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LIBRARY AND INFORMATION SCIENCE TEACHERS' PERSPECTIVE ON CHANGES AND MODIFICATIONS IN THE EXISTING LIS EDUCATION AND CURRICULA

Dr. Joginder Singh*

ABSTRACT

This paper presents some of the changes and modifications suggested by LIS teachers for existing LIS courses being provided in India with a special focus on Northern Indian Universities. It describes the state-of-the-art of Library and Information Science programme in 30 LIS Schools of North India to promote quality education for LIS learners. The current situation of LIS education has not become receptive to the electronic information environment in India. The Library schools are seriously affected with many problems such as insufficient funds, lack of infrastructure, lack of adequate manpower etc. LIS curricula is not modifying according to current market demands. To promote quality education it needs to modify the curricula to suit the present digital culture, to develop skills of teaching faculty and the establishment of necessary infrastructure facilities. The time has come to decide the role of LIS Schools in India to develop LIS learners according to emerging digital culture.

KEYWORDS: LIS Teachers, LIS Curricula, Modification of LIS Curricula, Library Schools, LIS Education.

* **Sr. Assistant Librarian,University of Jammu**

1. INTRODUCTION

The LIS schools must bear heavier liability to provide high quality and relevant education to LIS learners. They would benefit from making regular contacts with employers and the Library users. LIS teachers must have feel responsibility to modify and redesign their LIS courses according to guidance and feedback received from job market. "The twentieth century saw comparative education being developed into a separate discipline, attracting a large number of people. The mid twentieth century saw a rise in the number of professional societies dealing with this topic. Librarianship itself has experienced radical changes in the face of new technology and transformation in information materials (Mortezaie & Naghshineh, 2002)". Librarianship is certainly a profession which needs some specialized knowledge, skills and competencies which are acquired at least in part by the courses more or less theoretical nature. In 2oth century numbers of LIS professions have increased tremendously and continue to be growing every day. "In 1924 S.R. Ranganathan's taking up of the library occupation contributed to the development of library sciences and formulated the fundamental principles of library science and also established Librarianship as a full-fledged science". The term "Library Science" with its modern scientific and technical significance was first introduced by Ranganathan. Before him the terms 'Library Service,' 'Library relationship,' and 'Library Economy' were used to denote more or less the same idea in different parts of the world and today the entire world has accepted the term (Bhattacharyya, 1979: 46)".

LIS professional education of library staff needs achievement of the highest quality education and promoting utilization of modern technology, knowledge, skills and competencies to making students accomplished practitioners. "The LIS schools in India must be modernized and well equipped to provide high quality and relevant education. Library schools should also benefit from a system of regular contacts with employers and the users of library and information services (Mangla, 1998: 292)". All the LIS Schools in Northern Indian Universities developed their own departmental curriculum and most of the LIS Schools in these Universities developed their LIS Curriculum according to the UGC Model curriculum 2001 accommodating some minor changes. A great need is felt to bring in changes, improvements, modifications and accommodate market demands and technological changes in course contents.

2. LITERATURE REVIEW

Librarian profession has developed its own professional education and teaching techniques and methods. Systematically it invented the theoretical and philosophical approaches of study adopted from other disciplines and implanted them in its LIS curricula.

Mishra and Joshi (1995) discussed the factors responsible for LIS emerged as a discipline like "exponential growth in the number of new ideas created in different subjects, rapid increase in scientific inventions, Proliferation of subjects crosses the capacity of even the most prodigious scholar, Increasing social pressure for increasing exploitation of natural and artificial resources, Increasing research activities for improvement of technology and its applications, Gradual increase in the number of specialists, technocrats and researchers".

According to UGC Model Curriculum (2001) in the "twentieth century many of the ideas from cognitive science, linguistics, statistics, psychology, management science, systems science, communication technology, organizational science, computer science, and education etc. have positively contributed to the emergence of new research areas in library and information sciences. The convergence of these fields with LIS has led to its transformation, towards a new professional profile, hither to attributed only to libraries, but now expresses itself as a field, intensively dealing with Information Science and Technology. Consequently, this has resulted in a broadening of the library and information science curriculum".

Auld (1990) states that "information science can be viewed as the theoretical study of the life cycle and use of information, but library science is the practical application of the information cycle in a particular institutional setting".

