

**CHAPTER III**  
**RESEARCH**  
**METHODOLOGY**

private and secondary school teachers exhibited comparable attitude towards ICT and teachers belonging to different academic streams, viz., language, science/mathematics and social sciences exhibited comparable attitude towards ICT. (55: 25-31).

**Ravichandran and Sasikala (2009)**, Conducted a research study on Attitude of Teachers towards web-based learning" to find out the attitude of male and female teachers and attitude of aided and Government school teachers towards web learning. The sample consisted of 100 secondary and Higher secondary school teachers of Kerala. The main findings of the study were effective use of web-based learning inside the class room. The role of the teacher is of vital importance and both male and female teachers have a positive attitude towards web-based learning and un aided school teachers have more favourable attitude than aided teachers. (45: 30-33).

## CHAPTER III

# Research Methodology

---

### 3.1 Introduction

Research is an art of scientific investigation. It is an honest attempt to examine, observe and analyse a problem or phenomena. It is a formal systematic and concentrated process of carrying out a scientific method of analysis. As it is well known that research is an activity directed towards developing, discovering and contributing in the organized body of knowledge. Rusk defines research as "A point of view, an attitude of inquiry". George J. Mouly defines research as "A systematic and scholarly application of the scientific method." According to John W. Best, "Research is considered to be the most formal, systematic, intensive process of carrying on the scientific methods of analysis. It involves a systematic structure of investigation, usually resulting in some sort of formal record of procedures and a report of results of conclusions." (Pathak, 2011)

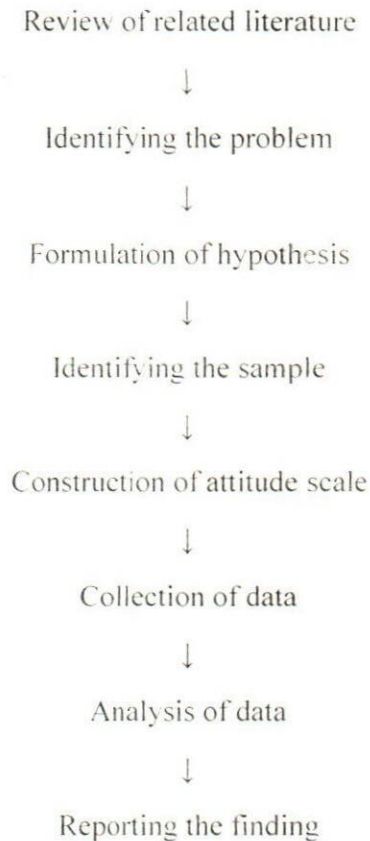
In the previous chapter, the review of related literature in respect of attitude towards ICT is presented. The present chapter deals with the methodology followed by the researcher. It includes method of research, sample, description of the tool and statistical techniques used to analyse the data.

### 3.2 Research design

Research design follows the task of defining the research problem is the preparing of the design of the research project, popularly known as —Research Design. The third step of any scientific research is to prepare a research design. Research design is a mapping strategy which is based on sampling technique. It essentially includes objectives, analysing the data and reporting the findings. Thus, research design is a statement of the object of inquiry and how a satisfactory culmination to be affected. A research design is the work before getting the project underway. According to Claire Sellitz (1962) —A Research Design is the arrangement of conditions for collection and analysis of data in manner that aims to combine relevance to the research design is the conceptual structure within which the research is conducted: it constitutes a blue print for the collection, measurement and analysis of data. As such a research design

includes an outline of what the researcher will do from writing the hypothesis to the final analysis of the data collected.

### 3.2.1 Steps involved in research design are-



### 3.2.2 Types of research designs

The way of classifying research designs differs from sources to sources and subject to subject. Sometimes it is artificial, and some other times, different research designs are combined. However, the following list offers useful distinctions between possible research designs.

- Descriptive research design which includes case study, observation, survey etc.
- Correlation design that provides for observational study case-control study etc.
- Semi experimental research designs that provides for field experiment quasi experiment.
- The experimental design includes an experiment with random assignments.
- Review design like literature review, systematic review etc.
- Meta-analytic research design which includes a meta-analysis.



