Role of E-Learning for the quality of LIS education in India: LIS professional’s perceptions towards E-Learning Implementation

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Abstract:

Purpose – The purpose of this paper is to discuss issues involved in E-Learning system related to Library and Information Science education at university level. In present scenario most of the Indian Universities have adopted traditional class room teaching system, some of them are moving towards adoption of ICT and E-learning, keeping in view of users’ perception and opinion, this paper discusses various aspects related to E-learning.

Design/methodology/approach – A Survey of users and review and review of related literature about the topic was performed.

Findings – The paper discusses users perception about ICT and E-learning, identifies issues related to E-learning development, and recommends some suggestions for effective implementation of e-learning. Findings also reveals that users of LIS education would like to use e-learning along with traditional learning methods. Educational policy makers need to consider the users perception, for effective implementation of E-learning in LIS (Library and Information Science) education. Results also indicate that availability of e-content along with print resources is needed for teaching learning purposes. The content can be disseminated / provided with the use of E-Learning with integration of local and subscribed resources.

Originality/Value: Paper provides users opinion and perception; that could be helpful for academic fraternity. This paper will be valuable for policy makers, teachers, educators, instructors and content creators related to e-learning systems in.
Keywords: LIS E-learning Initiatives, ICT in Education, LIS Content Development Initiatives

Introduction

E-Learning can enhance traditional forms of teaching learning and academic administration (Laurillard, 2006). Developed countries have gained lots of benefit in their economy by adopting ICT and E-learning in their educational organizations. Integration of Information and Communication Technologies (ICT) and its continuous usage can effectively improve teaching, learning and research outcome of academic institutions. Technology has transformed teaching learning environment and changed users’ behaviour (Isam, Chouwdhary, & Islam 2009). Users/learners approach to find-out information is now became ICT dependent, therefore user are now became techno savvy. E-Learning is a way to facilitate educational content, related activities, and services in electronic mode to the techno-savvy users’ / learners. Web hosting of static, dynamic content related to the courses, curriculums, digital repositories, tutorials, exam, results and social networking of academic community (students and teachers), all together forms a E-Learning system (Malhan, 2011). In India, E-Learning can improve the existing educational quality & service of academic institutions (Lobo & Bhandi, 2006). “National Digital Library” and “Digital India” started by government of India to transform India into a digitally empowered society and knowledge economy, focuses Indian Talent (IT) + Information Technology (IT) = India Tomorrow (IT). Project aims to offer a one-stop shop for government services through mobile phone/computers. The vision of ‘Digital India’ is centred on three key areas namely, Digital Infrastructure as a Utility to Every Citizen, Governance & Services on Demand and Digital Empowerment of Citizens (State IT Ministers Conference on “Digital India” on 26.8.2014). These kinds of project will also supports E-learning efforts. Future of E-Learning system could be useful for improving quality and consistency in Library and Information Science education (Ravi, Mohan & Srinivasaragavan, 2005). A proper implementation of E-Learning can provide the opportunities to increase study efficiency, quality and institutional transparency. Success of any new technologies in existing system is depends upon the degree of acceptance by its user, and stakeholder. E-learning can be delivered to its users through E-learning portal and E-learning system.

E-learning portal can contribute in providing single window access, preparation of course content and tutorials related to theoretical as well as practical aspects related to training of ICT, Internet, database development, library software packages and web page creation etc. Traditional and E-learning modes can supplement quality of course content as well as teaching. Kumbhar, (2009) stated that the E-learning and traditional teaching methods complement to each other. Kanwal & Chhatwal (2010) described the concept of hybrid learning that include and integrate traditional and E-learning mode and its importance in education system. Ravi, Mohan & Srinivasaragavan (2005) suggested that E-Learning can enhance LIS education. The result of published literature indicates that in next twenty years number of traditional courses and educational programmes will be transformed into E-Learning.
mode. Keeping future and present development in mind E-Learning initiative and implementation need to follow proper policy, plan, strategy (Kumbhar, 2009). Ganguly & Pandey (2010) compared the traditional and modern teaching learning methods used in universities and mentioned that for improving quality of LIS education, views of the learners need to be considered. The features and facilities offered by E-Learning can make significant changes in user’s behavior with reference to use and assimilation of new knowledge, therefore users / learners are very important, all the learning/teaching related activities and services moved around them in any educational system.

