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Vellaichamy Alagarsamy
Alagappa University, vellaichamy19@gmail.com

Jeyshankar Ramalingam
Alagappa University, jeyshankar71@gmail.com

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An Assessment of women faculty members opinion about information literacy needs, search and evaluation competencies

A. Vellaichamy

Research Scholar, Dept. of Library & Information Science
Alagappa University, Karaikudi – 630 003, vellaichamy19@gmail.com
&

Dr. R. Jeysankar

Assistant Professor, Dept. of Library & Information Science
Alagappa University, Karaikudi – 630 003, jeysankar71@gmail.com

Abstract

This paper reports information literacy needs, search and evaluation competencies at Mother Teresa Women's University and its affiliated colleges. In this study it is try to evaluate the information literacy needs, information needs assessment competency and competency of information literacy evaluation. Questionnaire was a data collection tool. A total of 290 questionnaires were distributed among users and 254 duly filled in questionnaires were received, thus resulting into a response rate of 87.59 per cent. Out of 12 institutions, 5 are government, 5 are self-financing and 2 are aided educational institutions. This study showed that 163 (64.2%) respondents are assistant professors and 81 (31.9%) respondents are associate professors while just 10 (3.9%) respondents are professors. Study also reveals that majority of the respondents belong to more than 45 years (33.1%) age group followed by 41-45 years age group constituting 19.3% (49) of the respondents and 36-40 years age group constituting 16.9% (43) of the respondents and 30.8% (78) of the sample are young belonging to either 25-30 or 31-35 years age group.

Keywords: Information literacy, faculty members, Boolean Operators, information needs and competency of evaluation

1. Introduction

In the information-rich world, where the scope of available information appears limitless, there is a growing need for researchers, faculty members and students to become critical users of information. It not only includes knowing how to locate Internet resources but focuses upon developing the skills necessary in seeking information from a variety of resources. What information is found is not important, but to use that information to complete the assigned task or research is of great importance. The educational institutions have an opportunity, and a challenge, to prepare faculty to meet the demands of the Information Age. The faculty members need to identify what graduates should know and be able to do.

Recipients of a quality education share certain attributes like critical thinking, problem solving, a global vision and a multicultural perspective, preparedness for work, and good citizenship. Information includes any data, evidence, inference, concept, or impression that is conveyable or obtainable by a variety of means or media, such as by print, digital sources, personal experience, experimentation, art, mathematics, history, literature, science, popular culture, and so on. Literacy includes an individual's abilities to actively and ethically access, recall, decipher, understand, synthesize, analyze, apply, critique, create, and communicate with materials and skills which are presented to and learned by that individual within her or his personal, professional, academic, or social contexts.

2. Review of Literature

Searching is an art. The information seekers should understand various search strategies and tools that may be employed in the effective retrieval of pertinent information. Lack of search skills will really be a disastrous in information retrieval process. Most of PG students were not skilled in the use of search strategies, search tools and the evaluation of information (Sebuava, 2016). The respondents are less successful in advanced database search strategies, which require a combination of knowledge, comprehension, and logic (Boh Podgornik, Dolnicar, Sorgo & Bartol, 2015). Students were more comfortable in basic computing and internet related activities but less comfortable on specialized information searching tasks (Mahmood, 2013). The lack of search skills has a direct impact on the use of various resources too. Low level of usage of electronic resources, in particular, full texts data bases was linked to lack of search techniques skills by many postgraduate students of the university to access the myriad of e-resources (Adeleke, Samuel & Emeahara, 2016).

The type of information required by the respondents differ to a greater extent depending on where are they, who are they and what do they do. Job related information, information on health matters and information on financial matters are information needs that are common among the bankers. Current awareness, research and service delivery are major purpose of information use among them (Bello, Amusa, Omotoso and Osunrinade, 2016). Majority of the respondents in academic institutions have information needs on their academic engagements like class assignments and project writing (Issa, Aumsan, Olarongbe, Igwe & Oguntayo, 2015). To satisfy the information needs, the respondents resort to various online and offline resources. Most scholarly resources used were books in print format, while most non-scholarly resources referred to were in electronic format (Ali, Abu-Hassan, Daud & Jusoff, 2010).

The respondents have fair level of computer literacy skills (Chima, 2015); have average computer skills (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014). The students got 56% of computer literacy score (Ershad Sarabi & Bahaadini, 2005). The highest levels of competence in generic ICT areas were for email, Internet and file management (Samuel et al., 2004). A majority of the students have good skills in using e-mail and word processing (Hollander, 1999) ; (Chima, 2015). Some of the Information Literacy studies are conducted by the researches on the population consisting of mixed bags of respondents. Lata and Sharma (2013) performed an IL study on faculty and students, Moghaddaszadeh and Nikam (2012) on faculty members and research scholars, Somi and De Jager (2005) on undergraduate and postgraduate students, Nyamboga (2004) on the library users of Indian universities and Boh Podgornik, Dolnicar, Sorgo and Bartol (2015) and Mahmood (2013) on students in general. Thomas and Jacobson (2005) opined that information literacy initiatives must be a shared concern of faculty and librarians. Nyamboga (2004) expressed that the inclusion of information literacy programmes in universities is entirely the responsibility of library and information professionals. Information professionals are needed to pass on IL skills to library users (Annet Kinengyere, 2007).

3. Objectives of the study

The study has been designed with the following objectives;

1. To know the institution wise respondents under study;
2. To know the age and working sector of the respondents;
3. To know the designation and experience of the respondents;
4. To assess the information search competency skills of the respondents under study;
5. To assess the information needs assessment competency skills of the respondents under study; and
6. To assess the competency of information literacy evaluation skills of the respondents under study.

4. Methodology

For the present study simple random sampling method has been adopted by the investigator which comprises of administration of questionnaire in order to assess the women faculty members' opinion about the information literacy needs, search and evaluation competencies. The researcher visited the MTWU and 11 of its affiliated colleges and distributed the questionnaire. A structured questionnaire was designed in order to collect the data, after collection of filled up questionnaire from the respondents the data has been

tabulated using SPSS Software and in the present report only results has been shown in percentage (%). All these results have been shown in the graphical format using MS-Excel using the tables and figures, and it was analyzed and tabulated through the statistical tools, such as average and simple percentages.

5. Analysis and Discussion

Size of the sample

Table 5.1 reveals the distribution of questionnaires in Mother Teresa Women's University and its affiliated colleges. The highest, response rate comes from the MTWU with 95.00 per cent, followed by Autonomous colleges affiliated to MTWU with 92.50 per cent, Self Financing Colleges with 83.64 per cent and constituent Colleges of MTWU with 83.33 per cent.

Table 5.1: Sample size

Sl. no	University and its affiliated Colleges	Questionnaires Distributed	No. of Responded	Rate of response
1	Mother Teresa Women's University	40	38	95.00
2	Constituent Colleges	60	50	83.33
3	Autonomous Colleges	80	74	92.50
4	Self Financing Colleges	110	92	83.64
Total		290	254	87.59

Designation, Working Sector and Age-wise Respondents

Table 5.2 discloses the designation and working sector-wise distribution of the respondents. Out of 12 institutions, 5 are government, 5 are self-financing and 2 are aided educational institutions. While there are 92 (36.2%) respondents from self-financing colleges, 88 (34.6%) respondents are from Government University and government colleges. 74 (29.1%) respondents are hailed from just two self-financing colleges. 163 (64.2%) respondents are assistant professors and 81 (31.9%) respondents are associate professors while just 10 (3.9%) respondents are professors. Thus, majority of the respondents of this study are Assistant Professors. Majority of the respondents belong to more than 45 years (33.1%) age group followed by 41-45 years age group constituting 19.3% (49) of the respondents and 36-40 years age group constituting 16.9% (43) of the respondents. 30.8% (78) of the sample are young belonging to either 25-30 or 31-35 years age group. It is also understood that the sample comprises of only female respondents as the sample is taken from women's university and its constituent and affiliated colleges.

