CHAPTER III

PLAN AND PROCEDURE

3.1. INTRODUCTION

Procedure in any research is like the beacon light. It paves the way for the credible results. Methodology of this investigation has been studied under different heads namely, Rationale for the study, local of the study, statement of the problem, definition of terms, objectives, hypothesis, tool construction, sample of the study, pilot study, final study, scoring, Data analysis limitations.

3.2. RATIONALE FOR THE STUDY

Ancient Indian stages quoted that in the current age of Kaliyuga, the sins of man kind are being so bad that the Earth and mankind would be destroyed in the near future.

Continued economic growth, mismanagement of resources and population explosion have an explosive impact on the environment.

In recent years there have been so many problems in our environment due to pollution, deforestation, urbanization, industrializations. But most people think that the environment is clear because of the lack of enough knowledge about environmental problems.
Somebody have ideas about the problems but they may not know what they want to do to solve the problems. Only a few people know the actual problems of the environment and needs to be done to solve the problems. So environmental problems and measures to be done to solve the problems for making clear environment have been taught at high school level, Higher Secondary level and college level. Now almost all Indian Universities have taught their students research training concerning with environment for Research and Development (RD) in Environmental science. The ministry of environment and forests has been providing financial supports for researches concerning with environmental problems.

Several aspects of environmental education have been discussed well at regional workshop, seminars and conferences. In India much importance has been given to environmental education since 1979, when the first international conference on environmental education was held in New Delhi. This conference clearly pointed out several necessities of environmental education to man.

3.3. LOCALITY OF THIS STUDY

Thoothukudi District is more polluted, because there are chemical industries, and the pollutants from industries are much affective. So this place is taken for investigation.
3.4. STATEMENT OF THE PROBLEM

The present study is entitled as "A study into the Environmental Awareness Among the Under Graduate Students in Thoothukudi".

3.5. DEFINITION OF TERMS

3.5.1. AWARENESS

The word awareness means to guard against. It meanst consciousness or sensitiveness. It is used in the sense of "being alive to". The investigator means "being alive to the evil effects of pollution". It is knowing and reacting.

3.5.2. ENVIRONMENT

"The term Environment is used to describe, in the aggregate, all the external forces, influences and conditions, which effect the life, nature, behaviour and the growth, development and maturity of living organisms".

3.5.3. UNDER GRADUATE STUDENTS

The students who are studying under graduate courses like B.A., B.Sc., B.Com., B.B.A., in the college level after the higher secondary course. The period of the under graduation is three years.
3.6. OBJECTIVES

The present investigation has been undertaken to find out the following.

1. To find out if there is any significant difference between General Information with respect to their sex, locality, medium of instruction, religion, Type of college, caste, educational qualification of their parents, parents annual income.

2. To find out if there is any significant difference between Air and Environment with respect to their sex, locality, medium of instruction, religion, type of college, caste, educational qualification of their parents, parents annual income.

3. To find out if there is any significant difference between water and environment with respect to their sex, locality, medium of instruction, religion, type of college, caste, educational qualification of their parents, parents annual income.

4. To find out if there is any significant difference between Noise and Environment with respect to their sex, locality, medium of instruction, religion, type of college, caste, educational qualification of their parents, parents annual income.

5. To find out if there is any significant difference between chemicals and environment with respect to their sex, locality, medium of instruction, religion, type of college, caste, educational qualification of their parents, parents annual income.
7. To find out if there is any significant difference between students in total scores with respect to their sex, locality, medium of instruction, religion, type of college, caste, educational qualification of their parents, parents annual income.

3.7. HYPOTHESES

In order to achieve the objectives of the study, the following hypotheses were framed.

1. There is no significant difference between the mean scores of students in General Information with respect of sex.
2. There is no significant difference between the mean scores of students in General Information with respect to locality.
3. There is no significant difference between the mean scores of students in General Information with respect to medium of instruction.
4. There is no significant difference between the mean scores of students in General Information with respect to religion.
5. There is no significant difference among the students in General Information with respect to type of college.
6. There is no significant difference among the students in General Information with respect to caste.
7. There is no significant difference among the students in General Information with respect to educational qualification of their parents.
8. There is no significant difference among the students in General Information with respect to parents annual income.

