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# An Analysis of Women Faculty Attitudes, Perceptions and Experiences of Information Access Competency

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# AN ANALYSIS OF WOMEN FACULTY ATTITUDES, PERCEPTIONS AND EXPERIENCES OF INFORMATION ACCESS COMPETENCY

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## **0. ABSTRACT**

*The paper aims to present the awareness of library rules, use of library services and information access competency of the women faculty members (Mother Teresa Women's University and its affiliated colleges) was investigated for their opinions and experiences about assorted techniques of information access. Data were collected through questionnaire method. Copies of the questionnaires were distributed to 87.59% of population i.e. 254 out of 290 women faculty members in their staff rooms with the permission and assistance of the registrar/principal. This study showed that 242 (95.2%) respondents agree/strongly agree that 'they can access printed and electronic reference sources'. 235 (92.5%) respondents agree/strongly agree that 'they can read the text and understand the main idea from the text'. 210 (82.7%) respondents agree/strongly agree that 'they can restate the text in their own words and present data accurately'. While 83% (213) of the respondents agree/strongly agree that 'they can identify similar information from both print and electronic resources', This study was conducted on a single group and in a certain academic institutions namely Mother Teresa Women's University and its affiliated colleges. Therefore findings and conclusions may not be applicable and reasonable to be generalized for all the groups i.e. guest lectures and teaching assistants. This study empirically validated the ten information access competency variables. The study also investigated the faculty age and experience, in addition to education level and academic discipline, as new affects.*

**Keywords** – *Library services, Information resources, education, library rules, faculty members, Information access competencies and Information Literacy*

## **1. INTRODUCTION**

The educational institutions have an opportunity, and a challenge, to prepare faculty to meet the demands of the Information Age. The faculty members need to identify what graduates should know and be able to do. Recipients of a quality education share certain attributes like critical thinking, problem solving, a global vision and a multicultural perspective, preparedness for work, and good citizenship. The terms skills, knowledge, competencies and such other terms are used synonymously in this study. These terms differ only slightly in meaning from one another. Specifically, '*Skills*' refers to do something well, arising from talent, training or practice. The '*Knowledge*' refers to acquaintance with facts, truths, profession or with a particular subject or branch of learning. The '*Competence*' refers to the quality or state of having sufficient skills, knowledge and requirements to do a certain job.

## **2. REVIEW OF LITERATURE**

Literature reviews are the backbone of almost every academic piece of writing. Condensed overviews of relevant literature allow for grounding the authors' research on the state of the art of existing research, thus highlighting the particular scholarly contribution to the research field. Literature reviews help to narrow down the research topic as well as explaining and justifying research objectives, overall research design, and methodology used (Hart, 1998). The study investigates the information literacy instruction practices, attitudes and perceptions of university faculty at York University. The study found that majority of respondents support collaboration between faculty and librarians in teaching information literacy. The study concludes that Faculty who have organised IL instruction overwhelmingly indicate some benefit in terms of improving students' research skills (Bury, 2011). Faculties in the libraries and other university staff, such as writing centre's and copyright offices, have expertise in these competencies that could enhance instruction provided by the faculty (Weiner, 2014). The discipline, type of institution, and organizational culture may influence the ways in which faculty collaborate and the extent to which they collaborate (Eddy 2010, p. 55; McGuinness 2006, p. 575).

There are few studies of faculty to learn what they are teaching in relation to information literacy (Bury 2011; Garritano and Culp 2010; McGuinness 2006). Academic staffs are skilled users of the Internet only as far as its application in research activities is concerned. It is an essentially in the area of literature and

supporting/baseline data searching. They seem not to be as skilled in the use of the Internet to enhance teaching activities, such as delivering additional lecture notes, and sending files to students (Ojedokun & Owolabi, 2003). A major reason for studying teachers' attitude towards computer use is that it is a major predictor for future computer use in the classroom (Myers & Halpin, 2002). The success of student learning with computer technology will depend largely on the attitudes of teachers, and their willingness to embrace the technology (Teo, 2006). Gaining an appreciation of the teachers' attitudes towards computer use may provide useful insights into technology integration and acceptance and usage of technology in teaching and learning. Some examples of these are perceived usefulness, knowledge about computers (Yuen, Law & Chan, 1999), computer confidence (Rovai & Childress, 2002), training (Tsitouridou & Vryzas, 2003), Information and Communication Technology (Timothy & Olufunke, 2015).

The importance of the internet for information retrieval to support research activities in research institutes is acknowledged worldwide. One of the problems facing the development of ICT in schools include the fact that there is limited infrastructural facilities, difficulties in infusing Internet use into the curriculum and also lack of appropriate teacher development (Yusuf & Balogun, 2011). Building knowledge of faculty needs and expectations seemed especially important in the context of a large and growing information literacy program and majority of this instruction is provided in response to individual faculty requests for information literacy sessions as part of courses they are teaching, achieving more strategic integration of IL within core programs initiated by instructional librarians is also a top priority (Bury, 2011). Popoola (2017) in his study shows that there was a significant difference in faculty awareness of available library information products and services. In addition, they did not have sufficient knowledge of those library products and services pertinent to their teaching and research activities. The survey also revealed that the level of knowledge of faculty staff had positive relationship with the frequency of use, consultation with the librarians, faculty status and membership of library related committees.

Woo (2004) organized an online user survey to evaluate the performance of the main library and the six branch libraries of University of Hong Kong to identify any performance gaps and to find out user preferences for print and electronic materials. The study showed that majority of the respondents preferred to use online journals than print versions, but on the other hand about 71.8 percent users opted to use printed

books over the electronic mode. Findings of the web based survey of agricultural faculty in Iran revealed that computer and internet skills affected the faculty's use of electronic information resources. Research work is the major reasons for using electronic information resources (Papzan & Yaghoubi, 2008). On other hand faculty of C.V. Raman College of Engineering make frequent use of the Internet for study and research work (Satpathy & Rout, 2010). About 93.54% of the faculty members access and use information for research purpose followed by 87.09% teachers use information to prepare class lectures. Around 83.87% faculty members access and use information for writing research papers and articles (Singh & Kumar, 2013).

### **3. OBJECTIVES OF THE STUDY**

- i. To survey the academic profile of the faculty members of Mother Teresa Women's University, Kodaikanal, Dindigul District, Tamilnadu, its constituent colleges and affiliated colleges;
- ii. To survey the extent of awareness and use of library resources and services by the respondents under survey;
- iii. To survey the level of awareness about library rules and organisational structure; and
- iv. To assess the information access competencies / skills of the respondents under study.

