The global economy is currently being transformed from industrial economy into information driven economy where information is a major producer of wealth. There are more opportunities for individuals to access and interpret information from a variety of sources. If a person is not able to access information he is faced with information poverty. Information poverty is a relative form of poverty that leads to people being disadvantaged due to their lack of access to all types of information. There are many factors that contribute to information poverty including language, culture, poor English literacy skills, lack of access to telecommunications, the inability to use software and the lack of recognised need to access electronic information.

As the information economy grows there will be an increased importance to access to electronic information. Those who cannot access electronic information will experience Electronic Information Poverty (EIP).

In an attempt to reduce EIP, many nations have pledged to develop a Global Information Infrastructure, which if achieved, will enable universal access to telecommunications. Many programmes around the world have also implemented techniques to improve general literacy skills in their communities such as reading, writing and mathematical skills.

Some Governments and Government agencies, such as the Victorian Government, the Canadian National Literacy Secretariat, and the UK established National Council for Educational Technology and the Singapore Ministry for Education has implemented Electronic Information Literacy programmes.

1.3. INFORMATION LITERACY

There has been a shift towards creating a student centered learning environment in higher education, wherein students are autonomous to get their information needs fulfilled. The higher education institutions are established not only to impart education and award degrees to the students but also to make them self-learners and life long learners. At the same time, the information environment has become too complex and changing too rapidly. In the information age the students are expected to employ sophisticated information gathering techniques to locate, organize, evaluate and use the information effectively to be successful in their endeavor. Students must learn critical thinking and imbibe information literacy skills. In this context the library authorities need to be dynamic, take the leading role in assessing the information literacy competence of the users especially the students and research scholars and plan for conducting such programmes to improve the situation.

The concept underlying information literacy is not new. The idea that the students must first decide what type of information they need, figure out

where to find the information, consider how to find the information, and then determine if the information meets their needs, has always been the basis of traditional research cycle. Today, information literacy is no longer limited to the world of librarians and information professionals. It is spreading into the educational community as a whole and more specifically into international organizations such as UNESCO.

Information literacy is concerned with teaching and learning about the whole range of information sources and formats. Information literacy forms the basis for life long learning. It is common to all disciplines, to all learning environments and to all levels of education, while recognizing the disparities in learning styles and in the nature and development of literacy in different countries. It enables learners to master contents and extent their investigation, become more self directed, and assumes greater control over their own learning. UNESCO insisted that information literacy should be introduced wherever possible within national curricula as well as in tertiary, non formal and lifelong education (Essessberg, Lowe & Spitzer, 2004)⁴.

Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information (Association of College and Research Libraries [ACRL], 2004)⁵.

The first step in the information problem solving process is to recognize that an information need exists and to define that need. The student will be able to

- A. recognize different uses of information (i.e. occupational, intellectual, and recreational).
- B. place the information needed within a frame of reference (who, what, when, where, how, why).

- C. relate the information needed to prior knowledge.
- D. formulate the information problem using a variety of questioning skills (i.e. yes/no, open ended).

1.4. INFORMATION LITERACY SKILLS

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.”(ACRL, 2004)⁶.

This definition implies several skills. We believe that the skills (or competencies) that are required to be information literate require an understanding of

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

Understanding a Need

This step includes the following,

Recognising that information is needed; understanding why information is needed, what (and how much; what kind of) information is

required, as well as any associated constraints (e.g. time, format, currency, access); recognising that information is available in a wide range of formats in various geographical and virtual locations. The ability to articulate a question and so develop a focus for the research is an important skill.

Information may be available on paper (books, reference works, journals, magazines, newspapers, etc), digitally (on CD-ROMs, over the Internet or the World Wide Web, on DVDs, on one's own computer or network, etc), through other media such as broadcast or film, or from a colleague or friend. It may or may not be conveniently close to hand and easily accessible, and quantifying one's need and making a decision about the use of an information source may be affected by the ease and speed with which an answer can be obtained.

Understanding Availability

This step includes the following,

Be able to identify what resources are available for exploitation, where they are available, how to access them, the merits of individual resource types, and when it is appropriate to use them.

This requires an understanding of types of resource (paper-based, electronic/digital, human, etc) and when to use each; what are the merits of individual resource types; what are the differences between them.

Understanding How to Find Information

One should be able to search appropriate resources effectively and identify relevant information.

Strategies need to be tailored to the resource being used, so as to get the best results from that resource. Users need to respond to search results

possibly because there are too few or too many and know when to stop searching. An information literate person would also understand that, in addition to purposive searching, information can be acquired by browsing, scanning and monitoring information sources.

Understand the Need to Evaluate Results

An information literate person should be able to evaluate information for its authenticity, accuracy, currency, value and bias. Also, he should be able to evaluate the means by which the results were obtained in order to ensure that his approach did not produce misleading or incomplete results.

This is not just whether the resource appears to answer the question, but whether it is intrinsically trustworthy.

Understand How to Work with or Exploit Results

Information literacy shows the capacity analyse and work with the information to provide accurate, presentable research results, or to develop new knowledge and understanding.

One should be able to understand, compare, combine, annotate, and apply (use) the information found. He should recognise and understand a possible need for further information searching.

Understand Ethics and Responsibility of Use

An information literate student should know why information should be used in a responsible, culturally sensitive and ethical (professional, business, personal ethics) manner. He should respect confidentiality and always give credit to other people's work, understand the nature and uses of bias, in order to report appropriately. Where appropriate, he will be able to provide a balanced (unbiased) report.