9. There is no significant difference between the mean scores of students in Air and Environment with respect to sex.

10. There is no significant difference between the mean scores of students in Air and Environment with respect to locality.

11. There is no significant difference between the mean scores of students in Air and Environment with respect to medium of instruction.

12. There is no significant difference between the mean scores of students in Air and Environment with respect to religion.

13. There is no significant difference among the students in Air and Environment with respect to type of college.

14. There is no significant difference among the students in Air and Environment with respect to caste.

15. There is no significant difference among the students in Air and Environment with respect to educational qualification of their parents.

16. There is no significant difference among the students in Air and Environment with respect to parents annual income.

17. There is no significant difference between the mean scores of students in Water and Environment with respect to sex.

18. There is no significant difference between the mean scores of students in Water and Environment with respect to locality.
19. There is no significant difference between the mean scores of students in Water and Environment with respect to medium of instruction.

20. There is no significant difference between the mean scores of students in Water and Environment with respect to religion.

21. There is no significant difference among the students in Water and Environment with respect to type of college.

22. There is no significant difference among the students in Water and Environment with respect to caste.

23. There is no significant difference among the students in Water and Environment with respect to educational qualification of their parents.

24. There is no significant difference among the students in Water and Environment with respect to parents annual income.

25. There is no significant difference between the mean scores of students in Noise and Environment with respect to sex.

26. There is no significant difference between the mean scores of students in Noise and Environment with respect to locality.

27. There is no significant difference between the mean scores of students in Noise and Environment with respect to medium of instruction.

28. There is no significant different between the mean scores of students in Noise and Environment with respect to religion.

29. There is no significant difference among the students in Noise and Environment with respect to type of college.
30. There is no significant difference among the students in Noise and Environment with respect to caste.

31. There is no significant difference among the students in Noise and Environment with respect to educational qualification of their parents.

32. There is no significant difference among the students in Noise and Environment with respect to parents' annual income.

33. There is no significant difference between the mean scores of students in Chemicals and Environment with respect to sex.

34. There is no significant difference between the mean scores of students in Chemicals and Environment with respect to locality.

35. There is no significant difference between the mean scores of students in Chemicals and Environment with respect to medium of instruction.

36. There is no significant difference between the mean scores of students in Chemicals and Environment with respect to religion.

37. There is no significant difference among the students in Chemicals and Environment with respect to type of college.

38. There is no significant difference among the students in Chemicals and Environment with respect to caste.

39. There is no significant difference among the students in Chemicals and Environment with respect to educational qualification of their parents.

40. There is no significant difference among the students in Chemicals and Environment with respect to parents' annual income.
41. There is no significant difference between the mean scores of students in total scores with respect to sex.

42. There is no significant difference between the mean scores of students in total scores with respect to locality.

43. There is no significant difference between the mean scores of students in total scores with respect to medium of instruction.

44. There is no significant difference between the mean scores of students in total scores with respect to religion.

45. There is no significant difference among the students of total scores with respect to type of college.

46. There is no significant difference among the students of total scores with respect to caste.

47. There is no significant difference among the students of total scores with respect to educational qualification of their parents.

48. There is no significant difference among the students total scores with respect to parents annual income.

3.8. TOOLS CONSTRUCTION

The investigator used a self-made questionnaire and the particulars showing the availability of selected schools. The questionnaire consists of following two parts.
A. BIO-DATA OF THE STUDENTS

The bio-data of the students was collected information regarding sex, locality, medium of instruction, religion, management of schools, type of schools, caste, educational qualification of the parents, parents annual income.

B. QUESTIONNAIRE TO MEASURE THE AWARENESS OF ENVIRONMENT FOR THE STUDENTS

In this part, 100 statements of questions were used to measure the environment of the students in General Information, Air Pollution, Wastes Pollution, Noise Pollution and Chemicals related with Environment.

3.9. SAMPLE OF THE STUDY

The investigator conducted the present investigation in Thoothukudi area. In this area the research selected 4 private aided colleges and one private self-financing college randomly. Out of 5 colleges, two of them are co-educational, two of them are women colleges and another one is men college. Of the total students in these colleges, 140 men students and 85 Girl students were selected randomly for the present study. The colleges selected were as follows.
TABLE 3.1.