### **4. HYPOTHESES OF THE STUDY**

- i. There is no association between designation and working sector of the respondents and their awareness and utilization of library services.
- ii. There is no association between designation of the respondents and the use of library services.
- iii. There is no significant difference between designation and working sector of the respondents and their information access competencies / skills.

### **5. RESEARCH METHODS**

A structured questionnaire was the main research tool of data collection. The sample was drawn from Mother Teresa Women's University and its constituent and Affiliated Colleges. Simple random sampling method has been applied in order to assess the women faculty members' perception about the attitudes, perceptions and experiences of information access competency. 254 questionnaires were received from

the respondents out of 290 (response rate of 87.59%). The highest, response rate comes from the MTWU with 95.00 per cent, followed by Autonomous colleges affiliated to MTWU with 92.50 per cent, Self Financing Colleges with 83.64 per cent and constituent Colleges of MTWU with 83.33 per cent. The statistical techniques such as simple percentage, chi-square, Mann Whitney U Test, Kruskal Wallis Test, were used wherever necessary, to interpret the collected data. The results of the present study are thus based purely on the responses made in the questionnaire returned by the respondents only.

## 6. ANALYSIS AND DISCUSSION

### Institution-wise Distribution of the Respondents

Table 1 - Institution-wise Distribution of Respondents

| Name of the Institution                           | Respondents |              | Cumulative Percent |
|---|-------------|--------------|--------------------|
|   | Frequency   | Percent      |                    |
| Jayaraj Annapackiam College for Women             | 51          | 20.08        | 20.08              |
| Mother Teresa Women's University (MTWU)           | 38          | 14.96        | 35.04              |
| Sakthi College of Arts and Science for Women      | 27          | 10.63        | 45.67              |
| Arulmigu Palaniyandavar Arts College for Women    | 23          | 9.06         | 54.72              |
| Govt. Arts College, Nilakottai                    | 19          | 7.48         | 62.20              |
| Nadar Saraswathi College of Arts & Science        | 18          | 7.09         | 69.29              |
| M.V.Muthiah Govt. Arts College for Women          | 17          | 6.69         | 75.98              |
| Sri Adi Chunchangiri Women's College              | 17          | 6.69         | 82.68              |
| St.Antony's College of Arts and Science for women | 16          | 6.30         | 88.98              |
| Thiravium College of Arts and Science for Women   | 14          | 5.51         | 94.49              |
| Mother Teresa Women's University College          | 9           | 3.54         | 98.03              |
| Women's University College of Education           | 5           | 1.97         | 100.00             |
| <b>Total</b>                                      | <b>254</b>  | <b>100.0</b> |                    |

Table 1 show the institution-wise distribution of respondents. 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. 54.72% (139) of the respondents are from just 4 colleges and the rest (115) are from 7 other 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. Two government affiliated colleges – MVM College and Govt. Arts College, Nilakottai –

have contributed 36 respondents for the study. One B.Ed college – WUCE- has just 5 respondents participating in this survey. There are five colleges which have 14-19 respondents each in the study. Two colleges have less than 10 respondents – MTWUC with 9 and WUCE with 5 respondents.

### **Designation and Working Sector-wise Distribution of Respondents**

Table 2 discloses the designation and working sector-wise distribution of the respondents. Out of 12 institutions, 5 are government, 5 are self-financing and 2 are aided educational institutions. While there are 92 (36.2%) respondents from self-financing colleges, 88 (34.6%) respondents are from Government University and government colleges. 74 (29.1%) respondents are hailed from just two self-financing colleges. 163 (64.2%) respondents are assistant professors and 81 (31.9%) respondents are associate professors while just 10 (3.9%) respondents are professors. Thus, majority of the respondents of this study are Assistant Professors.

Table 2 - Working Sector-wise Distribution of Respondents

| <b>Status of Institution</b> | <b>Number of Institutions</b> | <b>Frequency</b> | <b>Percent</b> | <b>Cumulative Percent</b> |
|------------------------------|-------------------------------|------------------|----------------|---------------------------|
| Govt                         | 05                            | 88               | 34.6           | 34.6                      |
| Aided                        | 02                            | 74               | 29.1           | 63.8                      |
| Self-finance                 | 05                            | 92               | 36.2           | 100.0                     |
| <b>Total</b>                 | <b>12</b>                     | <b>254</b>       | <b>100.0</b>   |                           |

  

| <b>Designation</b>  | <b>Frequency</b> | <b>Cumulative Freq.</b> | <b>Percent</b> | <b>Cumulative Percent</b> |
|---------------------|------------------|-------------------------|----------------|---------------------------|
| Assistant Professor | 163              | 163                     | 64.2           | 64.2                      |
| Associate Professor | 81               | 244                     | 31.9           | 96.1                      |
| Professor           | 10               | 254                     | 3.9            | 100.0                     |
| <b>Total</b>        | <b>254</b>       |                         | <b>100.0</b>   |                           |

### **Use of Library Services**

It is revealed that 225 respondents availed the circulation service, 235 availed the reference service, 217 utilized reprographic services, 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. While 119 respondents

don't use library inter-library loan service, 106 don't use referral services, 125 don't use bulletin board services, 112 don't use library OPAC / Web OPAC and 125 respondents don't use technical enquiry service of the library.

### Chi-Square Analysis of Library Services

**Associate Professors and Professors (AP&P):** Out of 91 Associate Professors and Professors (AP&P), 86 used circulation service of the library, 89 utilized reference services, 85 made use of reprographic services, 89 used Current Awareness Services, 53 utilized inter library loan services, 60 made use of referral services, 76 utilized abstracting/indexing services and 82 Associate Professors and 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 3: Chi-Square Analysis of Library Services utilized by the respondents**

