Chapter III

**METHODOLOGY**

* *Design of the study*
* *Variable of the study*
* *Sample selected for the study*
* *Tool used for data collection*
* *Data collection procedure*
* *Scoring and consolidation of data*
* *Statistical techniques used for analysis*

Research is a systematic inquiry that investigates hypotheses, suggests new interpretations of data or texts, and poses new questions for future research to explore. It is systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions. Methodology finds a major place in any type of research work. Methodology is the systematic, theoretical analysis of the methods applied in a field of study.

The present study is “Educational Aspirations among Secondary School Students of Lakshadweep”.

The methodology of the study is described under the following major headings.

* Design of the study
* Variable of the study
* Sample used for the study
* Tool used for data collection
* Data collection procedures.
* Scoring and consolidation of data
* Statistical techniques used for analysis

**Design of the study**

 The main purpose of the present investigation was to find out the Educational Aspirations among secondary school students of Lakshadweep. Hence the method adopted for the study was survey.

**Variable of the study**

 Variable refers to any aspect of behaviour or any condition that change. The only variable that is measured and analyzed in the present study was Educational Aspirations among secondary school students of Lakshadweep.

**Sample for the study**

 Selection of sample is an important aspect of any research. According to Best and Khan (1996) “A population is any group of individual that have one or more characteristics in common that are of interests to the researcher. A sample is a small proportion of population selected for observation and analysis.’’

 The most important factor in determining the generalisability of an investigation lies in the representative of the sample used in collecting the data. The present study has focus on secondary school students of Lakshadweep. The dependability of any study is determined to a large extent by the selection of sample on which the test is administered. By increasing the sample the error can be reduced to a minimum. So the size of the sample is most important in research.

 The population of the present study was students of the secondary schools of Lakshadweep. The sample consisted of 420 secondary schools students who were selected from secondary schools of Kavaratti, Amini and Kadmat islands of Lakshadweep. The sample was selected under stratified sampling technique by giving due representation to the factors like gender, class of study and different islands.

Table 1

*Breakup of the final sample*

|  |  |  |
| --- | --- | --- |
| Sample (N=420)  | Categories | Number of students |
| Gender | Boys | 200 |
| Girls | 220 |
| Different Islands  | Kavaratti | 146 |
| Amini | 140 |
| Kadmat | 134 |
| Class of Study  | VIII | 123 |
| IX | 162 |
| X | 135 |

**Tool used for data collection**

 In the present study, the investigator used the survey method as a main technique to investigate the Educational Aspirations of Secondary School Students of Lakshadweep. Collection of relevant data is an important aspect of any research work. The selection of suitable tool is rather more important for a successful research. For the present study the investigator has developed a Scale on Educational Aspirations with the help of supervising teacher.

 The constructive description of tool is given below;

**1. Scale on Educational Aspirations**

 In the present study the investigator assessed the Educational Aspirations of Secondary School Students of Lakshadweep using the Scale on Educational Aspirations constructed by the investigator with the help of supervising teacher. From the available literature the investigator identified two major components of aspiration i.e. attitude and motivation. Attitude comprised of five components and motivation comprised of three components.

**(a) Preparation of Items**

Based on the components obtained from literature the investigator developed a scale for assessing Educational Aspirations of Secondary School Students. Initially 57 items were drafted. The items were subjected to expert criticism. Some of the questions were deleted, and some were modified. The draft tool includes 57 items. Items were prepared on the basis of components. Out of fifty seven items fifty one items were positive and six items were negative statements. The subjects have to respond to each of the items by choosing any one of the alternatives ‘strongly agree’, agree, no opinion, disagree and strongly disagree. A score of 5, 4, 3, 2, 1, was assigned to responses ‘strongly agree’, agree, no opinion, disagree and strongly disagree respectively. The sum of the scores of individual items indicates the Educational Aspirations among secondary school students of Lakshadweep.

 The components of Aspiration for Higher Education are described below.

