CHAPTER III

METHODOLOGY

3.1 INTRODUCTION

This chapter deals with the contents and meaning of undertaking the study in terms of objectives and process of analyzing the objectives in the form of formulation of appropriate hypothesis. Further the methodology of this study is spelt out in the mode of data collection, methods of data analysis, statistical techniques and limitations of the study

Research in common parlance refers to a search for knowledge. We can also define research as a scientific and systematic search for pertinent information on a specific topic.

"The manipulation of things, concepts or symbols for the purpose of generalising to extend, correct or verify the knowledge, whether that knowledge aids in construction of theory as in the practice of an art".

Research methodology is a plan of action for a research project and explains in detail how data is collected, analysed and presented, so that it will provide meaningful information. This reveals the technical aspects of the study to allow the reader to appraise the quality of the information obtained.

3.2 OBJECTIVES OF THE STUDY

The following are the important objectives of the study:

1. To study the use of various online services provided by the selected educational institution libraries of Vellore District.
2. To identify the most commonly used browser and search engine by the university faculties and the research scholars in the selected educational institution libraries of Vellore District.
3. To find out the frequency of accessing e- resources among the university teachers and the research scholars in the selected educational institution libraries of Vellore District.
4. To find out the most preferred place for accessing the e- resources among the university teachers and the research scholars in the selected educational institution libraries of Vellore District.
5. To study the purpose of using the e- resources among the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.
6. To assess the period of using the e- resources teachers, students and research scholars of the selected educational institution libraries of Vellore District.
7. To identify the method of acquiring IT skill by the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.
8. To find out the most preferred format for downloading the articles among the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.

9. To encounter the problems while accessing the e- resources by the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.
10. To identify the need of trained personnel assistance while browsing online information by the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.
11. To study the influence of the e- resources on academic efficiency by the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.
12. To find out the level of satisfaction with the availability of the e- resources among the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.
13. To suggest some rationale measures to increase the use of the e- resources among the teachers, students and the research scholars of the selected educational institution libraries of Vellore District.

3.3 HYPOTHESES

In order to fulfill the objectives of the present study, a set of hypotheses have been formulated to measure the level of usage of e-resources, level of satisfaction, level of implementation of the respondents and they are as follows.

- Ho: There is a significant relationship between the two genders and level of Period of Usage.
- Ho: There is a significant relationship between the two genders and level of Frequency of Usage.

- Ho: There is a significant relationship between the two genders and level of Time to Access.
- Ho: There is a significant relationship between the two genders and level of Time Spending.
- Ho: There is a significant relationship between the two genders and level of Purpose of Usage.
- Ho: There is a significant relationship between age and accessing at libraries.
- Ho: There is a significant relationship between age and accessing at open access centre.
- Ho: There is a significant relationship between age and accessing at home.
- Ho: There is a significant relationship between age and accessing at working place.
- Ho: There is a significant relationship between age and accessing at other places.
- Ho: There is a significant relationship between the two genders and spending time for website.
- Ho: There is a significant relationship between the two genders and spending time for e-journals.
- Ho: There is a significant relationship between the two genders and spending time for e-books.
- Ho: There is a significant relationship between the two genders and spending time for entertainment.
- Ho: There is a significant relationship between the two genders and spending time for CD-ROM.

- Ho: There is a significant relationship between the two genders and spending time for OPAC.
- Ho: There is a significant relationship between the two genders and spending time for other purpose.
- Ho: There is a significant relationship between qualification and level of satisfaction of easy to access.
- Ho: There is a significant relationship between qualification and level of satisfaction of completion of task.
- Ho: There is a significant relationship between qualification and level of satisfaction of providing adequate information.
- Ho: There is a significant relationship between qualification and level of satisfaction of finding relevant document.
- Ho: There is a significant relationship between qualification and level of satisfaction of need to adequate training for use.
- Ho: There is a significant relationship between qualification and level of satisfaction of more variation for year to year.
- Ho: There is a significant relationship between qualification and level of satisfaction of easy to resolve the technical problem.
- Ho: There is a significant relationship between qualification and level of satisfaction of difficulty due to the lack of computer knowledge.
- Ho: There is a significant relationship between qualification and level of satisfaction of exchange of journals and articles.
- Ho: There is a significant relationship between qualification and level of satisfaction of displaying more scientific information.

