

ICT PRACTICAL COMPONENTS IN LIS CURRICULUM: TREND AND ADVANCEMENT ANALYSIS OF SELECTED INDIAN UNIVERSITIES

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ABSTRACT -

Application of ICT in LIS field is gaining importance day by day and also the need of information about the strength of ICT applications and advancement in syllabi of various universities become higher and higher. But there is no suitable study to satisfy this gap. To remove this gap, the present study has been undertaken.

Total 20 universities have been selected for this study according to the NIRF rank (2019) and availability of detailed syllabus in the official website of the concerning universities and these are tabulated and analyzed according to the objectives.

The study intended to identify the faculty strength of sample universities, to find out the components in ICT practical in the syllabus of B.Lib.I.Sc. and M.Lib.I.Sc., to make a comparative study to reveal the strengths and weakness of these syllabi and to suggest some areas where improvements are necessary.

Aligarh Muslim University, Mizoram University and University of Delhi have sufficient faculty strength. Goa University and University of Delhi are very rich in practical of one-year B.Lib.I.Sc. In practical of one-year M.Lib.I.Sc., Goa University and Punjab University are also very strong. Andhra University, Maharshi Dayanand University and Mizoram University in practical of two-year M.Lib.I.Sc have the ability to fulfill the present need. One can extend it to evaluate the relation between syllabus and employability, syllabus and question pattern, syllabus and result etc.

This research work is utterly original and ends with the expectation that it must help the students, researcher, administrators and syllabus moderators to select the suitable university for study and to remove the lacunas and improve the syllabi

Keywords :Library and Information Science curriculum, ICT components in LIS, Syllabus analysis, Comparison of curriculum

INTRODUCTION

Syllabus is a course planning instructive-tool, which sets the tone for the course by describing the course goals, streamlining the content of course and by connecting the students and instructors. A syllabus, which has the capability to satisfy the present market-need, is one of the stronger parameter of student's success. The application of ICTs in the library and information science field is become an integral part of it. The combination of sound theoretical knowledge and expatriations in ICT applications creates higher employability. Therefore, the present study intended to peeped ICT components in the syllabi B.Lib.I.Sc and M.Lib.I.Sc of different universities.

Research gap

Application of IT in LIS field is gaining importance day by day and also the need of information about the strength of IT applications and advancements in syllabi of various universities become higher and higher. But there is no suitable study to satisfy this need. To remove this gap, the present study has been undertaken.

OBJECTIVES

The paper has certain destinations; these are exceptionally precise and explicit in nature for the examination as referred below –

- To identify the faculty strength in different Universities of India.

- To assess the context of ICT application papers in LIS curriculum of various Universities in India.
- To identify the components in ICT practical in the syllabus of B.Lib.I.Sc. andM.Lib.I.Sc. in different Universities of India.
- To make a comparative study to identify the strength and weakness of the ICT content in the syllabi of B.Lib.I.Sc. andM.Lib.I.Sc.
- To find out the modern and advance level of ICT component in LIS curriculum.
- To suggest some areas where improvements are necessary.

METHODOLOGY

Total 20 universities have been selected for this study according to the NIRF rank (2019) and availability of detailed syllabus in the official website of the concerning universities. The detailed syllabi have been downloaded from 15-21th May, 2020 and separate each components of ICT paper in an Excel sheet, which has been tabulated and analyzed according to the objectives.

REVIEW OF LITERATURE

The present study has exuberated by several preceding works. For the coming decade, a study proposes core elements of a curriculum and a vision of LIS education in India, and also emphasizes the need for revision of course contents and allied challenges of LIS education in India in the digital era (Mahapatra, 2006). The parity between the market demands and the course content has been revealed out in several works (Chakraborty, n.d.; Park, 2004; Saunders, 2015). A case study is done by Mishra (Mishra, 2009) on essential qualification and ICT skills

required in digital era and scrutinize the LIS syllabic of different universities briefly. ICT application in LIS field; issue, challenges and its study in different countries have been made by many researchers (Al-Daihani, 2011; Ashcroft et al., 2007; Mahmood & Khan, 2007; Miwa, 2006; Virkus, 2007).