| Variables                   | RES | Designation         |                             | Total | Chi   | df | p-value |
|-----------------------------|-----|---------------------|-----------------------------|-------|-------|----|---------|
|                             |     | Assistant Professor | Associate Prof. & Professor |       |       |    |         |
| Circulation                 | Yes | 139                 | 86                          | 225   | 4.918 | 1  | .027    |
|                             | No  | 24                  | 5                           | 29    |       |    |         |
| Reference Service           | Yes | 146                 | 89                          | 235   | 5.718 | 1  | .017    |
|                             | No  | 17                  | 2                           | 19    |       |    |         |
| Reprographic Service        | Yes | 132                 | 85                          | 217   | 7.244 | 1  | .007    |
|                             | No  | 31                  | 6                           | 37    |       |    |         |
| CAS                         | Yes | 154                 | 89                          | 243   | 1.557 | 1  | .212    |
|                             | No  | 9                   | 2                           | 11    |       |    |         |
| Inter Library Loan          | Yes | 82                  | 53                          | 135   | 1.477 | 1  | .224    |
|                             | No  | 81                  | 38                          | 119   |       |    |         |
| Referral Services           | Yes | 88                  | 60                          | 148   | 3.427 | 1  | .064    |
|                             | No  | 75                  | 31                          | 106   |       |    |         |
| Abstracting/Indexing        | Yes | 113                 | 76                          | 189   | 6.176 | 1  | .013    |
|                             | No  | 50                  | 15                          | 65    |       |    |         |
| Newspaper Clipping Services | Yes | 141                 | 82                          | 223   | .709  | .1 | .400    |
|                             | No  | 22                  | 9                           | 31    |       |    |         |
| Bulletin Board Services     | Yes | 80                  | 49                          | 129   | .531  | 1  | .466    |



|                            |     |     |    |     |       |   |      |
|----------------------------|-----|-----|----|-----|-------|---|------|
|                            | No  | 83  | 42 | 125 |       |   |      |
| E-mail Alert Service       | Yes | 93  | 69 | 162 | 8.905 | 1 | .003 |
|                            | No  | 70  | 22 | 92  |       |   |      |
| Document Delivery Service  | Yes | 108 | 74 | 182 | 6.522 | 1 | .011 |
|                            | No  | 55  | 17 | 72  |       |   |      |
| OPAC / Web OPAC            | Yes | 87  | 55 | 142 | 1.183 | 1 | .277 |
|                            | No  | 76  | 36 | 112 |       |   |      |
| Internet surfing Service   | Yes | 129 | 84 | 213 | 7.479 | 1 | .006 |
|                            | No  | 34  | 7  | 41  |       |   |      |
| Technical Enquiry Service  | Yes | 76  | 53 | 129 | 3.153 | 1 | .076 |
|                            | No  | 87  | 38 | 125 |       |   |      |
| Electronic Journals Access | Yes | 108 | 72 | 180 | 4.680 | 1 | .031 |
|                            | No  | 55  | 19 | 74  |       |   |      |

**Assistant Professors:** 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 80 Assistant Professors, e-mail alert service by 93 Assistant Professors, document delivery service by 108 Assistant Professors, OPAC by 87 Assistant Professors, internet surfing service by 129 Assistant Professors, technical enquiry service by 76 Assistant Professors and electronic journal access service by 108 Assistant Professors.

**Chi-Square Analysis:** To test whether there is a significant association between the utilization of library services and designation of the respondents, a chi-square test was conducted. The test reveals that

- a) The p-value for the variables, CAS, interlibrary loan, referral services, newspaper clipping services, bulletin board services, OPAC/Web OPAC and technical enquiry service is more than 0.05 and thus the null hypothesis is accepted. There is no association between designation of the respondents and the use of aforesaid library services.
- b) The p-value for the variables circulation, reference service, reprographic service, abstracting/indexing services, e-mail alert services, document delivery services, internet surfing service, and electronic journal access service is less

than 0.05 – the level of significance. So, the null hypothesis is rejected and the alternative hypothesis is accepted. There is a significant association between the designation of the respondents and their utilization of these library services.

**Table 4: Awareness of Library Vs. Designation of the Respondents**

| Variables                   | Response         | Designation         |                                 | Total | %     |
|-----------------------------|------------------|---------------------|---------------------------------|-------|-------|
|                             |                  | Assistant Professor | Associate Professor & Professor |       |       |
| Aware of Library Rules      | Not Aware        | 6                   | 5                               | 11    | 4.33  |
|                             | Very Less Extent | 27                  | 20                              | 47    | 18.50 |
|                             | Less Extent      | 40                  | 21                              | 61    | 24.02 |
|                             | Some Extent      | 48                  | 22                              | 70    | 27.56 |
|                             | Large Extent     | 42                  | 23                              | 65    | 25.59 |
| Know Collection Details     | Not Aware        | 4                   | 1                               | 5     | 1.97  |
|                             | Very Less Extent | 16                  | 6                               | 22    | 8.66  |
|                             | Less Extent      | 30                  | 12                              | 42    | 16.54 |
|                             | Some Extent      | 64                  | 43                              | 107   | 42.13 |
|                             | Large Extent     | 49                  | 29                              | 78    | 30.71 |
| Search in OPAC              | Not Aware        | 17                  | 4                               | 21    | 8.27  |
|                             | Very Less Extent | 15                  | 10                              | 25    | 9.84  |
|                             | Less Extent      | 32                  | 19                              | 51    | 20.08 |
|                             | Some Extent      | 66                  | 36                              | 102   | 40.16 |
|                             | Large Extent     | 33                  | 22                              | 55    | 21.65 |
| Aware of Library Service    | Not Aware        | 28                  | 9                               | 37    | 14.57 |
|                             | Very Less Extent | 43                  | 26                              | 69    | 27.17 |
|                             | Less Extent      | 33                  | 26                              | 59    | 23.23 |
|                             | Some Extent      | 47                  | 24                              | 71    | 27.95 |
|                             | Large Extent     | 12                  | 6                               | 18    | 7.09  |
| Know Organization Structure | Not Aware        | 43                  | 26                              | 69    | 27.17 |
|                             | Very Less Extent | 46                  | 25                              | 71    | 27.95 |
|                             | Less Extent      | 11                  | 13                              | 24    | 9.45  |
|                             | Some Extent      | 50                  | 22                              | 72    | 28.35 |
|                             | Large Extent     | 13                  | 5                               | 18    | 7.09  |