Gorman (1990) pointed out about LIS schools in "Western countries, they moved far away from teaching LIS education in a form demanded by their employers, that they were attracting fewer and fewer students from the library side. Many of the schools have abandoned all but the most cursory attempts to educate librarians".

LIS learners going to LIS departments/institutions to learn about LIS professionals skills to become a competitive professional Librarians and library employers demanded LIS professionals who have relevant skills and competencies to handle the concerns jobs of modern libraries. Libraries are acting as a community and learning centre for the library users to providing easy access to information and knowledge.

3. STATEMENT OF PROBLEM

The various levels of LIS courses like BLIS, MLIS, M. Phil and Ph. D conducted at Northern Indian universities and institutions. The study investigated the changes and modifications suggested by Library and Information Science teachers for existing LIS curricula. Almost all the LIS Schools developed their own departmental Curricula according to the UGC Model curriculum accommodating some minor changes in their course contents. The traditional curriculums followed by the most of the LIS Schools are not matching with the fast changes in technology and the skills and competencies demanded in the job sectors. Urgent need is felt to bring in changes and modifications to accommodate market demands of the employers.

4. OBJECTIVES

The objective of this study is to know the viewpoints of the LIS teachers pertain to LIS courses teaching in Northern Indian LIS schools. What are the changes and modifications required in LIS curricula to make it up to the international level course? Some of the important observations examined and objectives summarized for the study as below:

(i) To examine LIS teachers views and suggestions for changes and modifications in LIS curricula in North India.

(ii) To know the satisfaction level of the LIS teachers with regard to existing Departmental curricula.

(iii) To identify existing LIS courses designed according to market demands.

(iv) To identify areas in which LIS professionals need to acquire new knowledge and skills.

(v) To identify existing LIS courses fulfill the requirements of digital era.

(vi) To examine the adequacy of infrastructure facilities fulfill the demands of the LIS department.

5. SCOPE AND LIMITATIONS

The study area of coverage is limited to Northern Indian LIS Schools who are conducting LIS courses through regular as well as distance mode. The data related to present study was collected from 25 LIS Schools and institutions and documented the relevant suggestions given by these experts. The suggestions of the Library and Information Science teachers are essential because they are associated with the policy framework of LIS education and its delivery. They can provide us valuable suggestions and relevant information essential for changes and modification of LIS education in general and also the LIS curricula because of their experiential knowledge and their indolent in curricula design, development and revision. The responses of about 52 Teachers from Northern Indian LIS Schools were received and analyzed.

6. METHODOLOGY

The present study is undertaken to collect the suggestions and viewpoints of LIS teachers regarding improvements in LIS curricula at Northern Indian Universities and institutions Thus, The survey method was adopted and the questionnaire was designed to collect information on viewpoint of teachers to make this study all encompassing giving fair representation to all those who are concerned with the design, delivery of LIS education and data were collected from 25 LIS schools from seven states of North India such as J & K, Himachal Pradesh, Uttrakhand, Punjab, Haryana, Rajasthan, Uttar Pradesh and two Union territories (Delhi and Chandigarh). Out of total 52 teachers from 25 LIS Schools were responded to the questionnaires and justify their level of satisfactions and suggestions to modify the curricula and its applicability to the present modern libraries.

7. FINDINGS AND DISCUSSIONS

The most of LIS schools established in universities or institution of higher learning however these institutions maintain higher standard of teaching and learning to compete with international educational standard and attract number of learner with high caliber.

7.1 Changes Suggested for Departmental Curricula

The most of LIS Departments/Schools are established within the campus of the universities and institutions and playing more proactive role in modification of their departmental curriculum up

to the international standard. The university level institutions are dedicated to established standard and research on development of course contents. The Library and Information Science teachers in Northern Indian Universities are suggesting significant changes required in their departmental curricula as follows: Department curricula should be updated or revised and made more practical to suit modern scenario or demands in the market.; Department curricula of LIS School continuously revised as per changing demanded in the concerned field of specialization; Continuously changes required in all papers , not only in optional and elective papers; Irrelevant portions of departmental curricula should be deleted and curriculum designed to suit current situation. MLIS papers should be taught after completion of the theoretical course work like ICT contents, dissertation work, viva-voce and internship programs etc.; Change required in the paper e.g. 'information storage and retrieval', 'information analysis and consolidation', 'information sources', etc. Changes should be based on current emerging trends in Library and Information Science Education.; Technical education and practical work should be promoted; Needs to be immediate revision of LIS departmental curricula and more optional papers to be included in the MLIS and M Phil syllabus, ICT and emerging technology based practical papers to be included in BLIS, MLIS and M. Phil Level courses. Present LIS Departmental curricula sufficient to teach the technical aspects of the subject but practically it is unfit to face the emerging challenges of the libraries i.e. research libraries and special libraries. On assessing the views of the LIS teachers presents in Table 1 about their satisfaction regarding current curricula of LIS departments.

