

Chapter 3
Research Methodology

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RESEARCH METHODOLOGY

Research is a systematic and objective attempt to provide answers to certain question. The purpose of research is to discover and develop an organized body of knowledge and it is characterized by systematic objective and logical procedures. It is systematic because it involves certain steps to be followed in a definite order. It is objective because the researcher tries to eliminate personal biases. And makes every possible effort to ensure objectivity in the method employed data collected and conclusions drawn.

Starting with the significance, reliance and research ability of the problem selected for investigation, the methodology followed is also equally important for determining the dependability, usefulness and generalize ability of the findings, in spite of appropriateness of the problem and tools selected, if the procedures and methodology are not up to the mark, it leads to misleading the results. That is why this aspect of the study is considered to be very important.

Thus, the success of a researcher lies in his choice of methodology to be used. Methodology includes all the plans, techniques and strategies followed in carrying out the research study.

3.1. Population and Sample

To study the whole population is rather difficult and impractical. A statistical process called sampling makes it possible to draw useful inference or generalization on the basis of careful study of observations or manipulation of variables, within a relatively small proportion of the population. The process of sampling generally refers to the method of selecting a small part or specimen of a large universe of subjects in order to study some quality or characteristic of the whole. So, sampling is one of the most fundamental aspects of the total methodology followed in a particular research study. It is an act of determining how many elements in a population are to be sampled, and how they are to be selected.

The Sample population of this study consists of 80 senior secondary school children of Berhampur city. Berhampur is a tier II city in Ganjam district Odisha (OD). The figure 3.1 displays the location of Ganjam district for reference. A coastal district Berhampur is the home of famous Berhampuri silk and a hub of education with a number of prestigious schools and the University named after it.



Figure 3.1: Ganjam district on the Political map of Odisha

It has many other Senior Secondary Schools. A sample selected from Berhampur city may prove to be a representative one.

List of Schools

- I. Kendriya Vidyalaya Gopalpur Cantt, Berhampur
- II. DAV Public School, Berhampur
- III. Harobino Vidya Bhawan, Ram Nagar, Berhampur
- IV. St. Xavier's High School, Ambapua, Berhampur
- V. St. Xavier's High School, Housing Board Colony, Berhampur

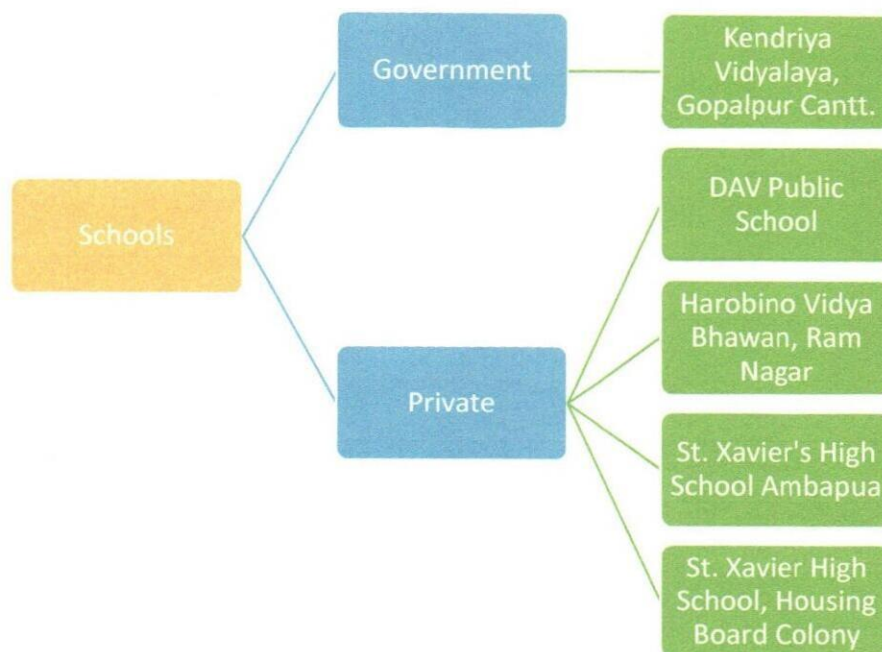


Figure 3.2: Breakup of the Sample of Schools

3.2. Variables of the Problem

The present problem has the following variables.

- Dependent variables – Environmental attitude
- Independent variable – Environmental awareness

3.3. Method adopted for Study

Experimental method was adopted for the study.

3.4. Description of the Tool Used

The meaningfulness of results of any research work depends not only on method and procedure, data analysis or results interpretation but also on the appropriateness of the tools and measures employed in the study. They should be appropriate, reliable and valid as well as suitable for the age and ability levels of the sample involved in the researcher work.

For measuring environment behavior of the students, in the present study; the researcher went through different standardized tools. There were various tools to measure

environmental awareness and environmental education but no satisfactory tool was available to measure environmental behavior.