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. 21 (8.27%) respondents are not aware of search in library OPAC. 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. 18 (7.09%) respondents are aware of library services to a larger extent. 28.35% (72) of the respondents know about the organizational structure of the library to some extent while 71 (27.95%) respondents are aware of it to a very less extent and 69 (27.17%) respondents are not at all aware of it. 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 5: Information Access Competency of the Respondents**

| Variables   | SD          | DA            | NEU           | AG             | SA            | Total         |
|---|-------------|---------------|---------------|----------------|---------------|---------------|
| I can access printed and electronic reference sources.  | 4<br>(1.6%) | 2<br>(.8%)    | 6<br>(2.4%)   | 186<br>(73.2%) | 56<br>(22%)   | 254<br>(100%) |
| I can read the text and understand the main idea from the text.                                     | 0           | 14<br>(5.5%)  | 5<br>(2%)     | 183<br>(72%)   | 52<br>(20.5%) | 254<br>(100%) |
| I can restate the text in my own words and present data accurately.                                 | 0           | 27<br>(10.6%) | 17<br>(6.7%)  | 155<br>(61%)   | 55<br>(21.7%) | 254<br>(100%) |
| I can identify similar information from both print and electronic sources and use it appropriately. | 0           | 19<br>(7.5%)  | 22<br>(8.7%)  | 150<br>(59.1%) | 63<br>(24.8%) | 254<br>(100%) |
| I can use various search techniques to access information.  | 0           | 83<br>(32.7%) | 47<br>(18.5%) | 88<br>(34.6%)  | 36<br>(14.2%) | 254<br>(100%) |
| I can refer bibliographies and provide footnotes, online link etc.                                  | 0           | 82<br>(32.3%) | 48<br>(18.9%) | 89 (35%)       | 35<br>(13.8%) | 254<br>(100%) |
| I can apply previous experiences of using web-based services to access information.                 | 0           | 70<br>(27.6%) | 72<br>(28.3%) | 81<br>(31.9%)  | 31<br>(12.2%) | 254<br>(100%) |
| I maintain record of activities related to my information searching process.                        | 0           | 13<br>(5.1%)  | 55<br>(21.7%) | 127<br>(50%)   | 59<br>(23.2%) | 254<br>(100%) |

|  |         |           |           |             |            |            |
|--|---------|-----------|-----------|-------------|------------|------------|
| I will keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information. | 1 (.4%) | 3 (1.2%)  | 28 (11%)  | 154 (60.6%) | 68 (26.8%) | 254 (100%) |
| I know the scope, content and organisation of information sources like bibliography, research database etc.                              | 1 (.4)  | 15 (5.9%) | 23 (9.1%) | 146 (57.5%) | 69 (27.2%) | 254 (100%) |

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

Table 5 shows the information access competencies of the respondents. 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’. 82 (32.3%) respondents disagree that ‘they can refer bibliographies and provide footnote.’ While 88 (34.6%) respondents disagree that ‘they can use various search techniques to access information’, 70 (27.6%) respondents disagree that ‘they can apply previous experiences of using web based services to access information’. Except with these three skills, other skills don’t have much responses showing disagreement of the respondents.

**Table 6: Tests of Normality for the factor “Information Access Competency”**

| Variable   | Tests of Normality              |     |      |              |     |      |
|--|---------------------------------|-----|------|--------------|-----|------|
|  | Kolmogorov-Smirnov <sup>a</sup> |     |      | Shapiro-Wilk |     |      |
|  | Statistic                       | df  | Sig. | Statistic    | df  | Sig. |
| I can access printed and electronic reference sources.   | .369                            | 254 | .000 | .602         | 254 | .000 |
| I can read the text and understand the main idea from the text.  | .380                            | 254 | .000 | .655         | 254 | .000 |
| I can restate the text in my own words and present data accurately.  | .357                            | 254 | .000 | .762         | 254 | .000 |
| I can identify similar information from both print and electronic sources and use it appropriately.                                      | .333                            | 254 | .000 | .778         | 254 | .000 |
| I can use various search techniques to access information.   | .230                            | 254 | .000 | .843         | 254 | .000 |
| I can refer bibliographies and provide footnotes, online link etc.   | .231                            | 254 | .000 | .844         | 254 | .000 |
| I can apply previous experiences of using web-based services to access information.  | .202                            | 254 | .000 | .866         | 254 | .000 |
| I maintain record of activities related to my information searching process.   | .275                            | 254 | .000 | .847         | 254 | .000 |
| I will keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information. | .305                            | 254 | .000 | .775         | 254 | .000 |
| I know the scope, content and organisation of information sources like bibliography, research database etc.                              | .321                            | 254 | .000 | .785         | 254 | .000 |

To test the normality of data, one sample K-S test and Shapiro-Wilk test were conducted for all the 10 variables placed under the factor ‘Information Access Competency’. The p-values for all the 10 variables are less than 0.05. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted i.e. the research data is not normally distributed. So, the non-parametric tests need to be conducted on these variables.

### Information Access Competency Variable - 1

Table 7: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can access printed and electronic reference sources” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |     |    |       |           |              |                |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor             | 4        | 2  | 6  | 121 | 30 | 163   | 120.48    | 19638.50     |                |             |
| Associate Professor & Professor | 0        | 0  | 0  | 65  | 26 | 91    | 140.07    | 12746.50     | <b>6272.5</b>  | <b>.008</b> |
| Total                           | 4        | 2  | 6  | 186 | 56 | 254   |           |              |                |             |
| Kruskal-Wallis Test             |          |    |    |     |    |       |           |              |                |             |
| Variables                       | Response |    |    |     |    | Total | Mean Rank | X2           | df             | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Govt.                           | 3        | 0  | 1  | 67  | 17 | 88    | 124.27    |              |                |             |
| Aided                           | 1        | 2  | 1  | 53  | 17 | 74    | 127.91    |              |                |             |
| Self-Finance                    | 0        | 0  | 4  | 66  | 22 | 92    | 130.26    | <b>.506</b>  | <b>2</b>       | <b>.776</b> |
| Total                           | 4        | 2  | 6  | 186 | 56 | 254   |           |              |                |             |

Table 7 shows the designation and working sector-wise distribution of the respondents in terms of their skill to access printed and electronic reference sources along with the results of non-parametric tests.

**Designation-wise Analysis:** 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. Just 6 AP strongly disagree/disagree with the skill.

**Mann-Whitney U Test:** The results of the test were in the expected direction and significant,  $U = 6272.5$ ,  $p < .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (140.07) is significantly higher than the score (120.48) for Assistant Professors. The difference between the

mean ranks is 19.59. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to access printed and electronic reference sources.

