

**CHAPTER 3:**  
**RESEARCH METHODOLOGY**

### **3.1 About**

Any research study is a systematic collection of data from a given population through the use of appropriate data collecting devices. Educational research is aimed to search for the underlying educational problem and works to apply theoretical, factual and application-based intervention to solve the underlying issue or question of interest. The research question whether factual, theoretical or action based could only be achieved by employing different methods and strategies of research. A research method is an abstract, logical entity that guides the way for the conduct of a social or research experiment to take place. A pre-planned and well described research method is crucial for systematic conduct of a study and paves way for an effective study of a research problem. Thus, in reality a research method forms an organic means to complete research objectives set in a context and spirit of a study.

In this chapter the researcher intends to discuss the methodological consideration used in this research study. This is done to ensure that researcher proceeds forward in a systematic and scientific manner thereby arriving at valid and meaningful conclusions. Any implication drawn on such conclusions will be helpful to the planners and practitioners in the field of education.

### **3.2 Research Design**

A research design is a detailed plan of an investigative study. In fact, it is the means to test the hypothesis and analyze obtained data. Therefore, we can say that research design is a sequence of steps that are taken prior to collection of data from sample or population to ensure that the data collected meets the needs of objectives and the hypothesis set for a given research study. This design should be in accordance to the context of the research problem and should match to our set objectives.

Descriptive survey method of research is the kind of survey method employed for the present study. Descriptive research is a kind of research that describes characteristics of the population of phenomenon that is being studied. This methodology focusses more on the “whole” of the “research” subject rather the “why” of the research subject. It is a more structured approach towards a research problem. Altogether this method is

concerned with surveying, describing and investigating the existing phenomenon or issues, conditions and relationships that exist.

In this study, research efforts were directed at finding how future prospective teachers feel towards environment and in what way this behavior varied between genders and educational background of pre-service teachers. Altogether to what extent gender and educational background affects attitude towards environment.

The research is a descriptive research study that explores the attitude of male and female student teachers towards environment. This study even looks for the characteristic differences among various student teachers across different courses of RIE, Bhopal.

### **3.3 Population and Sample**

The population for the study consisted of the prospective teachers i.e., student teachers and teacher educators of Regional College of Education, NCERT in Bhopal of Madhya Pradesh. Out of all the students in the institute, student teachers and teacher educators of B. Ed, B. Ed-M. Ed (Integrated) and M.Ed were selected as sample for this study. Stratified random sampling was employed to raise samples of pre-service teachers and teacher educators of RIE. Prospective teachers were categorized as Arts and Science teachers as their educational background. Stratification of pre-service teachers was also done on the basis of their educational course in the institute.

#### **3.3.1 Description of sample of pre-service teachers**

The sample comprised of pre-service teachers ranging between the age of 20-35 years. Is included a total of 105 pre-service teachers selected for the study, out of which there were 36 males and 69 females. It even consists of 55 B. Ed students, 35 B. Ed-M. Ed students and 15 M. Ed students. On the basis of educational specialization at their teaching subject level, students belonging to arts and science stream was found to be 39 and 66 respectively.

**Table 3.1 Number of students across educational streams**

S. No	Courses	Number
1.	B. Ed	55
2.	B. Ed-M. Ed	35
3.	M. Ed	15

**Table 3.2 Number of male and female students**

S. No	Sex	Number
1.	Male	36
2.	Female	69

**Table 3.3 Number of students across different specialization**

S. No	Specialization	Number
1.	Science	66
2.	Humanities	39

### **3.3.2 Tools**

For the purpose of collection and interpretation of data, the following tools were used:

- 1) **Taj Environmental Attitude scale (TEAS)** developed by Dr. Haseen Taj (2001) was used to study the attitude of pre-service teachers and teacher educators towards environment.

### **3.3.3 Description of tools**

#### **Taj Environmental Attitude Scale (TEAS) (2001) by Dr. Haseen Taj**

The researcher used this scale to assess the attitude of pre-service teachers towards environment. Following the Likert's method of summated rating procedure, TEAS was developed with 61 items consisting of 6 areas which are: Population explosion, Health and Hygiene, Polluters, Wildlife, Forests, Environmental Concerns.

In Environment Attitude Scale (EAS) there were 61 statements. Following the Likert method of summated rating procedure, TEAS evaluated Pre-service teachers on 61 test-items which ranged across six areas namely:

1. Population explosion
2. Health and hygiene
3. Polluters
4. Wildlife
5. Forests
6. Environmental Concerns

### 3.3.4 Validity

TEAS possess high content validity and concurrent validity. The index of reliability computed for the scale also reflects the intrinsic validity. Hence, the scale is said to be a valid tool for assessing the environmental attitude.

### 3.3.5 Reliability

Reliability of the scale was estimated by the following methods:

- a) Split Half
- b) Test-retest

The details are presented in the **Table 3.4**

**Table 3.4: Reliability measurement of the scale**

S. No	Method	Reliability	Corrected Coefficient	Index of reliability
1.	Test-retest (1 month)	0.60		0.77
2.	Split Half			
	a) Odd Even	0.51	0.67	0.82
	b) First half-second half	0.49	0.66	0.81

### **3.4 Procedure of the present study**

#### **3.4.1 Collection of data using tool**

The researcher utilized the attitude scale to collect responses of student teachers and teacher educators on general information like name, age, gender, educational qualification, academic stream and scale specific test items.

#### **3.5 Statistical Techniques used for data Evaluation**

In the present study, different statistical techniques were employed to analyze the data keeping in view the objectives and the hypotheses. The following statistical techniques were used for the analysis of data:

- a) Descriptive statistics such as mean, median, mode, standard deviation, were worked out to ascertain the nature of distribution of scores on the variables- Attitude towards environment.
- b) T-test was employed to find out the significance of difference between means of different groups and different variables.