- Ho: There is a significant relationship between qualification and level of satisfaction of ability to access at any place.
- Ho: There is a significant relationship between qualification and level of satisfaction of using this facility gets very tired.
- Ho: There is a significant relationship between qualification and level of satisfaction of helpful to my experiment and assignment.
- Ho: There is a significant relationship between qualification and level of satisfaction of helpful to data organization and archive papers.
- Ho: There is a significant relationship between qualification and level of satisfaction of finding earlier date journals.
- Ho: There is a significant relationship between qualification and level of satisfaction of inspiring to joint research and team work.
- Ho: There is a significant relationship between qualification and level of satisfaction of helpful to further publication.
- Ho: There is a significant relationship between the occupation and level of usage for lecturers and presentations.
- Ho: There is a significant relationship between the occupation and level of usage for writing articles and books.
- Ho: There is a significant relationship between the occupation and level of usage for preparing research project.
- Ho: There is a significant relationship between the occupation and level of usage for preparation of examinations.
- Ho: There is a significant relationship between the occupation and level of usage for knowing the general knowledge.

- Ho: There is a significant relationship between the occupation and level of usage for relaxation and time pass.
- Ho: There is a significant relationship between the occupation and level of usage for keeping abreast with latest development.
- Ho: There is a significant relationship between the two genders and level of implementation.

3.4 RESEARCH DESIGN

The purpose of the research is to discover the answers for the questions through the application of specific procedures. Research design is the basic framework, which provides guidelines for the research process. It is a map or blueprint according to which the research is to be conducted. “A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure”.

Research design is needed because it facilitates the smooth sailing of various research operations.

3.5 SAMPLING PLAN

The sampling plan is the one in which they have specified the different ways in which the research work should be done. An integral component of a research design is the sampling plan, specifically, as it addresses three questions - Whom to survey (the sampling unit), how many to survey, (the sample size) and how to select them (the sampling procedure).

In Vellore District there are 1 Government University,11 Engineering Colleges,19 Arts and Science colleges, 2 Medical Colleges, 1 Agriculture College, 3 Nursing Colleges. Out of 37 educational institutions, one university, 19 Arts and Science College were selected on the basis of convenient by sampling. The researcher has distributed each 200 questionnaires among the selected educational institutions on random sampling and as per the requirement of the objectives of the present study. The scholar requests the university library users (Students, Research Scholars and faculties) to fill the questionnaire as per their convenience and returned the questionnaire to the investigator as early as possible. The filled up questionnaire has been collected from the respondents for the data analysis and interpretation. Research scholars refer to the students doing either M.Phil, or Ph.D. The selected institutions and the number of respondents from each institution are as follows:

Table 3.1

S.No	Name of Institution	No. of Questionnaire Issued	No. of Questionnaire Received	Percentage of Received
1	Thiruvalluvar University	200	156	78.00%
2	Arignar Anna Govt. Arts College for Women, Walajapet, Vellore	150	121	80.67%
3	Auxilium College, Katpadi	150	100	66.67%
4	C. Abdul Hakkim College, Vellore	150	126	84.00%
5	Govt. Thirumagal Mills College, Vellore	150	110	73.33%
6	Islamiah College, Vellore	150	104	69.33%
7	Mazharul Uloom College, Ambur	150	124	82.67%
8	Muthurangam Government Arts College, Vellore	150	136	90.67%
9	Sacred Heart Evening College, Vellore	150	125	83.33%
10	Voorhees College, Vellore	150	135	90.00%
11	Adhiparasakthi College of Science, Kalavai	150	132	88.00%
12	Arakkonam Arts and Science College, Arakkonam	150	130	86.67%
13	Arcot Sri Mahalakshmi Women's College, Vellore	150	145	96.67%
14	Danapackiyam Krishnasamy Mudaliar College for Women, Vellore	150	141	94.00%
15	Islamiah Women's Arts and Science College, Vellore	150	132	88.00%
16	Jothi College, Vellore	150	126	84.00%
17	K.M.G. College of Arts and Science, Gudiyattam	150	135	90.00%
18	Kaveripakkam Arts and Science College, Kaveripakkam	150	132	88.00%
19	M.M.E.S. Women's Arts and Science College, Walaja Taluk	150	130	86.67%
20	Marrapan Lakshmiamma Arts and Science College for Women, Vellore	150	142	94.67%
21	Marudhur Kesari Jain College for Women, Vaniyampadi`	150	120	80.00%
22	Mercury College of Arts and Science, Arakonam	150	136	90.67%
23	S.S.S. College Art, Science and Management, Vellore	150	132	88.00%
24	Sri Bharathivelu Arts and Science College, Walaja Taluk	150	134	89.33%
25	Thirupattur Arts And Science College, Thirupattur	150	136	90.67%
Total		**3800**	**3240**	**85.26%**