This could include issues of intellectual property, plagiarism, unfair practice, fair use, freedom of information, data protection, codes of practice and ethical principles as set out by the employers, institution or professional.

Understand How to Communicate or Share Your Findings

The ability to communicate/share information in a manner or format that is appropriate to the information, the intended audience and situation is an indication of information literacy.

This goes beyond analysis to the synthesis, organisation and/or creation of further information in an appropriate form.

Understand How to Manage Your Findings

Know how to store and manage the information one acquired using the most effective methods available is another indicator of information literacy. He will reflect critically on the process and achievement as well as on the sources found in order to learn from the experience of finding and using information.

1.5. INFORMATION LITERACY IN HIGHER EDUCATION

Developing lifelong learners is central to the mission of higher education. By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundations for continued growth throughout their careers, as well as in their roles as informed citizens and members of the communities.

Academic libraries have played an important role in information literacy developments in Europe. Information literacy initiatives in higher education have taken a variety of forms: stand-alone courses or classes, Web-

based tutorials, course-related instruction, or course-integrated instruction. Most authors seem to agree that information literacy should be integrated into subject areas (Kemp, 1999)⁷.

Webber & Johnson (2008)⁸ 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 Information Communication Technologies (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. The general picture is that in most cases institutions are now transforming from a period of rich and mostly bottom-up experimentation to a phase in which institution-wide use of ICT is being encouraged (Collis & Wende, 2002)⁹. While the new ICTs are having a variety of direct effects on teaching and learning in universities, there are also a number of other important factors having major influences on higher education. The Bologna declaration in 1999 proposed an European Higher Education Area in which students and graduates could move freely between countries using qualification in one country as acceptable entry visa in another country. The rise in lifelong learning and widening of access to higher education bring in new learners with different previous educational experiences.

The educational policy of the European Union (EU) has three main objectives, which concern:

- increasing the quality and effectiveness of education and training system in the EU.

- facilitating access of all to education and training system.
- opening up education and training to the wider world (COIMBRA Group of Universities, 2002)¹⁰.

In this context, there is also evidence of efforts to develop new teaching and learning methods that emphasise and support students to learn constructively, and to develop their knowledge using information wisely. Several information literacy experiments and examples of good practice can be highlighted in European countries.

In the UK context, the conference on Information Technology and Information Literacy in Glasgow, March 20-22, 2002 demonstrated several examples of good practice. The British Open University, Edge Hill College of Higher Education, Cardiff University, Cranfield University, University College Northampton and the University of Sheffield have developed interesting information literacy programmes. Many programmes are based on the SCONUL model. (Sconul, 1999)¹¹.

Examples of good practice identified by 'The Big Blue' project included. Southport College, where an internally accredited information skills module is compulsory for all first year students, South Bank University which demonstrates practical applications of learning outcomes and the impact they have on information skills training, and the University of Aberdeen where pre- and post- self-assessment has been carried out to encourage students to track their progress and see the value of attending information skills training. South Bank University Library has also developed a benchmarking scheme for undergraduate students. Numerous other initiatives are also taking place and there are traditional and online courses and tutorials on information literacy at many universities such as Robert Gordon University, University of

Bristol, London School of Economics, University of Nottingham, University of Bradford, Aston University, Coventry University, etc.

A trend that has also gained popularity in the UK is an interactive Web-based information literacy tutorial, which is designed to introduce students to information literacy concepts and information resources. However, the University of Leeds briefly experimented with computer-assisted library instruction as early as the end of the 1970s (Fjallbrant & Malley, 1984)¹².

The inclusion of information competencies as a graduation requirement is the key that will fully integrate information literacy into the curricula of academic institutions.

Information literacy instruction in higher education can take a variety of forms: stand-alone courses or classes, online tutorials, workbooks, course-related instruction, or course-integrated instruction.

State-wide university systems and individual colleges and universities are undertaking strategic planning to determine information competencies, to incorporate instruction in information competence throughout the curriculum and to add information competence as a graduation requirement for students. Librarians often are required to teach the concepts of information literacy during "one shot" classroom lectures. There are also credit courses offered by academic librarians to prepare college students to become information literate.

Academic library programmes are preparing faculty to facilitate their students' mastery of information literacy skills so that the faculty can in turn provide information literacy learning experiences for the students enrolled in their classes.

The certain quality and expanding quantity of information pose large challenges for society. Sheer abundance of information and technology will

not in itself create more informed citizens without a complementary understanding and capacity to use information effectively.

The information environment of the 21st century is complex and fluid, connective and interactive, diverse, ambiguous and unpredictable and one is no longer constrained by physical collections, time, place and national boundaries (Todd, 2001)¹³. In this environment educators win only if they can access the vast amount of information, which is possible directly from library facilities and through the use of information communication technologies (ICT).

1.6. ROLE OF INFORMATION IN THE ACADEMIC FIELD

In the academic field, information plays a vital role. The process of knowledge generation helps in the development of academic field. People in the academic field make use of information to cover various aspects of learning, teaching and research. Information has to be constantly flowing in to the academic field for research and other developmental studies.

Teaching and learning are two activities in which information generation is made possible. Information should be provided to the academic community as it is a component of their existence. The academic field in a higher educational institution such as the university mainly comprises of faculty members, research scholars and post-graduate students need was the amount of information for their academic pursuit.

