

CHAPTER – III

METHODOLOGY

3.0 INTRODUCTION

Review of related literature in value education helped the investigator for finalizing the methodology to be adopted for the present study. Methodology refers to the process and procedures, which the investigator adopts while carrying out a study in order to achieve the particular objectives of the study. A sound logical plan and procedure determines the validity and generalizability of any research work.

The present chapter discusses the methodology adopted for the present study - *A Study of Attitude of the In-service Teachers towards the Traditionally Accepted Universal Human Values– Truth, Beauty, Goodness*. It gives details about the design of the study, sources of data collection, population of the study, selection of the sample, tool used for data collection, detailed description of the procedure of data collection and techniques used for data analysis in the present study.

3.1 DESIGN OF THE STUDY

The present study is a survey type study. Survey studies are a type of descriptive research. Survey studies are conducted to collect detailed descriptions of existing phenomena with the intent of employing data to justify current conditions and practices or to make more intelligent plans for improving them. There are various types of surveys. The types of surveys are broadly categorized into two:

1. According to instrumentation involved; e.g. questionnaire survey, interview survey, rating survey, observation survey.

2. According to the span of time involved: The types of surveys according to the span of time used to conduct the study are comprised of cross-sectional survey and longitudinal survey.

Cross-sectional survey involves the collection of data from selected individuals in a single time-period (however long it takes to collect data from participants). It is a single stand-alone study.

Longitudinal surveys collect data at two or more times in order to measure changes overtime.

The characteristics of survey method are as follows:

1) The survey method gathers data from a relatively large number of cases at a particular time.

2) It is essentially cross-sectional.

3) It involves clearly defined problem.

4) It requires experts imaginative planning.

5) It involves definite objectives.

6) It requires careful analysis and interpretation of the data gathered.

7) It requires logical and skillful reporting of the findings.

8) It provides information useful to the solution of local problems.

9) It contributes to the advancement of knowledge because it affords penetrating insight into the nature of what one is dealing with.

10) It suggests the course of future developments.

11) It determines the present trends and solves current problems.

12) It helps in fashioning many tools with which we do the research.

The present study was a type of descriptive survey study. It was a comprehensive study of existing educational condition i.e. an issue in value education. The data was collected from the in-service teachers of schools to measure their attitude towards traditionally accepted universal human values - Truth, Beauty, Goodness.

It was conducted at Vadodara city level. The data included in-service teachers from Primary, Secondary and Higher Secondary levels. Oppenheim (1966) defines, “A survey is a form of planned collection of data for the purpose of description or prediction as a guide to action or for the purpose of analyzing the relationships between variables.” In the present study, relationship between attitudes and values was being analyzed. To collect data for this survey, an attitude scale was constructed and standardized by investigator.

3.2 SOURCES OF DATA COLLECTION

Data required for the present study were available from various sources mentioned below:

- 1) The in-service teachers teaching in Primary, Secondary and Higher Secondary English medium schools of Vadodara city following the syllabus of GCERT Gujarat and Gujarat Secondary and Higher Secondary Education Board, from the data of these in-service teachers data pertaining to their attitude towards traditionally accepted universal human values-Truth, Beauty, Goodness and data pertaining to their gender, qualifications, the section in which these teachers were teaching and the years of experience of teaching in schools were available.

2) The book published by District Education Department in the year (2007-2008), Vadodara; provided data pertaining to the number of Primary, Secondary and Higher Secondary English medium schools of Vadodara city.

3.3 POPULATION

In the present study, population consisted of 1680 in-service teachers teaching in Primary, Secondary and Higher Secondary English medium schools of Vadodara city following the syllabus of GCERT Gujarat and Gujarat Secondary and Higher Secondary Education Board. As per the books published by District Education Department in the year (2007-2008), Vadodara; there were fifty-seven Primary English medium schools and fifty-five Secondary and Higher Secondary English medium schools in Vadodara city and so population consisted of teachers teaching in these 112 Primary, Secondary and Higher Secondary English medium schools following the syllabus of Gujarat State Education Board textbooks. The lists of fifty-seven Primary English medium schools and fifty-five Secondary and Higher Secondary English medium schools in Vadodara city following the syllabus of Gujarat State Education Board textbooks are presented in Appendix I and Appendix II respectively.

