

IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON LIBRARY AND INFORMATION SCIENCE EDUCATION IN UNIVERSITIES OF KARNATAKA

MACHENDRANATH S¹ & UMESHA NAIK²

¹Deputy Librarian, University of Agriculture Science, Karnataka, India

²Assistant Professor, Department Library and Information Science,
Mangalore University, Karnataka, India

ABSTRACT

Information and Communication Technology (ICT) is growing with tremendous speed in all most all the fields of our life, like education, training, telecommunication, computer networks, Internet, etc. ICT does not automatically add quality to teaching and learning. Learning with the technology means focusing on how the technology can be the means to learning ends across the curriculum. Use, implements, effectiveness, and promote, are the broad intertwined issues which must be addressed when considering the overall impact of the use of ICT in education. The main purpose of ICT in education means implementing of ICT equipments and tools in teaching, learning process as a media and methodology. In this article authors focus on the impact of ICT on Library and Information Science (LIS) education based on the ICT tools and services used for LIS courses in the departments of LIS in Karnataka state universities. In Karnataka state there are eight general universities conducting the LIS higher education courses. The major courses like, BLIS / BLISc, MLISc / MLIS, M.Phil, Ph.D, and other Research and Development (R&D) programmes. Further the paper highlights the syllabi, teaching methods, infrastructure available, overall ICT tools and services used in the LIS education in the university system in Karnataka state.

Aim of the Study

The paper aims to find out the infrastructure availability in eight university LIS education, ICT infrastructure used for teaching and learning, and overall features, functions and status of the LIS education in Karnataka state of India.

Research Questions

The LIS education departments of eight Karnataka state universities using what type of infrastructure, facilities, teaching method and syllabus etc. are the main aim.

Methods

The study performed basic method used in the survey were using questionnaire, interviews and observations.

Findings

Results of the analysis shows that out of eight universities in Karnataka only few universities have good infrastructure and maintained their status in good way. Some universities are in developing stage and two universities are two years old universities.

KEYWORDS: Information Communication Technology, Library and Information Science, Higher Education, Learning, Teaching, Research and Development, ICT Tools and Services

INTRODUCTION

Education for library profession is a revolutionary process. Due to the ongoing developments in information technology sector, the information professionals trained in the latest information handling techniques would also become obsolete after a short time. The Inter University Board of India resolved that graduates of any stream would be eligible for admission to the librarianship courses conducted by the Indian Universities. In Karnataka some universities offering the course called Bachelor of Library & Information Science (BLISc), Master of Library and Information Science (MLISc), Master of Philosophy (MPhil) and Ph.D. The primary focuses on professional knowledge and Skills (technology, management and communication) to provide better and qualified expose in the field of LIS professionals in Karnataka state. The LIS professionals main aims is to improve library professionals to information professionals, traditional library to digital library, library cooperation to resource sharing networks/consortia, collection development to content development, conventional education to web based education, information society to knowledge society and establishment of knowledge commission etc.

The Impact of ICT and Information Management Skills like Library Automation, Networking, Design and Development of Information System, Networking, Internet, Digitization, Content Development are the main area of the LIS professionals in new trends. The competencies of Information Professionals are Managing and Organizing Information Resources and Services, Applying Information Tools and Technologies for use or access the ICT based information tools and services. The Internet, an international network of networks, can open up new avenues of cooperation between educators and librarians as well as enhance the role of librarians as educators. As the Internet strengthens the links between libraries and education, several issues will need to be addressed. These include changing roles in the classroom, library, and workplace; unequal access to the Internet; privatization of the Internet; professional school curricula; and tools and user interfaces.^[1]

IMPACT OF ICT ON LIS EDUCATION

Library and Information Science has developed its own professional techniques and methods. It has shown its affinity towards the application of other fields to improve professional performance. In the early 1960s, Library Science invited the theoretical and philosophical approaches of other disciplines and implanted them in its core. It was Ranganathan who infused scientific method in the field and that marked the first change, from Librarianship to Library Science. He is also responsible for introducing the concept of documentation as slanted to library science, with emphasis on pinpointed service to specialist readers.