1.7. INFORMATION NEEDS OF RESEARCH SCHOLARS

New knowledge gets generated through scientific process of research. Research is a scientific enquiry for truth. In order to find out the actual truth, previous studies undertaken in the same field have to be analysed. Considerable amount of knowledge also gets generated through research.

The primary goal of research is to extend the boundaries of knowledge. Researchers involved in such activities are strongly oriented to provide and communicate information. Discovering all possible means of obtaining information is a pre-requisite for active research.

Research scholars need information on a continuing basis and are considered the biggest consumers of information. They have unique information needs which distinguish them from other user groups. Mainly a researcher needs information for the following purposes,

1. To keep abreast of the latest developments in his area of interest.
2. To get acquainted with the state-of-the-art.
3. To gather specific pieces of data and information needed at different stages of his work.
4. To be aware of research work being undertaken in other parts of the world to avoid duplication.

Keeping up with current developments is one of the key objectives for success in the career of a researcher. Research activity updates his knowledge and stimulates his thought process.

1.8. NEED FOR INFORMATION LITERACY RESEARCH

Research and development activities in information literacy have been focused on education both in schools and in higher education. Especially in the last twenty years, library scientists have advocated the importance of information literacy and have developed standards, especially for application in higher education. The focus of information literacy research has often been primarily on universities. There is evidence of engagement by teachers and academicians with the implications for pedagogy of the changing nature of information resources and information use, but equally there is a recognition

that more needs to be done to transform education into a form suitable for the preparation and continuing education of people in the information age .This is particularly so as some policy makers have focused only on the pre-requisite task of acquiring the skills to use new information communication technologies (ICT). Information literacy includes wider issues about the ways in which these technologies frame access to information, and the skills needed to interpret and use information effectively. The wider compass of information literacy needs to be understood and promulgated in order that the advantages of the information society can be realised .The essential difference between ICT skills and information literacy is illustrated by the distinction that can be made between receiving and transmitting information using ICT and the process of transforming information to create new knowledge using information literacy before transmitting the new information.

1.9. MAJOR UNIVERSITIES IN KERALA

The first university in Kerala was established in the year 1937 at Thiruvananthapuram in the name of University of Travancore. Later it was renamed as University of Kerala. At present there are twelve Universities in Kerala. They are: University of Kerala, University of Calicut, Cochin University of Science and Technology, Kerala Agricultural University, Mahatma Gandhi University, Kannur University, Sreesankaracharya University and Kerala Kalamandalam Deemed University, Central University of Kerala, Health University of Kerala, Fisheries University and Aligarh Muslim University Centre. Out of these, only four universities were taken for the study. They are University of Kerala, University of Calicut, Cochin University of Science and Technology and Mahatma Gandhi University. The other four universities are omitted because the number of research scholars in these are very few compared to the research scholars in the universities selected for the study.

A brief history and academic programmes of the selected universities are given here.

1.9.1. University of Kerala

The University of Travancore which eventually became the University of Kerala was established in 1937 by a promulgation of the Maharaja of Travancore, Sri Chithira Thirunal Balarama Varma who was also the first Chancellor of the University. Sir C. P Ramaswamy Ayyar, the then Diwan of the State, was the first Vice-Chancellor. It was the sixteenth University to be set up in India and ten Colleges within the State of Travancore which were affiliated to the Madras University became the affiliated colleges of the University of Travancore. In 1957, the Kerala University (Act, Act 14 of 1957) was brought into force and the University of Travancore was renamed as University of Kerala. At present, the University has sixteen faculties and 41 departments of teaching and research. The University departments offer a wide range of teaching and research at post-graduate, M.Phil and Ph.D. levels. The courses in the departments are conducted in the Credit and Semester System. The University has also recognized a number of other institutions as research centres. All these institutions conform to the aims and objectives of the University and its programme of teaching and research. The University of Kerala has widened its horizons by entering into academic co-operation with some foreign Universities like Valladolid of Spain and Claremont of the United States of America. The UGC has identified the University as one of the 26 institutions selected for promotion of Indian Studies by foreign students. The National Assessment and Accreditation Committee has placed the University at the B++ grade.

Academic Departments and Research Scholars of University of Kerala

There are 39 academic departments offering full time research in the University of Kerala. At present there are 445 research scholars doing research in various departments ([www.keralauniversity .ac.in](http://www.keralauniversity.ac.in))¹⁴.

Table 1.1

Academic Departments of the University of Kerala

1	Department of Aquatic biology and fisheries
2	Department of Arabic
3	Department of Archeology
4	Department of Bio-Chemistry
5	Department of Bio-Technology
6	Department of Botany
7	Department of Chemistry
8	Department of Commerce
9	Department of Communication and Journalism
10	Department of Computer science
11	Department of Demography and Population studies
12	Department of Economics
13	Department of Education
14	Department of English
15	Department of Environmental studies
16	Department of Future studies
17	Department of Geology
18	Department of German
19	Department of Hindi
20	Department of History
21	Department of Islamic studies
22	Department of Law
23	Department of Library and Information Science
24	Department of Linguistics

25	Department of Malayalam
26	Department of Management
27	Department of Mathematics
28	Department of Music
29	Department of Opto- Electronics
30	Department of Philosophy
31	Department of Physics
32	Department of Political Science
33	Department of Psychology
34	Department of Russian
35	Department of Sanskrit
36	Department of Sociology
37	Department of Statistics
38	Department of Tamil
39	Department of Zoology

1.9.2. UNIVERSITY OF CALICUT

University of Calicut, the second university to be set up in Kerala, came into being in 1968 with the objective of developing human resources in the northern districts of Kerala by extending the reach of higher education and by promoting research in all areas of development with particular emphasis on technology and art and culture of Kerala

The University made the beginning by taking into its fold the four postgraduate departments set up by the University of Kerala at Calicut and 54 constituent colleges spread across seven northern districts. With ‘Nirmaya karmana sree’ (Prosperity through Faultless Work) as its motto, the University has surmounted challenges to emerge as the largest residential cum affiliating University in Kerala.