Table 5.2 - Designation, Working Sector and Age-wise Distribution of Respondents

Status of Institution	Number of Institutions	Frequency	Percent	Cumulative Percent
Govt	05	88	34.6	34.6
Aided	02	74	29.1	63.8
Self-finance	05	92	36.2	100.0
Total	12	254	100.0	
Designation	Frequency	Cumulative Freq.	Percent	Cumulative Percent
Assistant Professor	163	163	64.2	64.2
Associate Professor	81	244	31.9	96.1
Professor	10	254	3.9	100.0
Total	254		100.0	
Age	Frequency	Cumulative	Percent	Cumulative Percent
25-30 Years	39	39	15.4	15.4
31-35 Years	39	78	15.4	30.7
36-40 Years	43	121	16.9	47.6
41-45 Years	49	170	19.3	66.9
> 45 Years	84	254	33.1	100.0
Total	254		100.0	

Information Search Competency

Table 5.3: Information Search Competency of the Respondents

Variables	SD	DA	NEU	AG	SA	Total
I can communicate the collected information in appropriate medium/format	1 (0.4%)	6 (2.4%)	26 (10.2%)	157 (61.8%)	64 (25.2%)	254 (100%)
I can communicate clearly with a style to support the purposes depending upon the audience	1 (0.4%)	6 (2.4%)	24 (9.4%)	164 (64.6%)	59 (23.2%)	254 (100%)
I can use the keywords, alternate keywords and related keywords to search for the electronic information	0	9 (3.5%)	22 (8.7%)	153 (60.2%)	70 (27.6%)	254 (100%)
I know how to use various classification schemes and catalogues to locate books and other materials in a library	45 (17.7%)	132 (52%)	36 (14.2%)	36 (14.2%)	5 (2%)	254 (100%)

I can identify the gaps in the collected information and determine whether the searching method should be revised	1 (0.4%)	66 (26%)	61 (24%)	86 (33.9%)	40 (15.7%)	254 (100%)
I am aware that the search has to be repeated using revised searching method if necessary	0	17 (6.7%)	30 (11.8%)	134 (52.8%)	73 (28.75%)	254 (100%)
I analyse the logic and structure of information collected	0	1 (.4%)	12 (4.7%)	161 (63.4%)	80 (31.5%)	254 (100%)
I can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,	0	11 (4.3%)	15 (5.9%)	156 (61.4%)	72 (28.3%)	254 (100%)

Table 5.3 discloses the information search competencies of the respondents.

157 (61.8%) respondents agree and 64 (25.2%) respondents strongly agree that they can communicate the collected information in appropriate medium/format. 26 respondents are neutrally skilled. While 164 (64.6%) respondents agree, 59 (23.2%) respondents strongly agree that they can communicate clearly with a style to support the purposes depending upon the audience. 24 (9.4%) respondents are neutrally skilled. 153 (60.2%) respondents agree and 70 (27.6%) respondents strongly agree that they can use the keywords, alternate keywords and related keywords to search for the electronic information while 22 (8.7%) respondents are neutrally skilled. While 134 (52.8%) respondents agree, 73 (28.75%) respondents strongly agree that they can repeat the revised searching, if necessary, 30 (11.8%) respondents are neutrally skilled.

161 (63.4%) respondents agree and 30 (31.5%) respondents strongly agree that they can analyse the logic and structure of information collected. While 156 (61.4%) respondents agree, 72 (28.3%) respondents strongly agree that they can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc. 52% (132) of the respondents disagree and 17.7% (45) of the respondents strongly disagree that they know how to use various classification schemes and catalogues to locate books and other materials in a library. Only 14.2% (36) of the respondents agree and are neutral with this skill. While 86 (33.9%) respondents agree and 40 (15.7%) respondents strongly agree, 61 (24%) are neutral and 66 (26%) respondents disagree that they can identify the gaps in the collected information and determine whether the searching method should be revised.

Table 5.3.1: Tests of Normality for the factor “Information Search Competency”

Variable	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
I can communicate the collected information in appropriate medium/format according to the suiting audience	.318	254	.000	.771	254	.000
I can communicate clearly with a style to support the purposes depending upon the audience	.331	254	.000	.755	254	.000
I can use the keywords, alternate keywords and related keywords to search for the electronic information	.311	254	.000	.771	254	.000
I know how to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library	.319	254	.000	.839	254	.000
I can identify the gaps in the collected information and determine whether the searching method should be revised	.217	254	.000	.874	254	.000
I am aware that the search has to be repeated using revised searching method if necessary	.298	254	.000	.809	254	.000
I analyse the logic and structure of information collected	.364	254	.000	.718	254	.000
I can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,	.320	254	.000	.746	254	.000

To test the normality of data, one sample K-S (Kolmogorov-Smirnov) test and Shapiro-Wilk test were conducted for all the 8 variables placed under the factor ‘Information Search Competency’. Table 5.3.1 reveals that the p-values for all the 8 variables are less than the 0.05. The information search competency scores of D (254) =.000 and does significantly deviate from normality. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted i.e. the sample data are significantly different than a normal population. So, the non-parametric tests were conducted on these variables.

Information Search Competency - 1

Table 5.4: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can communicate the collected information in appropriate medium/format according to the suiting audience” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	1	6	19	103	34	163	119.75	19518.5	6152.5	.009
AP & P	0	0	7	54	30	91	141.39	12866.5		
Total	1	6	26	157	64	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	3	14	51	20	88	118.89	4.100	2	.129
Aided	0	1	10	45	18	74	125.06			
Self-Finance	1	2	2	61	26	92	137.70			
Total	1	6	26	157	64	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.4 shows the designation and working sector-wise distribution of the respondents in terms of their skill to communicate the collected information in appropriate medium/format according to the suiting audience.

Designation-wise Analysis: 103 AP and 54 AP&P agree and 34 AP and 30 AP&P strongly agree that they can communicate the collected information in appropriate medium/format according to the suiting audience. While 19 AP and 7 AP&P are neutrally skilled, just 6 AP disagree and 1 AP strongly disagrees with this skill.

Mann-Whitney U Test: The results of the test were in the expected direction and significant, $U = 6152.5$, $p < .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (141.39) is significantly higher than the score (119.75) for Assistant Professors. The difference between the mean ranks is 21.64. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to communicate the collected information in appropriate medium/format according to the suiting audience.

Working Sector-wise Analysis: 51 GSR, 45 ASR and 61 SSR agree while 20 GSR, 18 ASR and 26 SSR strongly agree that they communicate the collected information in appropriate medium/format according to the suiting audience. 14 GSR, 10 ASR and 2 SSR are neutrally skilled and just 6 respondents disagree with this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can communicate the collected information in appropriate medium/format according to the suiting audience*” ($X^2(2, N = 254) = 4.100, p > .05$). The mean ranks for the skill is 118.89 for government sector respondents, 125.06 for aided sector respondents and 137.70 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Search Competency - 2

Table 5.5: *Mann Whitney U Test and Kruskal Wallis Test on the competency “I can communicate clearly with a style to support the purposes depending upon the audience” Vs. Designation and Working Sector of the Respondents*

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	1	3	18	109	32	163	122.31	19937	6571	.075
AP& P	0	3	6	55	27	91	136.79	12448		
Total	1	6	24	164	59	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	1	2	9	52	24	88	130.54	2.763	2	.251
Aided	0	3	10	47	14	74	117.47			
Self-Finance	0	1	5	65	21	92	132.66			
Total	1	6	24	164	59	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.5 shows the designation and working sector-wise distribution of the respondents in terms of their skill to communicate clearly with a style to support the purposes depending upon the audience.

