Chapter V

Findings, Suggestions and Conclusion

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5.0 INTRODUCTION

When the process of analysing and interpreting the collected data using necessary and suitable statistical tools is completed, the next step is to summarise the findings of the study. This chapter gives a summary of findings of the study under the headings – personal profile, academic profile, information literacy competencies, e-literacy and training requirements of the respondents. The results of hypotheses which were tested using various statistical tools are also presented under the heading ‘Tenability of Hypothesis’. Apart from these two components, this chapter also has the suggestions given by the researcher – from various angles – to improve the information literacy competencies of the respondents. At the end, the researcher gives directions for carrying out further research in the field by the fellow researchers.

5.1 MAJOR FINDINGS OF THE STUDY

5.1.1 Personal Profile of the Respondents

Institution-wise Distribution of Respondents: It is deduced from the study that 254 respondents are drawn from 12 institutions. Only 38 (14.96%) respondents are from Mother Teresa Women’s University and the rest are from its affiliated colleges and constituent colleges. A majority of 51 (20.08%) respondents are from Jayaraj Annapackiam College followed by Mother Teresa Women’s University (MTWU) with 38 (14.96%) respondents and Sakthi College with 27 (10.63%) respondents (Table 4.1).

Department-wise Distribution of the Respondents: It is extracted from the study that 26 different departments have sponsored 254 respondents. A majority of 37 (14.57%) respondents are from the Dept. of Mathematics followed by English Department with 32 (12.60%) respondents and Commerce Department with 31 (12.20%) respondents. Computer Science (25, 9.84%) and Physics (20, 7.87%)
departments have more than 20 respondents while three departments viz., Chemistry (17), Economics (13) and History (10) have 10-17 respondents (Table 4.2).

**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 (Table 4.3).

**Age and Gender-wise Distribution of the Respondents:** The study discloses that a 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. The sample comprises of only female respondents (Table 4.4).

**Designation, Experience and Educational qualification of the Respondents:** The study found that 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. A majority of 65 (25.6%) respondents possess 6-10 years of experience followed by 63 (24.8%) respondents with 1-5 years of experience and 50 (19.7%) respondents with more than 20 years of experience. Most of the respondents are M.Phil holders constituting 52% (132) of the sample. 91 (35.8%) respondents are doctorates while 12.2% (31) of the respondents are just post graduates (Table 4.5).

**5.1.2 Academic Profile of the Respondents:**

**Ph.Ds and M.Phils Guided by the Respondents:** It is found in the study that 234 respondents (92.1%) have not guided any Ph.D degree in their professional career. One respondent has guided 11-15 Ph.Ds deserving all appreciation. There are two
respondents who have guided 6-10 Ph.Ds while 17 (6.7%) respondents have guided 1-5 Ph.Ds. 158 respondents have not guided any M.Phil degree till date. A majority of 58 (22.8%) respondents have guided 1-5 M.Phil degrees while two respondents (.8%) each have guided 16-20 and 21-25 M.Phil degrees (Table 4.8).

**Completed and Ongoing Projects of the Respondents:** It is inferred from the study that 239 (94.1%) respondents have not completed any project availed from funding bodies. There is only one respondent who has completed 4 projects. While 2 respondents have completed 3 projects each, 3 respondents have completed 2 projects each. Each of 13 (5.1%) respondents has one ongoing project. While 4 respondents have 2 ongoing projects as on the date, 2 respondents have 3 ongoing projects. A majority of 235 (92.5%) respondents don’t have any ongoing project as on now (Table 4.9).

**Publications of the Respondents:** It is understood from the study that a majority of 114 (44.9%) respondents have publications ranging from 1-5. While 87 (34.3%) respondents have 6-25 publications to their credit, 20 (7.9%) respondents have 26-50 publications. It is interesting to note that 3 respondents have 51-75 publications and 6 respondents have 76-100 publications (Table 4.10).

**Conferences, Seminars and Workshops Attended by the Respondents:** It is learnt from the study that except 7 respondents, all others have attended conferences. A majority of 165 (65%) respondents have attended 1-10 conferences followed by 40 (15.7%) respondents who have attended 11-20 conferences and 22 (8.7%) respondents who have attended 21-30 conferences. 246 respondents have attended seminars to enrich their knowledge in the fields of their interest. A majority of 178 (70.1%) respondents have attended 1-10 seminars. 15% (38) of the respondents have attended 11-20 seminars while 9.1% (23) of the respondents have attended 21-30 seminars (Table 4.11).
Workshops and Symposia Attended by the Respondents: It is revealed in the study that a maximum of 212 (83.5%) respondents have attended 1-10 workshops while 6 (2.4%) respondents have attended 11-20 workshops. One respondent who has attended 21-20 workshops needs all appreciation. 35 (13.8%) respondents have not attended any workshop till date. 55.1% (140) of the respondents have attended 1-10 symposia and 44.9% (114) of them have not attended any symposium (Table 4.12).

In-service and Refresher Courses Attended by the Respondents: It is unearthed in the study that a majority of 147 (57.9%) respondents have not attended any in-service training programme till date in their career. 71 (28%) respondents have attended just one in-service programme while 20 (7.9%) respondents have attended 2 such programmes. 8 respondents have attended 3 in-service courses and 4 respondents have attended 5 in-service courses. A maximum of 194 (76.4%) respondents have not attended any UGC refresher course till now. While 37 (14.6%) respondents have attended just one UGC refresher course, 22 (8.7%) respondents have attended 2 such courses (Table 4.13).

5.1.3 Library and Information Services in the College / University

Use of library services by the Respondents

Overall Analysis: The study shows that 225 respondents availed the circulation service, 235 availed the reference service, 217 utilized reprographic service, 243 used Current Awareness Service, 223 made use of newspaper clipping services and 213 utilized internet surfing service. 148 respondents used library referral services, 189 used library abstracting and indexing services, 135 utilized inter library loan service, 129 used bulletin board services, 162 utilized email alert services, 182 made use of document delivery service, 142 used library OPAC/ Web OPAC, 129 utilized technical enquiry services and 180 respondents made use of electronic journal access services (Table 4.14).
**Designation-wise Analysis:** It is deduced from the study that out of 163 Assistant Professors, 139 used circulation service of the library, 146 utilized reference services, 132 made use of reprographic services, 154 used Current Awareness Services, 82 utilized inter library loan services, 88 made use of referral services, 113 utilized abstracting/indexing services and 141 Assistant Professors used newspaper clipping service of the library concerned. Bulletin board service is made use of by 49 Associate Professors and Professors, email alert service by 69 AP&P, document delivery service by 74 AP&P, OPAC by 55 AP&P, internet surfing service by 84 AP&P, technical enquiry service by 53 AP&P and electronic journal access service by 72 Associate Professors and Professors (Table 4.14).

**Working Sector-wise Analysis:** It is extracted from the study that 81 GSR (Government Sector Respondents), 62 ASR (Aided Sector Respondents) and 82 SSR (Self-financing Sector Respondents) utilized circulation service of the library while 83 GSR, 69 ASR and 83 SSR made use of reference service of the library. 71 GSR and ASR and 75 SSR used reprographic service of the library while 85 GSR, 72 ASR and 86 SSR utilized current awareness service of the library concerned. 46 GSR, 45 ASR and 44 SSR used inter library loan service and 54 GSR, 62 ASR and 32 SSR utilized referral service of the library. While abstracting/indexing services are utilized by 65 GSR, 68 ASR and 56 SSR, newspaper clipping services are used by 75 GSR, 69 ASR and 79 SSR. Bulletin board service is used by 50 GSR, 48 ASR and 31 SSR while email alert service is made use by 56 GSR, 64 ASR and 42 SSR (Table 4.15).

**Awareness of Library:** The study reveals that 27.56% (70) of the respondents are aware of library rules to some extent while 25.59 % (65) of them are aware of library rules to a larger extent. While 107 (42.13%) respondents know about library collection details to some extent, 78 (30.71%) respondents know about it to a larger extent. As far as search in library OPAC is concerned, 102 (40.16%) respondents are aware of it to some extent and 55 (21.65%) respondents are aware of it to a larger
extent. 71 (27.95%) respondents are aware of library services to some extent and 69 (27.17%) of them are aware of library services to a very less extent. The overall analysis shows that the Associate Professors and the Professors are aware of library rules, library collection, OPAC search and library services little better than Assistant Professors (Table 4.16).

5.1.4 Information Literacy Competency Assessment

Information Access Competency of the Respondents: The study discloses that 186 (73.2%) respondents agree and 56 (22%) respondents strongly agree that ‘they can access printed and electronic reference sources’. 183 (72%) respondents agree and 52 (20.5%) respondents strongly agree that ‘they can read the text and understand the main idea from the text’. 155 (61%) respondents agree and 55 (21.7%) respondents strongly agree that ‘they can restate the text in their own words and present data accurately’.