Table-1: Opinion on Departmental Curriculum

Satisfied	**Frequency**	**Per cent**
Yes	31	59.6
No	11	21.2
No Response	10	19.2
Total	52	100

Out of 52 teachers, mostly 59.6% were satisfied with the present curricula in their department, whereas 21.2% were not satisfied with the current situation of the departmental curricula and remaining, 19.2% did not responded. Response shows that a majority of the teachers 59.6% were satisfied with the present curricula and this was probably because their departments had probably been constantly upgrading it.

7.2 Department Curricula and Market Demands

It is observed that in the North Indian Universities LIS curriculum is not as per the requirement of the library jobs demands. So the curricula need to be updated according to LIS job market demand to meet the job trends. The data collected regarding this analyzed and presented below:

Table-2: LIS Curricula to be designed According to Market Demands

Is Curriculum of LIS department designed according to market demands?	**Frequency**	**Per cent**
Yes	34	65.4
No	10	19.2
Not Responded	8	15.4
Total	52	100

Above table 2 shows that most of 65.4% LIS teachers felt that the LIS curriculum of their department had been designed according to market demands; however, 19.2% of LIS teachers felt that the LIS curriculum of their department was not designed according to market demands and remaining 15.4% of respondents didn't respond. Result shows that LIS curriculum of LIS schools in Northern Indian Universities are designed according to the current market demands.

7.3 Development of New Courses in LIS Curricula

The teachers' responses were taken on the various new courses that needed to be developed to impart new knowledge and skills. The table 3 shows that the largest representation was 21.3% for those who thought **'**Digital library courses' needed to be developed as a new course. Other areas included 'Knowledge management', 6.3% 'Information Technology', 5% 'Information communication technology'; 'Information Literacy' 'Marketing of library and information products and services', 'Communication skills' : 'Web designing, preservation and conservation, online searching'; 'Oriental librarianship'; 'Networking'; 'Open access and open source software'; 'Research Methodology'; 'Classification'; 'Information consolidation and repackaging'; 'Library Automation and Networking'; 'E Resources and Services'. Also 'Digital

Table-3: Areas where new courses needs to be developed

Areas where new courses need to be developed to impart new knowledge and skills.	Frequency	Per cent
Digital library	17	21.3
Knowledge management	6	7.5
Information Technology	5	6.3
Information communication technology	4	5.0
Information Literacy	4	5.0
Marketing of library and information products and services	3	3.8
Communication skill	2	2.5
Web designing, preservation and conservation, online searching	2	2.5
Oriental librarianship	2	2.5
Networking	2	2.5
Open access and open source software	2	2.5
Research Methodology	2	2.5
Classification	2	2.5
Information consolidation and repackaging	2	2.5
Library Automation and Networking	2	2.5
E Resources and Services	2	2.5
Digital preservation	1	1.3
Design, development and management of digital libraries	1	1.3
Development and management of digital libraries	1	1.3
Digital librarianship	1	1.3
Digital Library (Practical)	1	1.3
Cataloguing	1	1.3
Community information centre should be developed	1	1.3
Emerging trends and technologies in LIS	1	1.3
Cloud Computing	1	1.3
Initiate Short term courses of 1 – 3 months	1	1.3

Teaching methodology	1	1.3
Internships to provide greater exposure to students	1	1.3
Communication skills	1	1.3
Content development	1	1.3
Social networking and library services	1	1.3
Competencies development course	1	1.3
Virtual libraries,	1	1.3
Library Training	1	1.3
Practical works	1	1.3
Academic search engines and scientific networking	1	1.3
Web 2.0	1	1.3
Total	80	100.0

preservation'; 'Design, development and management of digital libraries'; 'Development and management of digital libraries'; 'Digital librarianship'; 'Digital Library (Practical)'; 'Cataloguing'; 'Community information centre should be developed'; 'Emerging trends and technologies in LIS'; 'Cloud Computing'; 'Short term courses of 1 to 3 months duration should be started'; 'Teaching methodology'; 'The only component, which can be made part of training module has nothing to do with curricular content, but organization of internship shall go a long way to provide proper exposure to students'; 'Communication skills'; 'Content development'; 'Social networking and library services'; 'Competencies development'; 'Virtual libraries'; 'Library Training'; 'Practical works'; 'Academic search engines and scientific networking' as also 'Web 2.0'.