Designation-wise Analysis: 109 AP and 55 AP&P agree while 32 AP and 27 AP&P strongly agree that they can communicate clearly with a style to support the purposes depending upon the audience. While 18 AP and 6 AP&P are neutrally skilled, just 6 respondents disagree with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6571$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (136.79) is not significantly higher than the score (122.31) for Assistant Professors. The difference between the mean ranks is 14.48. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to communicate clearly with a style to support the purposes depending upon the audience.

Working Sector-wise Analysis: 52 GSR, 47 ASR and 65 SSR agree while 24 GSR, 14 ASR and 21 SSR strongly agree that they can communicate clearly with a style to support the purposes depending upon the audience. The skills of 9 GSR, 10 ASR and 5 SSR are neutral while the possession of this skill is disagreed by 6 respondents.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can communicate clearly with a style to support the purposes depending upon the audience*” ($X^2(2, N = 254) = 2.763, p > .05$). The mean ranks for the skill is 130.54 for government sector respondents, 117.47 for aided sector respondents and 132.66 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Search Competency - 3

Table 5.6: Mann Whitney U Test and Kruskal Wallis Test on the competency “*I can use the keywords, alternate keywords and related keywords to search for the electronic information*” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	4	15	102	42	163	126.15	20562.5	7196.5	.653
AP & P	0	5	7	51	28	91	129.92	11822.5		
Total	0	9	22	153	70	254				

Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	0	5	61	22	88	130.90	6.061	2	.048
Aided	0	8	11	36	19	74	112.49			
Self-Finance	0	1	6	56	29	92	136.32			
Total	0	9	22	153	70	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.6 shows the designation and working sector-wise distribution of the respondents in terms of their skill to use the keywords, alternate keywords and related keywords to search for the electronic information.

Designation-Wise Analysis: 102 AP and 51 AP&P agree while 42 AP and 28 AP&P strongly agree that they can use the keywords, alternate keywords and related keywords to search for the electronic information. 15 AP and 7 AP&P are neutrally skilled while 4 AP and 5 AP&P disagree with the skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 7196.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (129.92) is not significantly higher than the score (126.15) for assistant professors. The difference between the mean ranks is 3.77. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to use the keywords, alternate keywords and related keywords to search for the electronic information.

Working Sector-wise Analysis: 61 GSR, 36 ASR and 56 SSR agree while 22 GSR, 74 ASR and 92 SSR strongly agree that they can use the keywords, alternate keywords and related keywords to search for the electronic information. While 22 respondents (5 GSR, 11 ASR and 6 SSR) are neutral, just 9 respondents (5 ASR and 4 SSR) disagree with the skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill “*I can use the keywords, alternate keywords and related keywords to search for the electronic information*” ($X^2(2, N = 254) = 6.061, p < .05$). The mean ranks for the skill is 130.90 for government sector respondents, 112.49 for aided sector respondents and 136.32 for self-financing sector respondents. Inspection of the

group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Post-Hoc Tests:

Pair	Sector	Mean Rank	Difference	U	p	Result
I	Govt.	87.04	12.13	2768.5	.061	No Significant Difference
	Aided	74.91				
II	Govt	88.36	4.18	3860	.521	No Significant Difference
	Self-finance	92.54				
III	Aided	75.07	15.21	2780.5	.024	Significant Difference
	Self-finance	90.28				

It is inferred that there is a significant difference between the respondents of two different sectors – Aided vs. Self-finance – in their skills to use the keywords, alternate keywords and related keywords to search for the electronic information as their p-values are less than 0.05. This pair has created a difference in the group means as calculated with Kruskal Wallis Test.

Information Search Competency - 4

Table 5.7: Mann Whitney U Test and Kruskal Wallis Test on the competency “I know how to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	p
	SD	DA	NE	AG	SA					
AP	30	84	20	25	4	163	127.37	20761.5	7395.5	.968
AP & P	15	48	16	11	1	91	127.73	11623.5		
Total	45	132	36	36	5	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	p
	SD	DA	NE	AG	SA					
Govt.	22	46	10	8	2	88	113.02	9.195	2	.010
Aided	3	44	13	14	0	74	145.37			
Self-Finance	20	42	13	14	3	92	126.97			
Total	45	132	36	36	5	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.7 shows the designation and working sector-wise distribution of the respondents in terms of their skill to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library.

Designation-wise Analysis: 84 AP and 48 AP&P disagree while 25 AP and 11 AP&P agree that they can use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library. Five respondents strongly agree with this skill while 45 (30 AP and 15 AP&P) respondents strongly disagree with the skill. In fact, 20 AP and 16 AP&P are neutral.

Mann-Whitney U Test: The results of the test were insignificant, $U = 7395.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (127.73) is not significantly higher than the score (127.37) for assistant professors. The difference between the mean ranks is 0.36. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library.

Working Sector-wise Analysis: While 22 GSR, 3 ASR and 20 SSR strongly disagree, just 2 GSR and 3 SSR strongly agree that they can use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library. 46 GSR, 44 ASR and 42 SSR disagree while 8 GSR, 14 ASR and 14 SSR agree with this skill. 10 GSR, 13 ASR and 13 SSR are neutrally skilled.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill *I know how to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library* ($X^2 (2, N = 254) = 9.195$, $p < .05$). The mean ranks for the skill is 113.02 for government sector respondents, 145.37 for aided sector respondents and 126.97 for self-financing sector respondents. Inspection of the group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Post-Hoc Tests:

Pair	Sector	Mean Rank	Difference	U	p	Result
I	Govt.	71.80	21.24	2402	.002	Significant Difference
	Aided	93.04				
II	Govt	85.73	9.34	3628	.197	No Significant Difference
	Self-finance	95.07				

III	Aided	89.83	11.42	2935.5	.099	No Significant Difference
	Self-finance	78.41				

It is inferred that there is a significant difference between the respondents of Govt. and Aided sector in their skills to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library as their p-values are less than 0.05. This pair has created a difference in the group means as calculated with Kruskal Wallis Test.

Information Search Competency - 5

Table 5.8: Mann Whitney U Test and Kruskal Wallis Test on the competency "I can identify the gaps in the collected information and determine whether the searching method should be revised" Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	1	44	40	56	22	163	123.94	20202	6836	.283
AP & P	0	22	21	30	18	91	133.88	12183		
Total	1	66	61	86	40	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	16	15	38	19	88	147.66	12.115	2	.002
Aided	0	21	17	27	9	74	123.40			
Self-Finance	1	29	29	21	12	92	111.51			
Total	1	66	61	86	40	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.8 shows the designation and working sector-wise distribution of the respondents in terms of their skill to identify the gaps in the collected information and determine whether the searching method should be revised.

Designation-wise Analysis: 56 AP and 30 AP&P agree while 22 AP and 18 AP&P strongly agree that they can identify the gaps in the collected information and determine whether the searching method should be revised. While 40 AP and 21 AP&P are neutral, 44 AP and 22 AP&P disagree with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6836$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (133.88) is not significantly higher than the score (123.94) for Assistant Professors. The difference between the mean ranks is 9.94. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to identify the gaps in the collected information and determine whether the searching method should be revised.