While 59.1% (150) of the respondents agree and 24.8% (63) of the respondents strongly agree that ‘they can identify similar information from both print and electronic resources’, 50% (127) of the respondents agree and 23.2% (59) of the respondents strongly agree that ‘they can maintain record of activities related to their information searching process’. 154 (60.6%) respondents agree and 68 (26.8%) respondents strongly agree that ‘they can keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information’. 146 (57.5%) respondents agree and 69 (27.2%) strongly agree that ‘they know the scope, content and organisation of information sources like bibliography, research database etc’. While 88 (34.6%) respondents agree, 36 (14.2%) strongly agree that ‘they can use various search techniques’ (Table 4.17).
The study found that:

1. 121 AP (Assistant Professors) and 65 (AP&P) Associate Professors and Professors agree and 30 AP and 26 AP&P strongly agree that they can access printed and electronic reference sources (Table 4.19).

2. 122 AP and 61 AP&P agree while 27 AP and 25 AP&P strongly agree that ‘they can read the text and understand the main idea from the text’. Only 14 (11 AP and 3 AP&P disagree with this skill (Table 4.20).

3. 101 AP and 54 AP&P agree while 32 AP and 23 AP&P strongly agree that they can restate the text in their own words and present data accurately. While 17 respondents are neutrally skilled, 27 respondents disagree with this skill (Table 4.21).

4. 93 AP and 57 AP&P agree while 41 AP and 22 AP&P strongly agree that they can identify similar information from both print and electronic sources and use it appropriately. 22 respondents are neutral and 19 are disagreeing with this skill (Table 4.22).

5. While 57 AP and 31 AP&P agree, 22 AP and 14 AP&P strongly agree that they can use various search techniques to access information. But 29 AP and 18 AP&P are neutral While 55 AP and 28 AP&P disagree that they can use various search techniques to access information (Table 4.23).

6. While 59 AP and 30 AP&P agree, 21 AP and 14 AP&P strongly agree that they can refer bibliographies and provide footnotes, online link etc. 29 AP and 19 AP&P are neutrally skilled in referring bibliographies and providing footnotes, online link etc. while 54 AP and 28 AP&P disagree with this skill (Table 4.24).
7. While 55 AP and 26 AP&P agree, 16 AP and 15 AP&P strongly agree that they can apply previous experiences of using web-based services to access information. 48 AP and 24 AP&P are neutrally skilled (Table 4.25).
8. 84 AP and 43 AP&P agree while 31 AP and 28 AP&P strongly agree that they can maintain record of activities related to their information searching process. The skills of 39 AP and 16 AP&P are neutral (Table 4.26).
9. 107 AP and 47 AP&P agree while 35 AP and 33 AP&P strongly agree that they can apply previous experiences of using web-based services to keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information. 19 AP and 9 AP&P are neutral (Table 4.27).
10. 95 AP and 51 AP&P agree while 44 AP and 25 AP&P strongly agree that they know the scope, content and organisation of information sources like bibliography, research database etc. 16 AP and 7 AP&P are neutrally skilled (Table 4.28).

**Information Access Competencies - Working Sector-wise Analysis**

It is inferred from the study that:

1. 67 GSR (Government Sector Respondents), 53 ASR (Aided Sector Respondents and 66 SSR (Self-financing Sector Respondents) agree and 17 GSR, 17 ASR and 22 SSR strongly agree that they can access printed and electronic reference sources (Table 4.19).
2. While 65 GSR, 53 ASR and 65 SSR agree, 16 GSR, 14 ASR and 22 SSR strongly agree that they can read the text and understand the main idea from the text. While 5 respondents are neutrally skilled, 14 respondents (5 GSR, 4 ASR and 5 SSR) disagree with the skill (Table 4.20).
3. 55 GSR, 39 ASR and 61 SSR agree while 17 GSR, 14 ASR and 24 SSR strongly agree that they can restate the text in their own words and present data accurately. 5 GSR, 8 ASR and 4 SSR are neutrally skilled, 11 GSR, 13 ASR and 3 SSR disagree with this skill (Table 4.21).

4. 58 GSR, 46 ASR and 45 SSR agree while 22 GSR, 12 ASR and 29 SSR strongly agree that they can identify similar information from both print and electronic sources and use it appropriately (Table 4.22).

5. 37 GSR, 28 ASR and 23 SSR agree while 16 GSR, 8 ASR and 12 SSR strongly agree that they can use various search techniques to access information. But 21 GSR, 21 ASR and 41 SSR disagree while 14 GSR, 17 ASR and 16 SSR are neutral in their skill to use various search techniques to access information (Table 4.23).

6. 18 GSR, 9 ASR and 8 SSR strongly agree while 39 GSR, 20 SSR and 30 SSR agree that they can refer bibliographies and provide footnotes, online link etc. While 21 GSR, 26 ASR and 35 SSR disagree, 10 GSR, 19 ASR and 19 SSR are neutrally skilled (Table 4.24).

7. 13 GSR, 8 ASR and 10 SSR strongly agree while 28 GSR, 23 SSR and 30 SSR agree that they can apply previous experiences of using web-based services to access information. While 22 GSR, 20 ASR and 28 SSR disagree, 25 GSR, 23 ASR and 24 SSR are neutrally skilled (Table 4.25).

8. 38 GSR, 28 ASR and 61 SSR agree while 22 GSR, 21 ASR and 16 SSR strongly agree that they can maintain record of activities related to their information searching process. 26 GSR, 21 ASR and 8 SSR are neutrally skilled (Table 4.26).

9. 50 GSR, 40 ASR and 64 SSR agree while 26 GSR, 20 ASR and 22 SSR strongly agree that they can keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for
information. 11 GSR, 12 ASR and 5 SSR have neutral level skill in this regard (Table 4.27).

10. 50 GSR, 35 ASR and 61 SSR agree while 26 GSR, 16 ASR and 27 SSR strongly agree that they know the scope, content and organisation of information sources like bibliography, research database etc. 9 GSR, 12 ASR and 2 SSR are neutrally skilled (Table 4.28).

**Information Search Competency of the Respondents:**

It is found in the study that 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 (Table 4.29).

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.. 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.

**Information Search Competencies: Designation-wise Analysis**

It is understood from the study that:

1. 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 (Table 4.31).
2. 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 (Table 4.32).
3. 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 (Table 4.33).
4. 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 (Table 4.34).
5. 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 (Table 4.35).
6. 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 (Table 4.36).

7. 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 (Table 4.37).

8. A majority of 150 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 (Table 4.38).

**Information Search Competencies: Working Sector-wise Analysis**

It is learnt from the study that:

1. 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 (Table 4.31).

2. 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 (Table 4.32).

3. 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 (Table 4.33).
4. 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 (Table 4.34).

5. 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 (Table 4.35).

6. 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 (Table 4.36).

7. 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 (Table 4.37).

8. 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 (Table 4.38).

**Information Needs Assessment Competency 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 (Table 4.39).

It is revealed in the study that 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.

**Information Needs Assessment Competency: Designation-wise Analysis**

It is unearthed in the study that:

1. 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 (Table 4.41).

2. 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 (Table 4.42).

3. 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 (Table 4.43).

4. 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 (Table 4.44).

5. 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 (Table 4.45).

6. 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 (Table 4.46).

7. 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 (Table 4.47).

**Information Needs Assessment Competency: Working Sector-wise Analysis**

The study shows that:

1. 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 (Table 4.41).

2. 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 (Table 4.42).
3. 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. 5 GSR, 10 ASR and 7 SSR possess neutral skill in identifying such resources (Table 4.43).

4. 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. (Table 4.44).

5. 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 (Table 4.45).

6. 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 (Table 4.46).

7. 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 (Table 4.47).

Respondents’ Competency of Evaluation of Information

It is deduced from the study that 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 (Table 4.48).
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.

**Competency of Evaluation of Information: Designation-wise Analysis**

It is extracted from the study that:

1. 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 with the possession of this skill (Table 4.50).

2. 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 (Table 4.51).

3. 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 (Table 4.51).
Competency of Evaluation of Information: Age Group-wise Analysis

The study reveals that:

1. 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 (Table 4.50).

2. 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. 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 (Table 4.51).

3. 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 (Table 4.52).
Respondents’ Competency of Information Communication

The study discloses that a majority of 126 (949.6%) of the respondents agree while 65 (25.6%) respondents strongly agree that they can participate in electronic communications forums like e-mail, bulletin boards (Place where people can leave public messages for a particular topic) chat rooms (sharing information with group of people via text), etc., to discuss about the topic. While 38 (15%) respondents are neutrally skilled, 24 (9.4%) respondents disagree with the possession of this skill (Table 4.53).

While 101 (39.8%) respondents agree, 66 (26%) disagree that the can organise the collected information with the help of outlines, draft, story boards, etc., 51 (20.1%) are neutrally skilled, 36 (14.2%) respondents strongly agree that they can organise the collected information with the help of outlines, draft, story boards, etc.,

A majority of 135 (53.1%) respondents agree and 48 (18.9%) respondents strongly agree that they can identify the appropriate channel of communication for their research publications. While 44 (173%) respondents are neutrally skilled, just 26 (10.2%) respondents disagree with the possession of this skill.

64.6% (164) of the respondents agree and 28.3% (72) of the respondents strongly agree that they know the various channels of communication - both print and electronic in their field of knowledge. While 5.5% (14) of the respondents are neutral, just 1.6% (4) of the respondents disagrees with this skill.

Competency of ‘Information Communication’: Designation-wise Analysis

The study found that:

1. 3 AP and 43 AP&P agree while 37 AP and 28 AP&P strongly agree that they can participate in electronic communications forums like e-mail, bulletin boards (Place where people can leave public messages for a particular topic)
chat rooms (sharing information with group of people via text), etc., to discuss about the topic. While 26 AP and 12 AP&P are neutrally skilled, 16 AP and 8 AP&P disagree with this skill (Table 4.55).