The use of information technology is one of the primary importance in education. Its use in education has two basic reasons. First that the students will become familiar with information technology and this would be helpful for their future. The second advantage is that the teaching standards will improve and will be effective. The library professionals to handle the ICT based whatever services provide to the users they should know the following important skills;

- Need for ICT knowledge
- Need for ICT skill

- Need for ICT tools and services
- Need for continuous learning in the context of rapidly changing ICT

Library schools must integrate ICT into their curricula and short courses to produce graduates who can cope with the changing work environment. The ICT based library is generating increasing interest among organizations worldwide that are seeking to reduce the cost of using IT technology and improve the quality of services delivered. In this way all the professional of fields they are using ICT tools and services. Current LIS education in India range from certificate, degree, postgraduate qualifications are popular and conducted by more than one kind of institution. LIS education programmes in India ranging from Bachelors level to Ph.D. level in Karnataka university LIS departments.

NEW APPLICATIONS

The profession which began with an objective of preserving the recorded knowledge of human civilization adopted a philosophical motto that the knowledge (Books) is for use, and then provided global access to that information. During the course of this threefold transformation, it has adopted the contemporary societal, economic, technological and educational changes in its application. These efforts have enabled it to acquire the capabilities of adopting them in the courses of teaching due to their imminent application in practice.

The computers were successful in processing and retrieving of information, but restricted their work to "In-house". The major change was brought in by the application of Communications and Storage Technology. The impact of Information Technology and its varied changes in application cannot be expressed in these few pages but can be envisaged by the services available today through the Internet. The impact of Inernet on Library and Information services and the concept of a digital or virtual library should be reckoned as the nascent fields of study in recent years.

IT- EDUCATION IMPROVING COMMUNICATION

The information systems used in universities are affordable and easy to be used by the faculty as well as by the students for e-mail communication, publication, web hosting, and online access. With this system any changes in the schedule or events that are made are recorded in the system and the faculty and students can easily access this information. These days all the universities have their own websites and this has also resulted in improved communication. Any alterations posted on the website can be accessed by both faculty and students. Out of 45 LIS teaching professionals only 10 professional have their own websites on the Internet.

CHALLENGES TO LIS EDUCATION

LIS faculties have many different kinds of training and skills, but their training may not be appropriate for the current needs of society. Many LIS professionals who have completed an LIS program do not consider this discipline an advanced and crucial field, but regard LIS professional as a simple duty. Instructors who lack expertise and the lack of interaction between the computer colleges and communicative sciences have also delayed the reformation of LIS programs. Accepting students to LIS programs without an interview or other rigorous screening is another challenging issue. LIS programs have not responded to the expectations of the profession or of the university community. It is necessary reform the organization, curriculum, training material and equipment, and instructor preparation.

METHODOLOGY

This study is based on primary data gathered through a short questionnaire, interviews and observations. A pre-structured questionnaire was prepared with open ended questions for LIS professionals to collect data on different variables concerning the articles. Furthermore, the authors have gone through a lot of national and international articles and books on the related topics that have been used as secondary source.

OBJECTIVES

The main objectives of the study are set as follows

- To provide an overview about the LIS education system in Karnataka state;
- To evaluate the present education facilities in different universities in Karnataka state;
- To find out the infrastructure facilities to provide good LIS education system in Karnataka state;
- To assess the LIS staff, their experience, qualification, publication and career development opportunities for the LIS professionals in Karnataka;
- To put forward some suggestions regarding what measures should be implemented to solve the existing problems.

ANALYSIS OF DATA

The data gathered through questionnaire from 8 university LIS departments professionals of Karnataka state and has been tabulated, analysed and discussed.

LIS Education in Karnataka

The levels of LIS education in Karnataka state universities offering the following categories:

- Bachelor of Library and Information Science (B.L.I.Sc.)
- Master of and Information Science (M.L.I.Sc.)
- Master of Philosophy (M.Phil.)
- Doctor of Philosophy (Ph.D.)

The Table 1 show that the courses offered by the universities in Karnataka state.