World is moving towards adoption of ICT, but implementation plan should also consider the fact that not all students / users are interested to use technologies (Aharony, 2014). Published literature shows that there are many technology acceptance models designed according to the attitude and behavior of users. Hsiao & Tang (2014) discussed a variety of models from different perspectives developed to discover IT acceptance as: (1) the Theory of Planned Behavior (TPB); (2) the Technology Acceptance Model (TAM); (3) a Decomposed TPB model (DTPB); (4) a hybrid model, identified as the combined TAM and TPB model (C-TAM-TPB); and (5) the United Theory of Acceptance and Use of Technology model (UTAUT). Rodriguez (2014), study validated a model that enables the measurement of online enrolment processes by analysis of users perception. Singh & Hardaker (2014) argued that future research studies should not model the adoption and diffusion of eLearning, using a more interactive approach to examine the complexity and multiple levels, dimensions of social reality and identifies the importance of individual factors influencing the adoption of eLearning. Aharony (2014), study explored Library and Information Science students, covered use of up-to-date technologies in academic study and research revealed that users are familiar with new technological innovations related to academics. Research conducted in Israel during the 2012 academic year suggests that individual differences such as resistance to change, learning strategies, and age may predict and influence m-learning adoption. Research also indicate that the user’s views, perception and behavior factor has great impact on the planned strategies of ICT and E-learning implementation.

Objectives, Hypotheses and Research methodology
As discussed earlier main purpose of this research paper was to study LIS professionals with reference to their acceptance of ICT & E-Learning to know the views and opinions of LIS professionals about implementation of E-learning in LIS education curriculums with following objectives.

1. To find out users perception and attitude towards use of e-content for E-Learning based LIS education system to improve the quality of LIS education in India.

2. To find out the use and effectiveness of e-learning for teaching of LIS education in India.

Based on referred literature and related discussion on the topic in relation to
the area of study, below mentioned assumptions were made in the form of statement. Assumptions were tested and analysed in light of received data.

1. “It was assumed that “Most of the LIS Users are interested to use of e-resources and E-Learning.”
2. “It was assumed that “E-Learning can supplement traditional teaching and research.”

Sample
Related data was collected during the year 2012-2013 from different parts of India, using web survey and printed questionnaire. Accidental randomization sampling method was used for selection of users, with hope that it can protect biasness in sample selection process. It was decided that adopted method of data collection will be cost effective. Due to time constraint, it was not reasonable to cover all the related users; therefore survey was limited to sample data only.

Hypothesis -1
Analysis of received responses from questionnaire was categorized based on statements of hypotheses/assumptions. Data analyzed using statistical and tabular methods, outcome of the analyzed data represented in mentioned tables and charts. It was assumed as hypothesis that “Most of the Users are interested to use e-resources and E-Learning.” For testing this hypothesis below mentioned questions were framed to collect data with reference to behavior of users towards the use of e-resources, e-content use and e-services.

a. “Have you used ICT for Teaching Learning purposes?”

b. “If answer of “question no. a” is Yes, then do you access any of the service available on Internet (i.e. E-mail, chatting, internet searching, use of social networking such as Facebook / Orkut etc.)”?

c. If you are using E-resources please describe the categories of e-recourses like E-Journals Access, E-Books Access, Online Database Access, CD-ROM Database Access, E-Theses (ETDs), Wikis, Blogs, Digital Library, Online Courses EL systems, Any other (Please Specify)”.

d. “How much time do you spend in accessing online resources?

a. ICT Use for Teaching Learning
ICT infrastructure for e-learning includes different types of related software, hardware, internet connectivity, databases, computers, printers and scanners etc. As we know non availability of ICT infrastructure will be a significant barrier for E-Learning. The question as a part of survey “Have you used ICT for Teaching Learning purpose?” was asked. The respondents were provided, close ended response options (Yes and No.) The received responses represented in Table1, shows that 82.5% users are using ICT for teaching and learning purposes. This indicates that majority of users (students, teachers, LIS professionals) are aware with ICT and using it for teaching learning purposes. Further discussion with the users on the issue revealed that the access is possible now because of progress in terms of availability of ICT infrastructure, government efforts, and telecom revolution.
Role of E-Learning for the quality of LIS education in India