2. 64 AP and 37 AP&P agree while 23 AP and 13 AP&P strongly agree that they can organise the collected information with the help of outlines, draft, story boards, etc. While 42 AP and 24 AP&P disagree, 34 AP and 17 AP&P disagree that they can organise the collected information with the help of outlines, draft, story boards, etc (Table 4.56).

3. 88 AP and 47 AP&P agree while 29 AP and 19 AP&P strongly agree that they can identify the appropriate channel of communication for research publications. While 17 AP and 9 AP&P disagree, one AP strongly disagrees that they can identify such channels. 28 AP and 16 AP&P are neutrally skilled (Table 4.57).

4. A majority of 108 AP and 56 AP&P agree that they know the various channels of communication both print and electronic in their field of knowledge. While 42 AP and 30 AP&P strongly agree, just 2 AP and 2 AP&P disagree. 11 AP and 3 AP&P are neutrally skilled (Table 4.58).

**Competency of ‘Information Communication’: Age Group-wise Analysis**

It is inferred from the study that:

1. 43 respondents of 25-35 years age group, 45 respondents of 36-45 years age group and 38 respondents of >45 years age group agree while 15 respondents of 25-35 years age group, 18 respondents of 36-45 years age group and 32 respondents of >45 years age group strongly agree that they can to participate in electronic communications forums like e-mail, bulletin boards (Place where people can leave public messages for a particular topic) chat rooms (sharing
information with group of people via text), etc., to discuss about the topic (Table 4.55).

2. 36 respondents of 25-35 years age group, 31 respondents of 36-45 years age group and 34 respondents of >45 years age group agree while 11 respondents of 25-35 years age group, 11 respondents of 36-45 years age group and 14 respondents of >45 years age group strongly agree that they can to organise the collected information with the help of outlines, draft, story boards, etc. While 19 respondents of 25-35 years age group, 17 respondents of 36-45 years age group and 15 respondents of >45 years age group are neutrally skilled, 66 respondents disagree with the possession of this skill (Table 4.56).

3. 46 respondents of 25-35 years age group, 43 respondents of 36-45 years age group and 46 respondents of >45 years age group agree while 11 respondents of 25-35 years age group, 21 respondents of 36-45 years age group and 16 respondents of >45 years age group strongly agree that they can identify the appropriate channel of communication for research publications. While 12 respondents of 25-35 years age group, 20 respondents of 36-45 years age group and 12 respondents of >45 years age group are neutrally skilled, 26 respondents disagree with the possession of this skill (Table 4.57).

4. 49 respondents of 25-35 years age group, 61 respondents of 36-45 years age group and 54 respondents of >45 years age group agree while 21 respondents of 25-35 years age group, 28 respondents of 36-45 years age group and 23 respondents of >45 years age group strongly agree that they know the various channels of communication both print and electronic in their field of knowledge. While 7 respondents of 25-35 years age group, 3 respondents of 36-45 years age group and 4 respondents of >45 years age group are neutrally skilled, 4 respondents disagree with the possession of this skill (Table 4.58).
It is understood from the study that a majority of 171 (67.3%) respondents agree while 61 (24%) respondents strongly agree that they follow institutional policies on access to information resources. While 17 (6.7%) respondents are neutrally skilled, just 5 (2%) respondents disagree with the skill (Table 4.59).

While 134 (52.8%) respondents agree, 61 (24%) respondents strongly agree that they do not indulge in abuse or misuse of information resources, equipment, systems, and facilities. 33 (13%) respondents disagree while 25 (9.8%) respondents are neutrally skilled.

A majority of 162 (63.8%) respondents agree and a minimum of 6 (2.4%) respondents disagree that they know what is Plagiarism (Claiming others work as that of self) and do not do It. 66 (26%) respondents strongly agree while 20 (7.9%) respondents are neutral in respect of this skill.

160 (63%) respondents agree and 60 (23.6%) respondents strongly agree that they follow the principles of Fair use of information. 31 (12.2%) respondents are neutrally skilled. Just 3 respondents disagree with this skill.

A majority of 129 (50.8%) respondents agree and a minimum of 28 (11%) respondents disagree that they know the implications and complications of Intellectual Property Rights (IPR). 59 (23.2%) respondents strongly agree that they know the implications of IPR. 14.6% (37) of the respondents are neutrally skilled.
Respondents’ Competency of Ethical Use of Information: Designation-wise Analysis

It is learnt from the study that:

1. 113 AP and 58 AP&P agree while 34 AP and 27 AP&P strongly agree that they follow institutional policies on access to information resources. 13 AP and 4 AP&P are neutral while 3 AP and 2 AP&P disagree that they follow institutional policies (Table 4.61).

2. 92 AP and 42 AP&P agree while 34 AP and 27 AP&P strongly agree that they do not indulge in abuse or misuse of information resources, equipment, systems and facilities. While 15 AP and 10 AP&P are neutral, 21 AP and 12 AP&P disagree that they do not indulge in such practices (Table 4.62).

3. 105 AP and 27 AP&P agree while 39 AP and 27 AP&P strongly agree that they know what is Plagiarism (Claiming others work as that of self) and do not do it. 15 AP and 5 AP&P are neutral while 4 AP and 2 AP&P disagree that they know about Plagiarism (Table 4.63).

4. 101 AP and 59 AP&P agree while 41 AP and 19 AP&P strongly agree that they do not follow the principles of Fair use of information. While 18 AP and 13 AP&P are neutral, just 2 AP disagree that they follow the principles of fair use of information (Table 4.64).

5. 86 AP and 43 AP&P agree while 38 AP and 21 AP&P strongly agree that they know the implications and complications of Intellectual Property Rights (IPR). While 23 AP and 14 AP&P are neutrally skilled, 16 AP and 12 AP&P disagree that they know the implications and complications of Intellectual Property Rights (IPR) (Table 4.65).
Respondents’ Competency of Ethical Use of Information: Age Group-wise Analysis

It is revealed in the study that:

1. 51 respondents of 25-35 years age group, 68 respondents of 36-45 years age group and 52 respondents of >45 years age group agree while 15 respondents of 25-35 years age group, 20 respondents of 36-45 years age group and 26 respondents of >45 years age group strongly agree that they follow institutional policies on access to information resources. While 9 respondents of 25-35 years age group, 4 respondents of 36-45 years age group and 4 respondents of >45 years age group are neutrally skilled, 5 respondents disagree with the possession of this skill (Table 4.61).

2. 40 respondents of 25-35 years age group, 55 respondents of 36-45 years age group and 39 respondents of >45 years age group agree while 15 respondents of 25-35 years age group, 18 respondents of 36-45 years age group and 28 respondents of >45 years age group strongly agree that they do not indulge in abuse or misuse of information resources, equipment, systems and facilities. While 11 respondents of 25-35 years age group, 7 respondents of 36-45 years age group and 7 respondents of >45 years age group are neutrally skilled, 33 respondents disagree with the possession of this skill (Table 4.62).

3. 50 respondents of 25-35 years age group, 60 respondents of 36-45 years age group and 52 respondents of >45 years age group agree while 17 respondents of 25-35 years age group, 25 respondents of 36-45 years age group and 24 respondents of >45 years age group strongly agree that they do not indulge in abuse or misuse of information resources, equipment, systems and facilities. While 9 respondents of 25-35 years age group, 6 respondents of 36-45 years age group and 5 respondents of >45 years age group are neutrally skilled, 6 respondents disagree with the possession of this skill (Table 4.63).
4. 53 respondents of 25-35 years age group, 56 respondents of 36-45 years age group and 51 respondents of >45 years age group agree while 14 respondents of 25-35 years age group, 25 respondents of 36-45 years age group and 21 respondents of >45 years age group strongly agree that they follow the principles of Fair use of information. While 8 respondents of 25-35 years age group, 11 respondents of 36-45 years age group and 12 respondents of >45 years age group are neutral, 2 respondents disagree that they follow the principles of fair use of information (Table 4.64).

5. 41 respondents of 25-35 years age group, 45 respondents of 36-45 years age group and 43 respondents of >45 years age group agree while 18 respondents of 25-35 years age group, 19 respondents of 36-45 years age group and 22 respondents of >45 years age group strongly agree that they know the implications and complications of Intellectual Property Rights (IPR). While 8 respondents of 25-35 years age group, 19 respondents of 36-45 years age group and 10 respondents of >45 years age group are neutral, 28 respondents disagree that they know the implications and complications of Intellectual Property Rights (IPR) (Table 4.65).

5.1.5 E-literacy Competency

Internet learning methods

It is unearthed in the study that 94.88% (241) of the respondents learnt about internet with the help of online instructions followed by 93.31% (237) of the respondents who leant internet by reading books and articles on the internet and 91.34% (232) of the respondents who learnt internet by trial and error method. 84.65% (215) of the respondents took the assistance of their colleagues while 80.30% (204) of them underwent formal training programmes like short term courses,
workshops etc to learn about internet. 62.6% (159) of the faculty members learnt about internet through the courses taught at their respective institutions (Table 4.73).