The University campus, located at Tenhipalam in Malappuram district, 24 km south of Calicut city, is the main hub of academic activities. In addition to the office of the Vice-Chancellor, the University administration, Pareeksha Bhavan, School of Distance Education, Academic Staff College, Educational Multimedia Research Centre, Computer Centre, University Library and other central support and service units, 30 post graduate departments of teaching and research are also located on the campus. These are the departments of Arabic, Botany, Biotechnology, Chemistry, Commerce & Management Studies, Education, English, Hindi, History, Mass Communication & Journalism, Library and Information Science, Life Science, Malayalam, Mathematics, Philosophy, Physical Education, Physics, Psychology, Russian, Sanskrit, Statistics, and Zoology.

Extension Centres

The University has set up extension centres at Thrissur, Calicut and Vatakara. The centre at Thrissur is named after the renowned economist late Dr. John Mathai. Located here are the Department of Economics and the School of Drama & Fine Arts. Courses in Costume and Fashion Design is conducted at Calicut Centre. The University Students' Centre is also located in Calicut .

At the Vatakara Centre, the University set up two post graduate departments of studies and research. These were: the Centre for Folk Lore Studies and the Kunjali Marakkar Centre for West Asian Studies. Now both departments are shifted to Calicut University campus, Thenhipalam.

To reach out to students closer to their homes, the University has set up Teacher Education Centres and Information Centres in all the five districts under its jurisdiction.

Besides restructuring the graduate and post-graduate courses, the University has introduced integrated M.Phil/Ph.D programme from 2004-05 academic year. To meet the demand for the training in the emerging areas, the University has launched new programmes in Computer Application & Information Technology, Health Sciences, Nano Technology, Environmental Studies, Fashion Design, Social Work, Printing Technology, Computer Hardware and Automobile Engineering. Yet another effort in this direction is the establishment of the University Institute of Engineering Technology close to the main campus. The institute offers B.Tech courses in electronics and communication, printing technology, electrical and electronics and IT streams.

Frontier lectures by renowned scholars and scientists, modernization of laboratories, upgradation of Internet facilities in the Cyber Cafe and Post-Graduate departments, Infonet services in the University library and computerisation of University examination are the other recent initiatives.

Colleges

As many as 262 colleges are affiliated to the University. Of these, 70 are located in Kozhikode district, 68 in Thrissur, 70 in Malappuram, 43 in Palakkad and 11 in Wayanad district.

The break up in terms of the subjects of study is 115 Arts and Science Colleges, 53 Training Colleges, 23 Engineering/Technical Colleges, 5 Medical Colleges, 4 Ayurveda Colleges, 2 Law Colleges, 23 Oriental Title Colleges, 7 I. H. R. D. centres, 1 Fine Arts College, 16 Nursing Colleges, 2 Dental Colleges, 8 Pharmacy Colleges, one Homoeopathy College and 2 Colleges for Hotel Management. As many as 88 colleges offer both graduate and post graduate courses in various subjects.

The impressive scenario of colleges owes much to the enthusiasm of private educational organizations, which own over 150 colleges. The remaining is run by the State Government of these 250 colleges have an annual sanctioned intake-capacity of nearly 60,000.

Academic Departments

Through teaching and research, the 30 postgraduate departments of the University have made a mark in their respective areas. While some of them have been chosen for collaboration and funding to undertake research projects by external funding agencies, a substantial number of the faculty of these departments have been conferred with prestigious fellowships by national and international bodies.

It was in recognition of their potential to extend their expertise in the emerging areas of education, training and extension, that the University Grants Commission funded the establishment of the Academic Staff College in 1987 and the Audio Visual Research Centre in 1996 on the main campus of the University. Similarly, the Department of Biotechnology, Government of India, funded the University to set up the Department of Biotechnology in 1995. Some of the departments have been successfully publishing scholarly journals. The journals are: Calicut University Research Journal, Interventions, The Malabar, Journal of South Indian History, Ruchi and Malayala Vimarsam.

With restructured syllabi and well-equipped laboratories and libraries, the departments offer a variety of postgraduate programmes that meet the changing demands of the academic and industrial sectors. In addition to these 30 departments, the University has set up a School of Health Sciences and a Computer Centre that offer graduate and post graduate courses in their respective areas. All the teaching departments are the research centers as well.

Established in 1968, Calicut University has become a veritable lighthouse beckoning and directing millions of young men and women towards meaningful education. Today it has emerged as the largest university in Kerala with 30 departments of postgraduates studies and research, under its direct control and 262 affiliated colleges spread across the five northern districts of Kerala, Kozhikode, Malappuram, Palkkad, Thrissur and Waynad, serving 2.75 lakhs students every year.

There are 30 department offering postgraduate fulltime research programmes. All the departments are situated in the headquarters at Thenhipalam except Department of Economics and School of Drama which are situated in Trissur. As per the records maintained by the office of the College Development Council, University of Calicut, presently there are 395 candidates registered as research scholars. (www.universityofcalicut.in)¹⁵.