Also, the present work has gone through the syllabus-analysis in different subject domain and improve itself. Forty-five multicultural teacher education coursework syllabi have been analyzed

by Gorski(Gorski, 2009) using qualitative content analysis and unexpectedly came out a new five-layer typology for MTE. From the practical approach, lower school History syllabus has scrutinized and found out several flaws of facts by Goalen(Goalen, 1988). In US teacher education coursework, how the invisibility of sexual orientation, homophobia, heterosexism and other LGBTQ concerns plays a crucial role has been depicted by Gorski and others (Gorski et al., 2013).

Data Tabulation and Analysis
Faculty Strength and Course Pattern

Table 1: Faculty strength, NIRF rank and course pattern

Sl. No.	Sample Universities	NIRF Rank(2019)	Number of Faculty	Course Offered		
				B.Lib.I.Sc. (One year)	M.Lib.I.Sc. (One year)	M.Lib.I.Sc. (Two year)
1	Banaras Hindu University	3	6			Y
2	Aligarh Muslim University	11	7	Y	Y	
3	University of Delhi	13	7	Y	Y	
4	Andhra University	16	1			Y
5	Panjab University	21	4	Y	Y	
6	Osmania University	26	NF	Y	Y	
7	Gauhati University	42	4			Y
8	Pondicherry University	48	5			Y
9	University of Kashmir	53	5			Y
10	University of Mysore	54	4			Y
11	Guru Nanak Dev University	55	2	Y	Y	
12	Periyer University	68	6			Y
13	University of Jammu	74	3	Y	Y	
14	Mizoram University	76	7			Y
15	University of Mumbai	81	2	Y	Y	
16	The University of Burdwan	89	5			Y
17	MaharshiDayanand University	90	5			Y
18	University of Kalyani	91	3			Y
19	Goa University	93	NF	Y	Y	

20	Assam University	97	4			Y
Total	20		88	8	8	12

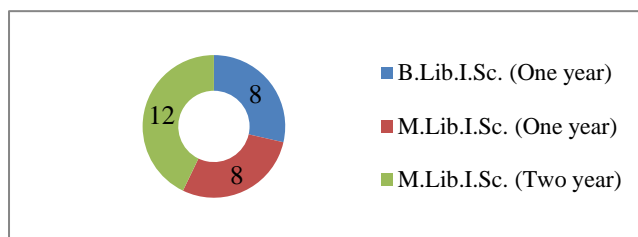


Figure 1: Course offered by the sample universities

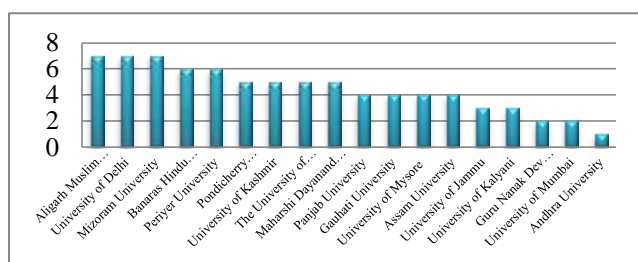


Figure 2: Faculty strength of different universities

Among twenty universities, eight (40%) have offered one-year B.Lib.I.Sc. degree and one-year M.Lib.I.Sc. degree. The rests twelve (60%) universities have offered two-year M.Lib.I.Sc. degree.

There are three universities, which have 7 faculties each, i.e. Aligarh Muslim University, Mizoram University and University of Delhi. Banaras Hindu University and Periyar University have 6 faculties each.

Andhra University is running with only one faculty. The data about faculty strength is not available about Goa University and Osmania University

Table 2 : Practical components of ICT in One-year B.Lib.I.Sc curriculum

Sl. No.	Sample Universities (Offered One Year B.Lib.I.Sc)		Aligarh Muslim University	Goa University	Guru Nanak Dev University	Osmania University	Panjab University	University of Delhi	University of Jammu	University of Mumbai
	Practical Components of ICT in curriculum									
1	Operating Systems	LINUX		Y				Y	Y	
2		MS-DOS		Y					Y	
3		Windows		Y		Y				
4		Windows XP			Y			Y		
5		Vista						Y		
6		Windows NT						Y		