Working Sector-wise Analysis: 19 GSR, 9 ASR and 12 SSR strongly agree while 38 GSR, 27 ASR and 21 SSR agree that they can identify the gaps in the collected information and determine whether the searching method should be revised. While 16 GSR, 21 ASR and 29 SSR disagree with this skill, 15 GSR, 17 ASR and 29 SSR are neutrally skilled.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill “*I can identify the gaps in the collected information and determine whether the searching method should be revised*” ($X^2(2, N = 254) = 12.115$, $p < .05$). The mean ranks for the skill is 147.66 for government sector respondents, 123.40 for aided sector respondents and 111.51 for self-financing sector respondents. Inspection of the group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Post-Hoc Tests:

Pair	Sector	Mean Rank	Difference	U	p	Result
I	Govt.	88.68	15.72	2624.0	.026	Significant Difference
	Aided	72.96				
II	Govt	103.48	25.40	2905.5	.001	Significant Difference
	Self-finance	78.08				
III	Aided	87.94	8.01	3075.5	.267	No Significant Difference
	Self-finance	79.93				

It is inferred that there is a significant difference between two pairs of respondents – Govt. Vs. Aided sector respondents and Govt. Vs. Self-finance sector respondents – in their skills to identify the gaps in the collected information and determine whether the searching method should be revised as their p-values are less than 0.05. These two pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

Information Search Competency - 6

Table 5.9: Mann Whitney U Test and Kruskal Wallis Test on the competency “I am aware that the search has to be repeated using revised searching method if necessary” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	p
	SD	DA	NE	AG	SA					
AP	0	13	19	86	45	163	125.1	20391.5	7025.5	.444
AP & P	0	4	11	48	28	91	131.8	11993.5		
Total	0	17	30	134	73	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	p
	SD	DA	NE	AG	SA					
Govt.	0	9	8	44	27	88	128.01	.326	2	.849
Aided	0	3	12	35	24	74	130.49			
Self-Finance	0	5	10	55	22	92	124.60			
Total	0	17	30	134	73	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.9 shows the designation and working sector-wise distribution of the respondents in terms of their skill & awareness to repeat the searching methods if necessary.

Designation-wise Analysis: 86 AP and 48 AP&P agree while 45 AP and 28 AP&P strongly agree that they are aware that the search has to be repeated using revised methods if necessary. While 19 AP and 11 AP&P are neutrally skilled, 13 AP and 4 AP&P disagree with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 7025.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (131.8) is not significantly higher than the score (125.1) for Assistant Professors. The difference between the mean ranks is 6.7. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to know and repeat the searching methods if necessary.

Working Sector-wise Analysis: 27 GSR, 24 ASR and 22 SSR strongly agree while 44 GSR, 35 ASR and 22 SSR agree that they are aware that the search has to be repeated using revised

methods if necessary. While 9 GSR, 3 ASR and 5 SSR disagree, 8 GSR, 12 ASR and 10 SSR are neutral in this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill ‘*I am aware that the search has to be repeated using revised searching method if necessary*’ ($X^2(2, N = 254) = .326, p > .05$). The mean ranks for the skill is 128.01 for government sector respondents, 130.49 for aided sector respondents and 124.60 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Search Competency - 7

Table 5.10: Mann Whitney U Test and Kruskal Wallis Test on the competency ‘*I analyse the logic and structure of information collected*’ Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	p
	SD	DA	NE	AG	SA					
AP	0	1	5	107	50	163	127.74	20821.5	7377.5	.934
AP & P	0	0	7	54	30	91	127.07	11563.5		
Total	0	1	12	161	80	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	p
	SD	DA	NE	AG	SA					
Govt.	0	1	5	58	24	88	120.89	1.623	2	.444
Aided	0	0	6	42	26	74	129.32			
Self-Finance	0	0	1	61	30	92	132.35			
Total	0	1	12	161	80	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.10 shows the designation and working sector-wise distribution of the respondents in terms of their skill to analyse the logic and structure of information collected.

Designation-wise Analysis: It is happy to note that 107 AP and 54 AP&P agree while 50 AP and 30 AP&P strongly agree that they can analyse the logic and structure of information collected. While 12 respondents are neutrally skilled, only one respondent disagrees with this skill. Thus, majority of the respondents are good at this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 7377.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (127.07) is not significantly higher than the score (127.74) for Assistant Professors. The difference between the mean ranks is 0.67. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to analyse the logic and structure of information collected.

Working Sector-wise Analysis: 24 GSR, 26 ASR and 30 SSR strongly agree while 58 GSR, 42 ASR and 61 SSR agree that they can analyse the logic and structure of information collected. While 1 GSR disagrees, 5 GSR, 6 ASR and 1 SSR are neutral in this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I analyse the logic and structure of information collected*” ($X^2 (2, N = 254) = 1.623, p > .05$). The mean ranks for the skill is 120.89 for government sector respondents, 129.32 for aided sector respondents and 132.35 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Search Competency - 8

Table 5.11: *Mann Whitney U Test and Kruskal Wallis Test on the competency “I can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,” Vs. Designation and Working Sector of the Respondents*

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	p
	SD	DA	NE	AG	SA					
AP	0	5	6	105	47	163	131.2	21386	6813	.213
AP & P	0	6	9	51	25	91	120.87	10999		
Total	0	11	15	156	72	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	p
	SD	DA	NE	AG	SA					
Govt.	0	5	8	50	25	88	123.52	9.608	2	.008
Aided	0	6	7	45	16	74	113.07			
Self-Finance	0	0	0	61	31	92	142.91			
Total	0	11	15	156	72	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.11 shows the designation and working sector-wise distribution of the respondents in terms of their skill to make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,

Designation-wise Analysis: A majority of 105 AP and 51 AP&P agree while 47 AP and 25 AP&P strongly agree that they can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc. 15 respondents are neutrally skilled. 11 respondents disagree while none strongly disagrees with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6813$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (120.87) is not significantly higher than the score (131.2) for Assistant Professors. The difference between the mean ranks is 10.33. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,

Working Sector-wise Analysis: A least number of respondents (5 GSR and 6 ASR) disagree that they can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc. 8 GSR and 7 ASR are neutrally skilled. While 50 GSR, 45 ASR and 61 SSR agree, 25 GSR, 16 ASR and 31 SSR strongly agree with this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill “*I can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,*” ($X^2 (2, N = 254) = 9.608$, $p < .05$). The mean ranks for the skill is 123.52 for government sector respondents, 113.07 for aided sector respondents and 142.91 for self-financing sector respondents. Inspection of the group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is rejected and the alternative hypothesis is accepted.

Post-Hoc Tests:

Pair	Sector	Mean Rank	Difference	U	p	Result
I	Govt.	84.45	6.46	2996	.323	No Significant Difference
	Aided	77.99				
II	Govt	83.56	13.58	3437.5	.042	Significant Difference
	Self-finance	97.14				

III	Aided	72.59	19.69	2596.5	.002	Significant Difference
	Self-finance	92.28				

It is inferred that there is a significant difference between the respondents of two pairs – Govt. Vs. Self-finance sector respondents and Aided Vs. Self-finance sector respondents – in their skills to make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc. as their p-values are less than 0.05. These two pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

Information Needs Assessment Competency

Table 5.12: Information Needs Assessment Competency of the Respondents

Variables	SD	DA	NEU	AG	SA	Total
I can identify a research topic or any other information need	1 (.4%)	1 (.4%)	9 (3.5%)	160 (63%)	83 (32.7%)	254 (100%)
I can formulate questions based on the information need	0	2 (.8%)	12 (4.7%)	166 (65.4%)	74 (29.1%)	254 (100%)
I can identify general and specific subject information resources	0	1 (.4%)	22 (8.7%)	149 (58.7%)	82 (32.3%)	254 (100%)
I can identify and modify the need for information	0	2 (.8%)	37 (14.6%)	125 (49.2%)	90 (35.4%)	254 (100%)
I can use different keywords for the information I need	0	6 (2.4%)	22 (8.7%)	144 (56.7%)	82 (32.3%)	254 (100%)
I can identify types of resources (like books, scholarly journal, historical periodicals, etc.)	0	4 (1.6%)	24 (9.4%)	141 (55.5%)	85 (33.5%)	254 (100%)
I can differentiate between primary and secondary sources of information	0	1 (.4%)	14 (5.5%)	144 (56.7%)	95 (37.4%)	254 (100%)

Table 5.12 shows the information needs assessment competencies of the respondents. It is happy to note that an insignificant percentage of respondents disagree with their information needs assessment competencies. A least number of respondents ranging from 9 to 37 are neutrally skilled in their assessment competencies. 160 (63%) respondents agree and 83 (32.7%) strongly agree that they can identify a research topic or any other information need while 166 (65.4%) agree and 74 (19.1%) strongly agree that they can formulate questions based on the information need.

