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# **Information Literacy Skills among Library and Information Science Professionals in India**

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## **Abstract**

This project examines information literacy skills among the Library and Information Science (LIS) professionals in India, pointing out the benefits and finally makes recommendations to improve the program. This is considered a very significant issue in view of the fact that it will afford in India, academic institutions and private organizations such as companies the understanding of what to improve and the way to improve them as far as their information literacy is concerned. As India become more advanced technologically, it has become more important for children and even adult to have the awareness of a solid foundation in Information Literacy to allow them maximum opportunities. This study is also important in view of the fact that it will make data available from the population of Indian Library and Information Scientists on the information literacy skills needed by the information professionals in India. Furthermore, it will add to the literature in this area of library and information science an area which currently growing and require necessary skills for any information professionals to be relevant in this digital age.

**Keywords:** Information Literacy, User Study, LIS Professionals, Internet, Search Engine, Social Media, Database

## **Introduction**

Information Literacy is the ability to identify what information is needed, understand how the information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically, and share that information (Jorosi & Isaac, 2008). It is the knowledge of commonly used research techniques. Information literacy is critically important because we are surrounded by a growing ocean of information in all formats. Not all information is created equal: some is authoritative, current, reliable, but some is biased, out of date, misleading, and false. The amount of

information available is going to keep increasing. The types of technology used to access, manipulate, and create information will likewise expand.

Information literacy skills are used for academic purposes, such as research papers and group presentations. They're used by the Library and Information Science (LIS) professionals on the job the ability to find, evaluate, use and share information is an essential skill. Consumer decisions, such as which car or vacuum cleaner to purchase, are critical. LIS professionals also use these skills by participating fully in a democratic society as an informed citizen by understanding issues and voting.

It is important to note that these definitions and descriptions of information literacy, and the attributes of an information literate professionals emphasize the use of information: critical thinking, reflection, analysis, interpretation, synthesis, integration of new information with previous knowledge, i.e. they perceive the information seeking process as an integral part of the learning process, in which the individual engages in a constructive process of finding meaning. In essence, the information literate person is a person who has learned how to learn (ACRL).

There is no doubt about the fact that every aspects of life in India from education, leisure, and work environment to social interactions are being influenced by information technology. Moreover, with the increasing use of Information Communication Technology (ICT) in education the world over, new skills and competencies among LIS professionals are required for them to effectively disseminate needed information to the users. For example, there are vast array of services that one can currently find online. These services are constantly growing, some of which are of general nature while others are specialised for students such as reference information on the Web which students can use including news, weather, sports, movies, encyclopedias, cartoons and games among others. As an educational and entertainment tool, ICT can enable students learn about virtually any topic, visit a museum, or play an endless number of computer games with other users. The LIS professionals still have roles to play here in guiding the students on the effective use of these tools. Moreover, for students and information professionals to exploit information resources, effectively, there is need to be equipped with the requisite digital/information literacy competencies. It has been observed that LIS professionals who did not have access to computers and the Internet (among other technologies) were likely to get further behind their peers who did have such access. Such deprived LIS professionals would miss the instant links to information, entertainment, and communication. In addition, they would potentially miss out on the limited percentage of jobs that require moderate or high amounts

of computer knowledge, all of which pay well and probably would end up in the 10 percent of low-paying jobs that do not require technical expertise. With the increased use of ICT in society generally and schools/information organisations in particular, it becomes imperative that information professionals in India should be equipped with information literacy competencies in order to exploit information resources that the electronic age engenders.

### **Review of Literature**

Bent (2008) studied how information literacy brings awareness on “use, manage, synthesise and create information, in a wise and ethical manner, to the benefit of society”. As part of their learning life. Information literacy is central to learning and essentially involves changing gleaning attitudes and habits so that people understand how information fits into their learning. As well as involving a broad understanding of the information world, information literacy encompasses specific information skills, which can be learned within a subject context and are relevant to lifelong learning.

Lloyd (2006) defined information literacy as the ability to know what there is in a landscape and to draw meaning from it through engagement and experience with information. This ability arises from complex contextualised practice, processes and interactions that enable access to social, physical and textual sites of knowledge.

Abid (2004) explained information literacy was an intellectual framework and a social process for understanding, finding, evaluation, communicating and using information activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most important, through critical discernment and reasoning. Information Literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them.

Australian and New Zealand Institute for Information Literacy (2004) defined information literacy as an understanding and set of abilities enabling individuals to ‘recognise when information is needed and have the capacity to locate, evaluate, and use effectively the needed information’. In a broader context, information literate people have been described as those who ‘know when they need information, and are then able to identify, locate, evaluate, organise, and effectively use the information to address and help resolve personal, job related, or broader social issues and problems’.

Thanuskodi (2013) identified E-resources are mushrooming online and in other formats. This phenomenon is due to the rapid advancement of information technologies, including the Internet and digitizing techniques. The extent of e-resources (including e-journals, e-books, etc.) is spiraling, although no exact number is available. These changes significantly enlarge the size of the electronic resources pool. Electronic resources have become one of the most important aspects of a digital library. The study reveals that slightly over one-third of the respondents (40%) spent less than 2 hours on the Internet per session, followed by those having 2-3 hours per session (29.17%). The study also shows that of the total of 120 respondents, 30.83% search documents with the help of the library Website.

Andunson & Nordlie (2003) also highlighted three main categories of information literacy: they describe technical capabilities or what one might call computer literacy; intellectual capabilities related to traditional literacy; and communicative competency that presupposes technical as well as intellectual capabilities, and at the same time transcends them. For each dimension they also distinguish several levels of competence, from basic competence to super-user competence to in-depth competence and consider information literacy as the sum of different 'literacys'.

Prague Declaration (2003) explained that information literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organise and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is a part of the basic human right of lifelong learning.