Table 1: Universities Offering Type of Courses

| Sl. No. | Name of the University | Location | Establi sh. Year | Type of Courses |
|---------|--|-----------|------------------|------------------|
| 1 |  Bangalore University | Bangalore | 1974 | MLISc/MPhil/Ph.D |
| 2 |  Gulbarga University | Gulbarga | 1980 | MLISc/MPhil/Ph.D |
| 3 |  Karnatak University | Dharwad | 1962 | MLISc/MPhil/Ph.D |

Table 1: Contd.,

| | | | | |
|---|---|-----------|------|------------------|
| 4 |  Karnataka State Women's University | Bijapur | 2007 | MLISc/MPhil/Ph.D |
| 5 |  Kuvempu University | Shimoga | 1993 | MLISc/MPhil/Ph.D |
| 6 |  Mangalore University | Mangalore | 1982 | MLISc/MPhil/Ph.D |
| 7 |  University of Mysore | Mysore | 1965 | MLISc/MPhil/Ph.D |
| 8 |  Tumkur University | Tumkur | 2005 | MLISc/MPhil/Ph.D |

Teaching Faculty

The quality education depends on the performance of faculty as their skills to impart knowledge to the learner are the basis for on campus education system. UGC has formulated a comprehensive faculty policy for university education, with an aim to reach out to the learning needs of students. Without experienced teaching faculty the department cannot get good result in all the areas, same way here also the below figure shows that out of eight universities in Karnataka 16 professors, 12 Associate professors and 10 Assistant professor total 38 teaching professional and some universities appointed guest faculties for avoiding additional teaching burdens. Out of these 39 teaching faculties only few professionals are expert in ICT and others are expert in their specialised areas.

Table 2: Faculty Information

| Sl. No. | Name of the University | Professor | Associate Professor | Assistant Professor |
|--------------|------------------------------------|-----------|---------------------|---------------------|
| 1 | Bangalore University | 4 | 0 | 2 |
| 2 | Gulbarga University | 5 | 0 | 0 |
| 3 | Karnatak University | 2 | 1 | 2 |
| 4 | Karnataka State Women's University | 1 | 0 | 2 |
| 5 | Kuvempu University | 2 | 0 | 1 |
| 6 | Mangalore University | 3* | 0 | 1 |
| 7 | University of Mysore | 4 | 1 | 0 |
| 8 | Tumkur University | 0 | 2 | 3 |
| Total | | 21 | 4 | 11 |

* One Professor deputed as Registrar, Tumkur University, Tumkur

In Karnataka state universities LIS education context, the scope of the subjects taught varies from university to university and the students who come out of these universities with degrees mostly fail to perform in a technical or a research library. The electronic environment of the 21st century demands a range of skills from library LIS professionals, which include technical skills, IT skills and managerial skills. As a result, LIS professionals need organized training programs, which can be in the form of workshops, conferences, seminars, symposia; ICT based training and so forth.

Course Contents

In India as well as in other South Asian countries, main emphasis is laid on traditional aspects like Cataloguing and classification dominates the curriculum. In Karnataka almost all universities teaching ICT based LIS papers to the students.

Information technology especially, computers applications have been included as a part of the educational syllabus. It is now helping students in shaping their future for careers in technology. The basic computer knowledge gives the students the basic requirements to compete with the expanding technological world. In Karnataka almost all eight universities are conducting four semesters of two years integrated MLISc courses having total 24 papers. Out of twenty four papers only Mangalore university conducting nine ICT papers and other three universities like Karnataka University, Karnataka State Women's University and Tumkur University they are conducting only four ICT papers in two years.