### **3.2.3 Importance of Research Designs**

The research design is fundamental in any research because it facilitates the proper running of the many research operations regarding the research process, thereby research as efficient as possible yielding maximal and useful information with minimal use of time, money and effort. A researcher needs a research design or a plan in advance of a collection of data and analyses for his research project. The research design is the planning of the methods to be adopted and used for the collecting / gathering the relevant data and the technique to be used in the analyses keeping in mind the objectives of the research and the availability of staff time and money.

Research design has a great bearing on the credibility/reliability of the findings arrived at and as such, constitutes the firm base of the entire edifice of the research process. The importance which a problem deserves is not given in the research design. Thoughtlessness in designing the research project may result in rendering the research exercise futile in every sense. It is therefore quite crucial that an efficient and appropriate design must be prepared before starting the research steps of a project.

The design aids the researcher in organizing his ideas in a form whereby it will be possible for him to look for inadequacies and flaws. Such a research design can even be given to others as well for their comments and critical evaluation. In the absence of such a course of action, it will be quite difficult for the critic to provide a comprehensive review of the proposed project.

### **3.3 Statement of the Study**

" ATTITUDE OF STUDENT TEACHERS TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY ".

### **3.4 Research Methodology**

Research methods are important to effectively conduct and evaluate a research study. The decision of selecting an appropriate research methodology depends upon the objectives of the research problem. In the present study the main objectives of the study were to examine the attitude of student teachers towards ICT. To investigate the attitude survey method has been used by the researcher.

### 3.5 Design of the Study

#### 3.5.1 Sample

Keeping in mind objectives and hypotheses of the study researcher have decided the scope of the study. The important objective of the study is to know the attitude of student teachers towards ICT. Since researcher comes from Odisha and studies in Regional Institute of Education, Bhopal, it is decided to select student teachers studied in Three Year Integrated B.Ed. M.Ed. course from Regional Institute of Education, Bhopal and Sambalpur University, Jyoti Vihar, Burla by convenience sampling method.

**Table 3.1: Description of sample**

Sl. No.	Institute	Respondent	Total
1.	Regional Institute of Education, Bhopal	42	84
2.	Sambalpur University, Jyoti Vihar, Burla	42	

#### 3.5.2 Tool: Attitude towards ICT Scale (ATIS)

To measure the student teachers' attitude towards ICT, a scale titled 'Attitude towards ICT Scale (ATIS)' was developed by the researcher for the present study. The scale consisted of 20 items, out of which 13 were positive items and 7 were negative items with a five Point Likert's type scale having the responses strongly agree, agree, undecided, disagree and strongly disagree.

After reviewing the relevant literature, major components are identified, based on the components initially 35 items were framed. The items were given to the guide for correction. After getting content validity of the items, it was administered for 20 student teachers. The items were analysed based on each component and 20 items were chosen. These items were again administered for 20 student teachers. The final form of the scale constituted 20 items which include both positive and negative statements on each component. The details are given in the table: 3.2.

#### 3.5.3 Scoring of Attitude scale

The positive statements are 1,2,4,5,7,10,11,14,15,16,18,20. The Negative statements are 3,6,8,9,12,13,17,19. The responses were given with the weightage of 5, 4, 3, 2 and 1 for strongly agree, agree, undecided, disagree and strongly disagree respectively. In the case of positive statements and in the case of negative statements the weightages were kept reversed. Thus, the score will range between 20 to 100.

**Table 3.2: Scoring Criteria**

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

### **3.6 Collection of data**

After getting the necessary permission from the head of the department, as per the suggestions received from the guide, the researcher has carried out the procedure of data collection for the present study. The researcher converted the tool into a google form and shared with the student teachers to collect the data. This data collected from Regional Institute of Education, Bhopal and Sambalpur University, Jyoti Vihar, Burla consists of both male and female student teachers of arts and science stream.

### **3.7 Analysis of Data**

This study will go through statistical data analysis technique using Mann - whitney U test for data analysis.

#### **3.7.1 Statistical techniques used for the analysis of 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 used the following statistical techniques for analysing the data. They are (i) mean, (ii) median, (iii) mode and (iv) Mann - whitney U test.