7.4 LIS Courses and Digital Era

LIS courses systematically progressing from traditional courses such as classification, cataloguing, reference services and indexing towards knowledge management, digital library and e-resources etc. The LIS schools in Northern Indian Universities continuously updating their LIS curricula and incorporating some minor or major changes demanded in the current jobs. LIS

professionals are competing with other professional like computer science, Information Technology and management and they have to be updated themselves according to digital era.

Table 4: Existing LIS course fulfills the requirements of digital era

Does existing LIS course fulfill the requirements of digital era.	Frequency	Per cent
Yes	20	38.5
No	25	48.1
Not Responded	7	13.5
Total	52	100

Table 4 shows the level of satisfaction with regard to existing LIS courses which fulfills the requirements of digital era, whereas 48.1% of teachers were not satisfied, while 38.5% of the respondents were satisfied and 13.5% did not respond. The Table depicts the fact that a majority of the teachers 48.1% felt that the existing LIS course were not suited to the demands of the emerging digital era, while 38.5% of the respondents were satisfied.

7.5 Indispensable steps needs to be done for digital era

LIS schools are criticized as they have lack of digital library course curricula to practically train their LIS learners. The LIS curricula should focus on the new courses like knowledge management, e-contents, e-resources, networking, management of e-resources, digital libraries, digital library software, metadata, and web technology etc. The teacher's responses shows existing LIS courses in Northern Indian Universities didn't fulfill the requirements of the emerging digital era.

Table 5: Teacher's recommended necessary steps for digital era

Necessary steps to be taken to fulfill the requirements of digital era	Frequency	Per cent
Digital library course should be introduced	7	23.3
Practical training course on digital library software like D-space, GSDL software and E-prints to be incorporated in the syllabus	6	20.0
Curriculum updated, modern contents and IT related course should also be updated	4	13.3

Demands of employer/ market should be determined.	1	3.3
Employer be motivated to modify and adopt the required digital environment.	1	3.3
Courses like organization and management of digital records, how to digitize library resources, advanced Information Technology, DBMS, and Software Development programme etc. should be incorporated in LIS curricula.	1	3.3
Current emerging trends in LIS education to be adopted	1	3.3
Latest teaching methods and technologies should be adopted to train LIS learners.	1	3.3
LIS curriculum should be modified after every two year and new courses could be introduced like web page designing, auto card software and digital softwares.	1	3.3
Much emphasis needs to be given on ICT and its application, electronic and digital resources.	1	3.3
Need for IT gadgets like 'Abash' for LIS students with internet connectivity and practical IT based assignments.	1	3.3
Proper evaluation survey on LIS Curriculum should be conducted at regular interval.	1	3.3
Curriculum to be revised in tune with current market demands of emerging digital era	1	3.3
LIS education should be practical oriented and needs to update teaching faculty accordingly.	1	3.3
The LIS curricula should focus on the new courses like knowledge management, e-contents, e-resources, networking, management of e-resources, digital libraries, digital library software, metadata, and web technology etc.	1	3.3
LIS teachers recommended topics to be adopted in curricula like Ontology, E-publishing, Web 2.0, OCW, FOSS, KM software, SPSS etc,	1	3.3
Total	30	100

The Table 5 reveals that 23.3% teachers recommended **'**Digital library course should be introduced', whereas 20% felt that 'Practical training course on digital library software like D-space, GSDL software and E-prints to be incorporated in the syllabus', 13.3% shows that 'Curriculum should be updated, modern concepts and IT related course content should be updated', followed by 3.3% who wanted a survey can be conducted to know the demands of the employers and market by each department at local level and reveal what needs to be done? As all areas were not equal differential treatment was required; Higher authority could be motivated