Totally of 3800 were questionnaires issued, Out of these, 3240 (85.26%) questionnaire were collected. For the researcher's convenient only 216 respondents were for analysis purpose with the respect in the ratio of 1:15 (Lottery method).

3.6 DATA ANALYSIS

The filled in questionnaires were arranged in University and Arts and Science Colleges wise and an analysis was made on the basis of Gender, Faculty and Status. Simple percentage analysis was made in all the questionnaires.

3.7 STATISTICAL TOOL

After the completion of the data collection, the filled in questionnaires were edited properly to make them for coding. After coding, the data were fed into computer and database was created. From the database, the required tables were prepared for further analysis by using SPSS Ver 15.0.

The analysis part employed suitable statistical techniques to the data collected and tabulated. Keeping in mind, the nature of the present study, the following statistical tools are used:

1. Simple percentage score
2. ANOVA test
3. Chi-square test
4. Co-efficient of Correlation
5. Graphs.

Explanations to some of the statistical techniques applied to the data of the present study are presented here. The t-test assesses whether the means of two groups are statistically different from each other.

Cross-tabulation (contingency, cross-tabulation, or cross-tab tables) is a combination of two (or more) frequency tables arranged such that each cell in the resulting table represents a unique combination of specific values of cross-tabulated variables. Thus, cross-tabulation allows us to examine the frequencies of observations that belong to specific categories on more than one variable.

It is assumed that main effect A has a levels (and A = a-1 df), main effect B has b levels (and B = b-1 df), n is the sample size of each treatment, and N = abn is the total sample size. The overall degrees of freedom are once again one less than the total sample size.

Chi-square is a statistical test commonly used to compare the observed data with data one would expect to obtain according to a specific hypothesis. For example, suppose according to Mendel's law, the expected 10 of 20 offspring from a cross to be male and the actual observed number is 8 males. Then one wants to know about the "goodness to fit" between the observed and the expected. The investigator must conclude that something other than chance is at work, causing the observed to differ from the expected. That is, chi-square is the sum of the squared difference between the observed (o) and the expected (e) data (or the deviation, d), divided by the expected data in all possible categories.

A measure of the strength of linear association between two variables. Correlation will always between -1.0 and +1.0. If the correlation is positive, we have a positive relationship. If it is negative, the relationship is negative.

Formula:

Correlation Co-efficient :

Correlation(r) =[$N\Sigma XY - (\Sigma X)(\Sigma Y) / Sqrt([N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2])$]

where

N = Number of values or elements

X = First Score

Y = Second Score

ΣXY = Sum of the product of first and Second Scores

ΣX = Sum of First Scores

ΣY = Sum of Second Scores

ΣX^2 = Sum of square First Scores

ΣY^2 = Sum of square Second Scores

3.8 PERIOD OF THE STUDY

The period of coverage of the present study spans between 2009 and 2010. Data collection was started during the month of September 2009 and was completed in the month of November 2010.

3.9 LIMITATIONS OF THE STUDY

The study is confined to the student, research scholar and the faculty members of Vellore District Thiruvalluvar University and Arts and Science Colleges. The present study does not identify paraprofessionals as a separate category and instead included them under the generic label of Library professionals. There are studies that included their impact on e-resources usage, satisfaction and implementation. But, the present study does not include the family and other environments or their benefits external to the workplace related variables excepting the marital/single status of the employees.