7	ILMS	SOUL	Y					Y		
8		WINISIS	Y					Y		
9		GENISIS						Y		
10		KOHA, NewGenlib, LibSys		Y						
11	Installation of free software ,Creation of blog								Y	
12	Creating word documents,Offline searching				Y					
13	CDS / ISIS									
14	HTML		Y							
15	Alice for Windows		Y					Y		
16	Database Searching		Y	Y						
17	Presentation packages and Database packages			Y						
18	Open Office Writer, Open Office Calc			Y						
19	Internet Searching and E-mail				Y	Y		Y	Y	
20	Advance internet Searching							Y		
21	Web Searching							Y	Y	
22	Meta Search Engines							Y	Y	
23	Offline databases ,Setting of Desktop and Library Server, Editing and Formatting word document							Y		
24	MS-Excel			Y	Y					
25	MS-Word			Y		Y				
26	MS Power Point				Y			Y		
27	MS Office/ Libri Office								Y	
28	OPAC/Web-OPAC								Y	

The syllabuses of Goa University and University of Delhi have almost all the listed practical components of ICT.The concepts of Soul,

WINISIS, MS-DOS, Linux, Internet searching and E-mail are places in the syllabuses of

maximum universities in the one-year curriculum of B.Lib.I.Sc.

GENISIS, Advance internet Searching, Vista and Windows NT are taught by University of Delhi only, CDS / ISIS is only practiced by Osmania University, Creation of blog is only practiced by

University of Jammu and KOHA, NewGenlib, LibSys, Open Office Writer and Open Office Calc are only holed by practical paper of Goa University. Table three shows the lacunas of University of Jammu, Aligarh Muslim University and Guru Nanak Dev University.

Table 3 : Practical components of ICT in M.Lib.I.Sc One-year curriculum

Sl. No.	Sample Universities (Offered One Year M.Lib.I.Sc.)		Aligarh Muslim University	Goa University	Guru Nanak Dev University	Osmania University	Panjab University	University of Delhi	University of Jammu	University of Mumbai
	Practical Components of ICT In Curriculum									
1	Application & Customization	WINISIS	Y	Y	Y	Y				
2		LIBSYS	Y	Y						
3		CDSISIS		Y		Y				
4		SOUL	Y	Y						
5		KOHA		Y	Y				Y	
6		Green Stone	Y	Y				Y	Y	
7		MySQL		Y					Y	
8		HTML			Y				Y	
9		Alice for Windows	Y							
10		Dspace/Eprint/OJS: Installation, Building collection in DSpace/Eprint			Y					
11	DOS, Windows, Word Processing software, Database software					Y				
12	Any one Library Management Software					Y		Y		
13	Next-generation OPACs and Application of RFID system									
14	Designing Static and Dynamic Library Websites							Y	Y	
15	Designing Mobile Websites and Developing Library Blogs, RSS Feeds, Wikis and Flickr, etc							Y		
16	Image Creation using Photoshop, CorelDraw, etc							Y		
17	Collection Building using GLI in Local and Web Library Modes							Y		
18	Bar Code Generations, membership cards, machine readable catalogue cards		Y							
19	Creating Metadata			Y				Y		

20	CD-ROM & Online searching	Y			Y				
21	Database Searching, Webcatsand WebOPACs, LC Catalog, OCLC etc. Internet searching		Y						
22	Audio and Video Conferencing						Y		
23	Downloading MARC 21 Records using Z39.50 Protocol and Federated Search						Y	Y	
24	Network Connectivity under Windows Environment							Y	
25	Use of Mailing Lists and Scholarly Discussion Groups, Subscribing RSS Feeds through Online Aggregator, Sharing Files between Computers							Y	
26	Use of search engines: Google, Yahoo etc.		Y						
27	Developing Web Directories, Subject Gateway and Library Portals						Y		
28	Keyword and Boolean Searching, Search using Wildcard/Truncations, Searching web directories, subject gateways and library portals			Y					

The syllabuses of Goa University have almost all the listed practical components of ICT. WINISIS and Green Stone are placed in the syllabuses of more than half of the sample universities in the one-year curriculum of M.Lib.I.Sc.

LibSys and SOUL are taught by Aligarh Muslim University and Goa University.KOHA is

practiced by Goa and Punjab University.Installation of DSpace/Eprint/OJS are taught by Goa University only among the others sample Universities. In this paper, Panjab University is very weak; Goa University is very rich; University of Jammu is average and the rests are below than average.