to modify and adopt the required digital environment; Courses like organization and management of digital records, how to digitize library resources, advanced Information Technology, DBMS, and Software Development programme etc. should be incorporated in LIS curricula; Current emerging trends in LIS education to be adopted; Latest teaching methods and technologies should be adopted to train LIS learners; LIS curriculum should be modified after every two year and new courses could be introduced like web page designing, auto card software and digital softwares; Much emphasis needs to be given on ICT and its application, electronic and digital resources; Need for IT gadgets like 'Abash' for LIS students with internet connectivity and practical IT based assignments; Proper evaluation survey on LIS Curriculum should be conducted at regular interval; Curriculum to be revised in tune with current market demands of emerging digital era; LIS education should be practical oriented and needs to update teaching faculty accordingly; The LIS curricula should focus on the new courses like knowledge management, e-contents, e-resources, networking, management of e-resources, digital libraries, digital library software, metadata, and web technology etc; LIS teachers recommended topics to be adopted in curricula like Ontology, E-publishing, Web 2.0, OCW, FOSS, KM software, SPSS etc,

Thus, to summarize, majority of the respondents suggested that the digital library course be introduced, practical training course on digital library software like D-space, GSDL software and E-prints to be incorporated in the syllabus, Curriculum updated, modern contents and IT related course should also be updated, survey to be conducted to know the demands of employers/market at local level to equip students with requisite skills.

7.6 Infrastructure Facilities

LIS School must have sufficient infrastructural facilities include department building, computer lab, departmental library, teaching tools and techniques etc. to conduct regular LIS courses. But our LIS Schools have inadequate infrastructure facilities to modernize LIS education up to the International norms and standards and infrastructure disparities originated in the LIS Schools due to some political and economic imbalances. LIS Schools have lack of ICT policies and support at national level, lack of adequate computer hardware and software licenses to make accessible to employer and students.

Table 6: Adequacy of infrastructure facilities at LIS Department

Are infrastructure facilities adequate at departmental level?	**Frequency**	**Per cent**
Yes	23	44.2
No	22	42.3
Not Responded	7	13.5
Total	52	100

The LIS curriculum could be designed on International norms and standard but if lacking in infrastructural facilities it can't serve the purpose and there is need to develop adequate infrastructure for offering qualitative teaching. The Table 6 explains the adequacy of infrastructure facilities available at LIS Schools, 44.2% of teachers mentioned that LIS schools have adequate infrastructural facilities, whereas 42.3% teachers accepted that LIS schools didn't have adequate infrastructural facilities, it is very little gap and remaining 13.5% didn't respond.

7.7 LIS Schools Curricular Changes are not matching with Fast Changes in Landscape of information

LIS professionals are facing tremendous challenge from continuously development in IT and Information communication technology. With the development of new system it requires updating and redesigns the organization according to current information infrastructures. The responses on the above issue are tabulated in the Table below:

Table 7: Matching of LIS Curricular Changes

Is LIS curricular changes are not matching with the fast changes in the landscape of information?	Frequency	Per cent
Yes	28	53.8
No	15	28.8
No Response	9	17.3
Total	52	100.0

Table 7 shows that 53.8% teachers in favored the fact that the Library schools' curricular changes did not match the fast changes in the landscape of information, whereas 28.8% of

teachers did not favor the statement, while 17.3% did not respond. Results showed that a majority of the teachers were in favor of the Library schools curricular changes not matching up to the fast changes in the landscape of information. Some of the reasons for not matching the curricular changes are described below in table 8.

Table 8: Reasons for not matching the Curricular Changes

Reasons		Fully	Partially	Some Extent	Not Agreed	No Response	Total
Lack of efforts for revision of curriculum	N	5	7	14	2	24	52
	% age	9.6	13.5	26.9	3.8	46.2	100
Lack of standard accreditation agency	N	16	6	4	3	23	52
	% age	30.8	11.5	7.7	5.8	44.2	100
Lack of integration of LIS research as basis for curriculum	N	7	7	10	2	26	52
	% age	13.5	13.5	19.2	3.8	50	100
Lack of ICT components in curriculum	N	7	7	8	5	25	52
	% age	13.5	13.5	15.4	9.6	48.1	100
Lack of efforts accommodate large scale needs of knowledge management	N	5	5	9	5	28	52
	% age	9.6	9.6	17.3	9.6	53.8	100