**Internet learning methods: Working Sector-wise Analysis**

It is found in the study that a majority of Govt. sector respondents (88) learnt about internet by reading books and articles on the internet. It is followed by 85 respondents who learnt from online instructions and 81 respondents who learnt internet with the assistance of their colleagues. While 78 of them learnt by trial and error method, 64 respondents learnt internet with the courses taught in universities. The least number of 58 respondents learnt Internet by attending presentation-lectures organized by their libraries (Table 4.73).

A maximum of 74 Aided sector respondents learnt Internet with the help of their colleagues and online instructions. While 70 of them learnt by trial and error method, 67 of them learnt internet by reading books and articles on the internet. 59 respondents learnt internet by attending formal training programmes like short term courses, workshops etc while the least number of 49 respondents learnt internet by attending presentation-lectures organized by their libraries.

A majority of 84 Self-financing sector respondents learnt Internet by trial and error method followed by 82 respondents who learnt it with the help of online instructions and by reading books and articles on the Internet. While 68 respondents learnt internet by attending formal training programmes like short term courses, workshops etc, 61 of them depended on presentation-lectures organized by their libraries and 60 of them relied on their colleagues to learnt Internet. The least number of 56 respondents learnt internet through the courses taught at the universities.
Internet learning methods: Educational Qualification-wise Analysis

It is deduced from the study that out of 31 respondents with PG qualification, 31 of them learnt internet with the help of online instructions and by reading books and articles on the Internet. While 28 of them took the assistance of their colleagues, 27 of them learnt internet by trial and error method. 22 respondents learnt internet through the courses taught at universities while 19 by attending presentation-lectures organized by their libraries (Table 4.74).

Out of 132 respondents with M.Phil qualification, 123 respondents learnt internet through online instructions followed by 121 respondents who learnt it by trial and error method and 120 respondents who learnt internet by reading, book and articles on the Internet. While 102 respondents sought the help of their colleagues to learn Internet, 104 respondents learnt it by attending formal training programmes like short term course, workshops etc. The least number of 81 respondents learnt internet by attending presentation-lectures organized by their libraries.

Out of 91 doctorates, a majority of 87 respondents learnt internet with online instructions followed by 86 respondents who learnt internet by reading, book and articles on Internet and 85 respondents who learnt it with the assistance of their colleagues. While 78 of them undertook formal training programmes like short term courses, workshops etc., 68 of them depended on presentation-lectures organized by their libraries to learn Internet. The least number of 62 respondents learnt internet by doing some courses taught at the universities.

Preferences in the use of Search Engines

The study shows that Google is the most favoured search engine among the respondents as it is highly preferred by 192 respondents and preferred by 61 respondents. The second most favoured search engine is Yahoo as it is highly
preferred by 184 respondents and preferred by 69 respondents. The other highly preferred search engines are Hotpot (144), MSN (132), Rediff (130) and Lycos (115). The most not preferred search engine is Infoseek (153) followed by Rediff (54). Among the search engines never used by the respondents, Lycos (48) tops followed by Infoseek (45) and MSN (44) (Table 4.76).

**Preferences in the use of Search Engines: Designation-wise Analysis**

**Assistant Professors:** It is extracted from the study that the search engine ‘Google’ is ranked first with the mean value of 4.70 followed by Yahoo (4.66) and Rediff (2.85). The sixth rank goes to Lycos (2.65) and the last rank goes to Infoseek (2.04) (Table 4.77).

**Associate Professors & Professors:** The study reveals that the search engine ‘Google’ is ranked first with the mean value of 4.84 followed by Yahoo (4.81) and Hotpot (3.55). The sixth rank goes to Lycos (3.29) and the last rank goes to Infoseek (2.11) (Table 4.77).

Though there is not much preference difference between the Assistant Professors and Associate Professors & Professors in their ranking of preferences over the use of search engines, Associate Professors and Professors are more strong in their preferences as the weighted average mean for all the search engines are more for them than that for Assistant Professors.

**Use of Meta Search Engines**

The study discloses that the most preferred web/meta search engine is Clusty (112) followed by Surfwax (106) and Dogpile (99). 88 respondents prefer to use ‘Zapmeta’ while 69 respondents prefer ‘Ixquick’ and 66 respondents prefer ‘Scirus’. The least preferred web/meta search engine is Lexis-nexis (45). The web/meta search engine ‘Lexis-nexis’ is never used by 118 respondents followed by Flickr (117), Icq
(110), Scirus (109) and USA.gov (107.) 97 respondents had not used Ixquick while 92 respondents never used Zapmeta (Table 4.78).

Level of Satisfaction of E-Resources

The study found that a majority of 157 respondents are highly satisfied with ‘Springer’ followed by 152 respondents who are highly satisfied with ‘Emerald’ database. 121 respondents each are satisfied and highly satisfied with Science Direct database. 103 respondents are highly satisfied with SAGE while 75 are highly satisfied with JSTOR. While 153 respondents are satisfied with EBSCO, 149 respondents are satisfied with ‘JSTOR’ and 142 are satisfied with Pro Quest database. 141 respondents are satisfied with OAlster and 135 respondents are satisfied with SAGE database (Table 4.79).

100+ respondents are satisfied with American Chemical Society, NIST Data gateway, Cambridge university press, Oxford university press, Wiley inter Science, ASCE and INDEST. The e-resource which is not satisfied much among the respondents is IEEE (25) followed by Ovid database (21) and ACS (20). 100 plus respondents have not given any comments on their level of satisfaction on nine databases.

Level of Satisfaction of E-Resources Vs. Working Sector-wise Analysis

It is inferred from the study that the respondents from Government sector are more satisfied with the above listed e-databases than that of private and Self-financing sector respondents. The faculty members of all the three different working sectors, though in varying degrees, have shown very high level of satisfaction with regard to ‘Springer’ and ‘Emerald’ with the WAM of 4.5 and above.

While GSR and ASR have high level of satisfaction with regard to ‘Science Direct’, ‘SAGE’, ‘JSTOR’ and ‘EBSCO’, the self-financing sector respondents have
shown high level of satisfaction with regard to ‘Science Direct’, ‘SAGE’ and ‘JSTOR’.

While GSR have moderate level of satisfaction with regard to 10 databases, PSR have shown moderate level of satisfaction with 8 databases and SSR are so with just 4 databases. GSR has shown low level of satisfaction for 4 databases while PSR have low level of satisfaction with 6 databases. But SSR have shown low level of satisfaction with 11 databases (Table 4.80).

**Level of Satisfaction of E-Resources Vs. Designation-wise Analysis**

It is understood from the study that the overall analysis shows that the Associate Professors and Professors are more satisfied than the assistant professors in respect of all the above listed databases.

While Associate Professors & Professors have very high level of satisfaction with ‘Springer’, ‘Emerald’ and ‘Science Direct’ databases, Assistant Professors show high level of satisfaction with ‘Springer’ and ‘Emerald’ databases. Both Assistant Professors and Associate Professors & Professors are high satisfied with three databases with the WAM ranging from 4.0 to 4.4.

Associate Professors and Professors have moderate level of satisfaction with 14 databases. But, the Assistant professors have shown moderate level of satisfaction with just 4 databases. While Associate Professors and Professors don’t show any low level of satisfaction with any database, Assistant Professors have low level of satisfaction with 11 databases, WAM ranging from 3.0 to 3.4 (Table 4.81).

**5.1.6 Training Requirements**

It is learnt from the study that the most demanded areas of training are ‘Internet search’ (240, 94.49%) and ‘E-Journal Access’ (235, 92.52%). The next set of most required training areas are: ‘Evaluation of information sources’ (220,
86.61%), ‘Accessing other library resources’ (220, 86.61%), ‘Database access’ (217, 85.43%), ‘writing bibliography/ references’ (212, 83.46%) and ‘compilation of citation profile’ (212, 83.46%).

69.29% (176) of the respondents need training to ‘make use of web technologies’ while 61.42% (156) of the respondents need to attend training programmes on ‘library website use’. The least required training areas are: ‘Catalogue search /Web OPAC’ (57.09%, 145) and ‘Availing inter-library loan facility’ (38.98%, 99) (Table 4.82).

Training Requirements: Designation-wise Analysis

It is revealed in the study that 98.90% of AP&P and 92.02% of AP need training on ‘internet search’ followed by 96.70% of AP&P and 90.18% of AP who need training on ‘E-journal Access’. While 86.50% of AP and 86.81 % of AP&P want training on ‘Accessing other library resources’, 84.05% of AP and 91.21% of AP&P like to attend training programme on ‘Evaluation of information sources’. 82.21% of AP and 85.71% of AP&P want training on ‘writing bibliography / references’ while 81.60% of AP and 92.31% of AP&P need training on ‘database access’.

Only 50.92% of AP and 68.13% of AP&P like to attend training programmes on ‘ Catalogue search / web search’ while just 38.04% of AP and 40.66% of AP&P need training on ‘ Availing inter-library loan facility’ (Table 4.82).

Training Requirements: Age Group-wise Analysis

25-35 Years Age Group: It is unearthed in the study that 87.1 % (68) of the respondents need training on ‘internet search ’ and‘ e-journals accesses followed by 82% (64) of the respondents requiring training on ‘database access’ and ‘evaluation of information sources’. While 85.9% of them need training on ‘accessing other library resources’, 80.7% of them need to be trained on ‘compilation of citation profile’. The
least required training areas are: ‘Catalogue search /web OPAC’ (43.5%) and ‘Availing inter-library loan facility’ (42.3%).