Demo (1986) recognized the ambiguous nature of information literacy: "the meaning of information could be explained from different perspectives, depending on whether librarians, educators, or communication experts define the term" (p.8). Demo was the first library professional to state the need for requisite attitudes "such as the awareness of need for information and accurate application of the information" with the research strategy component of information literacy.

Zurkowski (1947) introduced the concept of information literacy as "people trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as

well as primary sources in moulding information solutions to their problems". He also suggested that 1) information resources are applied in a work situation 2) techniques and skills are needed for using information tools and primary sources; and 3) information is used in problem solving.

Thanuskodi (2009) identified India has significant advantages in the 21st century knowledge race. It has a large higher education sector – the third largest in the world in student numbers, after China and the United States. The library is the chief instrument for accumulating and using our intellectual heritage. Formal education can be conducted effectively and efficiently only with well-equipped libraries. Today, libraries are connected to vast ocean of Internet-based services. Electronic resources are developing rapidly. Academic libraries are the nerve centres of their institutions, and must support teaching, research, and other academic programmes. The situation in academic libraries in India is the same as that of academic libraries the world over; however, Indian libraries must provide maximum information with limited resources. This article explores the Indian higher education environment in relation to academic libraries.

Bean and Sabrina (2010) took effort to improve information literacy in library. A history of the libraries' Digital Learning Team and its developmental phases was provided, as well as interpretations of evaluative data collected from embedded students. Data from the skills assessment of student information literacy skills are considered. The result suggested that library instruction best facilitates student learning when it aligns with specific research goals, utilizes a variety of learning styles, and allows time for practice and assessment. Student feedback suggests the need for additional instruction on citation and emphasis on increasing students' confidence in their research skills.

Johnston and Williams (2015) investigated the skills and knowledge needs of future library professionals in Qatar. A survey was sent to library professionals, LIS students and library managers in Qatar. A total of 109 respondents completed the survey. The findings indicated that respondents felt that the most needed future job roles included more client focused positions such as research librarians, information services librarians and subject librarians, as well as technical roles such as Arabic cataloguers, electronic resources librarians and system librarians. The largest amount of needed positions was also felt to be in school libraries. Respondents to the survey also felt that there was a lack opportunities for

professional development in Qatar and that the most needed area of skills training was information literacy, followed by copyright training and technical skills including RDA and Arabic cataloguing. One further finding identified was the concern felt by respondents about the lack of a professional body in Qatar that represented LIS professionals. The study also provided data on future roles, skills and knowledge needed by library professionals working in international and culturally diverse workforces. It also provides findings that can be used to develop LIS curriculum and professional development programmes in international LIS environments.

Adeyoyin (2006) Conducted a survey among the staff of university libraries of West Africa to ascertain their information and communication technology (ICT) literacy level. The result showed that only 48.38 percent of the professionals and 15.97 percent of the paraprofessionals were ICT literate.

Shonrock and Mulder (1993) in a survey identified that the most important skills of a bibliographic instruction librarian are communication skills, instructional ability and planning ability. It also indicated three main sources from which librarians have acquired these skills: on the job training, self-teaching and other kinds of formal education.

### **Objectives of the Study**

The primary objectives of the study are framed as follows:

- To study the information seeking skills among the library and information science professionals
- To analyse the information organising skills of library and information science professionals
- To identify the information providing skills among the library and information professionals
- To discuss the prime problems to obtain information literacy skills among library and information science professionals
- To find the most satisfied printed and e-resources to the library and information science professionals
- To study the most preferred tools to seek information among the library and information science professionals

## **Hypotheses**

Hypotheses are vital and indispensable tools of scientific research study. A hypothesis is a conjectural statement of the relation between two or more variables. According to Dewey, research usually starts with a problem, with a problematic situation. He also said that there is an indeterminate situation in which ideas are vague, doubts are raised, and the thinker is perplexed. Dewey further pointed out that the problem is not enunciated indeed cannot be enunciated, until one has experienced such an indeterminate situation.

The following hypotheses have been taken for verification for this study,

- There will be no significance difference in the information literacy skills and its aspects with reference to gender.
- There will be a significance difference in the information literacy skills and its aspects among the respondents belonging to various age groups, educational qualifications and designations.
- There will be a significance difference in the information literacy skills and its aspects among the respondents belonging to various types of library, types of institution and categories of location.
- There will be a significance difference in the information literacy skills and its aspects among the respondents belonging to various technical qualifications.

## **Methodology**

The simple random sampling technique was used for this research study. Simple random sampling is a procedure that assures each element in the population has an equal chance and probability of being selected. Hence, the selection bias is not possible in simple random selection.

This technique is very useful to reach the respondents in various age groups, designations, educational and technical qualifications, types of libraries and institutions. In academic, special and public libraries, the library and information science professionals were selected in all kind of designations by random selection. In LIS teaching institutes like universities, the library and information science professionals are selected in the categories of professors, associate professors and assistant professors by random selection.

For this study, the questionnaire has been framed in such a manner to gather information, which favors the objectives of the project. The questionnaires were distributed and the filled



questionnaires were collected from the library and information science professionals in person and through post. The number of people from the target population where the researcher conducting survey is the sample size for the survey study. For this present study, 750 questionnaires were distributed among library and information science professionals, only 572 filled questionnaires (76.3%) were received.

## Results and Discussion

### Population Analysis

Percentage analysis is basic and easy to comprehend, which is used to describe the physiognomies of the respondents among the chosen population. It involves calculating measures of variables selected of the study and its finding will give easy understanding for the readers. Table 1 and Figure 1 reveal that the male professionals are the maximum respondents (56%) compared with female professionals (44%). In age group category, large number of respondents (45%) belonging to 36 to 45 years age group, and the least (2%) are the senior library professionals above 56 years age group. The large number of respondents (55%) are 'Librarians' and the least number of respondents are 'Professors (2%)' and 'Associate Professors (2%)'. Most of the respondents (33%) are PhD holders in Library and Information Science and regarding technical qualification most of the respondents (34%) are belonging to 'Others' category, which are other than PGDLAN and PGDCA. The large number of respondents are from 'Academic Library (62%) and from 'Government Institution' (54%). Most number of the respondents are from 'Urban (70%) area.