Table 1 Use of ICT for Teaching and Learning Purposes

<table>
<thead>
<tr>
<th>Total</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Did Not Respond (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>330 (82.5%)</td>
<td>68 (17%)</td>
<td>2 (0.5%)</td>
</tr>
</tbody>
</table>

Various government initiatives such as the University Grants Commission (UGC), National Knowledge Network (NKN), INFLIBNET, and NME-ICT have made significant contribution, for creation of ICT infrastructure. Result shows that, users of LIS profession have access to the ICT; they are using ICT for teaching & learning purposes.

b. Use and Access of Online Services

As we have discussed earlier LIS users are using ICT for teaching and learning purposes, further go in to depth, the next question was raised “If answer of question no. 1 is Yes, then do you access any of the service available on Internet (i.e. E-mail, chatting, internet searching, social networking such as Facebook / Orkut etc.)”? , close ended multiple choice options were provided as “Yes” and “No”. Received responses represented in below mentioned (Table 2), shows that all the responded users are using / accessing services available on Internet (i.e. E-mail, Chatting, internet searching, social networking such as Face book / twitter / Orkut etc) for teaching learning purposes. The research conducted on use of social networking services by students of LIS departments in Israel also resulted similar outcome (Aharony, 2013). This shows that use of social networking and Online Interaction services for teaching learning purpose all across the world.

Table 2 Uses and Access of Online Interaction Services

<table>
<thead>
<tr>
<th>Total</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Did Not Respond (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>330 (100%)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

c. Category of Electronic Resources and their Use

E-resources are playing very important role in dissemination of information, earlier discussed data (Table 2) reveals that all the responded users are using services available on internet. In addition to this, next question was asked related to use of specific kind of online services and e-resources for academic purposes as “If yes, please describe the categories of e-recourses like E-Journals Access, E-Books Access, Online Database Access, CD-ROM Database Access, E-Theses (ETDs), Wikis, Blogs, Digital Library, Online Courses EL systems, Any other (Please Specify)”, the received data represented in below mentioned Table 3.
Table 3 Categories of Electronic Resources and their Use

<table>
<thead>
<tr>
<th>E-Resources</th>
<th>Response</th>
<th>% [(Response/330) X100]</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Journals Access,</td>
<td>298</td>
<td>90.30</td>
</tr>
<tr>
<td>E-Books Access,</td>
<td>238</td>
<td>72.12</td>
</tr>
<tr>
<td>Online Database Access,</td>
<td>222</td>
<td>67.27</td>
</tr>
<tr>
<td>CD-ROM Database Access</td>
<td>198</td>
<td>60.00</td>
</tr>
<tr>
<td>E-Theses (ETDs)</td>
<td>190</td>
<td>57.58</td>
</tr>
<tr>
<td>Wikis</td>
<td>170</td>
<td>51.52</td>
</tr>
<tr>
<td>Blogs</td>
<td>158</td>
<td>47.88</td>
</tr>
<tr>
<td>Digital Library</td>
<td>216</td>
<td>65.45</td>
</tr>
<tr>
<td>Online Courses EL Systems</td>
<td>140</td>
<td>42.42</td>
</tr>
<tr>
<td>Any other</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Result (Table-3) shows that users are using various kinds of e-resources as mentioned above, they can be categorized in seven categories of e-resources like e-journals, e-books, digital libraries and online databases, CD-ROM Database, E-Theses (ETDs) and Wikis which are being used by users. Among all, e-journals are being accessed and used by the highest number of users with 90.30% access response, which is followed by e-book with 72.12% of users, online databases with 67.27% users, CD-ROM database access with 60%. Theses (ETDs) with 57.58%, Wikis with 51.52%, Blogs with 47.88%, Digital Library with 65.45% and online courses EL system are being used by 42.42% users.

Result of survey reflects that all the categories of e-resources are in use by users’ community. Based on received results, e-resources may be ranked in hierarchical manner on their uses, most popular to popular as E-Journals Access, E-Books Access, Online Database Access, Digital Library, CD-ROM Database Access, E-Theses (ETDs), Wikis, Blogs, Online Courses EL Systems.