3.4 SAMPLE

Sampling is the process of selecting number of individuals for a study in such a way that they represent the population from which they were selected. In the present study, cluster sampling method was used. Cluster sampling randomly selects groups, not individuals. All the members of selected groups have similar

characteristics. Cluster sampling is useful when population is very large or spread out over a wide geographic area. The study required two sets of samples. From 112 Primary, Secondary and Higher Secondary schools thirty schools were selected randomly by lottery method and 400 Primary, Secondary and Higher Secondary teachers teaching in these thirty schools were selected as cluster for the try-out scale. From the remaining eighty-two Primary, Secondary and Higher Secondary schools forty-five schools were selected randomly by lottery method and 600 Primary, Secondary and Higher Secondary teachers teaching in these forty-five schools were selected as cluster for the final study. Thus, cluster sampling method was used. The list of thirty Primary, Secondary and Higher Secondary schools selected for the try-out scale and the list of forty-five Primary, Secondary and Higher Secondary schools for the final study were presented in Appendix III and Appendix IV respectively.

3.5 TOOL

The tool for the present study was an attitude scale to measure attitude of the in-service teachers towards the traditionally accepted universal human values—Truth, Beauty, Goodness; which was constructed and standardized by the investigator. The Method of Summated Ratings given by Likert (1932), was followed. The description of the detailed process of construction and standardization would be presented in chapter IV.

The major steps in the construction and standardization of the tool are given below:

1. The first step in the construction was to obtain statements that represent the attitude of the traditionally accepted universal human values - Truth, Beauty, Goodness.
2. The components of Truth, Beauty, Goodness, were identified with their behaviors seeking the opinion of eminent experts in the field of education. The behaviors of each component were specified.
3. The value - *Truth*, which is a statement of what constitutes *reality*, finds its components as: *Impartiality, Responsibility, Integrity, Faith and Courage*.
The value - *Beauty* finds its components in *sensitivity*, so the components selected were: *Punctuality, Regularity, Cleanliness, Politeness and Love*.
The value – *Goodness* finds its components in *magnanimity*, so the components selected were: *Patience, Kindness, Empathy, Inoffensiveness and Forgiveness*.
4. After identification of the components of traditionally accepted universal human values – Truth, Beauty, Goodness, with their behaviors as a reference, a large number of statements were developed.
5. From this *universe of content*, statements expressing positive polarity(favourableness) and statements expressing negative polarity(unfavourableness) were sorted out. Next, these statements were given the form of attitudinal statements as per the Likert method.
6. The statements were edited keeping in view of the criteria as listed by Edwards (1957) on the bases of suggestions, given by Thurstone and Chave (1929), Likert (1932), Wang (1932), Bird (1940), Edwards and Kilpatrick (1948).

7. From the *universe of content*, considering the fifteen components with their specified behaviours as reference, keeping in mind the requirements of Likert method and the informal criteria was followed and 358 statements were constructed. A letter was addressed to twelve experts in the field of education, seeking help from them for the validation of the statements and also their suggestions in terms of additions/deletions of any statement or modifications, comments, acceptability of language while examining the coherence of statements with their components.
8. Valuable suggestions of the experts were gratefully accepted and incorporated in the scale. 186 statements were selected, where 100 statements were with positive polarity and eighty-six statements were with negative polarity. Each statement in the attitude scale expressed variable degree of agreement/disagreement. The five choices suggesting agreement/disagreement were Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree represented by SA, A, U, D, and SD respectively.
9. Arbitrary scoring weights 5, 4, 3, 2 and 1 were used for SA, A, U, D, and SD respectively for statements with positive polarity. The scoring weights 1, 2, 3, 4 and 5 were used for SA, A, U, D, and SD respectively for statements with negative polarity. A teacher's score on the attitude scale was the sum of his rating on all items.
10. The try-out scale was administered to a sample of 400 in-service teachers.
11. Statements were selected by utilizing the *item analysis* approach in which a particular statement was evaluated based on how well it discriminated between those respondents whose total score was high and those respondents whose total score was low. Those

statements, which best met this type of discrimination test were included in the final draft.