LIST OF SCHOOLS SELECTED FOR THE PRESENT STUDY

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of the College</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>V.O. Chidambaram College, Thoothukudi</td>
<td>76</td>
</tr>
<tr>
<td>2.</td>
<td>A.P.C. Mahalakshmi College for Women, Thoothukudi</td>
<td>28</td>
</tr>
<tr>
<td>3.</td>
<td>St. Mary's College for Women, Thoothukudi</td>
<td>22</td>
</tr>
<tr>
<td>4.</td>
<td>Kamaraj College, Thoothukudi</td>
<td>74</td>
</tr>
<tr>
<td>5.</td>
<td>Caldwell College, Thoothukudi</td>
<td>25</td>
</tr>
</tbody>
</table>

3.9.1. DISTRIBUTION OF THE SAMPLE

TABLE 3.2.

DISTRIBUTION OF THE SAMPLE WITH RESPECT TO SEX

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Sex</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>96</td>
<td>42.67</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>129</td>
<td>57.33</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>225</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The above table shows that 42.67 per cent of the sample respondents were male college students and the remaining 57.33 per cent of the sample respondents were female college students.
FIGURE 3.1.

DISTRIBUTION OF THE SAMPLE WITH RESPECT TO SEX

Number of Respondents

Sex

Male

Female
TABLE 3.3.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO
MEDIUM OF INSTRUCTION

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Medium of instruction</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tamil</td>
<td>76</td>
<td>33.78</td>
</tr>
<tr>
<td>2</td>
<td>English</td>
<td>149</td>
<td>66.22</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>225</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

The above table shows that 33.78 per cent of the sample respondents were Tamil medium students and the remaining 66.22 per cent of the sample respondents were English medium students.

TABLE 3.4.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO RELIGION

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Religion</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hindu</td>
<td>116</td>
<td>51.56</td>
</tr>
<tr>
<td>2</td>
<td>Non-Hindu</td>
<td>109</td>
<td>48.44</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>225</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

The above table shows that 51.56 per cent of the sample respondents were Hindu students and the remaining 48.44 per cent of the sample respondents were Non-Hindu students.
FIGURE 3.2.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO MEDIUM OF INSTRUCTION
FIGURE E 3.3.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO RELIGION

Diagram showing the distribution of the sample with respect to religion. The bar graph displays the number of respondents for Hindu and Non-Hindu categories.
TABLE 3.5.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO LOCALITY

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Locality</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rural</td>
<td>140</td>
<td>62.22</td>
</tr>
<tr>
<td>2</td>
<td>Urban</td>
<td>85</td>
<td>37.78</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>225</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The above table reveals that 62.22 per cent of the sample respondents were rural area students and the remaining 37.78 per cent of the sample respondents were urban area students.

TABLE 3.6.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO TYPE OF COLLEGE

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Type of College</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Men</td>
<td>25</td>
<td>11.11</td>
</tr>
<tr>
<td>2</td>
<td>Women</td>
<td>50</td>
<td>22.22</td>
</tr>
<tr>
<td>3</td>
<td>Co-education</td>
<td>150</td>
<td>66.67</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>225</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The above table reveals that 11.11 per cent of the sample respondents were men college students, 22.22 per cent of the sample were Women college students and the remaining 66.67 per cent of the sample respondents were co-education college students.
TABLE 3.4.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO LOCALITY
TABLE 3.5.

DISTRIBUTION OF THE SAMPLE WITH RESPECT TO
TYPE OF COLLEGE
### TABLE 3.7.

**DISTRIBUTION OF THE SAMPLE WITH RESPECT TO PARENT'S EDUCATIONAL QUALIFICATION**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Educational Qualification</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Illiterate</td>
<td>22</td>
<td>9.78</td>
</tr>
<tr>
<td>2</td>
<td>School Level</td>
<td>137</td>
<td>60.89</td>
</tr>
<tr>
<td>3</td>
<td>College Level</td>
<td>66</td>
<td>29.33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>225</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

The above table reveals that 9.78 per cent of the sample respondents' parents were illiterate, 60.89 per cent of the sample respondents' parents education were school level of education and the remaining 29.33 per cent of the sample respondents' parents were college level of education.
TABLE 3.6.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO PARENT'S
EDUCATIONAL QUALIFICATION