**1. Attitude**

Attitude refers to an overt covert interest pursuing specific course of action, in response to particular situation. The attitude has five components.

a. Emotion

Emotion refers to a strong feeling such as love, fear and anger. It is the part of a person’s character that consists of feeling.

b. Target

The term target refers to the result that a person tries to achieve.

c. Direction.

It refers to the line of development, way or tend one has in mind of an aspect.

d. Intensity

This refers to the state or quality of being intense and intensity of feelings.

e. Consistency

The quality of always behaving in the same way or of having some opinions, standards, etc.

**ii. Motivation**

Motivation refers to as something which prompts, compels and energizes an individual to act or behave in a particular manner at a particular time for attaining some specific goal or purpose. The motivation has three components.

a. Achievement Drive

This refers to one’s striving to improve or meet a standard of excellence.

b. Commitment

The term initiative refers to the individual’s capacity for independent action to start a series of activities.

c. Optimism

It refers to an attitude marked by hope, confidence, cheerfulness and faith in future.

**(b) Preliminary Tryout**

 The draft tool consisted of 57 items was administered among a sample of 100 secondary school students of Lakshadweep. Proper weightage was given to each item. Score of 5 was given to highest response and 1 was given to least response.

**(c) Item Analysis**

 The 420 response sheets obtained after preliminary testing were scored and the total score of each sheet was calculated. 420 sheets were selected for item analysis. Then these sheets were arranged in descending order of the total score and the highest 27 percent (114 sheets) and lowest 27 percent (114 sheets) of the total sheets were separated. The mean and standard Deviation of the scores obtained for the upper group and lower group are calculated separately. The critical ratio were calculated using the following formula,



Where,

 ⇒ Mean of the Upper group (for an item)

 ⇒ Mean of the lower group

 ⇒ Standard Deviation of the Upper group

 ⇒ Standard Deviation of the Lower group (Garrette, 2005)

 Items with critical ratio (‘t’ value) greater than 1.96, the table value of‘t’at.05 level of significance was selected for the final scale. The critical ratios (‘t’ value)obtained for each item together with Mean and Standard Deviation of the scores for the two groups are given in table 2.

Table 2

*Critical Ratio (‘t’ value) with Mean and Standard Deviation of the scores for the two groups in Educational Aspirations Scale*