Table 1.2

Departments of Calicut University

Sl. No.	Name of the Departments
1.	Department of Arabic
2.	Department of Biotechnology
3.	Department of Botany
4.	Department of Chemistry
5.	Department of Commerce and Management studies
6.	Department of Computer Science
7.	Department of Education
8.	Department of Economics
9.	Department of English
10	Department of History

Sl. No.	Name of the Departments
11	Department of Hindi
12	Department of Journalism and Mass Communication
13	Department of Library and Information Science
14	Department of Life Sciences
15	Department of Malayalam
16	Department of Mathematics
17	Department of Nano Technology
18	Department of Philosophy
19	Department of Physics
20	Department of Psychology
21	Department of Russian
22	Department of Sanskrit
23	Department of Statistics
24	Department of Zoology
25	Adult and Continuing Education and Extension Services
26	Centre for Folklore Studies
27	Centre for Women's Studies
28	Kunhali Marakar Centre for West Asian Studies
29	Political Science
30	School of Drama
31	School of Environmental Studies

1.9.3 MAHATMA GANDHI UNIVERSITY

The Mahatma Gandhi University (formerly Gandhiji University), with B+ accreditation of National Assessment and Accreditation Council, was established on 2nd October 1983, as the fifth University in the southern most State of Kerala, India. Having off the territorial jurisdiction of the mother institution – University of Kerala, as per the Mahatma Gandhi University Act, 12 of 1985, enacted by the Kerala Legislature, the University caters to the development of higher education of Central Kerala. Higher learning in the revenue Districts of Kottayam, Ernakulam and Idukki, Kozhencherry, Mallappally, Thiruvalla and Ranni Taluks of the Pathanamthitta District and Kuttanad Taluk of the Alapuzha District comes under the aegis of Mahatma Gandhi University. The University has a sprawling main campus in Athirampuzha, a hamlet 13 Kms. of Kottayam town. Apart from this, the University has 8 Satellite Campuses at Pullarikunnu, Soorya Kalady Hills, Nattasserry, Puthuppally, Gandhinagar and Cheruvandoor in Kottayam, Thodupuzha and Nedumkandam in Idukki District, and Chuttippara in Pathanamthitta District.

The University enrolls 1,50,000 students on an average every year to its 250 courses of graduate, post graduate and M.Phil/Ph.D. programmes through 21 University departments, 26 Engineering Colleges, 1 Law College, 4 Medical Colleges, 21 Nursing Colleges, 8 Nursing Institutes under School of Medical Education, 3 Centres of School of Technology & Applied Sciences, 5 Pharmacy Colleges, 7 Dental Colleges, 3 Ayurveda Colleges, 2 Homoeo Colleges, 1 Music and Fine Arts College, 128 affiliated Arts and Science Colleges, 43 Education Training Colleges, and 12 University Colleges of Teacher Education. Mahatma Gandhi University has made its presence outside its territorial jurisdiction through the 75 off campus centres – 63 centres within Kerala, 4 outside Kerala and 8 abroad.

The Mahatma Gandhi University boldly took a lead to initiate the self-financing stream in the University system in 1993 and was able to carve a niche, especially in professional and job-oriented education in the state. Now, the University has 25 self financing institutions under its orbit, offering Engineering, Applied Sciences, Nursing and Paramedical Courses. Revolutionising the professional learning scenario, the University was able to open new vistas to young aspirants, to pursue career-oriented programmes in Kerala State, curbing the resource outflow to other parts of the country.

As per the directives of the UGC, the University has introduced Choice Based Credit Semester System and Grading in its UG programmes during the academic year 2009-10.

Mahatma Gandhi University has 10 inter disciplinary schools of teaching and research and 11 schools of higher learning in Applied Science and Professional Studies, with academic autonomy. The courses in the departments are conducted in the credit and semester system. The schools have tie-up with UGC, FIST, DRS, DST, ISRO, COSIST, CSIR, DAAD, STEC, ICMR, BARC, MOEF, ICSSR, ICHR and IED and taken up more than 70 research projects. In order to facilitate inflow of cutting- edge technologies and methodologies, the University departments have commenced collaborative efforts with CIRAD, Mont Pellvier, France, EHESS, Paris, French Institute, Pondicherry, Toronto University, Bucknev University, Catholic University, Belgium, Max Plank Institute of Technology, Germany, California, Institute of Technology, USA, University of Nantos, France, Edinburgh University, City University, USA, Institute of Political Studies of Rennes, France and Ruth Cohn Institute of Theme Centred Interaction, Switzerland.

The School of Chemical Sciences of the University has advanced commendably in their research pursuits by developing a host of new

technologies indigenously, enabling the institution to net 6 U.S. Patents and 12 Indian Patents. The department has initiated dialogue for transfer of these technologies to the industry and an M.O.U. in this regard will be inked soon with a leading research industry in the world.

The University has awarded more than 1100 doctoral degrees for the research activities undertaken by the scholars in various disciplines and published over 6500 papers in research journals of international repute. The approved theses for which the University has awarded Ph.Ds have been digitally archived and open access provided through Internet. The online theses of MGU have turned out to be one of the top visited web resources. INTUTE, the consortium of UK based Universities has rated this as one of the “very best” research source enabling the University to excel its pursuits in the academic field. The former President of India, Dr. A.P.J. Abdul Kalam and Dr. Richard Matthew Stallman have lauded this unique initiative.