Singh & Arora (2010) described the use of electronic resources by students and teachers of various colleges of Delhi and mentioned that students and teachers of LIS education had shown the preferences, importance to use of e-resources. E-resources can supplement existing classrooms teaching and discussion. Wang (2003) mentioned that digital libraries in e-learning environment can play important role for building effective learning environment. Chakravarty & Kaur (2008) mentioned that OCW (Open Course Ware) are important for teachers and learners. The results indicate that users are aware and using digital libraries and online teaching learning materials, for teaching and learning purposes.

d. Time Spent in Accessing Online Resources.

The question related to time spent for accessing online resources was asked to the users who are using ICT for teaching learning purposes as “How much time do you spend in accessing online resources? In response researcher has received following result (table-4).
Table 4 Time Spending Accessing for Accessing Online Resources

<table>
<thead>
<tr>
<th>Time Spend</th>
<th>Users</th>
<th>% [ (Response/330) X100]</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least One Hour in a Day (Seven Hours in a Week)</td>
<td>140</td>
<td>42.42</td>
</tr>
<tr>
<td>Four Hour in a Week</td>
<td>58</td>
<td>17.58</td>
</tr>
<tr>
<td>Two Hour in a Week</td>
<td>46</td>
<td>13.94</td>
</tr>
<tr>
<td>Any Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Users (using online resources at least one hour during the week)</td>
<td>244</td>
<td>73.94</td>
</tr>
</tbody>
</table>

The result shows that there are 42.42% users are spending at least one hour in a day or in other words seven hours in a week, 17.58% users are spending four hours in a week, and 13.94% users are spending two hours in a week for accessing online resources. Result indicates that majority 73.94% users are spending time for accessing online resources in a week depending upon their need, this also shows that access to online resources now became integral part of the teaching and learning activities. Based on result it can be stated that users are interested to use E-learning and E-resources.

Hypothesis 2
“It was assumed that “E-Learning can supplement traditional teaching and research.” To test this assumption, following questions were analyzes in light of received responses:

a. “Do you feel that sufficient printed learning material, such as books, journals/resources/formal lectures are available for your educational and research need?”

b. “E-Learning is an electronic mode of instruction/method of teaching. Besides traditional teaching would you like to use E-learning for teaching?”

a. Printed Learning Materials
Question related to availability of printed learning material was raised as “Do you feel that sufficient printed learning material, such as books, journals/resources/formal lectures are available for your educational and research need?” Received responses represented in Table-5.

Table 5 Availability of Sufficient Printed Learning Materials

<table>
<thead>
<tr>
<th>Total Respondents</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Did Not Respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>62(18.79)</td>
<td>266(80.61)</td>
<td>02(0.61)</td>
</tr>
</tbody>
</table>
Above result indicates that users are not satisfied with the availability of printed learning materials, only 18.79% said “Yes” printed learning material are sufficient”, 80.61% said “No” printed learning material are not sufficient, only 0.61% did not respond to this question, this shows that there is gap in availability of sufficient printed learning material and its requirement, that can be full filled using online learning material. Published literature shows that electronic information resources are better, compared with print resources because of its multidimensional features. The only issue here arise is need of certain kind of skill related to information retrieval in order to access and use. Therefore it is suggested that concrete efforts are needed from LIS teaching community and from university librarian side in promoting use of electronic resources (Okello Obura & Magara 2008). Kwan, Leung & Smulders, (2006) mentioned that it seems that technology learning is welcomed by those who have a taste of it, but not by those who have not tasted it. It might be worth expanding the learning horizons of those who have not yet been exposed to on-line learning because of technology predominant presence at the workplace, home, in schools and in the society. Success of E-learning system not only depends upon availability of technology, but also on social interest. The problem arises when system is not designed keeping in view of the learners’ perspective due to the differences in terms of moderating variables like age, gender and experience (Nawaz, 2013). Individual factors are also influencing adoption of e-learning. Singh & Hardaker (2014) stated that levels of E-Learning adoption would be higher if strategic managers/policy makers recognized the social dimensions of e-learning innovation and diffusion, such as: academic and professional goals, interests and needs; technology interests; patterns of work; sources of support; and social networks.