**Table 1. Frequency Distribution of Respondents**

S.No	Type	Division	Frequency	Percentage (%)
1.	Gender	Male	320	56
		Female	252	44
2.	Age Groups (in years)	Below 25	32	6
		26-35	164	29
		36-45	260	45
		46-55	104	18
		56 and above	12	2
3.	Designations	Librarian	316	55

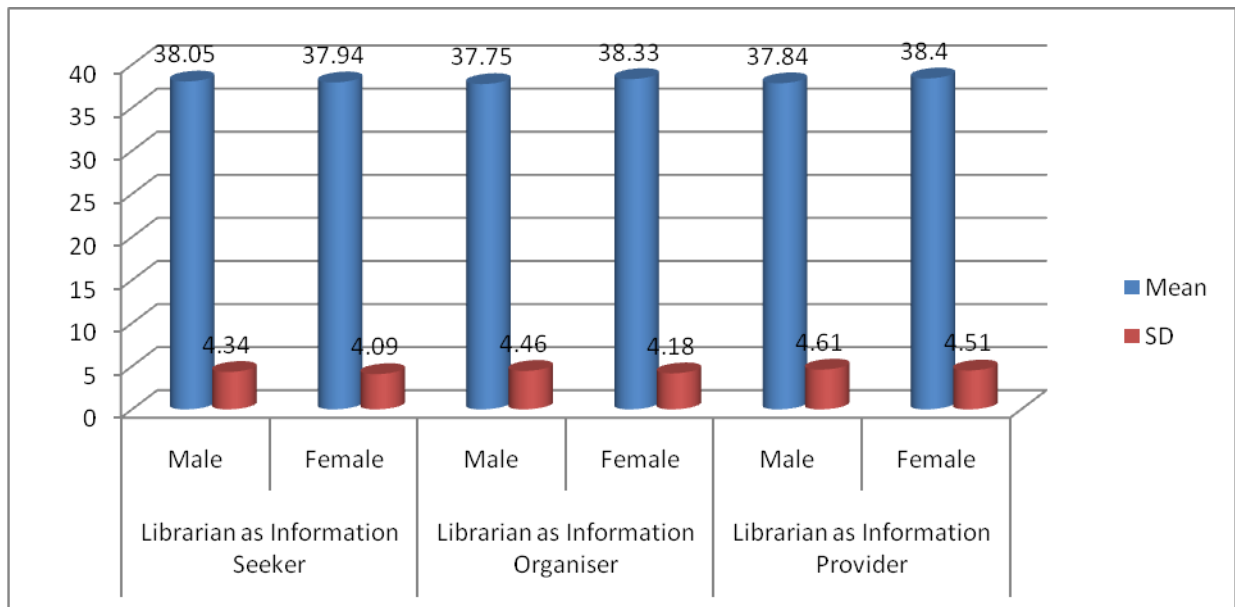
		Deputy Librarian	20	4
		Assistant Librarian	116	20
		Library Technical Staff	76	13
		Professor	8	2
		Associate Professor	12	2
		Assistant Professor	24	4
4.	Educational Qualification	PhD in LIS	188	33
		UGC-NET/SET	116	20
		Mphil in LIS	96	17
		PG in LIS	136	24
		UG in LIS	36	6
5.	Technical Qualification	PGDLAN	76	13
		PGDCA	116	20
		Others	196	34
		No Technical Qualifications	184	32
6.	Type of Library	Academic Library	352	62
		Special Library	44	7
		Public Library	176	31
7.	Type of Institution	Government	308	54
		Aided	56	10
		Self-Financing	208	36
8.	Location	Urban	400	70
		Semi-Urban	108	19
		Rural	64	11
<b>Total</b>			<b>572</b>	<b>100</b>

### Inferential Analyses on Hypotheses

**Hypothesis 1:** There will be no significance difference in the information literacy skills and its aspects with reference to gender.

**Table 2. t-test for significant gender difference in the information literacy skills and its aspects**

S.No	Information Literacy Skill Aspects	Gender	Mean	SD	t value	P value
1.	Librarian as Information Seeker	Male	38.05	4.34	0.318	0.963
		Female	37.94	4.09		
2.	Librarian as Information Organiser	Male	37.75	4.46	-1.591	0.683
		Female	38.33	4.18		
3.	Librarian as Information Provider	Male	37.84	4.61	1.452	0.410
		Female	38.40	4.51		