**Working Sector-wise Analysis:** 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. Only 3 ASR and 3 GSR disagree/ strongly disagree with the skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill ‘I can access printed and electronic reference sources’ ( $X^2 (2, N = 254) = .506, p > .05$ ). The mean ranks for the skill is 124.27 for government sector respondents, 127.91 for aided sector respondents and 130.26 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

### Information Access Competency Variable - 2

Table 8: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can read the text and understand the main idea from the text” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |     |    |       |           |              |                |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor             | 0        | 11 | 3  | 122 | 27 | 163   | 121.75    | 19845        |                |             |
| Associate Professor & Professor | 0        | 3  | 2  | 61  | 25 | 91    | 137.80    | 12540        | <b>6479</b>    | <b>.034</b> |
| Total                           | 0        | 14 | 5  | 183 | 52 | 254   |           |              |                |             |

  

| Kruskal-Wallis Test             |          |    |    |     |    |       |           |    |    |   |
|---------------------------------|----------|----|----|-----|----|-------|-----------|----|----|---|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | X2 | df | p |
|                                 | SD       | DA | NE | AG  | SA |       |           |    |    |   |
| Assistant Professor             | 0        | 11 | 3  | 122 | 27 | 163   | 121.75    |    |    |   |
| Associate Professor & Professor | 0        | 3  | 2  | 61  | 25 | 91    | 137.80    |    |    |   |
| Total                           | 0        | 14 | 5  | 183 | 52 | 254   |           |    |    |   |

|              |   |    |   |     |    |     |              |
|--------------|---|----|---|-----|----|-----|--------------|
| Govt.        | 0 | 5  | 2 | 65  | 16 | 88  | 124.35       |
| Aided        | 0 | 4  | 3 | 53  | 14 | 74  | 123.82       |
|              |   |    |   |     |    |     | <b>1.548</b> |
|              |   |    |   |     |    |     | <b>2</b>     |
|              |   |    |   |     |    |     | <b>.461</b>  |
| Self-Finance | 0 | 5  | 0 | 65  | 22 | 92  | 133.47       |
| Total        | 0 | 14 | 5 | 183 | 52 | 254 |              |

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

Table 8 shows the designation and working sector-wise distribution of the respondents in terms of their skill to read the text and understand the main idea from the text along with the results of non-parametric tests.

**Designation-wise Analysis:** 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. No respondent strongly disagrees with this skill.

**Mann-Whitney U Test:** The results of the test were in the expected direction and significant,  $U = 6479$ ,  $p < .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (137.80) is significantly higher than the score (121.75) for Assistant Professors. The difference between the mean ranks is 16.05. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to read the text and understand the main idea from the text.

**Working Sector-wise Analysis:** 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. No one strongly disagrees with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill ‘*I can read the text and understand the main idea from the text*’ ( $X^2(2, N = 254) = 1.548$ ,  $p > .05$ ). The mean ranks for the skill is 124.35 for government sector respondents, 123.82 for aided sector respondents and 133.47 for self-financing sector respondents. Inspection of the group means also



suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

### Information Access Competency Variable - 3

Table 9: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can restate the text in my own words and present data accurately.” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |     |    |       |           |              |                |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor             | 0        | 16 | 14 | 101 | 32 | 163   | 124.63    | 20314        |                |             |
| Associate Professor & Professor | 0        | 11 | 3  | 54  | 23 | 91    | 132.65    | 12071        | <b>6948</b>    | <b>.339</b> |
| Total                           | 0        | 27 | 17 | 155 | 55 | 254   |           |              |                |             |

  

| Kruskal-Wallis Test |          |    |    |     |    |       |           |    |    |   |
|---------------------|----------|----|----|-----|----|-------|-----------|----|----|---|
| Variables           | Response |    |    |     |    | Total | Mean Rank | X2 | df | P |
|                     | SD       | DA | NE | AG  | SA |       |           |    |    |   |
| Govt.               | 0        | 11 | 5  | 55  | 17 | 88    | 123.90    |    |    |   |
| Aided               | 0        | 13 | 8  | 39  | 14 | 74    | 113.59    |    |    |   |
| Self-Finance        | 0        | 3  | 4  | 61  | 24 | 92    | 142.13    |    |    |   |
| Total               | 0        | 27 | 17 | 155 | 55 | 254   |           |    |    |   |

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

Table 9 shows the designation and working sector-wise distribution of the respondents in terms of their skill to restate the text in their own words and present data accurately.

**Designation-wise Analysis:** 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. No respondent strongly disagrees with this skill.

**Mann-Whitney U Test:** The results of the test were insignificant,  $U = 6948$ ,  $p > .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (132.65) is not significantly higher than the score (124.63) for Assistant Professors. The difference between the mean ranks is 8.02. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to restate the text in their words and present data accurately.

**Working Sector-wise Analysis:** 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.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill “*I can restate the text in my own words and present data accurately*” ( $X^2(2, N = 254) = 8.555, p < .05$ ). The mean ranks for the skill is 123.90 for government sector respondents, 113.59 for aided sector respondents and 142.13 for self-financing sector respondents. Inspection of the group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

**Post-Hoc Tests:**

| Pair | Sector       | Mean Rank | Difference | U    | p    | Result                    |
|------|--------------|-----------|------------|------|------|---------------------------|
| I    | Govt.        | 84.53     | 6.64       | 2989 | .314 | No Significant Difference |
|      | Aided        | 77.89     |            |      |      |                           |
| II   | Govt         | 83.86     | 12.99      | 3464 | .049 | Significant Difference    |
|      | Self-finance | 96.85     |            |      |      |                           |
| III  | Aided        | 73.20     | 18.58      | 2642 | .005 | Significant Difference    |
|      | Self-finance | 91.78     |            |      |      |                           |

It is inferred that there is a significant difference between two pairs – Govt. Vs. Self-finance and Aided Vs. Self-finance – in their skills to restate the text in their own words and present data accurately as their p-values are less than 0.05. These two pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

#### Information Access Competency Variable - 4

Table 10: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can identify similar information from both print and electronic sources and use it appropriately” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |     |    |       |           |              |                |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor             | 0        | 13 | 16 | 93  | 41 | 163   | 126.35    | 20595.50     |                |             |
| Associate Professor & Professor | 0        | 6  | 6  | 57  | 22 | 91    | 129.55    | 11789.50     | <b>7229.5</b>  | <b>.706</b> |
| Total                           | 0        | 19 | 22 | 150 | 63 | 254   |           |              |                |             |

  

| Kruskal-Wallis Test |          |    |    |     |    |       |           |              |          |             |
|---------------------|----------|----|----|-----|----|-------|-----------|--------------|----------|-------------|
| Variables           | Response |    |    |     |    | Total | Mean Rank | X2           | df       | P           |
|                     | SD       | DA | NE | AG  | SA |       |           |              |          |             |
| Govt.               | 0        | 0  | 7  | 59  | 22 | 88    | 136.28    |              |          |             |
| Aided               | 0        | 9  | 7  | 46  | 12 | 74    | 112.68    |              |          |             |
| Self-Finance        | 0        | 10 | 8  | 45  | 29 | 92    | 131.02    | <b>5.759</b> | <b>2</b> | <b>.056</b> |
| Total               | 0        | 19 | 22 | 150 | 63 |       |           |              |          |             |

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

Table 10 shows the designation and working sector-wise distribution of the respondents in terms of their skill to identify similar information from both print and electronic sources and use it appropriately.