As evident from the above Table 8 that about 50% (fully agree 9.6%, partially agree 13.5%, agree to some extent 26.9%) of the teachers had shown agreement with the statement 'lack of effort of revision of curriculum' and only 3.8% of them were not in agreement with this statement, while 46.2% of the teachers did not responded. Similarly, about 50% (fully agree 30.8%, partially agree 11.5%, agree to some extent 7.7%) of the teachers showed agreement with the statement 'lack of standard accreditation agency' and only 5.8% were not in agreement while 44.2% did not respond. Table 8 shows that about 46.2% (fully and partially agree 13.5% each, agree to some extent 19.2%) of the teachers had shown an agreement with the statement 'lack of integration of LIS research as basis for curriculum'. Only 3.8% of the teachers were not in

agreement with this statement and 50% of the respondents did not respond. Similarly, about 42.4% (fully and partially agree 13.5% each, agree to some extent 19.2%) of the teachers showed an agreement with the statement 'lack of ICT components in curriculum' while only 9.6% of the teachers were not in agreement while 48.1% of the respondents did not respond to this question. Table 8 also shows that about 36.5% (fully and partially agree 9.6% each, agree to some extent 17.3%) of the teachers showed an agreement with the statement 'Lack of efforts accommodate large scale needs of knowledge management' while only 9.6% of the teachers were not in agreement with this statement and 53.8% of the respondents did not respond to this question.

Thus, table 8 shows that most of the LIS teachers are in agreement that lack of efforts for revision of curriculum, standard accreditation agency, integration of LIS research as basis for curriculum, ICT components in curriculum and efforts to accommodate large scale needs of knowledge management are the main reasons behind not matching up with the fast changes on the IT landscape.

7.8 Need Based and Flexible LIS Curricula

In view of the contemporary information systems and emergence of new information management tools, more flexible and need based LIS curricula are desired. The responses on this are presented below:

Table 9: Flexible and Need Based LIS Curricula are Desired

Do you think that in view of the contemporary information systems and emergence of new information management tools, more flexible and need based LIS curricula are desired?	Frequency	Per cent
Yes	39	75
No	12	23.1
Not Responded	1	1.9
Total	52	100

Table 9 shows that 75% of the teachers were in favor of the contemporary information systems and emergence of new information management tools, more flexible and need based LIS curricula are desired, whereas only 23.1% were not in favor and 1.9% had not responded

7.9 Manpower Needs for Knowledge Management

Manpower for knowledge management is now required for every sector of economy and the LIS curricula should mainly focus on the needs of libraries and information centers.

Table 10: Manpower for Knowledge Management

Do you think that manpower for knowledge management is now required for every sector of economy and the LIS curricula should mainly focus on needs of libraries and information centres?	Frequency	Per cent
Yes	31	59.6
No	4	7.7
Not Responded	17	32.7
Total	52	100

Table 10 shows that mostly 59.6% teachers were in favor of knowledge management which was now required for every sector of the economy and the LIS curricula should mainly focus on needs of libraries and information centre, whereas 7.7% of the teachers did not favor the query on manpower management.

Thus, a majority of the teachers were in favor of the view that manpower for knowledge management is now required for every sector of economy and the LIS curricula should mainly focus on the needs of libraries and information centers.

7.10 Changes Proposed in LIS Curricula

At BLIS Level

The teachers' suggestions regarding changes proposed for LIS curricula in India and which new courses should be added at BLIS level. The major suggestions of the Library and Information Science teachers received analyzed and presented in Table 11;

Table 11: Changes proposed in LIS Curricula at BLIS basis

Changes proposed for LIS curricula in India and new courses need to be added at BLIS level	Frequency	Per cent
IT contents should be more practical	4	17.4
Recent emerging trends in LIS education should be added	2	8.7
BLIS and MLIS should two years Integrated course	2	8.7

Six month internship and other six months library software training programme should be added at BLIS level	1	4.3
Basic computer education and practical work	1	4.3
Basics of Information and Communication Technology	1	4.3
Cataloguing CCC and AACR –II should be taught	1	4.3
Digital Library concepts should be introduced	1	4.3
New technologies should be added	1	4.3
Modular approach along with credit system should be adopted in designing curriculum	1	4.3
Basics and fundamental concepts of LIS should be taught	1	4.3
Programming Languages and computer maintenance	1	4.3
Research methodology and e-services	1	4.3
Need no change at BLIS level	1	4.3
New course contents on school and children's libraries should be adopted	1	4.3
To upgrade LIS curricula on the competency and skills demanded in the job market	1	4.3
Timely revision and uniformity should be at national level	1	4.3
Total re-engineering of courses is required keeping in view the demand of different sectors of economy	1	4.3
Total	23	100