**Figure 1. t-test for significant gender difference in the information literacy skills and its aspects**

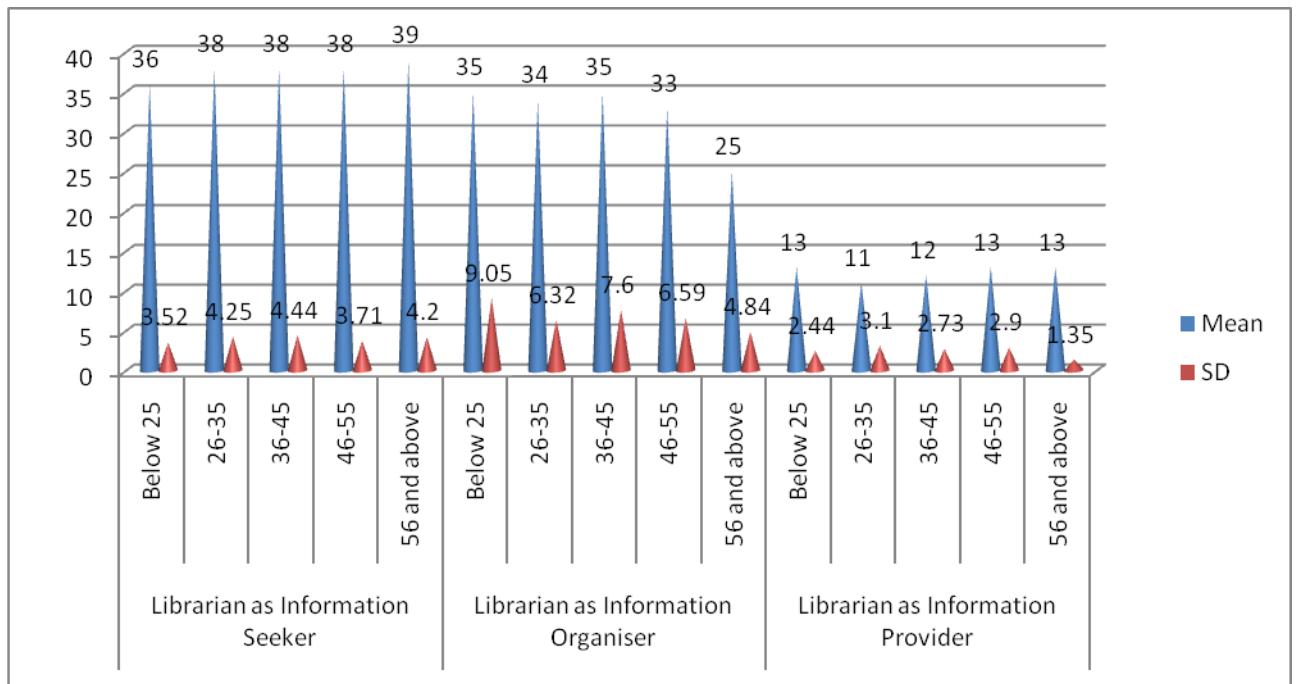
A t-test was performed to determine the significant difference in the information literacy skills with respect to gender. The above table shows the results of the t-test. Since

the P value is over than 0.05, the null hypothesis is accepted at 5% level of significant with respect to the information literacy skills. Hence there is no significance difference between male and female library professionals with regards to information literacy skills and its aspects. From the above Table 2 and Figure 1, it could be inferred that, in the various aspects of information literacy skills such as information seekers, information organisers and information providers, both male and female respondents scored nearly equal mean.

**Hypothesis 2:** There will be a significance difference in the information literacy skills and its aspects among the respondents belonging to various age groups, educational qualifications and designations.

**Table 3. ANOVA for significant difference in the information literacy skills and its aspects with reference to various age groups**

<b>Information Literacy Skill Aspects</b>	<b>Age Groups (in years)</b>	<b>Mean</b>	<b>SD</b>	<b>F value</b>	<b>P value</b>
Librarian as Information Seeker	Below 25	36	3.52	2.230	0.064
	26-35	38	4.25		
	36-45	38	4.44		
	46-55	38	3.71		
	56 and above	39	4.20		
Librarian as Information Organiser	Below 25	35	9.05	6.301	0.000
	26-35	34	6.32		
	36-45	35	7.60		
	46-55	33	6.59		
	56 and above	25	4.84		
Librarian as Information Provider	Below 25	13	2.44	4.096	0.003
	26-35	11	3.10		
	36-45	12	2.73		
	46-55	13	2.90		
	56 and above	13	1.35		



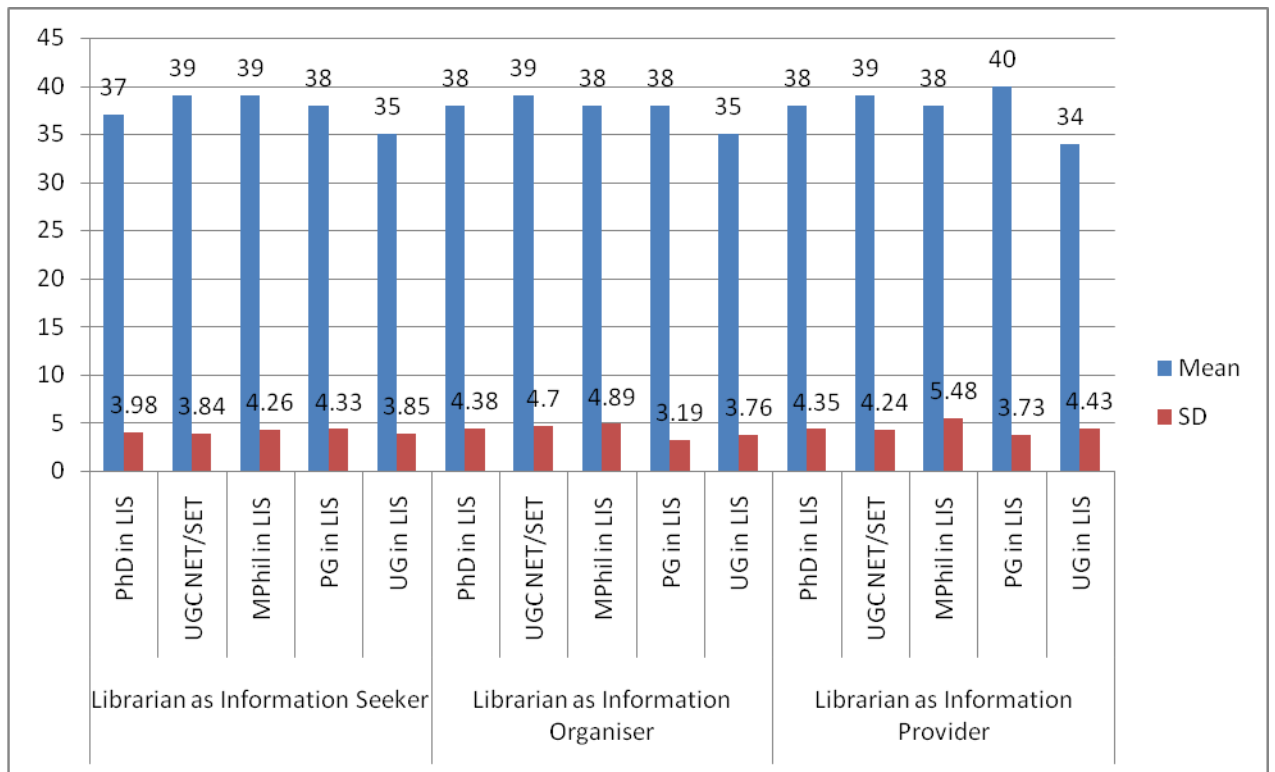
**Figure 2. ANOVA for significant difference in the information literacy skills and its aspects with reference to various age groups**