At present, Mahatma Gandhi University offers research facilities and guidance in over 40 disciplines through its own departments as well as 202 approved research centres. The University has set up a dedicated Intellectual Property Facilitation Centre, in order to promote research, acquisition of IPR’s and technology transfer. Under the aegis of the centre a unique five year integrated, inter disciplinary MS programme has been introduced.

The University is having a web-enabled Central Library, 21 Departmental Libraries and 4 Study Centres. The University Library is a member of UGC-INFONET digital library consortium and has access to more than 4500 online journals and databases. The Information and Public Relations Department caters to the information dissemination requirements of the University. Besides the Main Enquiry, PRO and RTI sections in the University campus, 7 Regional Information Centres shoulder the

responsibility to reach the academia, student community and the general public.

The University has published 83 titles in Malayalam, 53 titles in English and 18 titles in Hindi. These include 13 text books and Vaikom Satyagraha Rekhakal and the reprint edition (1861) of Rev. Richard Collins Vyakaranam. The University is also engaged in co-publishing with leading publishers like Oxford University Press, Cambridge University Press, BI Publications, D C Books, Modern Book Centre and Vasthu Vidya Gurukulam (Aranmula), Macmillan and Nature Book.

The University has been able to become a role model in the country in extension activities. The Kottayam Literacy Campaign, the first of its kind in India (1989) was a project of this University. The Nalpathimala Grama Vikas Kendra, within the University Campus, has evolved as a nationally accepted model for Campus-Community partnership, which won the first Indira Gandhi NSS Award in 1993. The Vocational Rehabilitation Centre under the School of Behavioural Sciences has opened a new pathway in reaching the masses.

National Service Scheme, National Cadet Corps, University Students Union and College Union are very active, in channelising the creativity sparks of the students. A full-fledged Students Service Department caters to the student amenities. The Employment and Guidance Bureau offers regular programmes for students to prepare for the UGC-NET-CSIR and other competitive examinations. M G University has been ranked 16th in the nation and third in South India, in the UGC-CSIR-NET examinations during the last five-year figures.

Academic Departments of M G University

There are fifteen departments offering postgraduate fulltime research programmes. As per the records maintained by the office of the

College Development Council, M G University, presently there are 385 candidates registered as research scholars(www.mguniversity.edu.in)¹⁶.

Table 1.3

Academic Departments of Mahatma Gandhi University

Sl. No.	Name of the departments
1	Department of Adult Continuing Education & Extension
2	Department of Printing & Publishing
3	School of Behavioural Sciences
4	School of Bio Sciences
5	School of Communication and Information Sciences
6	School of Environmental Sciences
7	School of Distance Education
8	School of Gandhian Thought and Development Studies School of Social Sciences
9	School of Letters
10	School of Life Sciences
11	School of Medical Education
12	School of Pedagogical Sciences
13	School of Physical Education & Sports Sciences
14	School of Technology & Applied Sciences
15	University College of Engineering

1.9.4 Cochin University of Science and Technology (CUSAT)

Originally known as the University of Cochin, the university came into being in 1971 through an Act of the Legislature in order to provide quality post graduate education in the state of Kerala.

CUSAT is academically divided into nine faculties. They are Engineering, Environmental Studies, Humanities, Law, Marine Sciences, Medical Sciences and Technology, Science, Social Sciences, and Technology.

There are at present 29 departments of study and research offering graduate, post graduate and research programmes across a wide spectrum of disciplines in frontier areas of Science, Technology, Social Sciences, Law and Management. Nearly 2000 students are studying in the campus.

There are three separate campuses, two in Cochin and one at Pulinkunnu, about 65 kilometers away from the main campus. As per the latest information there 452 students doing research in various departments (www.cusat.ac.in)¹⁷.

Table 1.4
Academic Centers of CUSAT

1	School of Applied Sciences
2	School of Civil Engineering
3	School of Computer Engineering
4	School of Electrical and Electronics
5	School of Electronics and Communications
6	School of Engineering
7	School of Environmental Studies
8	School of Industrial Fisheries
9	School of Information Technology
10	School of Legal Studies
11	School of Management Studies
12	School of Mechanical Engineering
13	School of Safety and Fire Engineering
14	Department of Applied Chemistry
15	Department of Applied Economics
16	Department of Atmospheric Science
17	Department of Biotechnology
18	Department of Chemical Oceanography
19	Department of Computer Application

20	Department of Computer Science
21	Department of Culture and Heritage
22	Department of Electronics
23	Department of Hindi
24	Department of Instrumentation
25	Department of Marine Biology
26	Department of Marine Geology
27	Department of Mathematics
28	Department of Physics
29	Department of Physical Oceanography
30	Department of Ship Technology
31	Department of Statistics
32	Cochin University College of Engineering (Kuttanad Campus) (CUCEK)
33	International School of Photonics
34	K M School of Marine Engineering
35	Polymer Science and Rubber Technology

1.10. NEED AND SIGNIFICANCE OF THE STUDY

An information user to be competent in the identification, location, evaluation and effective and ethical use of information in a variety of formats must also develop the skills beyond the basic skills of reading and writing in other literacy, which include visual literacy, media literacy, computer literacy, digital literacy, network literacy and communication skills. Information literacy is an inclusive term covering all techniques through which other literacy can be achieved.

The present study aims to focus at the importance of information literacy among research scholars of Universities in Kerala. Further this study examines the extend of awareness about required information among the research scholars and the problems faced at the time of information retrieval.