Table 4 : Practical components of ICT in M.Lib.I.Sc.two-years curriculum

Sl. No.	Sample Universities (Offered Two-yearsM.Lib.I.Sc.)		Andhra University	Assam University	Banaras Hindu University	Gauhati University	MaharshiDayanand University	Mizoram University	Periyer University	Pondicherry University	The University of Burdwan	University of Kalyani	University of Kashmir	University of Mysore
	Practical components of ICT In curriculum													
1	OS	MS Windows	Y		Y		Y	Y					Y	
2		LINUX						Y			Y	Y		

3		MS DOS			Y									Y
4		MS Office	Y			Y	Y							Y
5		MS Power point	Y		Y	Y	Y							
6		MS Word, Excel	Y		Y	Y	Y							Y
7		MS Access, LibreOffice												Y
8		Photoshop	Y			Y								
9		Creation of database using MS Access	Y											
10		CD ROM and Internet searching and retrieval	Y											
11		Internet Searching			Y									
12		Online and Offline Searching, E-mail				Y								
13		Use of Operating System, Word Processors and Presentation tools		Y										
14		Creation of Database using any DBMS Package		Y										
15		Searching of Internet Resource using different search engines		Y										
16		Installing OS, Creating electronic documents, files and various file formats, Creation of Database and Searching Databases, Plagiarism						Y						
17		Creation of Database using CDS/ISIS & WINISIS	Y	Y		Y								Y
18		WINISIS				Y		Y	Y					
19		CDS/ISIS – Systems Overview			Y									
20		Programming			Y									
21		Database Creation using SOUL		Y		Y								
22	ILMS	KOHA	Y	Y		Y	Y	Y	Y	Y				Y
23		SOUL		Y		Y	Y	Y	Y	Y				Y
24		LIBSYS					Y		Y	Y				Y
25		NewGenLib	Y											
26	DLS	D-Space				Y		Y	Y	Y				Y
27		GreenStone					Y	Y	Y	Y	Y	Y	Y	Y
28		E-Prints								Y				Y
29		GSDL software	Y							Y				
30		Barcode Generation		Y										
31		Creation of Digital Documents with Metadata		Y										
32		Designing and developing library blog					Y							
33		Practice of scanner, digital camera and OCR					Y	Y						

34	Image creation or editing					Y							
35	Designing library websites					Y							
36	Website; Mobile Applications							Y					
37	Weblog							Y	Y				
38	Library Management Software: Acquisition, Catalogue, Circulation, OPAC and Serial Control Module.											Y	
39	Creating New Projects using Standard EXE, Database connectivity Using ADODB Control, Data Insertion /Retrieval/Updation											Y	
40	Web Searching, Searching tools and their usage, Searching Web Resources using Digital Libraries, E-repositories and E- Archives, Introduction to various emerging web services											Y	
41	Creation of Communities & Collection, Submission Process						Y						
42	Creation of Digital Library using any one Digital Library Software		Y										
43	Open Source Library Application Software: Installation, Database Creation and Use		Y										
44	Web page design by using HTML and hyper linking		Y	Y									
45	Creation and hosting of Web blog with links to various library OPACs; online libraries;	Y											
46	Database Searching. Webcats and WebOPACs, LC Catalog, OCLC etc. Internet Searching, Use of search engines: Google, Yahoo etc.												Y
47	Open source : e-books, e- journals, e-learning packages	Y											
48	DBMS		Y							Y	Y		
49	HTML		Y	Y		Y	Y			Y	Y	Y	Y
50	Joomla						Y						

The syllabuses of Andhra University, MaharshiDayanand University and Mizoram University have almost all the listed practical components of ICT.

CDS/ISIS, WINISIS, KOHA, SOUL and HTML are placed in the curriculum of maximum universities. Content Management Software - Joomla is practiced by Mizoram University only among the others sample Universities.

University of Kashmir, Kalyani, Burdwan and Banaras Hindu University are below than average and need huge moderation of curriculum.

FINDINGS AND SUGGESTIONS

Some of the ICT components available of B.Lib.I.Sc as well as M.Lib.I.Sc level curriculum. In this context the relevant Universities must take adequate measures to avoid duplication in their curricula. For example, Koha features at B.Lib.I.Sc as well as M.Lib.I.Sc of Goa University. It indicates that user level tasks of Koha are taught at the B.Lib.I.Sc stage, on the other hand customization and other finer aspects of the software may have introduced of the M.Lib.I.Sc level.

