

CHAPTER-III

RESEARCH

METHODOLOGY

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Research Methodology

3.1 Introduction

Digital library concepts are studied in the present study. The present chapter deals with the research design, research methodology, sample and sampling and statistic used.

3.2 Research Methodology

From the writers Kothari (2004); Chandra S. S. and Sharma R. K. (2007); Woolfolk (2008) there were found different types of research as per mentioned below: Research is a search for knowledge. There were found two basic research approaches quantitative and qualitative research approaches. Some researchers were defined three approaches Qualitative, Quantitative and Mixed Method Approach. Research method is a part of research methodology. The present study deals with the study of attitude towards digital library of B. Ed. student-teachers. For which collection of data is needed from Regional Institute of Education (NCERT) Bhopal. Major aim of present study was to study the attitude of B. Ed. student-teachers towards digital library for which first of all there was need to develop the attitude scale for measurement of attitude of B. Ed. Student-teachers towards digital library. Therefore researcher was selected sample from target group for which questionnaire method was used. Then at time of getting main objective such as to examine and study attitude towards digital library, researcher was selected sample from Regional Institute of Education, Bhopal for which questionnaire method was used.

3.3 Procedure of Research

Following procedure will be used in present study

- 1) Review of related literature
- 2) Identification of the Problem
- 3) Formulation of hypothesis
- 4) Identifying the sample
- 5) Construction of attitude scale

- 6) Collection of data
- 7) Analysis of data
- 8) Reporting the findings

3.4. Design of the study

3.4.1 Population

Borg and Gall (1983) said that "The large group we wish to learn is called population, whereas the smaller groups were actually study is called sample. Thus sample is a portion of the population which represent the population. A good sample must be as nearby the representatives of the entire population as Possible and ideally it must provide the whole of the information about the population as from which the sample has been drawn. In the beginning of the research the population was 100 from two colleges but due to pandemic inconvenience researcher selected 50 student-teachers from one B.Ed. college only.

3.4.2 Sample of the Study

A sample is the part of the universe which we select for the purpose of investigation. Here the investigation is done through 50 B.Ed. students of Regional Institute of Education, Bhopal, Madhya Pradesh.

3.4.3 Research Tool: Digital Library Attitude Scale

In the present study, researcher was studied about attitude of Student-teachers digital library. For digital library attitude measurement there were used self-developed attitude scale for B.Ed. College student-teachers. Researcher decided to name the tool as **Digital Library Attitude Scale**.

3.4.4 Development of Digital Library Attitude Scale

Present study was about the studying attitude towards digital libraries. For which researcher was decided to study about digital library. In any research tool is the exact way of getting the objective. When in the mind of researcher there were raises questions about any problem then first of all researcher wants the answer of the question. For which researcher hypnotized or assumed about the answer but first he needs to collect the information from target group and for this researcher used the tool. Tool is closely related to the testing or measurement. As per nature of the data, there were used many tools or techniques for gathering. Tools are selected as per

data's complexity, design, administration and interpretation. Sometime researcher finds that existing research tool or techniques doesn't suit for researcher aims, object, and hypothesis that time he may modify, construct or develop his own tool. Now construction and development of tool or techniques are skill full work for the researchers it may depend upon researcher's skill, knowledge and study.

3.4.5 Writing Items for the Scale:

Researcher was started work of construction of the items for the attitude scale of digital library after determining the objectives. The scale was in English language and named it as "**Digital Library Attitude Scale**". The 20 items were included various angles of the research subject. All related aspects were covered in the scale; and Items cleared the object of the scale about collecting the information related to the digital library for B. Ed. College student teacher.

3.4.6 General Characteristics of Digital Library Attitude Scale:

- The statement which measure the present attitude scale for B. Ed. College student-teachers.
- The language of the attitude scale's items was keep simple, clear and directive.
- Double negative meaning of the statements was avoided.
- Statements of attitude scale of digital library were taken to contain only one thought in each items.
- Statements of attitude scale of digital library were arranged in a random order, irrespective of their favourable and unfavourable direction.
- The items only expressed thought of attitude.

3.5 The Final Scale with Instructions:

For present scale researcher has adopted Likert- technique of summative rating. According to Likert method the scoring for favourable statements which positive statements are having marking as five point scale. The scoring of Likert scale for negative statements are having marking as five point scale.

3.6 Scoring Digital Library:

The positive statements are 1,3,4,5,6,7,8,9,10,11,15,16,17,18,19,20. The Negative statements are 2,12,13,14. For positive statements the weightages for Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree. On the hand negative statement the weightages for Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree respectively. Thus, the score will range between 20 to 100.

Very High Attitude towards Digital Library is ranging from 85-100 while High Attitude towards Digital Library is ranging in between 69-84 and so on Moderate Attitude towards Digital Library is from 53-68 and Low Attitude towards Digital Library lie in between 37-52 and Very Low Attitude towards Digital Library is ranging from 20-36.

Table3.1: Scoring Criteria of Digital Library

Statements	Items Serial Number	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Positive	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20	5	4	3	2	1
Negative	2, 12, 13, 14	1	2	3	4	5

3.7 Statistical Techniques Used for Analysis of the Data

Statistics is the body of mathematical techniques or processes for gathering, describing, organizing and interpreting numerical data. Since research yields such quantitative data, statistics is a basic tool of measurement. Therefore for the purpose of the study the researcher use the following statistical techniques for analysing the data. They are (i) mean (ii) standard deviation (iii) t-test.

(i) Mean

$$\text{Mean} = \frac{\Sigma x}{N}$$

Where x = scores of the distribution

N = number of scores

Σ = The symbol of summation

(ii) Standard deviation

$$\sigma = c \sqrt{\frac{\Sigma f d^2}{N} - \left(\frac{\Sigma f d}{N}\right)^2}$$

Where σ = standard deviation

C = Class interval

F = frequency

d = deviation from the mean

N = Total frequency

(iii) t-test:

't' test is used to find out the significance of difference between the means of different variables for different subgroups.

$$t = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

Where M_1 = mean of the first group

M_2 = Mean of the second group

N_1 = Size of the first group

N_2 = Size of the second group

σ_1 = Standard deviation of the first group

σ_2 = Standard deviation of the second group

Hence the investigator has fixed 5% to find out whether there are any significant difference among more than two sets of variables.

3.8 Conclusion

The methodology followed in the present study has been presented in details under various headings like the design, methodology, research method, population and sample and statistics techniques.