12. The final draft of the attitude scale contained ninety statements out of which forty-seven statements were with positive polarity and forty-three statements were with negative polarity. The ninety statements were distributed over fifteen components, six in each component approximately three statements with positive polarity and three statements with negative polarity.
13. This final draft of the attitude scale was administered to 600 in-service teachers.
14. After collection of the response sheets, the responses were scored as mentioned in the scoring procedure. Thereafter total score (attitude score) of each respondent (teacher) was calculated. The data constituting 600 in-service teachers were available for hypotheses testing.
15. Psychometric properties of developed attitude scale, reliability and the validity, were estimated.
16. Reliability of the scale was estimated by Cronbach's Alpha. For the developed scale with ninety statements Cronbach's Alpha was found to be 0.939, showing that the scale had excellent consistency, and hence the scale was reliable. Standard error of measurement was 0.12, which was negligible. Cronbach's Alpha for ninety statements, taken in three groups; statements numbers 1-30, 31-60 and 61-90 was found to be 0.846, 0.860 and 0.848 respectively; which shows that the scale had good consistency.
17. Pearson's Correlation Coefficient of fifteen components among themselves and Truth, Beauty and Goodness was found to be significant at the 0.01 level.

18. The best evidence of content validity was obtained by detailed, systematic critical inspection of the scale by experts, at various stages while presentation of research proposal, while passing through various stages of construction of the scale. Validity of the developed scale was ensured by scrutinising the same by the experts in the field of education and following their valued suggestions, modifications, guidance and judgement.
19. Construct validity was established by factor analysis. All the five factor variables of Goodness (Inoffensiveness, Forgiveness, Kindness, Empathy, Patience) with the loadings 0.773, 0.727, 0.681, 0.658, 0.656 respectively loaded on component one; all the five-factor variables of Truth (Integrity, Responsibility, Impartiality, Courage, Faith) with loadings 0.783, 0.780, 0.724, 0.664, 0.572 respectively loaded on component two. Three factor variables of Beauty (Love, Politeness, Cleanliness) with loadings 0.717, 0.696, 0.685 loaded on component one and two factor variables of Beauty (Punctuality, Regularity) with loadings 0.655, 0.611 loaded on component two. In component one, the highest loading 0.773 was on inoffensiveness and the lowest loading 0.172 was on impartiality. In component two, the highest loading 0.783 was on Integrity and the lowest loading 0.159 was on Forgiveness. Validity was given by the high factor loadings.
20. Item analysis revealed that all the items were suitable items of the Likert type scale; all of the items exhibited adequate homogeneity in substantiating item validity with respect to the whole attitude scale.
21. The following norms were derived: percentile norms, gender norms, qualification norms, section wise norms, experience norms. For deriving these norms; the mean, median, mode,

standard deviation, skewness, kurtosis and percentiles were computed for the sample of 400 in-service teachers.

3.6 DATA COLLECTION PROCEDURES TO ACHIEVE THE OBJECTIVES

The first objective of this study was to construct and standardize an attitude scale to measure the attitude of the in-service teachers towards the traditionally accepted universal human values - Truth, Beauty, Goodness.

The data was collected in two steps: for pilot study (try-out scale) and for the final draft.

For pilot study, thirty Primary, Secondary and Higher Secondary schools were selected randomly from the population of 112 English medium schools in Vadodara city; and 400 in-service teachers teaching in Primary, Secondary, Higher Secondary sections in these thirty schools constituted the sample.

To collect the data from these schools, for the pilot study, following procedures were followed. Principals of these thirty schools, were approached and apprised of the preliminary draft of the scale. A forwarding letter seeking permission, addressed to the principals was attached and assurance was given that the data collected would be used for the research procedures only and confidentiality would be maintained.

After seeking the permission of principals of these schools, the preliminary draft of the attitude scale was administered to the sample of 400 in-service teachers. These 400 in-service teachers were not included in the sample for the final draft of the scale. Four days time was given to the teachers so that they could answer leisurely without tension of interference of busy schedule

of the schoolwork and they express their true opinions. The 400 response sheets in envelopes, duly filled by the teachers were collected from the principals on appointed time. Analysis of the 400 in-service teachers were done to gather information about gender, qualification, teaching experience of the teachers, the section in which the teachers taught was also counted using frequency count. The table 3.1 depicts the details below.