Based on the analysis of data, which clearly shows the strength and weakness of the concerned universities, some valuable recommendations have been given. Andhra University, Guru Nanak Dev University and university of Mumbai need to improve faculty strength. University of Jammu, Aligarh Muslim University and Guru Nanak Dev University are suggested to include almost all the listed components in table two. The appearance of University of Mumbai, Aligarh Muslim University, Guru Nanak Dev University and

Osmania University are also very week in one-year M.Lib.I.Sc, which are not fit for the present era and need inclusion of the modern concepts like; Web 2.0, database mining, AI based technologies, and cloud computing. Punjab University has to include digital library softwares, i.e. DSpace, Eprint and CMS, i.e. Moodle, Joomla, Word Press in M.Lib.I.Sc one-year curriculum. University of Kashmir, Kalyani, Burdwan and Banaras Hindu University needs also to moderate the curriculum of two-year M.Lib.I.Sc.

Aligarh Muslim University, Mizoram University and University of Delhi have sufficient faculty strength. Goa University and University of Delhi are very rich both in theory and practical of one-year B.Lib.I.Sc. In both theory and practical of one-year M.Lib.I.Sc, Goa University and Punjab University are also very strong. In practical of two-year M.Lib.I.Sc. Andhra University, MaharshiDayanand University and Mizoram University have the ability to fulfill the present need.

However, to improve the employability of the future students all the selected universities must have to incorporate the modern concepts as theory and practical in their curriculum; i.e. cloud computing; artificial intelligence; data-mining, reference management software – Zotero, endnote, ref works etc; CMS – Joomla, WordPress, Moodle, Drupal; statistical software – SPSS, R; Concept mapping software – CmapTool; Citation visualization – VosViewer; data wrangling software – OpenRefine etc.

In ICTs, new technologies are cropping up at a faster rate. To fit with the rapid change in the ICTs applications in the library and information

service profession, frequent moderation of syllabus is needed. Syllabus moderators should take suggestions from different employers to redesign a strong curriculum which has a reciprocal relation with the employability and market need. If the moderation takes time than the teachers should have to taught the contemporary topics even these are not in the syllabus. A student is getting backdated as soon as he passes out. Therefore, not only the frequent syllabus moderation keeps him up to date, but also the life-long learning is needed. To do this one should attend the workshops, seminars, conferences, refresher course, faculty induction programmes, consult with the experts on contemporary topics and read research articles, follow concerning blogs etc. By the time the students leave their schools, their knowledge becomes obsolete. So, LIS Schools should build confidence among the learners to combat the future world and imbibe culture of learning throughout their life.

LIMITATIONS AND FURTHER STUDY

However, twenty universities have chosen according to the NIRF rank (2019), but the top twenty are not considered because of unavailability of data in the concerning official websites. So, the sequence has been voided and the ranked 3rd university compared with ranked 97th. One can overcome this lacuna by physically collecting and analyzing the syllabi of the top twenty universities and may extend it to evaluate the relation between syllabus and employability, syllabus and question pattern, syllabus and result etc. Availability of Hardware and Software of the computer laboratories need to be evaluated for

judgment of ranking of LIS schools. At the end, library schools must initiate the compulsory internship program for their outgoing students.

CONCLUSION

It is observed from the analyzed data that some of the Universities have not included the State-of-The-Art computer programmers in their syllabi. It is obvious that they are not in a position to impart training in various library ICT components in this regard. It is envisaged that a national level planning is essential to update the required knowledge and skill of faculty members associated with Indian Universities. We may adopt a special programme with the help of premier institutes like IISC, ISI, IITs, Inflibnet and NISCARE etc. for updating the knowledge and skill of trainers associated with different courses of the Universities. Academic staff colleges would require conducting various works and training programmes in collaboration with the software professionals and ILS practitioners.

The study ends with the expectation that it must help the students, researcher, administrators and syllabus moderators to select the suitable university for study, to further evaluation, to remove the lacunas and improve the syllabi towards the proper dimension, which must fit for the intended future.

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