36-45 Years Age Group: It is deduced from the study that 96.7 % (89) of the respondents need training on ‘internet search’ and 93.4% (86) of the respondents like to attend training on ‘e-journal access’ followed by 86.9 % (80) of the respondents requiring training on ‘evaluation of information sources’. While 84.7% of them need training on ‘writing bibliography / references’, 83.7% of them need to be trained on ‘Accessing other library resources’. The least required training area is ‘Availing inter-library loan facility’ - as demanded by only 36.9% of the respondents.

>45 Years Age Group: The study discloses that 98.8 % (83) of the respondents need training on ‘internet search’ and 96.4% (81) of the respondents like to attend training on ‘e-journals access’ which is followed by 91.6% of the respondents requiring training on ‘database access’ and 90.4% of them on ‘evaluation of information sources’ and ‘Accessing other library resources’. While 89.2% of them need training on ‘Compiling citation profile’, 86.9% of them need to be trained on ‘Writing bibliography / references’. The least required training area is ‘Availing inter-library loan facility’ - as demanded by only 38.1% of the respondents (Table 4.83).

5.2 TENABILITY OF HYPOTHESIS

5.2.1 Utilization of library services and designation of the respondents

The results of chi-square test prove that there is no association between designation of the respondents and the use of library services like CAS, interlibrary loan, referral services, newspaper clipping services, bulletin board services, OPAC/Web OPAC and technical enquiry service.

The results of chi-square test prove that there is a significant association between the working sector of the respondents and their utilization of library services
like circulation, reference service, reprographic service, abstracting/indexing services, e-mail alert services, document delivery services, internet surfing service, and electronic journal access service (Table 4.14).

### 5.2.2 Library Services vs. Working Sector

The results of chi-square test prove that there is no association between working sector of the respondents in the use of library services like circulation, reference service, CAS, interlibrary loan, newspaper clipping services, internet surfing service, technical enquiry service and electronic journal access service.

The results of chi-square test prove that there is a significant association between the working sector of the respondents and their utilization of library services like reprographic service, referral services, abstracting/indexing services, bulletin board services, email alert services, document delivery services and OPAC/Web OPAC (Table 4.15).
### 5.2.3 Information literacy Skills / Competencies

**Factor 1: Information Access Competency**

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Independent Variables</th>
<th>Test: Existence of Significant Difference</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td><strong>Dependent Variables</strong></td>
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<td></td>
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<td><strong>Designation</strong></td>
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<td></td>
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<td><strong>Mann Whitney U Test</strong></td>
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<td><strong>Result</strong></td>
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<td></td>
<td></td>
<td><strong>Kruskal Wallis Test</strong></td>
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<tr>
<td></td>
<td></td>
<td><strong>Result</strong></td>
</tr>
<tr>
<td>4.19</td>
<td>I can access printed and electronic reference sources.</td>
<td>H₀ Rejected</td>
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<td></td>
<td>Significant Difference</td>
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<td></td>
<td></td>
<td>H₀ Accepted</td>
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<tr>
<td>4.20</td>
<td>I can read the text and understand the main idea from the text.</td>
<td>H₀ Rejected</td>
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<td></td>
<td>Significant Difference</td>
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<td></td>
<td></td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.21</td>
<td>I can restate the text in my own words and present data accurately.</td>
<td>H₀ Accepted</td>
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<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
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<td></td>
<td></td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.22</td>
<td>I can identify similar information from both print and electronic sources and use it appropriately.</td>
<td>H₀ Accepted</td>
</tr>
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<td>No Significant Difference</td>
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<td></td>
<td></td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.23</td>
<td>I can use various search techniques to access information.</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
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<tr>
<td></td>
<td></td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.24</td>
<td>I can refer bibliographies and provide footnotes, online link etc.</td>
<td>H₀ Accepted</td>
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<td>No Significant Difference</td>
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<tr>
<td></td>
<td></td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.25</td>
<td>I can apply previous experiences of using web-based services to access information.</td>
<td>H$_0$ Accepted</td>
</tr>
<tr>
<td>4.26</td>
<td>I maintain record of activities related to my information searching process.</td>
<td>H$_0$ Rejected</td>
</tr>
<tr>
<td>4.27</td>
<td>I will keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information.</td>
<td>H$_0$ Rejected</td>
</tr>
<tr>
<td>4.28</td>
<td>I know the scope, content and organisation of information sources like bibliography, research database etc.</td>
<td>H$_0$ Accepted</td>
</tr>
</tbody>
</table>
### Factor 2: Information Search Competency

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>Designation</th>
<th>Working Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.31</td>
<td>I can communicate the collected information in appropriate medium/format according to the suiting audience</td>
<td>H₀ Rejected</td>
<td>Significant Difference</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.32</td>
<td>I can communicate clearly with a style to support the purposes depending upon the audience</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.33</td>
<td>I can use the keywords, alternate keywords and related keywords to search for the electronic information</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.34</td>
<td>I know how to use various classification schemes and catalogues (call number (or) Index/catalogue) to locate books and other materials in a library</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.35</td>
<td>I can identify the gaps in the collected information and determine whether the searching method should be revised</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.36</td>
<td>I am aware that the search has to be repeated using revised searching method if necessary</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.37</td>
<td>I analyse the logic and structure of information collected</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.38</td>
<td>I can make suitable search by using various techniques like Boolean operators (AND, OR, NOT) using symbols Like *, ?, etc.,</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>Table No.</td>
<td>Independent Variables</td>
<td>Test: Existence of Significant Difference</td>
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<td>Dependent Variables</td>
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<td>Designation</td>
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<td>Working Sector</td>
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<tr>
<td>4.41</td>
<td>I can identify a research topic or any other information need</td>
<td>$H_0$ Accepted</td>
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<td></td>
<td>No Significant Difference</td>
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<td></td>
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<td>$H_0$ Accepted</td>
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<td>No Significant Difference</td>
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<tr>
<td>4.42</td>
<td>I can formulate questions based on the information need</td>
<td>$H_0$ Rejected</td>
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<tr>
<td></td>
<td></td>
<td>Significant Difference</td>
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<td>$H_0$ Accepted</td>
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<td></td>
<td></td>
<td>No Significant Difference</td>
<td></td>
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<tr>
<td>4.43</td>
<td>I can identify general and specific subject information resources</td>
<td>$H_0$ Accepted</td>
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<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
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<td>$H_0$ Accepted</td>
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<td>No Significant Difference</td>
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<tr>
<td>4.44</td>
<td>I can identify and modify the need for information</td>
<td>$H_0$ Accepted</td>
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<td>No Significant Difference</td>
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<td>$H_0$ Accepted</td>
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<td></td>
<td></td>
<td>No Significant Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.45</td>
<td>I can use different keywords for the information I need</td>
<td>$H_0$ Accepted</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
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<td>$H_0$ Accepted</td>
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<td></td>
<td></td>
<td>No Significant Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.46</td>
<td>I can identify types of resources (like books, scholarly journal, historical periodicals, etc.)</td>
<td>$H_0$ Accepted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>$H_0$ Accepted</td>
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<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.47</td>
<td>I can differentiate between primary and secondary sources of information</td>
<td>$H_0$ Accepted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>$H_0$ Accepted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Significant Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Table No.</td>
<td>Independent Variables</td>
<td>Dependent Variables</td>
<td>Designation</td>
<td>Age Group</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>----------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>4.50</td>
<td>I seek expert opinion through a variety of ways like interviews, e-mail, listservs (electronic mailing list) and so on</td>
<td>H₀ Rejected</td>
<td>Significant Difference</td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.51</td>
<td>I can understand the issues related to censorship and freedom of expression</td>
<td>H₀ Rejected</td>
<td>Significant Difference</td>
<td>H₀ Rejected</td>
</tr>
<tr>
<td>4.52</td>
<td>I participate in electronic discussion by following accepted rules (eg., following network etiquettes)</td>
<td>H₀ Accepted</td>
<td>No Significant Difference</td>
<td>H₀ Accepted</td>
</tr>
</tbody>
</table>
### Factor 5: Competency of Information Communication

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Independent Variables</th>
<th>Test: Existence of Significant Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Dependent Variables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Designation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mann Whitney U Test</td>
</tr>
<tr>
<td>4.55</td>
<td>I can participate in electronic communications forums like e-mail, bulletin boards (Place where people can leave public messages for a particular topic) chat rooms (sharing information with group of people via text), etc., to discuss about the topic</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.56</td>
<td>I am aware to organise the collected information with the help of outlines, draft, story boards, etc.,</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.57</td>
<td>I can identify the appropriate channel of communication for my research publications</td>
<td>H₀ Accepted</td>
</tr>
<tr>
<td>4.58</td>
<td>I know the various channels of communication both print and electronic in my filed of knowledge</td>
<td>H₀ Accepted</td>
</tr>
</tbody>
</table>
### Factor 6: Competency of Ethical Use of Information