Table: 3.1
Frequency, Percent, Valid Percent, Cumulative
Percent of 400 In-service Teachers according to
Gender, Qualification, Section, Experience

| Variables | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------------|-----------|---------|---------------|--------------------|
| Gender | | | | |
| Female | 321 | 80.25 | 80.25 | 80.25 |
| Male | 79 | 19.75 | 19.75 | 100.0 |
| Total | 400 | 100.0 | 100.0 | |
| Qualification | | | | |
| Graduation | 170 | 42.5 | 42.5 | 42.5 |
| Postgraduation | 230 | 57.5 | 57.5 | 100.0 |
| Total | 400 | 100.0 | 100.0 | |
| Section | | | | |
| Primary | 236 | 59.0 | 59.0 | 59.0 |
| Secondary | 89 | 22.25 | 22.25 | 81.25 |
| Higher Secondary | 75 | 18.75 | 18.75 | 100.0 |
| Total | 400 | 100.0 | 100.0 | |
| Experience | | | | |
| up to 10 years | 251 | 62.75 | 62.75 | 62.75 |
| 11-20 years | 100 | 25.0 | 25.0 | 87.75 |
| 21 and above | 49 | 12.25 | 12.25 | 100.0 |
| Total | 400 | 100.0 | 100.0 | |

After, collection of the response sheets duly filled by the teachers, the responses of each teacher were scored. Total score (attitude score) was calculated and procedures for the item-analysis were followed. Item-analysis approach in which a particular statement was evaluated on the basis, of how well it discriminated between those respondents whose total score was high and those respondents whose total score was low, was utilized and those statements, which best met this type of discrimination test were included in the final draft. Ninety statements were selected and final draft of the scale was obtained. The detailed description of the procedures of selection of ninety statements would be given in chapter IV.

To administer the final draft the following procedures were followed. Forty-five schools were randomly selected from the remaining eighty-two schools and 600 Primary, Secondary, Higher Secondary teachers teaching in these schools constituted the sample for the implementation of the final draft of the scale.

To collect the data from these schools the following procedures were followed. Principals of these forty-five schools, were approached and apprised of the final draft of the attitude scale. A forwarding letter seeking permission, addressed to the principals was attached and assurance was given that the data collected will be used for the research procedures only along with promise of maintaining confidentiality.

After seeking the permission of principals of these schools, the scale was administered to the sample of 600 teachers. Four days time was given to the teachers so that they could answer leisurely without tension of interference of busy schedule of the schoolwork and they express their true opinions. The 600

response sheets in envelopes, duly filled by the teachers were collected from the principals on appointed time. After collection of the response sheets, the responses of each teacher were scored. Thereafter total score (attitude score) of the teacher was calculated.

The data of the attitude scores of 600 in-service teachers towards the traditionally accepted universal human values - Truth, Beauty, Goodness was collected after administration of an *Attitude Scale* constructed and standardized by the investigator was obtained for objective 2 and objective 3.

To achieve the objective 2 - the nature of distribution of the scores in attitude scale of the 600 in-service teachers towards the traditionally accepted universal human values-Truth, Beauty, Goodness were studied by studying the mean, median, mode, standard deviation, skewness, kurtosis and percentiles of the distribution.

To achieve the objective 3 - the relationship of the mean scores in the attitude of the 600 in-service teachers on the attitude scale towards the traditionally accepted universal human values-Truth, Beauty, Goodness with respect to variables-gender, qualification, section in which the in-service teachers taught, teaching experience was studied through hypotheses testing.

The data of 600 in-service teachers' attitude scores towards the traditionally accepted universal human values-Truth, Beauty, Goodness, available for the analysis and interpretation is represented in the table below.

Table: 3.2
Depicting the Data of 600 In-service Teachers according to
Gender, Qualification, Section, Experience to achieve the
Objective 2 and Objective 3

| Variables | | N |
|---------------|------------------|-----|
| Gender | Female | 481 |
| | Male | 119 |
| | Total | 600 |
| Qualification | Graduation | 248 |
| | Postgraduation | 352 |
| | Total | 600 |
| Section | Primary | 323 |
| | Secondary | 136 |
| | Higher Secondary | 141 |
| | Total | 600 |
| Experience | up to 10 years | 357 |
| | 11-20 years | 158 |
| | 21 and above | 85 |
| | Total | 600 |

3.7 DATA ANALYSIS

The data of 600 in-service teachers' attitude scores would be analyzed and interpreted. To determine about the significant difference in the mean attitude scores of the two groups of the in-service teachers, t-test was applied. To determine about the significant difference in the mean attitude scores, of the three groups of in-service teachers; analysis of variance was applied and to test the hypotheses; F-test was applied to the data of 600 in-service teachers. The analysis procedures would be described in chapter V.