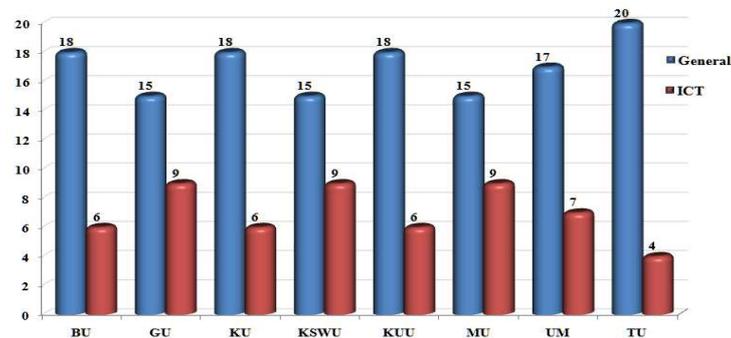


Figure 1: ICT and Other Papers in Syllabus

Teaching Tools

Instructions help students in better understanding of the subject, its structure, analysing current practices in information handling, active learning, and critical thinking skills. To deliver these critical information seeking skills effectively, teachers have to adopt the active learning methods. LIS departments are adopting, in addition to the traditional method, new methods of teaching like multimedia teaching techniques using Digital Light Projectors (DLP) Liquid Crystal Display (LCD), Over Head Projector (OHP) Smart Board, etc. to achieve necessary impact on the learner's comprehension of the subject. All the eight university/departments have LCD projector. Seminars and group discussion are the other teaching methods in all universities. In Karnataka only few universities conducting educational tour and project works.

Table 3: Teaching Tools and Infrastructure

| SI No | Infrastructure | BU | GU | KU | KSWU | KVU | MU | UM | TU |
|-------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 | Multimedia Tools | 0 | 1 | 5 | 0 | 0 | 0 | 3 | 0 |
| 2 | DLP | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 3 | LCD | 1 | 2 | 2 | 2 | 3 | 0 | 2 | 0 |
| 4 | OHP | 3 | 2 | 3 | 2 | 1 | 2 | 5 | 2 |
| 5 | Board | 3 | 2 | 2 | 2 | 2 | 4 | 4 | 2 |
| 6 | Computer Lab | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | Computers | 16 | 22 | 30 | 30 | 15 | 20 | 55 | 10 |
| 8 | Computer Table | 16 | 22 | 15 | 30 | 10 | 21 | 25 | 10 |
| 9 | Computer Chair | 25 | 22 | 30 | 30 | 20 | 22 | 35 | 20 |
| 10 | UPS | 1 | 1 | 4 | 1 | 2 | 2 | 1 | 1 |
| 11 | Operating System | Win/ Lin | Win/ Lin | Win/ Lin | Win/Li n | Win/L in | Win/ Lin | Win/ Lin | Win/ Lin |

Table 3: Contd.,

| | | | | | | | | | |
|----|----------------|---|---|---|---|---|---|---|---|
| 12 | Lib. Auto. S/W | 3 | 2 | 4 | 2 | 2 | 4 | 3 | 2 |
| 13 | DL S/W | 1 | 1 | 3 | 2 | 1 | 3 | 2 | 1 |
| 14 | DBMS tools | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 15 | RDBMS Tools | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 |

Table 4: ICT/Network/Other Teaching Tools

| Sl No | Infrastructure | BU | GU | KU | KSWU | KVU | MU | UM | TU |
|-------|-----------------|----|----|----|------|-----|----|----|----|
| 1 | Networking | √ | √ | √ | √ | √ | √ | √ | √ |
| 2 | WiFi Networking | √ | √ | √ | √ | √ | √ | √ | √ |
| 3 | Internet | √ | √ | √ | √ | √ | √ | √ | √ |
| 4 | DDC Sets | √ | √ | √ | √ | √ | √ | √ | √ |
| 5 | UDC Sets | √ | √ | √ | √ | √ | √ | √ | √ |
| 6 | CC Sets | √ | √ | √ | √ | √ | √ | √ | √ |
| 7 | AACR2-R | √ | √ | √ | √ | √ | √ | √ | √ |
| 8 | LCSH | √ | √ | √ | √ | √ | √ | √ | √ |

OTHER FACILITIES

ICTs are infused with value as the modern and efficient means to move in a global environment. LIS education has to embrace ICTs as part of course content that includes theoretical and practical aspects to develop automated, digital or hybrid information environment. The computer and Internet connectivity are essential for LIS students for better improvement to get trained in emerging digital environment, web-based information services and for self learning.