A majority of 149 (58.7%) respondents agree and 82 (32.3%) strongly agree that they can identify general and specific subject information resources. While 125 (49.2%) respondents agree, 90 (35.4%) respondents strongly agree that they can identify and modify

the need for information. 56.7 % (144) of the respondents agree and 32.3% (82) of the respondents strongly agree that they can use different keywords for the information they need. A majority of 141 (55.5%) respondents agree and 85 (33.5%) respondents strongly agree that they can identify types of resources (like books, scholarly journal, historical periodicals, etc.). A majority of 144 (56.7%) respondents agree and 95 (37.4%) respondents strongly agree that they can differentiate between primary and secondary sources of information.

Tests of Normality: Information Needs Assessment Competency

Table 5.12.1 *Tests of Normality for the factor “Information Needs Assessment Competency”*

Variable	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
I can identify a research topic or any other information need	.352	254	.000	.697	254	.000
I can formulate questions based on the information need	.366	254	.000	.714	254	.000
I can identify general and specific subject information resources	.323	254	.000	.764	254	.000
I can identify and modify the need for information	.254	254	.000	.805	254	.000
I can use different keywords for the information I need	.286	254	.000	.777	254	.000
I can identify types of resources (like books, scholarly journal, historical periodicals, etc.)	.287	254	.000	.781	254	.000
I can differentiate between primary and secondary sources of information	.327	254	.000	.743	254	.000

To test the normality of data, one sample K-S (Kolmogorov-Smirnov) test and Shapiro-Wilk tests were conducted for all the 7 variables placed under the factor ‘Information Needs Assessment Competency’. The p-values for all the 7 variables are less than the 0.05. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted i.e. the research data is not normally distributed. So, the non-parametric tests were conducted on these variables.

Information Needs Assessment Competency - 1

Table 5.13: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can identify a research topic or any other information need” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	1	1	7	104	50	163	124.04	20218	6852	.234
AP & P	0	0	2	56	33	91	133.70	12167		
Total	1	1	9	160	83	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	0	2	52	34	88	136.52	2.896	2	.235
Aided	0	1	5	44	24	74	123.99			
Self-Finance	1	0	2	64	25	92	121.70			
Total	1	1	9	160	83	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.13 shows the designation and working sector-wise distribution of the respondents in terms of their skill to identify a research topic or any other information need.

Designation-wise Analysis: 104 AP and 56 AP&P agree while 50 AP and 33 AP&P strongly agree that they can identify a research topic or any other information need. Only 9 respondents are neutrally skill. Thus, most of the respondents are good at this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6852$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (133.70) is not significantly higher than the score (124.04) for Assistant Professors. The difference between the mean ranks is 9.66. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to identify a research topic or any other information need.

Working Sector-wise Analysis: 52 GSR, 44 ASR and 64 SSR agree while 34 GSR, 24 ASR and 25 SSR strongly agree that they can identify a research topic or any other information need. Just 2 GSR, 5 ASR and 2 SSR are neutral in this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can identify a research topic or any other information need*” ($X^2 (2, N = 254) = 2.896, p > .05$). The mean ranks for the skill is 136.52 for government sector respondents, 123.99 for aided sector respondents and 121.70 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Needs Assessment Competency - 2

Table 5.14: *Mann Whitney U Test and Kruskal Wallis Test on the competency “I can formulate questions based on the information need’ Vs. Designation and Working Sector of the Respondents*

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	2	11	113	37	163	117.56	19161.5	5795.5	.001
AP & P	0	0	1	53	37	91	145.31	13223.5		
Total	0	2	12	166	74	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	0	4	58	26	88	128.91	.633	2	.729
Aided	0	1	5	43	25	74	130.73			
Self-Finance	0	1	3	65	23	92	123.55			
Total	0	2	12	166	74	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.14 shows the designation and working sector-wise distribution of the respondents in terms of their skill to formulate questions based on the information need.

Designation-wise Analysis: 113 AP and 53 AP&P agree and 37 AP and 37 AP&P strongly agree that they can formulate questions based on the information need. While 12 (11 AP and 1 AP&P) respondents are neutral in this skill, just 2 respondents (AP) disagree with this skill.

Mann-Whitney U Test: The results of the test were in the expected direction and significant, $U = 5795.5, p < .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (145.31) is significantly higher than the score (117.56) for Assistant Professors. The difference between the mean ranks is 27.75. The null

hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to formulate questions based on the information need.

Working Sector-wise Analysis: 58 GSR, 43 ASR and 65 SSR agree while 26 GSR, 25 ASR and 23 SSR strongly agree that they can formulate questions based on the information need. While 4 GSR, 5 ASR and 3 SSR are neutrally skilled, just one ASR and one SSR disagree with this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can formulate questions based on the information need*” ($X^2(2, N = 254) = .633, p > .05$). The mean ranks for the skill is 128.91 for government sector respondents, 130.73 for aided sector respondents and 123.55 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Needs Assessment Competency - 3

Table 5.15: Mann Whitney U Test and Kruskal Wallis Test on the competency “*I can identify general and specific subject information resources*” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	1	17	95	50	163	123.92	20198.5	6832.5	.234
AP & P	0	0	5	54	32	91	133.92	12186.5		
Total	0	1	22	149	82	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	0	5	51	32	88	135.14	2.074	2	.355
Aided	0	1	10	37	26	74	125.72			
Self-Finance	0	0	7	61	24	92	121.63			
Total	0	1	22	149	82	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.15 shows the designation and working sector-wise distribution of the respondents in terms of their skill to identify general and specific subject information resources.

Designation-wise Analysis: 95 AP and 54 AP&P agree while 50 AP and 32 AP&P strongly agree that they can identify general and specific subject information resources. 17 AP and 5 AP&P are neutrally skilled. Thus, most of the respondents are good at identifying general and specific subject information resources.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6832.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (133.92) is not significantly higher than the score (123.92) for Assistant Professors. The difference between the mean ranks is 10.0. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to identify general and specific subject information resources..

Working Sector-wise Analysis: 51 GSR, 37 ASR and 61 SSR agree while 32 GSR, 26 ASR and 24 SSR strongly agree that they can identify general and specific subject information resources. While 5 GSR, 10 ASR and 7 SSR posses neutral skill in identifying such resources while only one ASR disagrees with the skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can identify general and specific subject information resources*” ($X^2 (2, N = 254) = 2.074$, $p > .05$). The mean ranks for the skill is 135.14 for government sector respondents, 125.72 for aided sector respondents and 121.63 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Needs Assessment Competency - 4

Table 5.16: *Mann Whitney U Test and Kruskal Wallis Test on the competency “I can identify and modify the need for information” Vs. Designation and Working Sector of the Respondents*

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	2	25	83	53	163	123.30	20097.5	6731.5	.181
AP & P	0	0	12	42	37	91	135.03	12287.5		
Total	0	2	37	125	90	254				

Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X ²	df	P
	SD	DA	NE	AG	SA					
Govt.	0	0	17	41	30	88	123.00	1.237	2	.539
Aided	0	1	12	35	26	74	125.28			
Self-Finance	0	1	8	49	34	92	133.59			
Total	0	2	37	125	90	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.16 shows the designation and working sector-wise distribution of the respondents in terms of their skill to identify and modify the need for information.

Designation-wise Analysis: 83 AP and 42 AP&P agree while 53 AP and 37 AP&P strongly agree that they can identify and modify the need for information. While 25 AP and 12 AP&P possess neutral skills, just 2 AP disagree with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6731.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (135.03) is not significantly higher than the score (123.30) for Assistant Professors. The difference between the mean ranks is 11.73. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to identify and modify the need for information.

