CHAPTER IV

METHODOLOGY

This chapter deals with the methodology employed in the present study to find the solution to the research problem. The study is intended to assess the perception of the users towards open access resources and the extent of its usage among the academic community in the higher education system. The methodology adopted for the study is described under the following subheadings such as design of the study, population of the study, sampling design, sample for the study, tools used for the study, pilot study, descriptions of questionnaire, reliability of the tool, collection of data and statistical tools used for the study.

4.1 Design of the Study

Research design is the plan of investigation conceived so as to obtain solution to the research problem, as well as to test the research hypotheses. The present study intended to determine the extent of awareness and usage of open access resources among the academic community, purpose of using, frequency and reason for using open access resources, their level of satisfaction, information literacy of users, user perceptions, attitude towards open access resources and problems faced while accessing open access resources.

The study also finds the relationship between the demographic variables of the academic community with the dependent variables namely awareness, usage, user perception and attitude towards open access resources.
Therefore the method adopted for the study is survey method. It is mainly based on primary data collected through questionnaire from the faculty members, research scholars and PG students of Arts and Science, Engineering, Educational Colleges and a University. The secondary data like review of literature and other information are collected from the internet, emerald journals, DOAJ database and other resources.

4.2 Population of the study

Population for the study is post graduate students, research scholars and the faculty members of Arts and Science Colleges, Engineering Colleges, Education Colleges and University in Kanyakumari district of Tamilnadu. The post graduate students, research scholars and faculty members are actively involved in research activities and hence the usage of e-resources is more among them than other category in the higher education system.

Hence the population for the present study is final year post graduate students, research scholars and faculty members of Arts and Science Colleges, Engineering Colleges, Education Colleges and University.

In the study area as on 2013-14, there are 23 Arts and Science Colleges, 31 Engineering Colleges, 33 Education Colleges and a University. Among the Arts and Science Colleges, there are 12 aided colleges, a University constituent college and the remaining 10 are under self-financing category. Twenty two colleges out of 23 Arts and Science Colleges, offers post graduate programme and research programmes in various discipline such as arts, science and humanities.
Similarly, there are 31 Engineering Colleges in Kanyakumari district including a government college (Anna University constituent college). All the colleges except this constituent college are under self financing category. Moreover, 26 colleges out of 31 offer post graduate programme in engineering.

There are 33 education colleges in Kanyakumari district. All except the government-aided NVKSD College of Education, Attoor are under self-financing category. Nine colleges out of 33 offers post graduate programme in Education.

In Kanyakumari district, there is only one University, which comes under the deemed to be university category. It offers graduate, post graduate and research programmes.

4.3 Sampling Design

The sampling design is prepared by considering the strength of post graduate students, research scholars and faculty members in various categories from the colleges of Kanyakumari district. The sampling design used for the study is given in table 4.1.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>User Category</th>
<th>Arts &amp; Science Colleges</th>
<th>Engineering Colleges</th>
<th>Education Colleges</th>
<th>University Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sl. No.</td>
<td>Arts &amp; Science Colleges</td>
<td>Engineering Colleges</td>
<td>Education Colleges</td>
<td>University Total</td>
</tr>
<tr>
<td>1.</td>
<td>PG Students</td>
<td>- 1142 Govt.</td>
<td>- 620 Govt.</td>
<td>- 1562 Self-finance</td>
<td>- 50 Govt.</td>
</tr>
<tr>
<td>2.</td>
<td>Research Scholar</td>
<td>- 423 Govt.</td>
<td>- 80 Govt.</td>
<td>- 320 Self-finance</td>
<td>- 12 Govt.</td>
</tr>
<tr>
<td>3.</td>
<td>Faculty</td>
<td>- 745 Govt.</td>
<td>- 368 Govt.</td>
<td>- 1387 Self-finance</td>
<td>- 13 Govt.</td>
</tr>
<tr>
<td>4.</td>
<td>Total</td>
<td>- 2310 Govt.</td>
<td>- 1068 Govt.</td>
<td>- 3269 Self-finance</td>
<td>- 75 Govt.</td>
</tr>
</tbody>
</table>

Table 4.1: Sampling Design
4.4 Sample for the Study

Sample for the study consists of 950 respondents from the population. Respondents for the study are selected based on sampling design using stratified random sampling technique by giving due representations to various categories of the users namely post graduate students, research scholars and faculty members of Arts and Science colleges, Engineering colleges, Education colleges and the University. It consists of

(i) 500 post graduate students
(ii) 200 research scholars and
(iii) 250 faculty members from Arts and Science Colleges, Engineering Colleges, Education Colleges and University of the district.