1.11. RELEVANCE OF THE TOPIC

Library and information professionals aim to ensure all persons throughout the world to avail the same opportunity and participate in the information society without any hindrance to physical, mental, regional, social or cultural barriers. Information literacy recognises that the library professionals, educators and users need to work at their ability to be information literate over a lifetime. It encompasses the sustained ability to acquire and use information as appropriate to any situation within and beyond the library both locally and globally. It involves an array of competencies appropriate for individuals and groups to survive and function successfully. It covers all forms in which information is communicated and carried - visual, textual and sound and all forms by which human beings process information including Braille, sign language and oral traditions. Library professionals and special educators should not only be adequately information literate but also must develop teaching abilities beyond that of basic user education or user instruction programmes in order to include new kinds of outreach activities. Library information professional will be able to know that a need has arisen to create a special collection.

The uncertain quality and expanding quantity of information also pose large challenges for society. Sheer abundance of information and technology will not in itself create more informed citizens without a complimentary understanding and capacity to use information effectively. An information literate person is seen to have the ability to recognise when he needs information, and to identify, locate, evaluate, organise and make effective use of that information to resolve issues and problems. Basically, information literacy provides the foundation for lifelong learning which is increasingly viewed as a fundamental human right.

UNESCO refers to the importance of information literacy in terms of capacity building i.e. everybody should have the opportunity to acquire the skills in order to understand, participate actively in, and benefit fully from the emerging knowledge societies. The 2003 Information Literacy Meeting of Experts¹⁷ in Prague identified information literacy as a powerful community tool that facilitates access to information and has real impact on its health, wealth and well-being.

Information literacy skills are vital to future success and therefore

- Information literacy skills must be taught in the context of the overall process.
- Instruction in information literacy skills must be integrated into the curriculum and reinforced both within and outside the educational setting.

The researchers are the generators of new information. They recognise the need for information, collect the data, analyse the data and generate new information. The researcher who is not an information literate cannot generate new information. They must know when information is needed, how it is collected, from where it is collected and how it is processed and utilised. So study of the information literacy is very important for the library and information professionals not only to provide better collection and best services for their clientele but also to make the users information literate.

Increasing attention to information literacy in recent years is partly due to the result of information overload, especially related to the growth of digital information, which has even caused a new ailment called 'information fatigue syndrome' (IFS) (Wilson, 2001)¹⁸ and partly because of the new focus on student learning in a lifelong learning context. It has also created a need for a reconceptualisation of the roles and responsibilities of library and

information professionals in a new learning environment. Although there has always been a need to find, evaluate, and effectively use information, the abilities needed to do so have just grown larger, more complex, and more important in the information and communication technology (ICT) environment. There is also a shift towards broader contexts, to connect information literacy with an active, effective and responsible citizenship supporting personal empowerment and an enriched life through lifelong learning (Hepworth, 2000)¹⁹ and it is an important factor in the corporate sector (Mutch, 2000)²⁰.

In this context, several reports have emphasized the importance of finding, evaluating, and using information although the term information literacy is not used (ERT, 1995)²¹. For example, the Organisation for Economic Co-operation and Development (OECD), representing twenty two European and seven other countries, has highlighted the role of information-related competencies in several reports. The report ‘The Knowledge-based Economy’, discussing the increasing demand for more highly skilled workers, includes the following observation:

The knowledge-based economy is characterised by the need for continuous learning of both codified information and the competencies to use this information. As access to information becomes easier and less expensive, the skills and competencies relating to the selection and efficient use of information become more crucial capabilities for selecting relevant information and discarding irrelevant items, recognising patterns in information, interpreting and decoding information as well as learning new and forgetting old skills are in increasing demand. (OECD, 1996)²².

Another report, Learning to Bridge the Digital Divide, put it this way: the skills of finding and interpreting information are seen to be more important than the skills of retention and recording (OECD, 2000)²³ and, the

ability to seek and exchange information using data bases and networks is not simply dependent on access to technology, but requires possession of the necessary technical skills. In addition, it calls for basic competence in being able to choose, classify and critically evaluate the information that becomes accessible (OECD, 2000)²⁴.

The report also expressed concern that many students lack experience in information handling and in effective independent learning (OECD, 2000)²⁴ and encourages schools to develop the learning environment in ways that give students a more active role, that 'support the ability to find information and transform it into knowledge' and provide skills 'how to find interesting, relevant and reliable information, and how to work with it' (OECD, 2000)²⁵.

The OECD's Educational Policy Analysis 2001 states that the knowledge economy is based on the production and use of information and knowledge. The ability to produce and use information effectively is thus a vital source of skills for many individuals. (OECD, 2001a)²⁶. And again, the report Learning to Change: ICT in Schools notes in a world with easy access to huge stores of information, the skills of accessing, handling and using data and materials become more important than the ability to recall in detail ever greater amounts across many fields of knowledge.' (OECD, 2001b)²⁷. However, information-handling skills are seen in this report as a part of digital literacy.

1.12 STATEMENT OF THE PROBLEM

The problem under study is **“INFORMATION LITERACY OF RESEARCH SCHOLARS OF UNIVERSITIES IN KERALA”**.

1.13 DEFINITIONS OF KEY TERMS

1.13.1. Information

Information as a concept bears a diversity of meanings, from everyday usage to technical settings. Generally speaking, the concept of information is closely related to notions of constraint, communication, control, data, form, instruction, knowledge, meaning, mental stimulus, pattern, perception, and representation.