**Designation-wise Analysis:** 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.

**Mann-Whitney U Test:** The results of the test were insignificant,  $U = 7229.5$ ,  $p > .05$ . Inspection of the two group mean ranks indicates that the average skill score for

Associate Professors and Professors (129.55) is not significantly higher than the score (126.35) for Assistant Professors. The difference between the mean ranks is 3.2. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to identify similar information from both print and electronic sources and use it appropriately.

**Working Sector-wise Analysis:** 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. 9 ASR and 10 SSR disagree while no respondent disagrees with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can identify similar information from both print and electronic sources and use it appropriately*” ( $X^2 (2, N = 254) = 5.759, p > .05$ ). The mean ranks for the skill is 136.28 for government sector respondents, 112.68 for aided sector respondents and 131.02 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

#### Information Access Competency Variable - 5

Table 11: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can use various search techniques to access information” Vs. Designation and Working Sector of the Respondents

| Variables                       | Mann Whitney U Test |    |    |    |    |     | Total  | Mean Rank | Sum of Ranks  | Mann-Whitney U | P |
|---------------------------------|---------------------|----|----|----|----|-----|--------|-----------|---------------|----------------|---|
|                                 | Response            |    |    |    |    |     |        |           |               |                |   |
|                                 | SD                  | DA | NE | AG | SA |     |        |           |               |                |   |
| Assistant Professor             | 0                   | 55 | 29 | 57 | 22 | 163 | 126.15 | 20562.5   |               |                |   |
| Associate Professor & Professor | 0                   | 28 | 18 | 31 | 14 | 91  | 129.92 | 11822.5   | <b>7196.5</b> | <b>.682</b>    |   |
| Total                           | 0                   | 83 | 47 | 88 | 36 | 254 |        |           |               |                |   |

Kruskal-Wallis Test

| Variables    | Response |    |    |    |    | Total | Mean Rank | X <sup>2</sup> | df       | P           |
|--------------|----------|----|----|----|----|-------|-----------|----------------|----------|-------------|
|              | SD       | DA | NE | AG | SA |       |           |                |          |             |
| Govt.        | 0        | 21 | 14 | 37 | 16 | 88    | 143.41    |                |          |             |
| Aided        | 0        | 21 | 17 | 28 | 8  | 74    | 128.09    |                |          |             |
| Self-Finance | 0        | 41 | 16 | 23 | 12 | 92    | 111.80    | <b>9.117</b>   | <b>2</b> | <b>.010</b> |
| Total        | 0        | 83 | 47 | 88 | 36 | 254   |           |                |          |             |

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

**Designation-wise Analysis:** 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. No respondent disagrees with this skill.

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

**Working Sector-wise Analysis:** 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. No respondent disagrees with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill “*I can use various search techniques to access information*” ( $X^2(2, N = 254) = 9.117, p < .05$ ). The mean ranks for the skill is 143.41 for government sector respondents, 128.09 for aided sector respondents and 111.80 for self-financing sector respondents. Inspection of the group means also

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

**Post-Hoc Tests:**

| Pair | Sector       | Mean Rank | Difference | U      | p    | Result                    |
|------|--------------|-----------|------------|--------|------|---------------------------|
| I    | Govt.        | 86.29     | 10.49      | 2834.5 | .137 | No Significant Difference |
|      | Aided        | 75.80     |            |        |      |                           |
| II   | Govt         | 101.63    | 21.77      | 3069   | .003 | Significant Difference    |
|      | Self-finance | 79.86     |            |        |      |                           |
| III  | Aided        | 89.79     | 11.35      | 2938.5 | .113 | No Significant Difference |
|      | Self-finance | 78.44     |            |        |      |                           |

It is inferred that there is a significant difference between the pairs – Govt. Vs. Self-finance – in their skills to use various search techniques to access information as their p-value is less than 0.05. This pair has created a difference in the group means as calculated with Kruskal Wallis Test.

**Information Access Competency Variable - 6**

Table 12: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can refer bibliographies and provide footnotes, online link etc” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |    |    |       |           |              |                |             |
|---------------------------------|----------|----|----|----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |    |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | p           |
|                                 | SD       | DA | NE | AG | SA |       |           |              |                |             |
| Assistant Professor             | 0        | 54 | 29 | 59 | 21 | 163   | 126.57    | 20631.5      |                |             |
| Associate Professor & Professor | 0        | 28 | 19 | 30 | 14 | 91    | 129.16    | 11753.5      | <b>7265.5</b>  | <b>.778</b> |
| Total                           | 0        | 82 | 48 | 89 | 35 | 254   |           |              |                |             |

| Kruskal-Wallis Test |          |    |    |    |    |       |           |               |          |             |
|---------------------|----------|----|----|----|----|-------|-----------|---------------|----------|-------------|
| Variables           | Response |    |    |    |    | Total | Mean Rank | X2            | df       | p           |
|                     | SD       | DA | NE | AG | SA |       |           |               |          |             |
| Govt.               | 0        | 21 | 10 | 39 | 18 | 88    | 148.04    | <b>11.571</b> |          |             |
| Aided               | 0        | 26 | 19 | 20 | 9  | 74    | 118.05    |               | <b>2</b> | <b>.003</b> |

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|              |   |    |    |    |    |     |        |
|--------------|---|----|----|----|----|-----|--------|
| Self-Finance | 0 | 35 | 19 | 30 | 8  | 92  | 115.46 |
| Total        | 0 | 82 | 48 | 89 | 35 | 254 |        |

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

Table 12 shows the designation and working sector-wise distribution of the respondents in terms of their skill to refer bibliographies and provide footnotes, online link etc.

**Designation-wise Analysis:** 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.

**Mann-Whitney U Test:** The results of the test were insignificant,  $U = 7265.5$ ,  $p > .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (129.16) is not significantly higher than the score (126.57) for Assistant Professors. The difference between the mean ranks is 2.59. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to refer bibliographies and provide footnotes, online link etc.

**Working Sector-wise Analysis:** 18 GSR, 9 ASR and 8 SSR strongly agree while 39 GSR, 20 SSR and 30 ASR 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 in referring bibliographies and providing footnotes, online link etc. No respondent strongly disagrees with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is a significant effect of working sector of the respondents on their skill ‘‘*I can refer bibliographies and provide footnotes, online link etc.*’ ( $X^2(2, N = 254) = 11.571, p < .05$ ). The mean ranks for the skill is 148.04 for government sector respondents, 118.05 for aided sector respondents and 115.46 for self-financing sector respondents. Inspection of the group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is rejected and the alternative hypothesis is accepted.