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Independent Variables</th>
<th>Test: Existence of Significant Difference</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>Dependent Variables</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.61</td>
<td>I follow institutional policies on access to information resources</td>
<td>$H_0$ Accepted</td>
</tr>
<tr>
<td>4.62</td>
<td>I do not indulge in abuse or misuse of information resources, equipment, systems, and facilities</td>
<td>$H_0$ Accepted</td>
</tr>
<tr>
<td>4.63</td>
<td>I know what is Plagiarism (Claiming others work as that of self) and do not do it</td>
<td>$H_0$ Accepted</td>
</tr>
<tr>
<td>4.64</td>
<td>I follow the principles of Fair use of information</td>
<td>$H_0$ Accepted</td>
</tr>
<tr>
<td>4.65</td>
<td>I know the implications and complications of Intellectual Property Rights (IPR)</td>
<td>$H_0$ Accepted</td>
</tr>
<tr>
<td>S. No</td>
<td>Independent Variables</td>
<td>Dependent Variables</td>
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<td>Designation</td>
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<td></td>
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<td>Independent Sample t Test</td>
</tr>
<tr>
<td>1</td>
<td>Information Access Competency (ILC1)</td>
<td>H₀ Accepted (Table No. 4.67)</td>
</tr>
<tr>
<td>2</td>
<td>Information Search Competency (ILC2)</td>
<td>H₀ Accepted (Table No. 4.67)</td>
</tr>
<tr>
<td>3</td>
<td>Information Needs Assessment Competency (ILC3)</td>
<td>H₀ Rejected (Table No. 4.67)</td>
</tr>
<tr>
<td>4</td>
<td>Competency of evaluation of Information (ILC4)</td>
<td>H₀ Rejected (Table No. 4.67)</td>
</tr>
<tr>
<td>5</td>
<td>Competency of Information Communication (ILC5)</td>
<td>H₀ Accepted (Table No. 4.67)</td>
</tr>
<tr>
<td>6</td>
<td>Competency of Ethical use of Information (ILC6)</td>
<td>H₀ Accepted (Table No. 4.67)</td>
</tr>
</tbody>
</table>
5.2.4 Chi-Square Test: Internet Learning Methods

The result of chi-square test proves that there is an association between qualification of the respondents and the adaptation of the method – Assistance from Colleagues- for learning internet. In case of all other 6 methods adopted for learning internet, there is no association.

The result of chi-square test proves that there is an association between working sector of the respondents and the methods they adopt to learn internet - Self instruction / Trial and error method, Formal training programmes and Presentation-lectures organized by the library. But there is an association between working sector of the respondents and the methods – Assistance from colleagues, online instructions, courses taught at the university and reading books and articles on internet (Table No.4.75).

5.2.5 Chi-Square Test: Requirements for IL Training

The result of chi-square test proves that there is no association between the designation of the respondents and their requirements to attend training programme on ‘e-journal access’, ‘evaluation of information sources’, ‘writing bibliography /references’, ‘compilation of citation profiles’, ‘accessing other library resources’ and ‘availing inter-library loan facility’. The result of chi-square test proves that there is an association between designation of the respondents and their requirements to attend training programme on ‘catalogue search /Web OPAC’, ‘library website use’, ‘internet search’, ‘database access’ and ‘use of web technologies.

The result of chi-square test proves that there is no association between 3 different age-groups of the respondents and their requirements to attend training programme on ‘e-journal access’, ‘database access’, ‘evaluation of information sources’, ‘writing bibliography /references’, ‘compilation of citation profiles’, ‘accessing other library resources’ and ‘availing inter-library loan facility’. The result of chi-square test proves that there is an association between 3 different age-groups of
the respondents and their requirements to attend training programme on ‘catalogue search /Web OPAC’, ‘library website use’, ‘internet search’ and ‘use of web technologies’ (Table No.4.84)

5.3 DISCUSSION

The present study has aimed at evaluating the information literacy competency of the faculty members of arts and science colleges affiliated to Mother Teresa Women’s University, Kodaikanal along with other peripheral objectives like understanding their use of search engines and e-resources.

**Information Needs Assessment Competency:**

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 Dorylo (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 & Erneahara (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 Dorylo (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 Dorylo (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 Dorylo (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 Access Competency**

Around 50% of the respondents claim that they can use various search strategies to access information. The similar results were given by Dorylo (2016) in his study on information literacy among post graduate students of the University of Ghana. Khalid Mahmood (2013) found out that the respondents feel comfortable in using Internet search engines (e.g., Google, Yahoo, etc.). Aggrey (2009) found out that most of the respondents had a good knowledge about search engines. In the United Kingdom a survey by Cole and Kelsey (2004) indicated that most of the participants were unable to use electronic databases for searching. In another study conducted in the United States by Pravikoff et al. (2005), most students were not sure of the ability to search for information using the online databases.

About half of the respondents use various techniques to access information. In a study conducted by Adeleke & Emeahara (2016), it was found that 75% of the respondents were able to develop successful search strategies. Hassan and Khaiser (2012) found that one third of the respondents can design an effective search strategy.

The study conducted by Pinto and Sales (2010) revealed that the variables respondents consider they perform best in are: to search for and retrieve internet information (search); the variables in which respondents report their poorest performance: to know information search strategies (search). Rafique (2014) reported that the faculty members are not able to device good searching strategies and to use proper subject terminology in order to access needed information resources.
Rafique (2014) revealed through his study that the respondents were able to use search engines to locate the required information (mean 3.42), can apply advance search options to limit their search (3.01) and can use OPAC to locate library resources (1.78).

The present study reveals that 95 % of the respondents are able to access both printed and electronic information sources. Lata and Sharma (2013) reported that 61.4% of the students and 81.82% of the faculty of PGIMER and 49.09% of the students and 53.85% of the faculty members of the PBDSUHS rated their skills very high in accessing information in print format. Adeleke & Emeahara (2016) found that 80% of the respondents were able to access electronic information resources. Hassan and Khaiser (2012) found that two third of the respondents are able to identify different types of potential sources of information.

Half of the respondents are able to revise the searching method, if required. Hassan and Khaiser (2012) also found that more than half of the respondents are able to refine their search strategies. Hassan and Khaiser (2012) found that two third of the respondents are able to determine whether the initial query should be revised.

Two third of the respondents are able to apply previous experiences to access information. This finding was also supported by Hassan and Khaiser (2012) who found that about three fourth of the respondents can apply new and prior information to the planning of research and innovation. More than 90% of the respondents are able to read the text and understand the main idea from the text. Pinto and Sales (2010) pointed out that the variable respondents consider they perform best in is to recognize the author’s ideas within the text (evaluation).

**Use of Search engines**

Google is the most favored search engine among the respondents. The second most favored search engine is Yahoo followed by Hotpot, MSN, Rediff and Lycos.
The most not preferred search engine is Inforseek followed by Refiff. The search engines never used by the respondents include Lycos, Infoseek and MSN.

There are a lot of similar findings by various authors. Kingsley (2011) found that Google was cited most frequently in both cohorts of students. Google was also ranked the highest choice among the databases and search engines listed, in order of preference and usage within both cohorts. Ali, Abu-Hassan, Md Daud and Jusoff (2010) reported in their study that a majority (75.5%) of respondents chose Google. Yousef Homood Aldebası, Mohamed Issa Ahmed (2013) revealed that 66.8% of the respondents use google search engine. Seetharaman (2012) expressed that around 50% of the respondents use google search engine. Jadoon (2011) indicated in his study that 88.9% of the respondents use google search engine. Unnikrishnan, Kulshrestha, Saraf, Agrahari, Prakash and Samantaray (2008) reported that 60.2% of the respondents use google search engine. Sharma, Verma, Sawhney, Arona and Kapoor (2006) 34.66% of the respondents use google search engine. Ajuwon G A (2003) 9% of the respondents use google search engine.

Dhanavandan, Esmail, Mohammed and Nagarajan (2012) too found that 72 (48.00%) respondents are using Google, followed by 57 (38.00) respondents using yahoo, 10 (6.66%) respondents using AltaVista, 7 (4.66%) respondents using MSN and 4 (2.66%) respondents using Ask.com to access the information in the internet. Bihari Sethi, Bipin and Panda (2012) reported that Google is ranked first and yahoo is ranked second. The search engines Exite, Infoseek and Hotbot are given third ranks. Swain (2010) disclosed in his study that a majority of students use Google (84.4 percent), Yahoo (81.8 percent), and MSN (55.7 percent) frequently. Concurrently, a majority of respondents opine that they never use Infoseek (66.7 percent), AltaVista (65.6 percent), and Dogpile (62.5 percent).
Ali (2005) found that 41 per cent of users said that Google is the most used search engine, followed by Yahoo (31 per cent), Infoseek (11 per cent), Excite (6 per cent) and Hotbot (6 per cent). Interestingly, Haridasan and Khan (2009) found that all the faculty members and research scholars used Google search engine for searching the literature whereas six (66.67 per cent) faculty members and 25 (58.14 per cent) research scholars were using Alta Vista, two (22.22 per cent) faculty member and 20 (46.51 per cent) research scholars were using Yahoo search, four (44.44 per cent) faculty members and 17 (39.53 per cent) were using MSN searching, three (6.98 per cent) research scholars and two (4.65 per cent) research scholars were using Meta search and Lycos respectively. Four (44.44 per cent) faculty members and 22 (51.16 per cent) research scholars were using Ask.com and three (33.33 per cent) faculty members 18 (41.86 per cent) research scholars were using Khoj.com and only five (11.63 per cent) research scholars were using Look smart.