**Use of E-learning for Teaching by the LIS Departments**
As discussed earlier, printed and online resources are in use by academic community. To study in-depth regarding use and adaptability of E-Learning among the academic community, for teaching and learning purpose especially by the LIS departments besides traditional methods, the question “E-Learning is an electronic mode of instruction / method of teaching, besides traditional teaching would you like to use E-learning for teaching?”

<table>
<thead>
<tr>
<th>Total</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Did Not Respond (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>298 (90.30)</td>
<td>12 (3.64)</td>
<td>20 (6.06)</td>
</tr>
</tbody>
</table>

Result represented in Table 6 shows that 90.30% of the users are using E-Learning or would like to use E-Learning for teaching and learning purposes, 3.64% not in a support to use E-Learning, 6.06 did not responded. Isam, Chouwdhary & Islam (2009) discussed e-learning with reference to Bangladesh and expressed that an immediate dedicated decision needed to ensure an appropriate E-Learning environment for LIS education. Similar kind of decision needed in favour e-learning
for LIS education of India also. Gokhale (2009) mentioned that the E-Learning could be a suitable alternative for existing teaching learning. Chandawani & Anilkumar (2010) E-Learning is the extended form of traditional classroom teaching, highlighted initiatives taken by several institutions and Library centers around the world and in India. Bhabal (2009) study discussed briefly E-Learning in LIS and focuses on E-Learning at SHPT School of Library Science, discussed the syllabus, teaching and assessment practices used to train library science students. The aim is to make aware and train the students in latest technologies useful for library science profession. State of art technology savvy professional can enter in the emerging job market confidently, will be in a position to apply their professional and technological knowledge effectively and efficiently. Malhan (2011) expressed that old and new methods need to be mixed and blended in a right proportions to provide a rich and fulfilling learning experience to the learners. The traditional education with E-Learning methods can complements each other (Kumbhar, 2009). Based on discussed results and literature it can be stated that academic community would like to use E-Learning besides traditional teaching, and learning due to its enormous advantages.

E-learning Statements
In addition to the answer of earlier discussed questions, it was felt that some more views need to be collected from the LIS professionals in context of E-Learning. Therefore series of statements were presented to the respondents (LIS professionals) and tried to find out their opinion related to E-Learning (EL), E-learning use, benefits and implementation related issues. They were instructed to give their opinion / views according to the mentioned scale (a- Agree, b- Neither Agree not Disagree, c- Disagree, d-Not applicable) received result represented in Table 7.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Statements ( Total 330)</th>
<th>a (%)</th>
<th>b (%)</th>
<th>c (%)</th>
<th>d (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>EL provides sufficient, up-to-date and interactive content.</td>
<td>254 (76.9)</td>
<td>40 (12.1)</td>
<td>2 (0.6)</td>
<td>22 (6.6)</td>
</tr>
<tr>
<td>2.</td>
<td>EL fosters accuracy and uniformity in course content</td>
<td>250 (75.7)</td>
<td>49 (14.8)</td>
<td>18 (5.4)</td>
<td>4 (1.2)</td>
</tr>
<tr>
<td>3.</td>
<td>EL provides better communication between instructor and students</td>
<td>222 (67.2)</td>
<td>62 (18.7)</td>
<td>22 (6.6)</td>
<td>4 (1.2)</td>
</tr>
<tr>
<td>4.</td>
<td>EL enhanced compatibility on different platforms.</td>
<td>234 (70.9)</td>
<td>44 (13.3)</td>
<td>6 (1.8)</td>
<td>18 (5.4)</td>
</tr>
<tr>
<td>5.</td>
<td>EL contents easy navigation and saves learner’s time.</td>
<td>238 (72.1)</td>
<td>20 (6.0)</td>
<td>2 (0.6)</td>
<td>20 (6.0)</td>
</tr>
<tr>
<td>6.</td>
<td>E-learning course contents are useful for formal and informal learning in higher education, such as LIS education</td>
<td>296 (89.6)</td>
<td>12 (3.6)</td>
<td>2 (0.6)</td>
<td>2 (0.6)</td>
</tr>
<tr>
<td>7.</td>
<td>EL is necessary to supplement traditional teaching; You learn more from E-learning</td>
<td>174 (52.7)</td>
<td>92 (27.8)</td>
<td>30 (9.0)</td>
<td>14 (4.2)</td>
</tr>
</tbody>
</table>
than traditional methods of teaching/learning