**Post-Hoc Tests:**

| Pair | Sector       | Mean Rank | Difference | U      | p    | Result                    |
|------|--------------|-----------|------------|--------|------|---------------------------|
| I    | Govt.        | 90.23     | 19.11      | 2488   | .007 | Significant Difference    |
|      | Aided        | 71.12     |            |        |      |                           |
| II   | Govt         | 102.31    | 23.11      | 3008.5 | .002 | Significant Difference    |
|      | Self-finance | 79.20     |            |        |      |                           |
| III  | Aided        | 84.43     | 1.67       | 3335.5 | .816 | No Significant Difference |
|      | Self-finance | 82.76     |            |        |      |                           |

It is inferred that there is a significant difference between two pairs – Govt. Vs. Aides and Govt. Vs. Self-finance - in their skills to refer bibliographies and provide footnotes, online link etc., as their p-values are less than 0.05. These two pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

**Information Access Competency Variable - 7**

Table 13: Mann Whitney U Test and Kruskal Wallis Test on the competency “I can apply previous experiences of using web-based services to access information” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |    |    |       |           |              |                |             |
|---------------------------------|----------|----|----|----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |    |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG | SA |       |           |              |                |             |
| Assistant Professor             | 0        | 44 | 48 | 55 | 16 | 163   | 126.15    | 20563        |                |             |
| Associate Professor & Professor | 0        | 26 | 24 | 26 | 15 | 91    | 129.91    | 11822        | <b>7197</b>    | <b>.684</b> |
| Total                           | 0        | 70 | 72 | 81 | 31 | 254   |           |              |                |             |

  

| Kruskal-Wallis Test |          |    |    |    |    |       |           |             |          |             |
|---------------------|----------|----|----|----|----|-------|-----------|-------------|----------|-------------|
| Variables           | Response |    |    |    |    | Total | Mean Rank | X2          | df       | P           |
|                     | SD       | DA | NE | AG | SA |       |           |             |          |             |
| Govt.               | 0        | 22 | 25 | 28 | 13 | 88    | 132.66    |             |          |             |
| Aided               | 0        | 20 | 23 | 23 | 8  | 74    | 125.41    |             |          |             |
| Self-Finance        | 0        | 28 | 24 | 30 | 10 | 92    | 124.24    | <b>.733</b> | <b>2</b> | <b>.693</b> |
| Total               | 0        | 70 | 72 | 81 | 31 | 254   |           |             |          |             |



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

Table 13 shows the designation and working sector-wise distribution of the respondents in terms of their skill to apply previous experiences of using web-based services to access information.

**Designation-wise Analysis:** 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 in applying previous experiences of using web-based services to access information while 44 AP and 26 AP&P disagree with this skill.

**Mann-Whitney U Test:** The results of the test were insignificant,  $U = 7197$ ,  $p > .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (129.91) is not significantly higher than the score (126.15) for Assistant Professors. The difference between the mean ranks is 3.76. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to apply previous experiences of using web-based services to access information.

**Working Sector-wise Analysis:** 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 applying previous experiences of using web-based services to access information. No respondent strongly disagrees with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill “*I can apply previous experiences of using web-based services to access information*” ( $X^2(2, N = 254) = .733, p > .05$ ). The mean ranks for the skill is 132.66 for government sector respondents, 125.41 for aided sector respondents and 124.24 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

### Information Access Competency Variable - 8

Table 14: Mann Whitney U Test and Kruskal Wallis Test on the competency “I maintain record of activities related to my information searching process” Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |     |    |       |           |              |                |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor             | 0        | 9  | 39 | 84  | 31 | 163   | 121.01    | 19725        |                |             |
| Associate Professor & Professor | 0        | 4  | 16 | 43  | 28 | 91    | 139.12    | 12660        | <b>6359</b>    | <b>.041</b> |
| Total                           | 0        | 13 | 55 | 127 | 59 | 254   |           |              |                |             |

  

| Kruskal-Wallis Test |          |    |    |     |    |       |           |             |          |             |
|---------------------|----------|----|----|-----|----|-------|-----------|-------------|----------|-------------|
| Variables           | Response |    |    |     |    | Total | Mean Rank | X2          | df       | P           |
|                     | SD       | DA | NE | AG  | SA |       |           |             |          |             |
| Govt.               | 0        | 2  | 26 | 38  | 22 | 88    | 125.52    |             |          |             |
| Aided               | 0        | 4  | 21 | 28  | 21 | 74    | 125.81    | <b>.332</b> | <b>2</b> | <b>.847</b> |
| Self-Finance        | 0        | 7  | 8  | 61  | 16 | 92    | 130.75    |             |          |             |
| Total               | 0        | 13 | 55 | 127 | 59 | 254   |           |             |          |             |

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

Table 14 shows the designation and working sector-wise distribution of the respondents in terms of their skill to maintain record of activities related to their information searching process.

**Designation-wise Analysis:** 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. Just 9 AP and 4 AP&P disagree with this skill.

**Mann-Whitney U Test:** The results of the test were in the expected direction and significant,  $U = 6359, p < .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (139.12) is significantly higher than the score (121.01) for Assistant Professors. The difference between the mean ranks is 15.11. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to maintain record of activities related to their information searching process.

**Working Sector-wise Analysis:** 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 in maintaining such records. Just 13 respondents disagree with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill ‘*I maintain record of activities related to my information searching process*’ ( $X^2 (2, N = 254) = .332, p > .05$ ). The mean ranks for the skill is 125.52 for government sector respondents, 125.81 for aided sector respondents and 130.75 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

### Information Access Competency Variable - 9

Table 15: Mann Whitney U Test and Kruskal Wallis Test on the competency ‘I will keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information’. Vs. Designation and Working Sector of the Respondents.

| Variables           | Mann Whitney U Test |    |    |     |    |       |           |              |                |             |
|---------------------|---------------------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
|                     | Response            |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                     | SD                  | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor | 1                   | 1  | 19 | 107 | 35 | 163   | 121.41    | 19789.5      | <b>6423.5</b>  | <b>.042</b> |

| Associate Professor & Professor | 0        | 2  | 9  | 47  | 33 | 91    | 138.41    | 12595.5     |          |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|-------------|----------|-------------|
| Total                           | 1        | 3  | 28 | 154 | 68 | 254   |           |             |          |             |
| Kruskal-Wallis Test             |          |    |    |     |    |       |           |             |          |             |
| Variables                       | Response |    |    |     |    | Total | Mean Rank | X2          | df       | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |             |          |             |
| Govt.                           | 1        | 0  | 11 | 50  | 26 | 88    | 129.69    |             |          |             |
| Aided                           | 0        | 2  | 12 | 40  | 20 | 74    | 121.86    |             |          |             |
| Self-Finance                    | 0        | 1  | 5  | 64  | 22 | 92    | 129.94    | <b>.813</b> | <b>2</b> | <b>.666</b> |
| Total                           | 1        | 3  | 28 | 154 | 68 | 254   |           |             |          |             |

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

Table 15 shows the designation and working sector-wise distribution of the respondents in terms of their skill to 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.