**Meta Search Engines**

On an average, only less number of respondents are aware of meta search engines. Dorylo (2016) supports that only 17% of the respondents in his study know about meta search engines. Ali, Abu-Hassan, Md Daud and Jusoff (2010) found that most students did not know what a Meta search engine does (83.7%).

**Information Literacy Evaluation**

85% 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 copyright and copyright infringement.

**Legal and ethical use of information**

75% of the respondents do not indulge in abuse or misuse of information resources and they follow the principles of fair use of information. Lamptey (2008) discovered that most of the students use information legally and ethically. Khalid Mahmood (2013) found out that the respondents feel comfortable in understanding concepts of the fair use of information sources, copyright and plagiarism. Hassan and Khaiser (2012) found that about more than two third of the respondents understand many of the ethical, legal and socio-economic issues surrounding information and information technology. Hassan and Khaiser (2012) found that five seventh of the respondents follow laws, regulations, institutional policies and etiquette related to the access and use of information resources.

The present study reveals that more than 50% of the respondents cannot refer bibliographies and provide footnotes or prepare references. Khalid Mahmood (2013) found out that the respondents feel comfortable in making bibliography or reference list for my research / assignment. Tarrant et al (2007) found out that student have low knowledge in academic writing using the APA format (a style of referencing).

Ali, Abu-Hassan, Md Daud and Jusoff (2010) reported in their study that most of the respondents seriously lack the knowledge for making a sound evaluation of internet information, using information ethically, or using a citation to search for more information on a topic. Hadimani and Rajgoli (2010) disclosed that only 83.33 per cent of the respondents were aware of the Copyright and Privacy Laws and 91.11 per cent of respondents had the knowledge about the cultural, ethical and legal issues surrounding the use of information.
Pinto and Sales (2010) pointed out that the variable in which respondents report their poorest performance is to know the laws on the use of information (communication and diffusion). Somi and Jager (2005) also disclosed that some respondents make use of other people’s words and ideas without knowing how to acknowledge them. Having done so, they therefore might be guilty of plagiarism.

**Competency of information communication**

One third of the respondents are able to participate in communication forums like e-mail, bulletin boards and chat rooms to discuss about the topics. Khalid Mahmood (2013) found out that the respondents feel comfortable in sharing information through chatting / SMS. Hassan and Khaiser (2012) found that two third of the respondents can understand and interpret information through discourse with other individuals, subject area experts and practitioners. Hassan and Khaiser (2012) found that about three fourth of the respondents can communicate the research / innovation effectively to others. Hadimani and Rajgoli (2010) reported that 85.55 per cent of respondents communicated new knowledge with friends and teachers and 91.11 per cent of them evaluated the gathered information by consulting other sources of information and by discussing it with teachers and friends.

**Use of Specific E-Resources**

95% of the respondents make use of ‘Science Direct’. The findings of Adeleke & Emeahara (2016) too support this. They reported that 95% of the users use Science Direct. 88% of the respondents use JSTOR. It is in contrast to the findings of Adeleke & Emeahara (2016) who reported a mere 39% of JSTOR use. More than 80% of the respondents use EBSCO. It is in contrast to the findings of Adeleke & Emeahara (2016) who reported a mere 7% of EBSCO use. This difference may be due to the nature of users from whom the data was collected.
Lata and Sharma (2013) found out that PGIMER students frequently used PubMed, MedlinePlus and UpToDate databases while the PGIMER faculty members frequently used MDConsult, PubMed and ScienceDirect online medical databases. PubMed was frequently used by 52.73% of the students and by 96.15% of the faculty members of the PBDSUHS.

The present study shows that half of the subscribed e-resources are not having less than 50% of usage. This is supported by Adeleke & Emeahara (2016) who found out that out of the twenty-seven (27) full texts data bases subscribed to, archived and provided access to through username password by the University Library’s portal, only SCIECEDIRECT was ranked highest with about 95% usage statistics, followed by JSTOR, E-JOURNALS, AGORA, AJOL, HINARI all falling below 35% usage statistics. Kingsley (2011) found that although PubMed was the second most commonly cited search engine (C1 = 29.7%; C2 = 26.3%), this represented only slightly more than one quarter of all respondents (28.1%, n = 45/160). Wikipedia was ranked third, with other choices (Google Scholar, Medline, Medscape, CINAHL) less frequently listed.

Dillip K. Swain (2010) majority of students are aware of EBSCO (62.5 percent), followed by Emerald Management Xtra (52.6 percent). However, the awareness of all other online databases is not so encouraging. Indeed, the awareness for no fewer than six of the online databases was less than 40 percent. Asemi and Riyahiniya (2007) in their survey of 250 respondents found that 60.4% of the respondents use springer journals, 80.8% of them use Proquest, 70.4% use Elseveir Science direct, 34.8% use oxford journals and 60% use Blackwell.

**Suggestions: Electronic Resources**

The findings of the study hint that the faculty members should be given necessary instruction on the use of various electronic resources. Their awareness on
the subscribed e-resources should be increased. Adeleke & Emeahara (2016) insisted that to make use of the growing range of electronic resources, the respondents must acquire and practice the skills necessary to exploit them. Thachill (2008) also asserts that electronic resources and the new models of education have generated an even greater need for reference and instruction.

**Services**

The present study reveals that 56% of the respondents make use of OPAC/Web OPAC service of the library. This is supported by Satish Arya and Kallol Das Talukdar (2010) in their study which showed a similar level of usage. But the percentage is even high in the study conducted by Haridasan and Khan (2009) wherein 90.69% of the respondents use OPAC.

84% of the respondents make use of internet services of the library as disclosed in the findings of the present study. A similar finding was inferred by Satish Arya and Kallol Das Talukdar (2010) in their study with 73% of the respondents using internet services. 71% of the respondents use ‘electronic journal access’ service of the libraries under the survey of the present study. Haridasan and Khan (2009) found 100% of faculty members and 60% of the research scholars made use of journal access service. 60% of the respondents avail the document delivery service of their respective libraries. Haridasan and Khan (2009) reported in his their study that six (66.67 per cent) faculty member and 16 (37.21 per cent) research scholars used file transfer service.

**Method of learning internet**

The present study reveals that 91.34% (232) of the respondents learnt internet by trial and error method. Surendra Babu, Sarada and Ramaiah (2010) found that a majority of the respondents leant internet by self instruction through trial and error method. The other popular methods are assistance from colleagues, reading relevant
literature online and online instructions. The study by Surendra Babu, Sarada and Ramaiah (2010) found that other methods like orientation programme by the library staff, assistance from colleagues, formal training are other popular methods.

The lease used method for learning internet among the respondents are university courses and programmes organized by the library. Quite contrast to this is the findings of Surendra Babu, Sarada and Ramaiah (2010) who found that manuals and handbooks are the least used methods.

**Training Requirements**

Among the training requirements of the respondents, internet search (95%) and e-journal access (93%) are the most demanded. It is followed by other areas like database access (85%) and use of OPAC (57%). This coincides with the findings of Sasikala and Dhanraju (2011) that identified the areas where the students need training. Internet occupied the 1st place with 60 % of the students opting for training on it. It is followed by computers (59%), use of library printed sources (nearly 55%), use of electronic sources (39%), use of on-line data bases (33%) and use of e-mail (32%) and OPAC (20.56%).

**Suggestions**

A good ICT infrastructure is to be established in the higher education. Hadimani and Rajgoli (2010) too suggested that technological infrastructure needs to be implemented to enable better utilisation of the online resources being subscribed.

Sufficient programmes need to be arranged in the universities to impart necessary information literacy skills among the faculty members. Hadimani and Rajgoli (2010) too insisted that an IL programme that meets the specific information needs of the students should be developed by the library staff in collaboration with faculty staff. Mohamed Haneefa (2007) suggested that formal training and user orientation programs are the crucial steps that can facilitate effective use of ICT based
resources and services in libraries. While Rafique (2014) recommended that programs may be arranged in the university to inculcate the information literacy skills among faculty members, Somi and Jager (2005) thought a step further and suggested that a formal library orientation committee should be established and orientation should be conducted on regular basis.

IL may be included as a part of the curriculum in all the higher level institutions irrespective of the discipline or location or status. This suggestion is offered by a score of researchers in the field of IL studies. IL should be made as a part and parcel of health care curriculum Kingsley (2011). Inclusion of IL component in the agricultural education curriculum is a necessity (Hadimani & Rajgoli, 2010). Incorporating information literacy into the core curricula ensures that all students exit the program with a high level of competency and are adequately prepared for life-long learning (Tarrant, Dodgson & Law, 2008). IL should be included in the respective universities’ curricular so as to give it more emphasis. This will make all researchers and potential researchers and other library users realize the importance of being information literate (Alison Annet Kinengyere, 2007). The integration of computer literacy into the university curriculum rather than merely providing an expensive add-on programme will benefit the majority of students (Somi & Jager, 2005).