A one-way ANOVA was conducted to examine whether there were statistically significant differences among library professionals in various age groups relation to their information literacy skills and its aspects. The result revealed that the P value is less than 0.05, there is significant difference among various age groups of respondents with respect to information literacy skills and its aspects, except ‘Information Seekers’. Hence the hypothesis is accepted at 5% level of significance in information literacy skills, except ‘Information Seekers’ aspect with respect to various age groups of the respondents.

In ‘information organisers’ aspect, the respondents belonging to the age group ‘below 25’ and ‘36 to 45’ years have shown higher mean score than other age groups. In ‘information providers’ aspect, the respondents belonging to the age group ‘26 to 35’ years have shown lower mean score than other age groups. Since P value is greater than 0.05, the hypothesis is rejected at 5% level of significant with respect to ‘information seekers’ aspect of information literacy skills. Hence there is no significant difference among the respondents belongs to various age groups, with respect to ‘information seekers’ aspect. It could be referred that the respondents belonging to ‘above 56’ years age group have shown higher mean than other age groups.

**Table 4. ANOVA for significant difference in the information literacy skills and its aspects with reference to various educational qualifications**

<b>Information Literacy Skill Aspects</b>	<b>Educational Qualification</b>	<b>Mean</b>	<b>SD</b>	<b>F value</b>	<b>P value</b>
Librarian as Information Seeker	PhD in LIS	37	3.98	11.548	0.000
	UGC NET/SET	39	3.84		
	MPhil in LIS	39	4.26		
	PG in LIS	38	4.33		
	UG in LIS	35	3.85		
Librarian as Information Organiser	PhD in LIS	38	4.38	7.642	0.000
	UGC NET/SET	39	4.70		
	MPhil in LIS	38	4.89		
	PG in LIS	38	3.19		
	UG in LIS	35	3.76		
Librarian as Information Provider	PhD in LIS	38	4.35	11.979	0.000
	UGC NET/SET	39	4.24		
	MPhil in LIS	38	5.48		
	PG in LIS	40	3.73		
	UG in LIS	34	4.43		



**Figure 3. ANOVA for significant difference in the information literacy skills and its aspects with reference to various educational qualifications**

Since the P value is less than 0.05, there is significant difference among various educational qualifications of respondents with respect to information literacy skills and its aspects. Hence the hypothesis is accepted at 5% level of significance in information literacy skills with respect to various educational qualifications of the respondents. From the Table 4 it could be referred that the 'UGC NET/SET' qualified respondents scored higher mean than the respondents belonging to other educational qualifications in information seekers and information organisers aspects of information literacy skills. The respondents belonging to 'PG in LIS' qualifications scored higher mean than the respondents belonging to other educational qualification in information providers aspect of information literacy skills.

**Table 5. ANOVA for significant difference in the information literacy skills and its aspects with reference to various designations**

Information Literacy Skill Aspects	Designations	Mean	SD	F value	P value
Librarian as	Librarian	38	4.37	3.005	0.007

Information Seeker	Deputy Librarian	36	2.54		
	Assistant Librarian	38	4.11		
	Library Technical Staff	39	4.12		
	Professors	35	0.53		
	Associate Professors	37	2.55		
	Assistant Professors	39	4.44		
Librarian as Information Organiser	Librarian	37	4.37	4.162	0.000
	Deputy Librarian	38	2.15		
	Assistant Librarian	38	4.56		
	Library Technical Staff	40	4.31		
	Professors	38	1.06		
	Associate Professors	38	1.77		
Librarian as Information Provider	Assistant Professors	40	4.39	1.291	0.259
	Librarian	38	4.37		
	Deputy Librarian	37	3.81		
	Assistant Librarian	39	5.03		
	Library Technical Staff	39	5.60		
	Professors	37	2.13		
	Associate Professors	37	1.47		
Assistant Professors	38	2.76			

Since the P value is less than 0.05, there is significant difference among various designations of the respondents with respect to information literacy skills and its aspects, except 'Information Providers'. Hence the hypothesis is accepted at 5% level of significance in information literacy skills, except 'Information Providers' aspect with respect to various designations of the respondents.

In 'information seekers' and 'information organisers' aspects, the respondents under 'library technical staff' and 'assistant professors' categories have shown higher mean score than other designations. Since P value is greater than 0.05, the hypothesis is rejected at 5% level of significant with respect to 'information providers' aspect of information literacy skills. Hence there is no significant difference among the respondents belongs to various designations, with respect to 'information providers' aspect. In 'Information Providers'