4.5 Pilot Study

The present study is intended to measure the awareness, the perception and extent of usage of open educational resources among the academic community in the higher education system through the opinion collected from the respondents using survey method. Therefore, due to lack of standardised tool in assessing the awareness of users towards open educational resources, the researchers has conducted a pilot study to ensure validity and reliability of the measuring tool and to assess the feasibility of the study. The structured questionnaire prepared for the purpose by the investigator is administered after seeking experts’ opinion among 100 respondents in a random manner by including all categories of the respondents. The salient aspects of open educational resources and its impacts in higher education among the academic community are explained to the respondents and the doubts and clarification raised by the respondents are well explained to them. Based on the responses of the respondents
from the pilot study, certain questions are revised, modified, deleted and a few questions are included to suit to the predetermined objectives of the study. Accordingly, a revised version of the questionnaire is prepared and administered to the sample respondents for the final study.

4.6 Tools used for the Study

Tool used for the study is a well structured questionnaire prepared by the investigator in consultation with experts after conducting a pilot study. It includes questions measuring various aspects related to awareness, usage, user perception, information literacy and attitude of users towards open access resources.

4.7 Descriptions of the Questionnaire

The questionnaire consists of the following parts namely:

Personal information containing gender, locality, age, educational qualification, user category, type of institution and familiarity of the computer operations is the first part.

The second part consists of experience in using electronic resources, preferred search engine, status of using open access resources, purpose of using open resources and user preference.

The third part is to assess the awareness of open access resources. It includes awareness, frequency of using open access resources, association between gender and awareness and reasons for using open access resources.

Extent of usage of open access resources and level of satisfaction towards the use of open access resources are included as a fourth part.

Information literacy of the respondents are measured using 12 statements covering various aspects of information literacy as fifth part.
The sixth part of the questionnaire is to assess user perception. This part consists of 10 statements on open access resources.

The final part of the questionnaire is intended to determine the attitude of the respondents towards open access resources.

4.8 Reliability of the Tool

The statements used for assessing information literacy of the respondents are adopted from the big six information literacy skills of Eisenberg, Lowe & Spitzer (2004). Reliability of the information literacy tool is measured in order to access the degree of consistency between multiple measurements of variables, and also to establish the extent of correlation between individual items in the same construct (Gay, Mills & Airasian, (2009) and Hair, et. al, (2010)). For the 12 items, the corrected item, total correlation values were between 0.722 to 0.861, indicating that the items show good internal consistency and high correlation. The overall Cornbach Alpha Reliability for the 12 items is 0.963, above the acceptable value 0.7 to 0.8. this indicates high reliability. Similarly, reliability of Perception tool and Attitude statement are respectively 0.66 and 0.72.

4.9 Collection of Data

The investigator has personally visited all higher educational institutions in Kanyakumari district and had discussions with the faculty, students and research scholars on use of open access resources. After conducting the pilot study, the draft questionnaire is finalized and the final questionnaire is administered among the 1050 respondents using stratified random sampling technique by giving due representation to all categories of variables under study. By removing the incomplete one, 950 samples are selected for analysis and thus response rate is 90.5%.
4.10 Statistical tools used for the Study

Both descriptive as well as inferential statistics are used. The following statistical techniques are applied to analyze the data.

(i) The univariate statistics of data distribution like Mean, Standard Deviation, Percentage, Maximum and Minimum.

(ii) The ‘t’ test of significant of the difference between the means for independent variables

(iii) The univariate analysis of variance (ANOVA) is carried out for calculating ‘F’ test to significance of difference between means of different categories.

(iv) The Post Hoc - Scheffe Test for different groups.

(v) The correlation and ranking analysis.

All the calculations are done by using statistical package for social science version 17.0 (SPSS 17.0) and the null hypotheses are tested for its significance at 0.05 level.