**Designation-wise Analysis:** 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 while just 3 respondents disagree with this skill.

**Mann-Whitney U Test:** The results of the test were in the expected direction and significant,  $U = 6423.5$ ,  $p < .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (138.41) is significantly higher than the score (121.41) for Assistant Professors. The difference between the mean ranks is 17. The null hypothesis is rejected and alternative hypothesis is accepted. Thus, there is a significant difference between AP and AP&P in their skills to keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information.

**Working Sector-wise Analysis:** 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. Only 3 respondents have disagreed with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test reveals that there is no significant effect of working sector of the respondents on their skill *'I will keep in mind the problems faced and benefits gained in the previous experiences while making an alternate search for information'* ( $X^2(2, N = 254) = .813, p > .05$ ). The mean ranks for the skill is 129.69 for government sector respondents, 121.86 for aided sector respondents and 129.94 for self-financing sector respondents. Inspection of the group means also suggests that there is no significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is accepted.

#### Information Access Competency Variable - 10

Table 16: Mann Whitney U Test and Kruskal Wallis Test on the competency "I know the scope, content and organisation of information sources like bibliography, research database etc." Vs. Designation and Working Sector of the Respondents

| Mann Whitney U Test             |          |    |    |     |    |       |           |              |                |             |
|---------------------------------|----------|----|----|-----|----|-------|-----------|--------------|----------------|-------------|
| Variables                       | Response |    |    |     |    | Total | Mean Rank | Sum of Ranks | Mann-Whitney U | P           |
|                                 | SD       | DA | NE | AG  | SA |       |           |              |                |             |
| Assistant Professor             | 1        | 7  | 16 | 95  | 44 | 163   | 128.10    | 20879.5      |                |             |
| Associate Professor & Professor | 0        | 8  | 7  | 51  | 25 | 91    | 126.43    | 11505.5      | <b>7319.5</b>  | <b>.846</b> |
| Total                           | 1        | 15 | 23 | 146 | 69 | 254   |           |              |                |             |

  

| Kruskal-Wallis Test |          |    |    |    |    |       |           |               |          |             |
|---------------------|----------|----|----|----|----|-------|-----------|---------------|----------|-------------|
| Variables           | Response |    |    |    |    | Total | Mean Rank | X2            | df       | P           |
|                     | SD       | DA | NE | AG | SA |       |           |               |          |             |
| Govt.               | 1        | 2  | 9  | 50 | 26 | 88    | 132.00    |               |          |             |
| Aided               | 0        | 11 | 12 | 35 | 16 | 74    | 106.66    | <b>11.322</b> | <b>2</b> | <b>.003</b> |

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|              |   |   |   |    |    |    |        |
|--------------|---|---|---|----|----|----|--------|
| Self-Finance | 0 | 2 | 2 | 61 | 27 | 92 | 139.96 |
|--------------|---|---|---|----|----|----|--------|

|       |   |    |    |     |    |     |  |
|-------|---|----|----|-----|----|-----|--|
| Total | 1 | 15 | 23 | 146 | 69 | 254 |  |
|-------|---|----|----|-----|----|-----|--|

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

Table 16 shows the designation and working sector-wise distribution of the respondents in terms of their skill to know the scope, content and organisation of information sources like bibliography, research database etc.

**Designation-wise Analysis:** 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 while 7 AP and 8 AP&P disagree with this skill.

**Mann-Whitney U Test:** The results of the test were insignificant,  $U = 7319.5$ ,  $p > .05$ . Inspection of the two group mean ranks indicates that the average skill score for Associate Professors and Professors (126.43) is not significantly higher than the score (128.10) for Assistant Professors. The difference between the mean ranks is 1.67. The null hypothesis is accepted. Thus, there is no significant difference between AP and AP&P in their skills to know the scope, content and organisation of information sources like bibliography, research database etc.

**Working Sector-wise Analysis:** 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 while 2 GSR, 11 ASR and 2 SSR disagree with this skill.

**Kruskal-Wallis test:** The Kruskal-Wallis test exhibits that there is a significant effect of working sector of the respondents on their skill “*I know the scope, content and organisation of information sources like bibliography, research database etc.*” ( $X^2 (2, N = 254) = 11.322, p < .05$ ). The mean ranks for the skill is 132 for government sector respondents, 106.66 for aided sector respondents and 139.96 for self-financing sector respondents. Inspection of the group means also suggests that there is a significant difference between working sector of the respondents and the aforesaid skill. Thus, null hypothesis is rejected and the alternative hypothesis is accepted.

### Post-Hoc Tests:

| Pair | Sector       | Mean Rank | Difference | U      | p    | Result                    |
|------|--------------|-----------|------------|--------|------|---------------------------|
| I    | Govt.        | 88.88     | 16.15      | 2607   | .017 | Significant Difference    |
|      | Aided        | 72.73     |            |        |      |                           |
| II   | Govt         | 87.63     | 5.62       | 3795   | .400 | No Significant Difference |
|      | Self-finance | 93.25     |            |        |      |                           |
| III  | Aided        | 71.43     | 21.78      | 2510.5 | .001 | Significant Difference    |
|      | Self-finance | 93.21     |            |        |      |                           |

It is inferred that there is a significant difference between two pairs – Govt. Vs. Aided and Aided Vs. Self-finance – in their skills to know the scope, content and organisation of information sources like bibliography, research database etc. as their p-values are less than 0.05. These two pairs have created a difference in the group means as calculated with Kruskal Wallis Test.

## 7. DISCUSSION AND CONCLUSION

The present study has aimed at analyse the information access competencies of the women 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 library resources and services. Around 50% of the respondents claim that they can use various search strategies to access information. The similar results were given by Dorvlo (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 findings 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).

The study makes it clear that the faculty members lack certain information access competencies. 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 access 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. 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.

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