The teachers' suggested changes and new courses to be added at BLIS level such as: IT should be more practical; emerging trends in LIS education should be added, BLIS and MLIS should two years Integrated courses; Six month internship and other six months library software training programme should be added at BLIS level; Basic computer education and practical work; Basics of Information and Communication Technology; Cataloguing CCC and AACR-II should be taught; Digital Library concepts should be introduced; New technologies should be added; Modular approach along with credit system should be adopted in designing curriculum; Basics and fundamental concepts of LIS should be taught to the students; Programming Languages and computer maintenance; Research methodology and e-services; Need no change at BLIS level; School and children's libraries; To upgrade LIS curricula on the skills and

competencies demanded in the job market; Timely revision and uniformity should be at country level and re-engineering of courses is required keeping in view the demand of different sectors of economy.

At MLIS Level

The LIS teachers' proposed changes for LIS curricula in India and new courses needs to be added at MLIS level. The major suggestions of the teachers were received analyzed and presented in Table 12.

Table 12: Change proposes at MLIS bases

New Courses added at MLIS level	Frequency	Per cent
The number of IT practicals to be increased	5	21.7
Library Softwares Practical Trainings	4	17.4
Computer technology	2	8.7
Information Technology should be in both the semester of MLIS	1	4.3
Mandatory Internship options in papers	1	4.3
Comparative Librarianship	1	4.3
Classification	1	4.3
Emerging trends and technologies in LIS	1	4.3
Information Retrieval System, Digital Library Processes, Repositories	1	4.3
Electronic resources	1	4.3
Knowledge Management	1	4.3
Module based and credits System	1	4.3
More advanced level and ICT based practical subjects course contents should be added	1	4.3
Timely revision and uniformity at national level	1	4.3
Library Trainings	1	4.3
Total	23	100

The teachers' suggested that changes and new courses should be added at MLIS level such as: IT practical should be more; Library Softwares Practical Trainings; Computer technology; Information Technology; Mandatory Internship options in papers; Comparative

Librarianship; Classification; Emerging trends and technologies in LIS; Information Retrieval System; Digital Library Processes; Repositories; Electronic resources; Knowledge Management; Module based and credits System; More advanced level and ICT based practical subjects course contents should be added; Timely revision and uniformity of curriculum at national level and sustained Library Trainings.

At M. Phil Level

The teachers' suggestions regarding changes proposed for LIS curricula in India about which new courses should be added at M. Phil. level. The major suggestions of the teachers were received, analyzed and presented in the table 13:

Table 13: Changes proposed at M. Phil bases

New Courses added at M Phil level	Frequency	Per cent
Need to add new M Phil level courses	3	30
Added six months course work as project assistant in any other national organization	1	10
Digitization	1	10
Experience based research topics	1	10
Insight into basic problems of LIS	1	10
Greater focus should be on research methodology	1	10
More specialized subjects and research oriented subjects	1	10
Research techniques and application of IT	1	10
Total	10	100

The teachers' suggested changes and new courses should be added at M. Phil. level. Few changes suggested such as: Six months course work is added; Digitization; Experience based research topics; Insight into basic problems of LIS; More focus should be on research methodology; more specialized subjects and research oriented subjects; Research techniques and application of IT.

8. SUGGESTIONS/RECOMMENDATIONS

Some valuable suggestions were given by LIS teachers at Northern Indian Universities for development of model library and information science curricula to meet the manpower needs of emerging digital era. The responses received are enumerated below:

- Curriculum should be designed as per demands of the employers and more focus to be on practical oriented module. Practical hand on the following topics like indexing, abstracting, transaction, database access and search strategy, academic search engines, library 2.0, web 2.0, ontology, library Automation, digitization, OCR digital library, RDA, FOSS, Information Literacy, multimedia, open access, institutional repository.
- Balance between the theory and practice be maintained in the syllabi and practical knowledge be impacted by the departments to enable student to play their role well.
- Information Technology, Software knowledge, and Knowledge Management courses should be updated or modified.
- LIS curriculum should be regularly revised after regular interval of periods and requirements. Department curriculum should be revised after every two or three years regularly. But some of them suggested for update LIS curricula annually according to continued change of technology.
- Before designing new curriculum an exhaustive survey of local employers may be conducted to know what competencies they need in new LIS products, then curriculum designing exercise should be done through a workshop involving experts from education department specializing in curriculum designing. This will result in putting the concepts in a technically correct way. Library professionals may also be part of a curriculum to provide vital inputs regarding information sources availability on the new concepts proposed to be included in the curriculum.
- LIS curricula should be centralized. The UGC Model curricula were also a step for its centralization.
- LIS curricula should have uniformity at National level in our country. Presently there is no uniformity in LIS curricula.
- There should be a separate LIS Authority at national level in the country to regulate the LIS standards and norms at par with international standards. Through overall re-engineering of