Working Sector-wise Analysis: 30 GSR, 26 ASR and 34 SSR strongly agree while 41 GSR, 35 ASR and 49 SSR agree that they can identify and modify the need for information. While 17 GSR, 12 ASR and 8 SSR are neutrally skilled, just 2 respondents disagree that they can identify and modify the need for information.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can identify and modify the need for information*” ($X^2(2, N = 254) = 1.237, p > .05$). The mean ranks for the skill is 123.00 for government sector respondents, 125.28 for aided sector respondents and 133.59 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Needs Assessment Competency - 5

Table 5.17: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can use different keywords for the information I need” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	1	13	103	46	163	125.17	20403.5	7037.5	.446
AP & P	0	5	9	41	36	91	131.66	11981.5		
Total	0	6	22	144	82	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	2	4	53	29	88	131.76	2.667	2	.264
Aided	0	3	13	35	23	74	117.11			
Self-Finance	0	1	5	56	30	92	131.78			
Total	0	6	22	144	82	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.17 shows the designation and working sector-wise distribution of the respondents in terms of their skill to use different keywords for the information they need.

Designation-wise Analysis: 103 AP and 41 AP&P agree while 46 AP and 36 AP&P strongly agree that they can use different keywords for the information they need. While 13 AP and 9 AP&P are neutrally skilled, just 6 respondents disagree with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 7037.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (131.66) is not significantly higher than the score (125.17) for Assistant Professors. The difference between the mean ranks is 6.49. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to use different keywords for the information they need.

Working Sector-wise Analysis: 29 GSR, 23 ASR and 30 SSR strongly agree while 53 GSR, 35 ASR and 56 SSR agree that they can use different keywords for the information they need. While 4 GSR, 13 ASR and 5 SSR possess neutral skills, 2 GSR, 3 ASR and 1 SSR disagree with this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can use different keywords for the information I need*” ($X^2 (2, N = 254) = 2.667, p > .05$). The mean ranks for the skill is 131.76 for government sector respondents, 117.11 for aided sector respondents and 131.78 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Needs Assessment Competency - 6

Table 5.18: *Mann Whitney U Test and Kruskal Wallis Test on the competency “I can identify types of resources (like books, scholarly journal, historical periodicals, etc.)” Vs. Designation and Working Sector of the Respondents*

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	2	14	100	47	163	132.31	20100	6734	.172
AP & P	0	2	10	41	38	91	135.00	12285		
Total	0	4	24	141	85	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	2	7	51	28	88	126.20	.597	2	.742
Aided	0	1	12	35	26	74	124.02			
Self-Finance	0	1	5	55	31	92	131.54			
Total	0	4	24	141	85	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.18 shows the designation and working sector-wise distribution of the respondents in terms of their skill to identify types of resources like books, scholarly journal and historical periodicals, etc.

Designation-wise Analysis: 100 AP and 41 AP&P agree while 47 AP and 38 AP&P strongly agree that they can identify types of resources like books, scholarly journal, historical periodicals, etc. 14 AP and 10 AP&P are neutrally skilled while just 2 AP and 2 AP&P disagree with this skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6734$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (135.00) is not significantly higher than the score (132.31) for Assistant Professors. The difference between the mean ranks is 2.69. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to identify types of resources like books, scholarly journal, historical periodicals, etc.

Working Sector-wise Analysis: 28 GSR, 26 ASR and 31 SSR strongly agree while 51 GSR, 35 ASR and 55 SSR agree that they can identify types of resources like books, scholarly journal, historical periodicals, etc. While 4 respondents disagree with the skill, 7 GSR, 12 ASR and 5 SSR are neutral in their skill to identify different types of resources.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill ‘*I can identify types of resources (like books, scholarly journal, historical periodicals etc.)*’ ($X^2(2, N = 254) = .597, p > .05$). The mean ranks for the skill is 126.20 for government sector respondents, 124.02 for aided sector respondents and 131.54 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Needs Assessment Competency - 7

Table 5.19: Mann Whitney U Test and Kruskal Wallis Test on the competency “*I can differentiate between primary and secondary sources of information*” Vs. Designation and Working Sector of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	0	8	102	53	163	122.48	19964	6598	.096
AP & P	0	1	6	42	42	91	136.49	12421		
Total	0	1	14	144	95	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
Govt.	0	1	2	51	34	88	130.89	2.436	2	.296
Aided	0	0	8	42	24	74	117.72			

Self-Finance	0	0	4	51	37	92	132.13			
Total	0	1	14	144	95	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.19 shows the designation and working sector-wise distribution of the respondents in terms of their skill to differentiate between primary and secondary sources of information.

Designation-wise Analysis: 53 AP and 42 AP&P strongly agree while 102 AP and 42 AP&P agree that they can differentiate between primary and secondary sources of information. While 8 AP and 6 AP&P have neutral skills, just one AP&P disagrees with the skill.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6598$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (136.49) is not significantly higher than the score (122.48) for Assistant Professors. The difference between the mean ranks is 14.01. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to differentiate between primary and secondary sources of information.

Working Sector-wise Analysis: 51 GSR, 42 ASR and 51 SSR agree while 34 GSR, 24 ASR and 37 SSR strongly agree that they can differentiate between primary and secondary sources of information. While 2 GSR, 8 ASR and 4 SSR are neutrally skilled, just one GSR disagrees with this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill ‘*I can differentiate between primary and secondary sources of information*’ ($X^2(2, N = 254) = 2.436, p > .05$). The mean ranks for the skill is 130.89 for government sector respondents, 117.72 for aided sector respondents and 132.13 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

Information Literacy Evaluation Competency

Table 5.20: Respondents' Competency of Information Literacy Evaluation

Variables	SD	DA	NEU	AG	SA	Total
I seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on	3 (1.2%)	6 (2.4%)	28 (11%)	145 (57.1%)	72 (28.3%)	254 (100%)
I can understand the issues related to censorship and freedom of expression	3 (1.2%)	19 (7.5%)	36 (14.2%)	127 (50%)	69 (27.2%)	254 (100%)
I participate in electronic discussion by following accepted rules (e.g., following network etiquettes)	0	52 (20.5%)	80 (31.5%)	90 (35.4%)	32 (12.6%)	254 (100%)

Table 5.20 discloses the competencies of the respondents in evaluating the information. Most of the respondents are good at their skills in evaluating the information found in the sources collected. While 145 (57.1%) respondents agree, 72 (28.3%) respondents strongly agree that they can seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on. Only 11% of them are neutral and just 2.4% (6) of the respondents disagree with this skill.

A majority of 50% (127) of the respondents agree while 27.2% (69) of the respondents strongly agree that they can understand the issues related to censorship and freedom of expression. While 36 (14.2%) respondents are neutrally skilled, 19 (7.5%) respondents disagree with this skill. As 90 (35.4%) respondents agree that they do participate in electronic discussion by following accepted rules (e.g., following network etiquettes), 32 (12.6%) respondents strongly agree with this. While 80 (31.6%) respondents are neutrally skilled, 52 (20.5%) respondents disagree with the possession of this skill of evaluation.

Table 5.20.1: Tests of Normality for the factor “Competency of Evaluation of Information”

Variable	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
I seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on	.307	254	.000	.780	254	.000
I can understand the issues related to censorship and freedom of expression	.296	254	.000	.830	254	.000

I participate in electronic discussion by following accepted rules (eg., following network etiquettes)	.216	254	.000	.877	254	.000
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To test the normality of data, one sample K-S (Kolmogorov-Smirnov) test and Shapiro-Wilk test were conducted for all the three variables placed under the factor ‘Competency of Evaluation of Information’. The p-values for all the 3 variables are less than 0.05. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted i.e. the research data is not normally distributed. So, the non-parametric tests were conducted on these variables.