3.4.1. Tool for measuring Environmental Attitude (TEAS)

Taj Environmental attitude scale (TEAS) for obtaining attitude towards environment, the investigator went through various test of environmental attitude. Finally, the environment attitude scale prepared by Dr. Hassen Taj in 2001 has used by the investigator.

Unquestionably, as we move into the information centered upon 21st century, we must incorporate effective environment education program which build an appreciation of the project, as well as of the specific heralds threatening the world. Students should not be told what to think in regard to these complex issues confronting us, but rather what to think about and how to think constructively and critically.

3.4.1.1. Brief Description of the TEAS

Following the Likert's method of summated rating procedure. TEAS was developed with 61 items consisting of six areas. These six areas have been depicted through the following Figure 3.2. All the items to be tested for environmental awareness are grouped under above six categories



Figure 3.3: Six components of the Taj Environment Attitude Scale

3.5. Data Collection

3.5.1. Collection of Data

Collection of data is an important phase in any research work. Various difficulties are generally felt by the researcher while collecting data in the present study. The data was to be collected from the senior secondary schools of Berhampur city only. The investigator visited different secondary schools of Berhampur city by the permission of their principals, and collected data from XI and XII of 5 private and government school.

In one period the researcher distributed TEAS test to a group. The researcher gave all the necessary instructions regarding the test. After 45 minutes, answer sheets were taken back from the respective group of students. The first phase of entire data collection was completed between 10 February 2022 to 15 February 2022 and second phase of data collection for post environmental awareness was completed in 01 March 2022 and 10 March 2022.

3.5.2. Scoring

After collecting the data, a detailed scoring sheet was prepared for the assessment of Environmental attitude of the students. As mentioned earlier too, the marks were given according to the rules described for both positive and negative statement. Total marks were written on each answer sheet. Scoring on Taj Environmental Attitude scale was done by using the scoring key of TEAS. A scoring key was provided with the TEAS manual which was used for doing the scoring of the Taj Environmental Attitude test. Each item alternative is assigned a weightage ranging from 4 (strongly agree) to (strongly disagree) for favorable items. In case of unfavorable items, the scoring is reserved i.e., from 1 (strongly agree) to 4 (strongly disagree).

The attitude score of an individual is the sum total of item scores on all the six areas. The range of scores from 156-163 with the higher score indicating the more favorable attitude towards environment and vice-versa. The investigator checked the answer sheet of all the 80 respondents, and then the marks of each subject were summed up and written on the sheet.

3.6. Administering the Environmental Awareness Programs

Investigator selected few schools of Berhampur as a sample. These schools came under government and private organizations as well. The collection of data was conducted in two phases i.e.

- A test to assess awareness level before introducing environmental awareness programs and
- A test to assess awareness level after conducting Environmental awareness programs.

Investigator selected standard XI and XII for administration of questions. The investigator went to different government and private schools for collecting data for research work.

After taking the permission from the principals of the school, the investigator distributed questionnaire to the students of XI and XII of the above schools selected by the investigator. After collecting the data, the investigator implemented some programs on the students related to environmental awareness for her research work.

The Environmental Awareness Programs were introduced which included

1. Poster Making
2. Extempore Speech
3. Poem Writing
4. Slogan Writing
5. Essay Competition
6. Skits
7. Flash Mob on songs made upon Environmental awareness
8. Documentaries on Environmental awareness
9. Quiz
10. Visit to School Garden

The investigator took the permission of the principals of respective schools for collecting the required data and carry out interventions among the students. Investigator was allotted a total of 6 periods for carrying on her research work. In this permitted

time limit of 6 periods to the investigator, she first of all gave the information related to environment to the students. For this purpose, she used various charts, stories, audio visuals, etc. to demonstrate the information she was giving and asked related questions to the students in order to bring out interest of students and to know how much the students have learned from the demonstration. The demonstration conducted in all schools took two weeks to complete.

After that, the investigator involved the students in various activities as mentioned in the list above. After 15 days of first stage test, the investigator took the second stage test on the same sample on which first stage test was taken and programs implemented. The investigator was involved in administering first stage test, environmental awareness program, and second stage test in between the period from February 2022 to March 2022. The main reason for this time period taken by the investigator was that she wanted to do all the work related to her research within one session with the same students in order to maintain accuracy and internal validity. This helped her to get the same samples for post—test on which she previously applied the pre—test.

3.7. Statistical Technique Used

In order to make meaningful interpretation and draw conclusions, it is necessary to re-organize and summarize scores in meaningful way, so that the summarized data may be used for the purpose of communication and interpretation of results. The investigator had to use some statistical techniques to summarize and interpret the scores. In the present study, the investigator intended to study the relationship between environmental awareness (independent variable) of students and the attitude (dependent variable).

The “paired t-test” statistical tool was applied to find out the significance of differences between pre- and post-intervention and variables mentioned above through direct use of Statistical Package for Social Sciences (SPSS).