curricula and standardization should be through statutory accreditation agency. Indian LIS education should be followed the pattern of American to standardization of LIS education in India and also **f**ollow American library association's pattern. Needs IAO certified faculty members.

- LIS curriculum should be designed to fulfill the needs of libraries and LIS courses should be taught not only by the teachers of LIS department but also taught by the librarian practically.
- Up gradation of Technology is the major challenge for LIS education. Students who are poor in merit are getting admission in LIS education and they are unable to catching and understanding the concept. The mediocre students create problems for offering quality education. If we have all latest facilities and trained staffs available, but learners are mediocre, then it will be difficult to provide quality product as per the requirements of the market.
- Nomenclature of LIS education should be 'Library and Information Science' and no need to change it.
- Curriculum if needs to be changed, its traditional, basic and foundation courses should not to be stopped because these concepts provide the theoretical base to LIS education.
- LIS education should be practical if we are teaching about library automation, after completion of the course students can automate whole library. He should have deep knowledge of any one library automation software as well as digital library software and also should have ability to digitize the library.
- The university level board of the study has the power to change the curriculum of any course. It depends up to the board of the study to accept all the recommendations given by the department besides these recommendations can also be rejected. LIS Department should have autonomy to design and development of LIS courses.
- Teaching methods in LIS education should be changed with the innovation of new teaching techniques and methodology. Multimedia resources like audio, video and smart class should be used to teach in LIS classes. LIS lecture should be provided through smart class, all these resources are available in university departments but used for other purposes.
- Most traditional aspects teaching in LIS departments have lost their relevance. Strong need to modify according to currents demands. LIS curriculum should be designed according to job industries requirements.
- The UGC not taking interest to evaluate the staff positions, infrastructure and curricula in

the existing LIS Schools in universities. Most of departments have two or three teachers are providing courses up to Ph. D level, it is very difficult to manage.

9. CONCLUSION

Mushrooming growth of LIS through distance mode are taking place all over the India. It not only reduced the quality of LIS education but also made it difficult to maintain the standard of LIS education in the country. LIS education through distance mode ends up providing degree with highest score with minimum efforts. It was not only making jobs problems for regular trained students, but also compromising with the quality and skill development of LIS education. LIS is a professional course and should only be a regular course. LIS education through distance mode is creating many problems for LIS education. Distance education was initiated to facilitate those people who can't be able to continue their education regularly. But presently taking this concept to earn money and provide degrees today it has become a big source of income. LIS Distance education through distance mode is not according to the needs of the students and therefore they are not going in right direction. We are not in favor to immediately stop it but it can be compromised with fixation of limited seats. There should be sufficient infrastructure, staffs and curriculum measures policy to improve the quality of the students, not by giving highest score. A national level agency should be there to measure the quality or standardization of LIS education through distance mode and to decide whether it can be run or not. The existing Library and Information Science education programs have been facing many problems such as infrastructure, technology up gradation, lack of accreditation and faculty strength. Changes in LIS curriculum are very slow as compared to the desired changes in LIS education because department curricula are neither revised nor updated regularly. In India lack of an accreditation agency at national level for quality control and standardization of LIS courses. Western countries like USA and UK have accreditation agencies to monitor and constantly evaluate LIS education. In India there is urgent need for a national level accreditation body for LIS education like MCI, BCI, and AICTE etc. LIS Schools are facing severe paucity of requisite skilled manpower capable of teaching these courses in comparison to the traditional courses. Commercialization of LIS education is a recent debilitating trend where emerging private universities are organizing the entire course on the basis of single teaching staff at the BLIS and MLIS level. These

institutions had scant infrastructure, no computer labs or even library facilities. The only purpose of running courses at such places pure commercialization to earn revenue and obtain degrees.

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