Competency of Information Literacy Evaluation - 1

Table 5.21: *Mann Whitney U Test and Kruskal Wallis Test on the competency “I seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on” Vs. Designation and Age group-wise distribution of the Respondents*

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	3	3	22	102	33	163	116.40	18973	5607	.000
AP & P	0	3	6	43	39	91	147.38	13412		
Total	3	6	28	145	72	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
25-35 Years	3	2	13	47	13	78	106.86	15.002	2	.001
36-45 Years	0	1	9	59	23	92	127.54			
>45 Years	0	3	6	39	36	84	146.63			
Total	3	6	28	145	72	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.21 shows the designation and age group-wise distribution of the respondents in terms of their skill to seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on.

Designation-wise Analysis: While 102 AP and 43 AP&P agree, 33 AP and 39 AP&P strongly agree that they can seek expert opinion through a variety of ways like interviews, e-

mail, listservs (electronic mailing list) and so on. 22 AP and 6 AP&P are neutrally skilled while just 9 respondents disagree/ strongly disagree with the possession of this skill.

Mann-Whitney U Test: The results of the test were in the expected direction and significant, $U = 5607$, $p < .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (147.38) is significantly higher than the score (116.40) for Assistant Professors. The difference between the mean ranks is 30.98. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on.

Age Group-wise Analysis: 47 respondents of 25-35 years age group, 59 respondents of 36-45 years age group and 39 respondents of >45 years age group agree while 13 respondents of 25-35 years age group, 23 respondents of 36-45 years age group and 36 respondents of >45 years age group strongly agree that they can seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on. While 13 respondents of 25-35 years age group, 9 respondents of 36-45 years age group and 6 respondents of >45 years age group are neutrally skilled, just 9 respondents disagree/ strongly disagree with the possession of this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is a significant effect of age-group of the respondents on their skill ‘I seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on.’ ($X^2(2, N = 254) = 15.002$, $p < .05$). The mean ranks for the skill is 106.86 for the respondents of 25-35 years age group, 127.54 for the respondents of 36-45 years age group and 146.63 for the respondents of more than 45 years age group. Inspection of the group means also suggests that there is a significant difference between age group of the respondents and the aforesaid skill. Thus, null hypothesis is rejected and the alternative hypothesis accepted.

Post-Hoc Tests:

Pair	Sector	Mean Rank	Difference	U	p	Result
I	25-35 Years	77.65	14.51	2975.5	.027	Significant Difference
	36-45 Years	92.16				
II	36-45 Years	81.88	13.87	3255.0	.042	Significant Difference
	>45 Years	95.75				
III	25-35 Years	68.71	13.87	2278.5	.000	Significant Difference
	>45 Years	93.38				

It is inferred that there is a significant difference between the respondents of all the three groups – 25-35 years and 36-45 years, 36-45 years and >45 years & 25-35 years and >45 Years - in their skills to seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on as their p-values are less than 0.05. All these three pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

Competency of Information Literacy Evaluation - 2

Table 5.22: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can understand the issues related to censorship and freedom of expression” Vs. Designation and Age group-wise distribution of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	p
	SD	DA	NE	AG	SA					
AP	3	15	25	87	33	163	117.10	19087.5	5721.5	.001
AP & P	0	4	11	40	36	91	146.13	13297.5		
Total	3	19	36	127	69	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	p
	SD	DA	NE	AG	SA					
25-35 Years	3	7	13	37	18	78	116.63	8.531	2	.014
36-45 Years	0	5	14	57	16	92	120.72			
>45 Years	0	7	9	33	35	84	145.02			
Total	3	19	36	127	69	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.22 shows the designation and age group-wise distribution of the respondents in terms of their skill to understand the issues related to censorship and freedom of expression.

Designation-wise Analysis: 87 AP and 40 AP&P agree while 33 AP and 36 AP&P strongly agree that they can understand the issues related to censorship and freedom of expression. While 25 AP and 11 AP&P are neutral in this skill, 15 AP and 4 AP&P disagree that they possess this skill.

Mann-Whitney U Test: The results of the test were in the expected direction and significant, $U = 5721.5$, $p < .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (146.13) is significantly higher than the score

(117.10) for Assistant Professors. The difference between the mean ranks is 29.03. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to understand the issues related to censorship and freedom of expression.

Age Group-wise Analysis: 37 respondents of 25-35 years age group, 57 respondents of 36-45 years age group and 33 respondents of >45 years age group agree while 18 respondents of 25-35 years age group, 16 respondents of 36-45 years age group and 35 respondents of >45 years age group strongly agree that they can understand the issues related to censorship and freedom of expression. While 13 respondents of 25-35 years age group, 14 respondents of 36-45 years age group and 9 respondents of >45 years age group are neutrally skilled, just 19 respondents disagree with the possession of this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is a significant effect of age-group of the respondents on their skill ‘*I can understand the issues related to censorship and freedom of expression*’ ($X^2(2, N = 254) = 8.531, p < .05$). The mean ranks for the skill is 116.63 for the respondents of 25-35 years age group, 120.72 for the respondents of 36-45 years age group and 145.02 for the respondents of more than 45 years age group. Inspection of the group means also suggests that there is a significant difference between age group of the respondents and the aforesaid skill. The null hypothesis is rejected and alternative hypothesis is accepted.

Post-Hoc Tests:

Pair	Sector	Mean Rank	Difference	U	p	Result
I	25-35 Years	83.64	3.44	3443.0	.616	No Significant Difference
	36-45 Years	87.08				
II	36-45 Years	80.14	17.51	3095.0	.013	Significant Difference
	>45 Years	97.65				
III	25-35 Years	72.49	17.37	2573.5	.012	Significant Difference
	>45 Years	89.86				

It is inferred that there is a significant difference between the respondents of two pairs – 36-45 years and >45 years & 25-35 years and >45 years – in their skills to understand the issues related to censorship and freedom of expression as their p-values are less than 0.05. These two pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

Competency of Information Literacy Evaluation - 3

Table 5.23: Mann Whitney U Test and Kruskal Wallis Test on the competency “I participate in electronic discussion by following accepted rules (eg. Following network etiquettes)” Vs. Designation and age group-wise distribution of the Respondents

Mann Whitney U Test										
Variables	Response					Total	Mean Rank	Sum of Ranks	Mann-Whitney U	P
	SD	DA	NE	AG	SA					
AP	0	38	51	58	16	163	121.69	19835.5	6469.5	.078
AP & P	0	14	29	32	16	91	137.91	12549.5		
Total	0	52	80	90	32	254				
Kruskal-Wallis Test										
Variables	Response					Total	Mean Rank	X2	df	P
	SD	DA	NE	AG	SA					
25-35 Years	0	21	19	29	9	78	123.18	4.430	2	.109
36-45 Years	0	21	30	35	6	92	119.29			
>45 Years	0	10	31	26	17	84	140.50			
Total	0	52	80	90	32	254				

Note. Source: Primary Data. SD = Strongly Disagree; DA = Disagree; NE = Neutral; AG = Agree; SA = Strongly Agree.

Table 5.23 shows the designation and age group-wise distribution of the respondents in terms of their skill to participate in electronic discussion by following accepted rules (e.g. following network etiquettes).

Designation-wise Analysis: 58 AP and 32 AP&P agree that they can participate in electronic discussion by following accepted rules (e.g. following network etiquettes). While 51 AP and 29 AP&P have neutral skills, 16 AP and 16 AP&P strongly agree with the possession of this skill. 38 AP and 14 AP&P disagree with this.

Mann-Whitney U Test: The results of the test were insignificant, $U = 6469.5$, $p > .05$. Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (137.91) is not significantly higher than the score (121.69) for Assistant Professors. The difference between the mean ranks is 16.22. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to participate in electronic discussion by following accepted rules (eg., following network etiquettes).

Age Group-wise Analysis: 29 respondents of 25-35 years age group, 35 respondents of 36-45 years age group and 26 respondents of >45 years age group agree while 9 respondents of 25-35 years age group, 6 respondents of 36-45 years age group and 17 respondents of >45 years age group strongly agree that they can participate in electronic discussion by following accepted rules (eg., following network etiquettes). While 19 respondents of 25-35 years age group, 30 respondents of 36-45 years age group and 31 respondents of >45 years age group are neutrally skilled, 52 respondents disagree with the possession of this skill.