The researcher could witness a lot of similarities and contrasts among the findings of the present study and that of other studies conducted both at national and international level on information literacy skills of diverse user communities. There are wide differences found in various information skills in the use of e-resources. There are array of similarities found in the use of search engines, some of the basic information literacy skills and suggestions offered to improve the IL skills of the users.
5.4 SUGGESTIONS

5.4.1 General Suggestions

- Number of computers available in the college libraries should be increased.
- The computers with latest configuration / new systems should be given to the libraries, rather than the computer department / other department used computers especially when they get new computers.
- High speed internet connection may be extended to the libraries.
- If possible, instead of getting a line from computer lab / office, a leased / dedicated internet line may be obtained for the college libraries.
- The computers in the library need to be put in Local Area Network.
- Library website or university or college website should possess or direct appropriate resources to help the faculty members learn about various information literacy skills.
- Information literacy day / week may be organized and celebrate by the college / university libraries to spread the awareness among the faculty members.
- The university / college librarian may take the lead to help the faculty members become experts in information handling tasks.
- The librarians may be given some special internship programmes so as to enable them take up the job of creating an information literate academic community in the college / university.

5.4.2 Findings-specific Suggestions

Improving the Academic Profile of the faculty members

- The Assistant Professors working in the colleges should be given ‘guide ship’ by the university concerned. The college should provide research facilities in the subject concerned. These will motivate the faculty members to start guiding Ph.Ds.
The Arts and Science colleges may start M.Phil programmes in various subjects so as to facilitate the faculty members to get the opportunity of guiding M.Phil Scholars.

The State Govt. may initiate special research projects earmarked for the faculty members of state universities and their affiliated colleges apart from the research fund being sponsored by central bodies like UGC, ICSSR, ICHR, and DST etc.

A minimum number of projects per subject may be decided by the state government and its statutory bodies / organisations / institutions involved in promoting research.

A college or a cluster of colleges may publish journals in the select subjects. The faculty members may be encouraged to publish their articles / academic contributions in those in-house journals.

The faculty members should be given sufficient opportunities to take part in state / national / international conferences and seminars in their subjects concerned.

The state govt or the university may conduct appropriate and current issues based workshops and symposia for the benefit of the faculty members.

A statistics of eligible faculty members who have not attended the in-service or orientation programme of refresher courses may be taken up, compiled and sent to UGC or authorities concerned to plan for such programmes in the days to come.

**Library: Awareness and Utilization**

User awareness programme may be organized by the university/ college libraries to disclose the quantity and quality of library services being rendered by them for the faculty members.
• Services like Referral Service, bulletin board service, email alert service, OPAC and technical enquiry service, which is used by 1/3\textsuperscript{rd} of the respondents, need to be publicized among the faculty members in various forums and meetings.

• A good number of faculty members are not aware of library collections, OPAC search, library services and organizational structure of their libraries. Library visits, virtual library tours, product demos may be arranged for the faculty members to better their awareness and usage of library.

• Best library user award may be introduced for the faculty members also. Both the departmental library and central library users may be honoured.

**Information Literacy Competencies**

The faculty members need to be taught / trained / oriented on the following information literacy competencies.

• Ability to use various search techniques to access information

• Competence to refer bibliographies and provide footnotes, online links etc.

• Skill to apply previous experiences of using web-based services to access information.

• Ability to identify the gaps in the collected information and determine whether the searching method should be revised.

• Skill to participate in electronic discussion by following accepted rules (e.g., following network etiquettes).

• Calibre to participate in electronic communications forums like e-mail, bulletin boards (Place where people can leave public messages for a particular topic) chat rooms (sharing information with group of people via text), etc., to discuss about the topic.

• Ability to organise the collected information with the help of outlines, draft, story boards, etc.,
• Skill to identify the appropriate channel of communication for my research publications
• Calibre not to indulge in abuse or misuse of information resources, equipment, systems, and facilities.
• Ability to know the implications and complications of Intellectual Property Rights (IPR).

Internet, Search Engines and E-databases

• The university authorities or the university library or college management may organize special campaigns to teach the faculty members necessary internet skills.
• A short term diploma courses may be introduced for the faculty members to learn necessary internet skills.
• As Google and Yahoo are the most used search engines among the faculty members, special features, advanced search options etc. available in these two search engines may be explained to them.
• The goodness of other search engines with their distinguishing features may also be demonstrated among the faculty members.
• The faculty members are not aware of most of the Meta search engines. Special demos may be held for them to learn the use of such useful Meta search engines.
• The reasons for the dissatisfaction of e-databases like Wiley, Ovid Database, ACS, NIST Gateway, CUP, OUP and IEEE may be surveyed and necessary action may be initiated to remove the barriers.
• If there any problems with the publishers or publisher interfaces or publishers’ services in respect of provision of e-databases, it may be sorted out diligently.
Special N-LIST awareness meets may be organized in the colleges inviting the experts from NLIST team to enlighten the faculty members on the availability and usability of e-journals and e-books available with NLIST programme.

**Information Literacy Programmes for the Faculty members**

- Exclusive surveys may be conducted in the individual libraries to identify the deficiencies found among the faculty members with regard to their information literacy skills.
- Suitable packages may be designed to address the common information deficiency areas of the select group of faculty members.
- A group of geographically close by libraries may come together to plan for a common information literacy programme suiting all of them.
- A common pool of resources on various aspects of information literacy may be made available in the university or in a central college.
- The university may establish an ‘Information Literacy Cell’ with a special team of experts to handle the information literacy related issues of both university and its affiliated colleges.
- Information literacy may be included as a component of orientation / in-service / refresher courses being organized by the universities.
- One day or two day training sessions may be organized on areas like Catalogue search / Web OPAC use, library website use, availing of inter-library loan and making use of web technologies with the assistance of experts from library science, computer science and information technology.
- Both formative and summative assessment may be introduced to understand the progress of the faculty members as far as their information literacy is concerned.
- An increment may be awarded to those faculty members who complete a formal course on information literacy being hosted by the university or college.
- Peer learning, shared learning, online learning, collaborative learning, leisure time learning and the like may be initiated to impart information literacy, digital literacy, internet literacy and media literacy among the faculty members.

5.5 DIRECTIONS FOR FURTHER RESEARCH

The present research may be extended, modified, limited or improved in the following ways by the future researchers.

- IL competency of faculty members of other universities and their affiliated / constituent colleges
- A comparative study of IL skills of faculty members of govt and private universities
- A comparative study of IL skills of faculty members and research scholars or faculty members and PG students or research scholars and PG students
- IL skills of distance education students – UG and PG
- IL skills of faculty members or students of technical institutions – IITs, Engineering Colleges, Medical Colleges, Dental Colleges, Nursing Colleges, Paramedical colleges, Polytechnic colleges
- IL skills of teachers / students of CBSE / Metric / State Board schools
- A comparative study of IL skills of faculty members or research scholars or students of Central Vs. State universities.
- Gender based studies – IL skills of male faculty members, IL skills of female faculty members, IL skills of boy students or IL skills of girl students
- IL skills of city colleges Vs. Rural colleges (Students and faculty members)
• IL skills of arts and science colleges VS. Engineering colleges (Students and faculty members)

• Experimental studies- Pre and Post course evaluation of IL skills of faculty members or research scholars or students or universities or colleges

• A study of select IL skills (information search skills, information evaluation skills, information access skills etc) of respondents.

5.6 CONCLUSION

This is a good experience for the researcher to explore the information literacy skills of the faculty members of Mother Teresa University, its constituent colleges and its affiliated colleges. This study is special as all the respondents are female faculty members. The study insists that the faculty members should come forward to get complete Ph.D and get guide ship so that they will be able to guide many more Ph.D and M.Phil degrees. They should get interest in carrying out research and publish their research output in the form of articles or conference papers. They should strive to get minor or major projects from both Central and State government bodies. Some kind of incentives should be introduced for the faculty members who complete minor or major projects, who complete guiding a M.Phil/ PhD etc.

The study makes it clear that the faculty members lack certain information literacy skills. The nature and level of deficiency differs from faculty member to faculty member either in respect of their designation or in respect of their working sector or in respect of their age groups. In certain areas, Assistant professors are good. But in other areas, Associate Professors and Professors are good. In certain skills, government sector respondents are better while in other skills self finance sector and private sector respondents are better. In some information literacy competencies, young faculty members are weak. But in other competencies, middle and aged faculty members are weak. Thus, the deficiency rate and area get differed. So, each and every college / university should find out these deficiencies by conducting some special
surveys and initiate certain solid need-specific programmes to help the faculty members get rid of their deficiencies. As the faculty members become more and more information literate, their students and the learning environment get glistened. The students become information literate. They become stronger in handling all kinds of information sources in all kinds of forms and formats.

The university or college authorities should see that the institution has a very strong and supporting environment in terms of management support and motivation, information resources, ICT infrastructure and services, to enable the individual faculty members to better them in areas of their weakness. Even the faculty members should have a strong feeling that unless or otherwise, they become information literate, they may not be able to face the challenges thrown by the Information technology penetrated global information system of the day.

The way the faculty members learn about internet and the search engines they use reveal that the faculty members are strong in these two areas. Though they are satisfied with most of the e-resources, they are less satisfied with few e-databases. The research personally feels that this dissatisfaction is due to the face that some of the e-databases which are exclusively meant for engineering and health related disciplines are of less significant for the arts and science colleges and the state universities where such courses are not available. When we talk about the requirements of Information literacy training, again it differs, though not to a greater extent.

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 faculty members 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. This will help us to create
an information literate society, at large.