According to the Webster's Third New International Dictionary of the English Language Unabridged "Information" is defined as Something received or obtained through informing as facts or figure ready for communication or use as distinguished from those incorporated in a formally organized branch of knowledge(1986)²⁸.

1.13.2. Literacy

The traditional definition of **literacy** is considered to be the ability to read and write, or the ability to use language to read, write, listen, and speak. In modern contexts, the word refers to reading and writing at a level adequate for communication, or at a level that lets one understand and communicate ideas in a literate society, so as to take part in that society. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has drafted the following definition: Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society²⁹.

1.13.3. Information literacy

According to ACRL, Information literacy is defined as a set of abilities requiring individuals to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information (2004)³⁰.

In this study information literacy means ability of the research scholars to know when there is a need for information, and to be able to identify, locate, evaluate, and effectively use that information for their research work.

1.13.4. Research Scholars

Research scholars are the students doing the research work. In this study the term 'research scholars ' means the students registered and doing the research in the different research departments of the universities in Kerala as per the university rules and regulations.

1.13.5. Universities in Kerala

There are eight Arts and Science Universities in Kerala. They are University of Kerala, University of Calicut, Cochin University of Science and Technology, Kerala Agricultural University, Mahatma Gandhi University Kannur University, Sree Sankaracharya University and Kerala Kalamandalam Deemed University.

1.14. OBJECTIVES OF THE STUDY

The overall objective of the study is to assess the information literacy skills of the research scholars of the universities in Kerala.

The following are the objectives considered to achieve the overall objective of the study.

1. To study about the ability of research scholars in determining the nature and extend of the information need in their research work.
2. To know research scholars ' ability to identify a variety of types and formats of potential information sources in their research work.
3. To assess the ability of research scholars to search, locate and retrieve information from various information sources.
4. To assess the ability of the research scholars to evaluate the information.
5. To assess the research scholars ability to use the information efficiently and effectively for their research purpose.
6. To assess the research scholars knowledge about social, political and legal implication of the use of information.
7. To assess the research scholars ability to present the research findings.
8. To assess the research scholars ability to communicate the research findings.
9. To know the opinion of the research scholars about the importance of information literacy and the need for teaching information literacy as part of their curriculum.

1.15 HYPOTHESES OF THE STUDY

The pilot study conducted on the information literacy skills of the research scholars of various universities shows that they are almost information literate. To be more specific and clear the study proceeds with the following hypotheses.

1. Research scholars are able to determine the nature and extend of their information needs in their research work.
2. Research scholars are capable to identify the appropriate information sources to collect appropriate information required for their research purposes.
3. Research scholars are able to search, locate and retrieve information from various information sources.
4. Research scholars are able to use appropriate methods as evaluation criteria while selecting information for their research purpose.
5. Research scholars are able to use the information effectively.
6. Research scholars are aware about the social, political and legal implication of the use of information.
7. Research scholars do not know how to present the research findings.
8. Research scholars know how to communicate the research findings.
9. Research scholars are of the opinion that there is need for including information literacy as part of their curriculum.
10. There exists no significant difference among different categories of research scholars regarding the opinion about the need for the study of other languages, ability to write keywords, knowledge about synonyms, use of search techniques and ability in manipulating digital test images and data.

1.16. METHODOLOGY IN BRIEF

The investigator collected the data by issuing questionnaires to the research scholars. The total population consists of the full time research scholars of the four universities in Kerala selected for the study.

Various statistical techniques were applied for the analysis of the data collected. The detailed methodology of the study is given in chapter four.

1.17. SCOPE AND LIMITATIONS OF THE STUDY

The study is conducted among the research scholars of various research departments/centers of the four universities in Kerala namely University of Kerala, University of Calicut, Cochin University of Science and Technology and Mahatma Gandhi University. Research scholars are doing their research in full-time as well as part time programme. Due to the time limitation and the problem of accessibility the investigator considered only the full time research scholars for this study. The study focused only information literacy skills of the research scholars. It is not considered other aspects of information literacy.

1.18. ORGANISATION OF THE REPORT

Report of the study is organized in six chapters. The preliminary part, bibliography and appendix are also given at appropriate places. The main body of the report is organized as detailed below.

Chapter 1 Introduction

This chapter includes introduction of the topic, outline of four universities and university library selected for the study, need and significance of the study, statement of the problem, definition of key terms,

objectives of the study, hypotheses of the study, methodology used in brief, scope and limitations of the study and organization of the report.

Chapter 2 Information Literacy: An Overview

This chapter includes an overview of information literacy, which describes literacy, information literacy, national forum on information literacy, information literacy in higher education, research, assessment of information literacy and information literacy standards.

Chapter 3 Review of Related Literature

In this chapter sixty eight related studies are reviewed to get a clear picture of the topic, methodology used for data collection, data analysis etc.

Chapter 4 Methodology

This chapter describes the methodology used for the study, which describe the variables used for the study, objectives of the study, hypotheses of the study, selection of sample, tools and methods used for data collection, data collection procedure, consolidation of data and statistical techniques used in this study.

Chapter 5 Analysis and Interpretation

The chapter 5 describes the analyses and interpretation of the collected data using appropriate statistical techniques.

Chapter 6 Findings and Conclusion

This chapter sketches major findings of the study, testing of the hypotheses ,suggestions and recommendations, suggestions for further study and conclusion.

The appendix and bibliography are also provided at the end.

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