Kruskal-Wallis test: The Kruskal-Wallis test reveals that there is no significant effect of age-group of the respondents on their skill '*I participate in electronic discussion by following accepted rules (eg. following network etiquettes)*' ($X^2(2, N = 254) = 4.430, p > .05$). The mean ranks for the skill is 123.18 for the respondents of 25-35 years age group, 119.29 for the respondents of 36-45 years age group and 140.50 for the respondents of more than 45 years age group. Inspection of the group means also suggests that there is no significant difference between age-group of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

6. Summary and Conclusion

Information Needs Assessment Competency:

The study found that more than half of the respondents agree and one third of them strongly agree that they can use different keywords to search for the information they need. The study by Dorvlo (2016) too identified the same kind of result. But another study conducted by Aggrey (2009) indicated that most of the students did not know how to identify concepts. Anafo (2009) also reported in his study that an average of 60% also did not know how to identify a key word for an effective search. Boakye (1998) indicated in his study that most students lack the skill for formulating keywords for their search. Thus, the competency to identify keywords differs according to the study population. 95% of the respondents are able to formulate questions based on the information need. Adeleke & Emeahara (2016) found out that 75% of the respondents have the same skill in his study.

The findings of the present study coincide with that of Dorvlo (2016) that on the average a greater number of respondents had the ability to identify their information needs. Hassan and Khaiser (2012) found that one third of the respondents are able to articulate their information needs. Hadimani and Rajgoli (2010) found that 95.55 per cent of respondents know exactly what kind of information they need. 94.44 per cent of them know when they are in need of information and all the respondents know where to find the needed information. According to Rafique (2014), a good number of respondents can realize that a need or

problem exists that requires information (3.53). 85% of the respondents are able to identify the need for information. Khalid Mahmood (2013) found out that the respondents feel comfortable in deciding what information they need. Moghaddaszadeh and Nikam (2012) carried out a study on faculty members and research scholars and found that the 20 respondents were able to express their information need and their mean score was 14.56. Nosrat (2012) explored the IL competency of M.A. Students in Tarbiat Moallem University of Iran and found that the students' IL competency mean for recognizing their information need was 3.65. The respondents were able to identify and define the information to a greater extent with the mean of 3.78 (Rafique, 2014).

Information Search Competency

One third of the respondents are able to use catalogues to locate the required sources. The study of Dorvlo (2016) too depicts that that 35.1% of the respondents were able to use library catalogue. Lamptey (2008) found out that few of the students knew how to use the card catalogue to look for information. Aggrey (2009) found out that most of the respondents easily identified the use of a card catalogue as a search tool. Khalid Mahmood (2013) found out that the respondents feel comfortable in searching online / computerized catalogue of the Library. Haridasan and Khan (2009) revealed that all the faculty member and research scholars were using OPAC for literature searching. Satisha, Dileep Kumar and Chidanandappa (2015) summarized the use of OPAC by the users (students) of technical college libraries of Davangere City in Karnataka and disclosed that a majority of the students (86.11%) use the OPAC to check whether required book is available in the library or not.

Quite against these findings, there are few studies which have demonstrated that the respondents are not skilled enough to use catalogues. Anafo (2009) in his study found out that majority of the students did not know how to find information using a library catalogue. Pinto and Sales (2010) found that the respondents are poorest in accessing and using automated catalogues (search). This gives rise to mixed responses from the population. Rafique (2014) identified that a majority of faculty members are not capable of basic searching skills in catalogues and databases.

Only one fifth of the respondents know how to use various classification schemes. Somi and Jager (2005) found that majority of respondents did not seem to understand location numbers, although the classification numbers are prominently posted in the library. Only 43 (17%) knew that "350" is the Dewey Decimal Classification number for Public Administration. Of the rest, 146 (59%) were unable to tell and a total of 57 (23%) chose incorrect disciplines. But, Khalid Mahmood (2013) found out that the respondents feel

comfortable in understanding book classification system in the library (i.e., Dewey Decimal Classification).

The present study reveals that 90 % of the respondents may make use of various Boolean operators like AND, OR, NOT. Only 10% are not aware of these operators. This is quite against the results of the study conducted by Dorvlo (2016) which reveals that only one third of the respondents know how to use Boolean operators. Aggrey (2009) also found out in his study that only half of the students knew how to use the Boolean operators. Also, that they had little knowledge of Boolean operators while Lamptey (2008) also stated that only few students were well skilled in the use of the Boolean logic. This result was also confirmed by Anafo (2009). Ali (2010) in his study on IL Skills of Engineering Students found that only 16.30% of the respondents chose the correct Boolean operator OR to get more search results. Lata and Sharma (2013) found that only 29.82% and 39.39% of the students and faculty of PGIMER whereas 18.18% and 30.77% of the students and faculty of PBDSUHS knew the use of correct Boolean operators.

Ali (2005) revealed in his study that ten (3 per cent) users never used Boolean operators for searching online information while 50 (17 per cent) and 210 (70 per cent) respondents expressed that they are using Boolean search method, sometimes and often, respectively. In the case of truncation, 57 per cent of users said that they used it often, 20 per cent sometimes only, but 17 per cent of respondents never used truncation at all. About 80 users (27 per cent) revealed that they are always using a wild card strategy, while 27 and 23 per cent of respondents often use phrases and field searching methods, respectively.

Haridasan and Khan (2009) reported that five (55.55 per cent) faculty members and nine (20.93 per cent) research scholars were using Boolean logic for searching e-resources, whereas six (66.66 per cent) faculty members and 20 (46.51 per cent) research scholars were using weighted term searching, eight (88.88 per cent) faculty members and 13 (30.23 per cent) research scholars were using subject term (Truncated) Searches and three (33.33 per cent) faculty members, six (13.95 per cent) research scholars preferred using full text search.

Bihari Sethi, Bipin and Panda (2012) revealed that a majority of the readers which constitute 70.31 percent of the total response follow the “keyword” searching method which is highly significant. Those who use field searching account for 21.87 percent, where as ‘Phrase’, ‘Boolean Operator’, ‘Wildcard’ and ‘Truncation’ are used by a few ranging between 0-13 percent of the total users.

Sasikala and Dhanraju (2011) found that majority of the students (54%) are using simple keyword search for searching and retrieving information from a database. About 20

percent are applying field search techniques. Truncation techniques and Boolean operators were used by only 15% percent and 17 percent of the users respectively. This indicates that majority of the students are not aware of the importance of various search mechanisms available for effective retrieval of information. Rafique (2014) found that 85% of the respondents are able to communicate the collected information in appropriate way. The mean value for the skill 'I can communicate and present the information' is 3.76.

Information Literacy Evaluation:

Eighty-five percent of the respondents make use of email and listserv to seek opinion. A contrast to the result is what Khalid Mahmood (2013) found out - the respondents feel comfortable in using email discussion groups or listservs. Nosrat (2012) explored the IL competency of M.A. Students in Tarbiat Moallem University of Iran and revealed that students' IL competency mean for assessing and evaluating information was 3.02. Lata and Sharma (2013) found that for evaluating information in print format most of the faculty and students of the medical colleges rated their skills very high while in electronic format, most of them rated their average skills. Sasikala and Dhanraju (2011) found that a majority (69%) of the respondents stated that they know about copy right and copy right infringement.

7. Conclusion

The higher education environment should build a viable and conducive learning atmosphere where continuing education is taken care of by itself among the faculty members. The faculties get to know how to search, access, retrieve, assess and use the right information for a right cause in the right time for the right student community. Both the university authorities / college management and university/college library personnel should play an active role in taking all the necessary steps to plan and execute suitable information literacy training programmes, whatever name be so, at frequent intervals for the benefit of enriching and empowering faculty members of their respective institution. It also helps us to create an information literate society, at large.

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