<p>| | | | | |</p>
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<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>EL is comparatively good, but proper planned implementation strategies needed</td>
<td>256</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(77.5)</td>
<td>(11.5)</td>
<td>(0)</td>
</tr>
<tr>
<td>9.</td>
<td>EL eliminates the need to create and print bulky manuals, which become obsolete after being distributed</td>
<td>222</td>
<td>60</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(67.2)</td>
<td>(18.1)</td>
<td>(4.8)</td>
</tr>
</tbody>
</table>

Note: a,b,c, and d columns show the number of respondent and their %

![Figure 1. E-Learning Statements (Data Showing %).](image)
The responses are represented in above Table 7 and Figure 1 reveals that majority of users are agree and they are supporting mentioned statements in favor of E-Learning (EL). 76.9% agree with the statement that E-Learning provides sufficient, up-to-date and interactive content, 75.7% says that EL fosters accuracy and uniformity in course content, 67.2% says that EL provides better communication between instructor and students, 70.9% EL enhanced compatibility on different platforms, 72.1% EL contents easy navigation and saves learner’s time, 89.6% E-Learning course contents are useful for formal and informal learning in higher education, such as LIS education, 52.7% EL is necessary to supplement traditional teaching, you learn more from E-learning than traditional methods of teaching/learning, 77.9% E-Learning is comparatively good, but proper planed implementation strategies needed, 67.2% E-learning eliminates the need to create and print bulky manuals, which become obsolete after being distributed.

The related literature highlighted that lack of technology and ICT use in educational content delivery is making Indian education system less productive (Sharma, 2007). The ICT and E-Learning can improve quantity and quality of education (Pushpanadham & Krishwalker, 2008). Innovations in E-learning technology point toward a revolution in education (Ruiz, Mintzer, & Leipzig, 2006). Islam, Kunifugi, Hayama & Miura (2011) stated about the future of E-Learning, made predictions that E-Learning will become increasingly essential. There is a bright and prosperous future for E-Learning, the use and popularity of E-Learning in LIS education will increase day by day. Shetty & Gadiwala, (2012) mentioned usage of ICT and E-learning can help and improve the Indian higher education system in three ways i.e. greater equity, better access, improved quality. Rowley & Rowley (2014) revealed that E-learning is developed to facilitated the broader and deeper learning; provide easy resource management and organization; allows 24X7 hour access and flexibility; facilitate interaction and communication with peers; enable student to work and learn at their own pace; provide a place for student to advice, tips and assistance.

**Testing of Hypothesis 1**

It was assumed that “Most of the users are interested to use e-resources and E-Learning.”

The result (Table 1) reveals that (82.5%) users are using ICT, interactive contents and e-Resources, 79.94% users are spending time for accessing online resources. Users (80.61%) are not satisfied with availability of print resources. Table 2 result shows that changes are taking place in users interest and seeking behavior about the accessing the material and resources. Table 3 shows that LIS users interested to use various types of e-resources, such as E-Journals Access, E-Books Access, Online Database Access, CD-ROM Database Access, E-Theses (ETDs), Wikis, Blogs, Digital Library, Online Courses and EL systems. The perceptions and opinions of LIS professional those who want to search information on internet are changing. Users are spending maximum of time on internet result also shows that 42.42% users are spending at least one hour in a day or in other words seven hours in a week, 17.58%
users are spending four hours in a week (Table 4) time for accessing resources.

The most of the users have supported the statements (Table 7) “EL provides sufficient, up-to-date and interactive content”, “EL fosters accuracy and uniformity in course content” “EL provides better communication between instructor and students” “EL enhanced compatibility on different platforms, “EL contents are easy to navigate and saves learners time” The discussed data and findings supports mentioned statement that “Most of the users are interested to use e-resources and E-Learning, therefore assumed hypothesis is true.

Testing of Hypothesis 2

“It was assumed that “E-Learning can supplement traditional teaching and research.”

The discussed data and findings support this statement that “E-Learning can supplement traditional teaching and research”.

i. The results revels that Users are not satisfied with printed learning material (Table 5)

ii. The data reveals that the gap of printed sources may be fulfilled by the Online resources,

iii. The result shows (Table 7) that most of the LIS users likes E-Learning based teaching and learning in LIS education system.