| **Item No.** |  |  | **σ12** | **σ22** | **‘t’ value** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 4.6200 | 4.0200 | .50812 |  .76515 | -6.532 | Accepted |
| 2 | 4.8100 | 4.1800 | .39428 |  .91431 | 6.327 | Accepted |
| 3 | 3.7800 | 3.0900 | .89420 | 1.11096 | -4.838 | Accepted |
| 4 | 4.1700 | 3.4500 | .85345 |  .97830 | -5.546 | Accepted |
| 5 | 4.5400 | 3.1500 | 5.26168 | 1.32097 | -2.562 | Accepted |
| 6 | 4.6900 | 4.1400 | .76138 | 1.05428 | -4.229 | Accepted |
| 7 | 4.4200 | 3.9600 | .98658 | 1.06287 | -3.172 | Accepted |
| 8 | 3.1300 | 2.8900 | 1.59326 | 1.30186 | -1.166 | Rejected |
| 9 | 4.5900 | 3.9800 | .66810 | 1.09157 | -4.766 | Accepted |
| 10 | 4.8200 | 4.1000 | .38612 |  .84686 | -7.736 | Accepted |
| 11 | 4.6100 | 3.7300 | .58422 | 1.09963 | -7.067 | Accepted |
| 12 | 4.6800 | 3.5800 | .51010 | 1.03651 | -9.522 | Accepted |
| 13 | 4.9800 | 4.2500 | .14071 | .99874 | -7.238 | Accepted |
| 14 | 4.6100 | 3.6600 | .69479 | 1.18253 | -6.927 | Accepted |
| 15 | 4.6300 | 3.6000 | .69129 | 1.18918 | -7.488 | Accepted |
| 16 | 2.3800 | 2.2900 | 1.39827 | 1.21684 | -.486 | Rejected |
| 17 | 4.5200 | 3.5900 | .59425 | 1.07398 | -7.577 | Accepted |
| 18 | 3.8700 | 2.7000 | 1.54825 | 1.38170 | -5.638 | Accepted |
| 19 | 2.0600 | 2.5300 | 1.39132 | 1.14111 | 2.612 | Accepted |
| 20 | 4.6600 | 3.4700 | .60670 | 1.16736 | -9.045 | Accepted |
| 21 | 4.5700 | 3.2800 | .57305 | 1.06439 | -10.671 | Accepted |
| 22 | 4.8500 | 4.0300 | .50000 | 1.16736 | -6.457 | Accepted |
| 23 | 4.4200 | 3.2900 | 1.06534 | 1.45154 | -6.276 | Accepted |
| 24 | 4.7800 | 3.9800 | .41633 |  .92091 | -7.916 | Accepted |
| 25 | 4.3400 | 3.4400 | .79417 | 1.11301 | -6.582 | Accepted |
| 26 | 4.6700 | 3.7000 | .71145 | 1.00000 | -7.904 | Accepted |
| 27 | 4.7300 | 3.4600 | .50960 | 1.25867 | -9.353 | Accepted |
| 28 | 4.9000 | 3.9500 | .33333 | 1.11351 | -8.173 | Accepted |
| 29 | 4.8900 | 4.1400 | .31447 |  .85304 | -8.249 | Accepted |
| 30 | 4.9400 | 4.0800 | .23868 |  .97110 | -8.600 | Accepted |
| 31 | 4.9700 | 4.2000 | .17145 | 1.09175 | -6.968 | Accepted |
| 32 | 4.9400 | 4.0200 | .27780 |  .96379 | -9.172 | Accepted |
| 33 | 4.7400 | 3.6800 | .52455 | 1.09064 | -8.759 | Accepted |
| 34 | 4.7100 | 3.8500 | .62434 |  .92524 | -7.705 | Accepted |
| 35 | 4.7800 | 3.8800 | .48367 | 1.12169 | -7.368 | Accepted |
| 36 | 4.9500 | 4.1600 | .26112 |  .88443 | -8.567 | Accepted |
| 37 | 4.7400 | 3.5800 | .59662 | 1.08414 | -9.374 | Accepted |
| 38 | 4.7700 | 3.6500 | .44620 |  .96792 | -10.508 | Accepted |
| 39 | 4.8100 | 3.9000 | .41911 |  .97959 | -8.541 | Accepted |
| 40 | 4.8700 | 3.4600 | .36667 | 1.18424 | -11.374 | Accepted |
| 41 | 4.4300 | 3.4000 | 1.07548 | 1.62057 | -5.296 | Accepted |
| 42 | 4.6000 | 3.2700 | .73855 | 1.27806 | -9.010 | Accepted |
| 43 | 4.9000 | 3.8200 | .33333 | 1.11355 | -9.291 | Accepted |
| 44 | 4.3400 | 3.5600 | 1.21622 | 1.31287 | -4.358 | Accepted |
| 45 | 4.8500 | 3.9300 | .50000 |  .97706 | -8.382 | Accepted |
| 46 | 4.8200 | 3.9100 | .53899 | 1.16424 | -7.093 | Accepted |
| 47 | 4.4800 | 3.5900 | .82241 | 1.23987 | -5.982 | Accepted |
| 48 | 4.6000 | 3.5600 | .77850 | 1.14874 | -7.495 | Accepted |
| 49 | 4.7100 | 3.8400 | .67112 | 1.10755 | -6.718 | Accepted |
| 50 | 4.7700 | 3.9200 | .60059 |  .92856 | -7.686 | Accepted |
| 51 | 4.8100 | 3.9200 | .46482 | 1.03162 | -7.866 | Accepted |
| 52 | 4.8300 | 3.9100 | 4.13181 | 1.12002 | -2.149 | Accepted |
| 53 | 4.7900 | 3.7500 | .57375 | 1.09521 | -8.412 | Accepted |
| 54 | 4.6900 | 3.8700 | .67712 | 1.04112 | -6.603 | Accepted |
| 55 | 4.7500 | 3.7000 | .45782 |  .94815 | -9.973 | Accepted |
| 56 | 4.7800 | 3.9400 | .64479 | 1.13547 | -6.433 | Accepted |
| 57 | 3.4800 | 3.2300 | 1.68463 | 1.24604 | -1.193 | Rejected |

**d) Selection of the item**

 Items with critical ratio greater than 1.96 and above are accepted. A total number of 54 items were selected for final test. The final form of scale is given as Appendix 2.