<table>
<thead>
<tr>
<th>Educational Qualification</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>20</td>
</tr>
<tr>
<td>School Level</td>
<td>140</td>
</tr>
<tr>
<td>College Level</td>
<td>60</td>
</tr>
</tbody>
</table>

Number of Respondents

Educational Qualification
TABLE 3.8.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO CASTE

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Caste</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OC</td>
<td>36</td>
<td>16.00</td>
</tr>
<tr>
<td>2</td>
<td>BC</td>
<td>108</td>
<td>48.00</td>
</tr>
<tr>
<td>3</td>
<td>MBC</td>
<td>37</td>
<td>16.44</td>
</tr>
<tr>
<td>4</td>
<td>SC</td>
<td>44</td>
<td>19.56</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>225</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The above table reveals that 16.00 per cent of the sample respondents were OC students, 48.00 per cent of the sample respondents were BC students, 16.44 per cent of the sample respondents were MBC students and the remaining 19.56 per cent of the sample respondents were SC students.
TABLE 3.7.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO CASTE

<table>
<thead>
<tr>
<th>Caste</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>OC</td>
<td></td>
</tr>
<tr>
<td>BC</td>
<td>120</td>
</tr>
<tr>
<td>MBC</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 3.9.

DISTRIBUTION OF THE SAMPLE WITH RESPECT TO PARENT'S ANNUAL INCOME

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Annual Income</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Upto Rs.36000</td>
<td>46</td>
<td>20.44</td>
</tr>
<tr>
<td>2</td>
<td>Rs.36000-Rs.60000</td>
<td>98</td>
<td>43.56</td>
</tr>
<tr>
<td>3</td>
<td>Rs.60000-Rs.120000</td>
<td>47</td>
<td>20.89</td>
</tr>
<tr>
<td>4</td>
<td>Above Rs.120000</td>
<td>34</td>
<td>15.11</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>225</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

The above table reveals that 20.44 per cent of the sample respondents' parents annual income was upto Rs.36,000, 43.56 per cent of the sample respondents' parents annual income was between Rs.36,000 and Rs. 60,000, 20.89 per cent of the sample respondents' parents annual income was between Rs. 60,000 and Rs.1,20,000 and the remaining 15.11 per cent of the sample respondents' parents annual income was above Rs.1,20,000.
FIGURE 3.8.
DISTRIBUTION OF THE SAMPLE WITH RESPECT TO PARENT'S ANNUAL INCOME
3.10. PILOT STUDY

This test was administered on 25 respondents of college students. The respondents were given a brief account of the study. After the explanation, the respondents were asked to give their responses to the questions given in the test. The test questions are the statements. The respondents should choose the correct answer among all. All the respondents gave proper responses, the researcher corrected the test papers, after 20 days the researcher conducted the same test on the same respondents. The corrected the retest papers and tabulated the test scores. She found out the correlation coefficient which was 0.89. Thus the analysis of variance was established.

3.11. FINAL STUDY

The investigator went to the above mentioned 5 colleges. She met the principals of the relevant colleges and got their permission to administer the tests.

After briefing the purpose of the study, the respondents were asked to give response to the items on the test in the presence of the researcher. The school teachers extend their help at the time of administration of the test. The completed test papers were collected from the respondents. The test papers contains 100 statements totally. 20 questions each in General Information, Air Pollution, Water Pollution, Noise Pollution, Chemicals related with Environment respectively.
More over the particulars showing sex, locality, medium of instruction, religion, type of college, caste, educational qualification of the parents, parents, annual of the income of the parents from the selected college students are also collected and scored.

3.12. SCORING

Each correct response of this item in the test was given 5 marks. In total 400 marks were given for 80 items in positive statements. In 100 marks were given for 20 items in negative statements.

3.13. DATA ANALYSIS

The data collected through the tools were processed with the help of critical ratio ('t'-test) and analysis of variance.

3.14. LIMITATIONS

The present investigation has been geographically confined to Thoothukudi area. Further, the colleges has been selected purposively. So the findings may not be generalizable in nature. Through many variables can be measured with the environment were chosen. Moreover, this study was conducted on only the college students particularly under graduate students.

The ensuing chapter deals with analysis of data presented in the form of the tabular columns followed by interpretations.