Table 5: Teaching Tools and Infrastructure

| Sl No. | Infrastructure | BU | GU | KU | KSWU | KUU | MU | UM | TU |
|--------|------------------|----|----|----|------|-----|----|-----|----|
| 1 | Class Rooms | 03 | 2 | 2 | 2 | 2 | 2 | 4 | 2 |
| 2 | Students Chair | 30 | 30 | 40 | 35 | 100 | 50 | 155 | 60 |
| 3 | Student Table | 30 | 30 | 40 | 35 | 100 | 50 | 80 | 30 |
| 4 | Projects | √ | √ | √ | X | √ | X | √ | X |
| 5 | Training | X | √ | √ | X | √ | X | X | X |
| 6 | Seminars | √ | √ | √ | X | √ | X | √ | X |
| 7 | Workshops | X | √ | √ | X | √ | √ | X | X |
| 8 | Conferences | √ | √ | √ | X | √ | X | √ | X |
| 9 | Symposium | X | X | X | X | X | X | X | X |
| 10 | Extra Curriculum | √ | √ | √ | √ | √ | √ | √ | √ |
| 11 | Grants | √ | √ | √ | √ | √ | √ | √ | √ |
| 12 | Hostel | √ | √ | √ | √ | √ | √ | √ | √ |
| 13 | Library | √ | √ | √ | √ | √ | √ | √ | √ |
| 14 | UGC Infonet | √ | √ | √ | √ | √ | √ | √ | √ |
| 15 | Scholarship | √ | √ | √ | √ | √ | √ | √ | √ |

SUGGESTIONS AND CONCLUSIONS

LIS professionals are at present at the crossroads. Information professionals have started facing the challenges, which are accompanied with the new information resources. All most all eight general universities in Karnataka state offering the LIS education for the students. The University Grants Commission (UGC) of India merely serves an advisory role and providing some special grants like Special Assistance Programme SAF and non SAP grants. Few universities got government special grants for improve its ICT and other required infrastructure, facilities and upgrade the existing infrastructure. In order to overcome the above problems the study is included with the following recommendations:

- The Infrastructural facilities in all universities in Karnataka should be improved or updated and provide additional infrastructures to get better result. 7. LIS departments should be provided with fully equipped IT laboratories with the latest hardware and software including Internet connectivity, networking and library management software.
- Adequate reading materials (national & international) and digital format should be available in all the universities.
- LIS departments provide training programmes with ICT specialisation for LIS professionals.
- There must have full time qualified faculty members at the universities in LIS departments.
- The essential research facilities should be provided through UGC or government authorities and there should have monthly research allowance for the faculty members so that they can accelerate their research work without facing any financial crisis.
- There should have the arrangement of seminar, workshop, symposia and conferences very frequently for greater cooperation among the professionals as well as the academicians and tutorials, assignments, field tours should be effectively integrated with curricula involving outside experts and agencies
- The opportunity of LIS education in university level should be expanded to produce more qualified LIS professionals.
- Syllabus should be revised from time to time with the advent of the information technology changes and the subject in the LIS departments should view the developments taking place in information technology, information resources, information access and their impact on libraries and library profession.
- It is necessary for the University Grant Commission (UGC) or government authorities to see how these LIS departments could come up to international standards and the students coming out of these Departments excelled in their work.

ICT plays a vital role in bringing about changes in our society. As technology is getting more sophisticated and more affordable every day, the range of services that are provided also increases accordingly. In this age of ICT the role of the LIS departments has changed radically in developed countries. This paper deals with the development of LIS education system and implementing ICT tools in teaching and research fields in Karnataka state universities. This article gives a brief development of ICT impact on LIS education in Karnataka. It examined library education in all 8 universities in Karnataka and its present status. All Karnataka universities department of library and Information science detailed curriculum, goals, objectives, graduates profile, major skills, infrastructure and other functions were outlined along with its future plans. There is an urgent need for improvement in the IT infrastructure.

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AUTHOR DETAILS



Dr. Machendranath S. Presently working as Deputy Librarian, University Library, University of Agriculture Science, Raichur, Karnataka, India, He obtained his M.L.I.Sc., Ph.D. Degree from Gulbarga University, Gulbarga. Published more than 25 articles in journals, Conferences Proceedings and edited books.



Dr. Umesh Naik is currently working as an Assistant Professor in the Department of Library and Information Science, Mangalore University, Mangalore, Karnataka, India. Prior to this he has worked 9 years at INFLIBNET Centre an IUC of UGC, Ahmedabad. He obtained his B.L.I.Sc. Degree from Mangalore University, M.L.I.S from IGNOU, CIC from IGNOU and Ph.D. from Mangalore University. His areas of Interest are Networking, Internet, Web Design, Digital and Electronic Libraries. He published more than 60 articles in journals, Conferences Proceedings and edited books.