**Reliability and Validity**

Reliability is the degree of consistency that instrument on procedure demonstrates whatever it is measuring it does so consistently. In test having a high co-efficient of reliability errors of measurement have been reduced to a minimum. Reliable tests are stable in whatever they measure and yield comparable scores on repeated administration.

The investigator used Cronbach Alpha method to find out reliability, which is a statistical technique used to determine the internal consistency. The value of Cronbach Alpha is 0.87. This indicates that the scale was a reliable instrument.

Validity is that quality of a data gathering instrument or procedure that enables it to measure what it is supposed to measure. The validity of the present study was ensured by content validity. Content validity is based upon careful examination of course, textbooks, syllabi, objectives and the judgment of subject matter specialists (Best and Khan, 2001). In the present study validity is established by giving weightage to each of the components of Educational Aspiration such as motivation and attitude. Since the tool has sufficient items covering these areas, it has content validity. A test is said to have face validity when it appears to measure whatever the author had in mind namely what he thought he was measuring (Garret 1993). To ensure face validity the investigator consulted experts in the area during the development of the tool and the tool was given to experts for approval of items for measuring Educational Aspirations. Thus ensure face validity.

**Data collection procedure**

After the selection of the sample for the present study the investigator made arrangements with the Headmasters of the respective schools and took permission from the authoritiesin advance to conduct the test. The investigator visited each school one after the other in each island. The investigator approached the students with sufficient number of tools and gave instructions about how to fill the tool within the allotted time. The investigator collected back the tools after the allotted time.

**Scoring and consolidation of data**

Scoring and consolidation of answer sheet was according to the direction provided with scale. Scale on Educational Aspirations consisted of 54 items. The responses were scored according to the scoring scheme prepared. The students were instructed to respond to each item by putting () mark under the response they find suitable for them against the number of each item. The subjects are to be responded 54 items by choosing any one of the alternative responses-‘strongly agree’, ‘agree’, ‘no opinion’, ‘disagree’, and ‘strongly disagree’. A score of 5, 4, 3, 2, 1, was given to responses-‘strongly agree’, ‘agree’, ‘noopinion’, ‘disagree’ and ‘strongly disagree’ respectively. The order is reversed for the negative items. Then the investigator consolidated the scored tools for analysis.

**Statistical techniques used for analysis**

 The various statistical techniques used for analysing data are given below.

* Preliminary Analysis
* Major Analysis

**Preliminary Analysis**

The important statistical concepts such as mean, median, mode, standard deviation, skewness and kurtosis of the selected variable Educational Aspirations was computed for the total sample and the relevant sub samples.

**Major Analysis**

**One Sample‘t’ test**

One sample t-test is a statistical procedure used to determine whether a sample of observations could have been generated by a process with a specific mean.

**Confidence interval for mean**

A confidence interval (CI) is a type of interval estimate (of a population parameter) that is computed from the observed data.

**Percentiles**

Percentiles are points of a given distribution below which given percentage of cases lies. Percentage analysis is implemented for finding the extent of Educational Aspirations amongsecondary school students of Lakshadweep for the total sample and the relevant sub sample. The formula to find out percentile is

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Where,

l lower limit of the class containing pi

f frequency of the class containing pi

h magnitude of the class containing pi

c cumulative frequency of the class proceeding the class containing pi

N total number of sample

**Test of significance of mean difference for large independent groups**

 The statistical technique‘t’ test is used to find out if there exists, any significant difference in the Educational Aspirations among secondary school students of Lakshadweep for the total sample and relevant sub sample.

**ANOVA**

Analysis of Variance (ANOVA) is a parametric statistical technique used to compare datasets.

The analysis of data and its interpretation is presented in the next chapter.