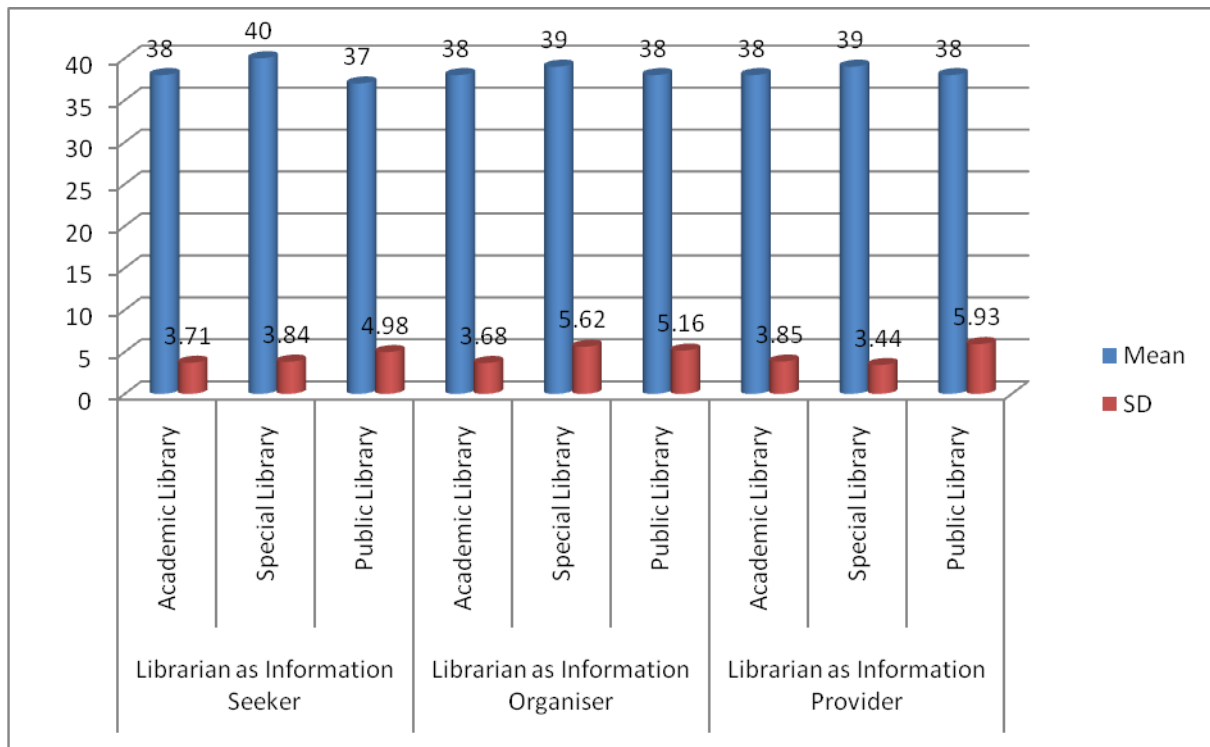


aspect, assistant librarians and library technical staff scored higher mean than remaining designations.

**Hypothesis 3:** There will be a significance difference in the information literacy skills and its aspects among the respondents belonging to various types of library, types of institution and categories of location.

**Table 6. ANOVA for significant difference in the information literacy skills and its aspects with reference to various types of libraries**

<b>Information Literacy Skill Aspects</b>	<b>Types of Library</b>	<b>Mean</b>	<b>SD</b>	<b>F value</b>	<b>P value</b>
Librarian as Information Seeker	Academic Library	38	3.71	11.589	0.000
	Special Library	40	3.84		
	Public Library	37	4.98		
Librarian as Information Organiser	Academic Library	38	3.68	0.987	0.374
	Special Library	39	5.62		
	Public Library	38	5.16		
Librarian as Information Provider	Academic Library	38	3.85	1.722	0.180
	Special Library	39	3.44		
	Public Library	38	5.93		

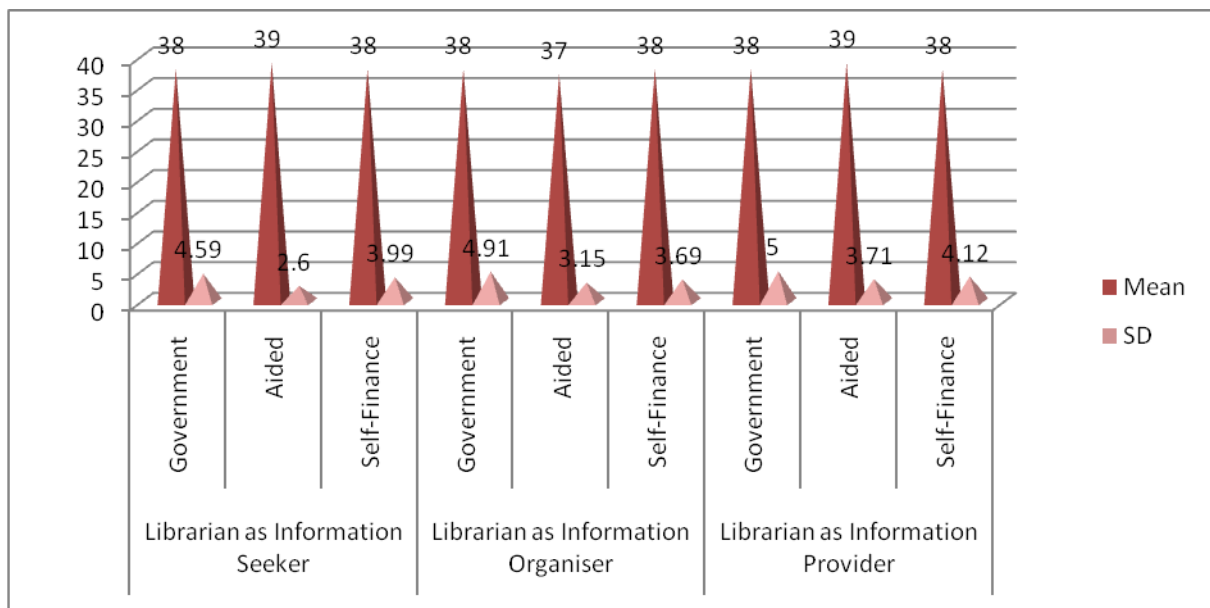


**Figure 4. ANOVA for significant difference in the information literacy skills and its aspects with reference to various types of libraries**

Since the P value is greater than 0.05, there is no significant difference among the respondents from various types of libraries with respect to information literacy skills and its aspects, except 'Information Seekers'. Hence the hypothesis is rejected at 5% level of significance in information literacy skills, except 'Information Seekers' aspect with respect to various types of libraries. Since the P value is less than 0.05, there is significant difference among the respondents from various types of libraries with respect to 'Information Seekers' aspect of information literacy skills. Hence the hypothesis is accepted at 5% level of significance in information literacy skills in 'Information Seekers' aspect with respect to various types of libraries. In all aspects of information literacy skills, the respondents belonging to Special Libraries scored higher mean than Academic and Public Libraries.