Statement “EL course content are useful for formal and informal learning in higher education. Users opinion supports related statement such as “EL is necessary to supplement traditional teaching, you learn more from E-Learning than traditional methods of training” “E-Learning is comparatively good, but proper planed implementation strategies needed for higher education” “E-Learning eliminates need to create and print bulky manuals, which become obsolete after being distributed” supports necessity of e-learning.

In light of received data it can be stated that “E-Learning can supplement traditional teaching and Research” in light of discussed data the Hypothesis is found true.

Findings

Research findings based on discussed result can be summarized as:

i. The obtained results show that, there are 82.5% (Table 1) users are using ICT for teaching and learning purposes. This indicates that users (students, teachers, LIS professionals) are aware about ICT use for teaching learning purposes. Result shows that 100% users are using/accessing online interactive services. The interactive communication/services can help online teaching, learning and contents dissemination in reality if that can be linked with Learning Management System (LMS) (Table 2).

ii. The students and teachers had shown their preferences and importance to use the e-resources. The result reflects that all the categories of e-resources are in use by LIS users’ community. E-resource can supplement in the classroom
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These results also indicate that users are aware and using online learning materials, it’s important for teaching and learning purposes (Table 3).

iii. Result shows that 79.94% users are spending time for accessing online resources, ranging from two hours in a week to one hour in a day (Table 4) this shows that time for accessing online resources became essential now.

iv. The result indicate that 80.61% users are not satisfied with the availability of printed learning material, this shows that there is gap in availability of sufficient printed reading material to fulfill their teaching learning requirement (Table 5).

v. It was found that 90.30% academic users would like to use E-Learning besides traditional teaching (Table 6).

vi. The result reveals that majority of users have supported the E-Learning due to following advantages (Table 7).

- Majority of users (76.9%) said that “EL provides sufficient, up-to-date and interactive content”.
- Majority of users (75.7%) said that “EL fosters accuracy and uniformity in course content”.
- Majority of users (67.2%) said that “EL provides better communication between instructor and students
- Majority of users (70.9%) said that “EL enhanced compatibility on different platforms
- Majority of users (72.1%) said that “EL contents easy navigation and save learner’s time
- Majority of users (89.6%) said that “E-Learning course contents are useful for formal and informal learning in higher education, such as LIS education
- Majority of users (52.7%) said that “EL is necessary to supplement traditional teaching; You learn more from E-Learning than traditional methods of teaching/learning”
- Majority of users (77.5%) say that “EL is comparatively good, but proper planed implementation strategies needed”
- Majority of users (67.2%) said that “E-Learning eliminates the need to create and print bulky manuals, which become obsolete after being distributed”.

Conclusion

Based on result, discussion and testing of hypothesis it can be stated that, Users of LIS profession have access to the ICT, they are using it for teaching and learning purposes. Most of the users are interested to use e-resources and E-Learning. The result is also indicating that users are using web for interactive communication. Use of interactive communication will help online teaching, learning and contents dissemination in reality if this can be linked with Learning Management System (LMS). Present scenario of LIS education can be enhanced with the use of E-learning system. Integration of Hybrid learning that is traditional, electronic and online mixed learning in LIS education is an advised model for a country like India. Study result indicates that majority of teachers and students are interested to use E-Learning and
they are exposed with the technology enabled teaching and learning. The availability of e-electronic content is needed along with print resources. It is suggested that the content can be provided with the use of E-Learning with integration of local and subscribed resources.

In India many states have came out with IT policies, they have highlighted IT in education to make the future generation “Techno-savvy” and to be “information literate”. E-Learning related provisions in policies need to be considered. “National Mission on Education through ICT” (NME-ICT) of India and E-pG pathashala made efforts to create content, developed systems in this regard, but due to lack of national guidelines, policies, and strategies and lack of co-ordination among the various projects has resulted duplication of efforts and initiatives. Development of model plan, policy, and strategy is much needed to have systematic development in regard of E-Learning implementation and use. Finding of research reveals that E-Learning is necessary for improvement of the quality of LIS education. A systematic model related to E-Learning in LIS education need to be developed so that all LIS department from various Universities can be provided a single windows access.

References


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