**Table 7. ANOVA for significant difference in the information literacy skills and its aspects with reference to various types of institutions**

Information Literacy Skill Aspects	Types of Institutions	Mean	SD	F value	P value
Librarian as Information Seeker	Government	38	4.59	1.840	0.160
	Aided	39	2.60		
	Self-Finance	38	3.99		
Librarian as Information Organiser	Government	38	4.91	1.638	0.195
	Aided	37	3.15		
	Self-Finance	38	3.69		
Librarian as Information Provider	Government	38	5.00	0.284	0.753
	Aided	39	3.71		
	Self-Finance	38	4.12		



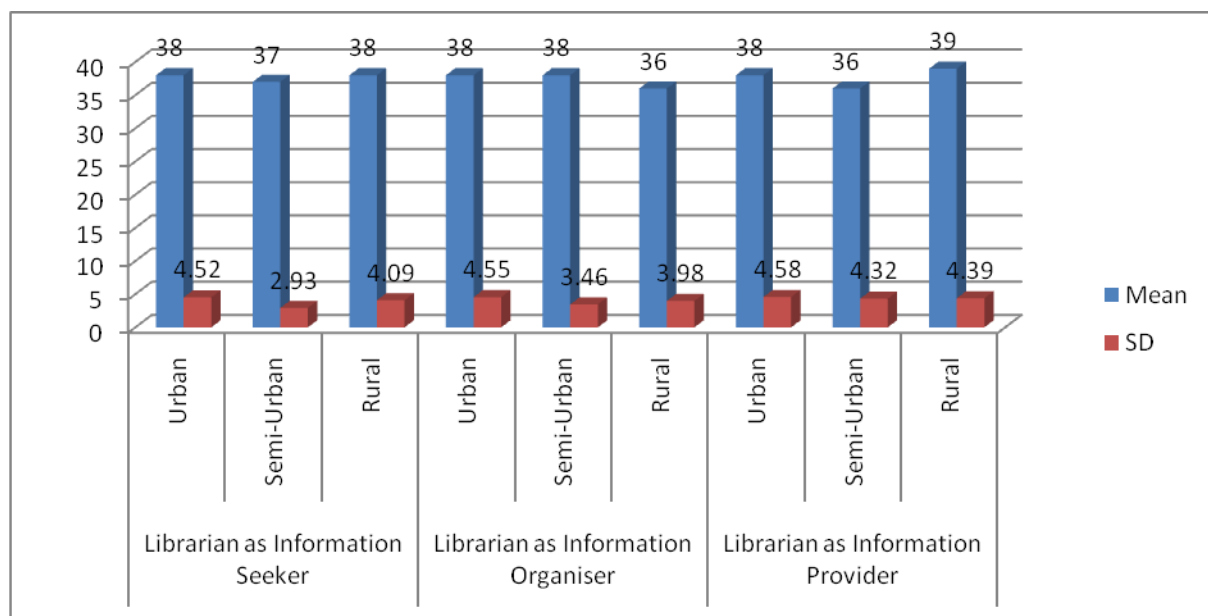
**Figure 5. ANOVA for significant difference in the information literacy skills and its aspects with reference to various types of institutions**

Since the P value is greater than 0.05, there is no significant difference among the respondents from various types of institutions with respect to information literacy skills and its aspects. Hence the hypothesis is rejected at 5% level of significance in information literacy skills, with respect to various types of institutions. The respondents belonging to 'Aided Institutions' have shown higher mean than 'Government' and 'Self-Finance

Institutions' in 'Information Seekers' and 'Information Providers' aspects of information literacy skills.

**Table 8. ANOVA for significant difference in the information literacy skills and its aspects with reference to various locations**

Information Literacy Skill Aspects	Location	Mean	SD	F value	P value
Librarian as Information Seeker	Urban	38	4.52	2.245	0.107
	Semi-Urban	37	2.93		
	Rural	38	4.09		
Librarian as Information Organiser	Urban	38	4.55	7.817	0.000
	Semi-Urban	38	3.46		
	Rural	36	3.98		
Librarian as Information Provider	Urban	38	4.58	8.768	0.000
	Semi-Urban	36	4.32		
	Rural	39	4.39		



**Figure 6. ANOVA for significant difference in the information literacy skills and its aspects with reference to various locations**

Since the P value is less than 0.05, there is significant difference among the respondents belonging to various locations with respect to information literacy skills and its

aspects, except 'Information Seekers'. Hence the hypothesis is accepted at 5% level of significance in information literacy skills, except 'Information Seekers' aspect with respect to various locations. The respondents belonging to 'Rural' location have shown lower mean in 'Information Organisers' aspect and higher mean in 'Information Providers' aspect than remaining locations.

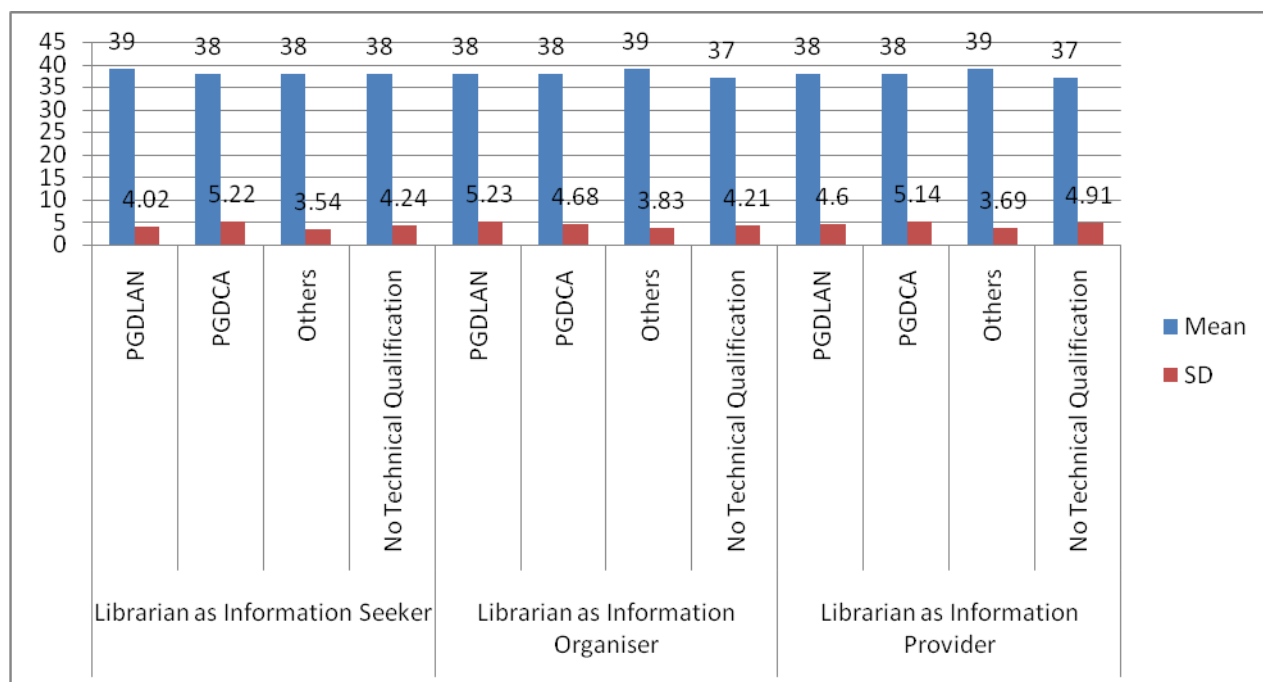
Since P value is greater than 0.05, the hypothesis is rejected at 5% level of significant with respect to 'information seekers' aspect of information literacy skills. Hence there is no significant difference among the respondents belongs to various locations, with respect to 'information seekers' aspect. In 'Information Seekers' aspect of information literacy skills, the respondents belonging to 'Semi-Urban' location have shown lower mean score than other locations.

**Hypothesis 4:** There will be a significance difference in the information literacy skills and its aspects among the respondents belonging to various technical qualifications.

**Table 9. ANOVA for significant difference in the information literacy skills and its aspects with reference to various technical qualifications**

Information Literacy Skill Aspects	Technical Qualifications	Mean	SD	F value	P value
Librarian as Information Seeker	PGDLAN	39	4.02	2.434	0.064
	PGDCA	38	5.22		
	Others	38	3.54		
	No Technical Qualification	38	4.24		
Librarian as Information Organiser	PGDLAN	38	5.23	2.561	0.054
	PGDCA	38	4.68		
	Others	39	3.83		
	No Technical Qualification	37	4.21		
Librarian as Information Provider	PGDLAN	38	4.60	4.221	0.006
	PGDCA	38	5.14		
	Others	39	3.69		

	No Technical Qualification	37	4.91		
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**Figure 7. ANOVA for significant difference in the information literacy skills and its aspects with reference to various technical qualifications**

Since the P value is greater than 0.05, there is no significant difference among the respondents from various technical qualifications with respect to information literacy skills and its aspects, except 'Information Providers'. Hence the hypothesis is rejected at 5% level of significance in information literacy skills, except 'Information Providers' aspect with respect to various technical qualifications of the respondents. From the Table 9, it could be referred that the respondents belonging to PGDLAN qualification scored higher mean than other technical qualifications, in 'Information Seekers' aspect. The respondents belonging to the technical qualification under 'others' have shown higher mean score than remaining technical qualifications, in 'Information Organiser' aspect.

Since the P value is less than 0.05, there is significant difference among the respondents from various types of libraries with respect to 'Information Providers' aspect of information literacy skills. Hence the hypothesis is accepted at 5% level of significance in information literacy skills in 'Information Providers' aspect with respect to various technical qualifications of the respondents.

## **Suggestions**

- The management of academic institutions should adopt one of the information literacy competency standards available to be used in the institution and make such available to each course instructor while the necessity for achieving the standards should be stressed.
- To implement these fully, the university should review its mission and educational goals to determine how information literacy would improve learning and enhance effectiveness.
- It should also embark on faculty and staff development programmes for the acceptance of the implementation of the standards. It should stress the need for faculty members to join the librarians in teaching information literacy skills to the students. The participation of lecturers in the programme would ensure effectiveness and smooth implementation.
- The academic libraries should urgently develop its e-library project by procuring all necessary facilities and also open the planned Internet café for students to access the e-library and make effective use of its resources.
- Curricula should be revised at the national level to accommodate the integration of information literacy and the use of e-library, either as embedded or standalone courses. This is in recognition of the changes in technology, especially in managing information.
- The respondents suggested things that should be done to embed effective information literacy programmes in Indian academic System. These are lofty suggestions which when implemented will go a long way in entrenching information literacy training in Indian academic institutions.

## **Conclusion**

The information environment of the 21<sup>st</sup> century requires that students are taught to wade through the ocean of information in order to locate, use and evaluate information for knowledge acquisition and for lifelong learning. Results show that many librarians in the study are aware of the concept and value of information literacy education for students in Indian academic institutions. They also strongly felt that they are capable of handling information literacy. What this group of professionals need is an enabling environment

propelled by government approved standards and policy to join their colleagues in other parts of the globe to build citizens who are information literate needed for survival in the knowledge society. Information literacy is an ongoing journey; it should not be a destination. It is found essential to make information literacy programme a regular activity in the higher learning and research and development institutions. Library professionals are slowly and steadily acquainting with the technological gadgets and showing interest in guiding the users in the information search and accessing the information. Information literacy programmes need to be implemented mainly by the library staff in schools, universities, public and other libraries in order to achieve library goals and to convert their users to lifelong learners and critical thinkers.

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