Chapter III

DESIGN OF THE STUDY

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3.1   INTRODUCTION

Research is considered to be a very systematic and intensive process. It uses a scientific basis of analysing the data to infer results. Research is an art of scientific study. The dictionary meaning of research is a careful investigation or inquiry especially through new facts in any branch of knowledge. The information obtained from this research can be used to understand the reasons behind certain attitudes towards vocational education.

This chapter presents the description of design of the study, including sampling, tools, data collection, data analysis and statistical techniques used in this research.

3.2   RESEARCH METHODOLOGY

The purpose of the present study was to explore the attitude of students and teachers towards vocational education. The participants of this study were secondary school students and teachers. For the present study quantitative research using descriptive survey method was used to collect the data using a self made tool to measure attitude. Quantitative data was collected using attitude scale made as a Likert-type scale. Here primary data was collected by the researcher from the selected school students and teachers. Descriptive data was collected using survey method.

This is a study of attitude towards vocational education, so collecting data using an attitude scale was thought to be appropriate. Likert type scale was used instead of using Likert type items as item-wise analysis would not have yielded the

overall attitude and would have given attitude towards individual items. So, the items were grouped together and analysed as Likert scale. The total score of the attitude scale was considered and was taken as interval data instead of ordinal data to get total picture.

Statements included in the scale were checked to ensure that they measured the required attitude towards vocational education for students and teachers. An effort was made to include all type of statements which represent all aspects that would be responsible for the formation of particular attitude.

After collection of data, statistical tests were used to analyse the data and make inferences about the attitude of students and teachers towards vocational education and their relationships. Data analysing software was used for the statistical analysis.

3.3   VARIABLES IN THE STUDY

Variables are defined as attributes of the object of study. In this study following are the variables:

Dependent variables

1. Attitude of students

2. Attitude of teachers

Independent/control variables

1. Gender(male/female)

2. Type of school (government/private)

For finding if there is any difference between attitude of government and private school students and between male and female students: "attitude of students" is taken as dependent variable and "gender", "type of school" as control variables.

For finding if there is any relationship between attitude of teachers and students: "scores of teachers" is taken as predictor or independent variable and "scores of students" is taken as outcome or dependent variable.

3.4 POPULATION

The population for the present research is secondary school students and teachers of the government schools and private schools of Bhopal city.

3.5 SAMPLE

The sample for research was selected from the given population. The sample consisted of 20 students from three government schools and three private schools each and 10 teachers from three government schools and three private schools each.

3.6 SAMPLE SELECTION

The method of selecting sample is of fundamental importance and depends upon the nature of data and investigation. For selecting the schools purposive sampling was applied and the population sample from the chosen schools was selected randomly for the research. Purposive sampling was used in order to minimize disruption to students and ensure that a variety was represented in the sample. It also helps to constitute a small sample out of a huge one, which will be typical representative of the whole.

3.7 RESEARCH TOOL USED

A self made tool was used for the collection of data for the study. Two different scales to measure attitude of students and teachers were constructed based on the Likert-type scale, which are as follows:

1.   Scale to measure attitude towards vocational education for students

2.   Scale to measure attitude towards vocational education for teachers

The first part of the scale asked for basic data of the subject like name, class, school city, etc. and the second part consists of attitude scale to measure the dependent variable of the study. This scale was developed to obtain descriptive information from students in order to identify their attitude regarding vocational education and the demographic factors that might affect the formation of the attitude. The first part of the scale provided a sample profile by asking students to supply demographic data and information about themselves. The second part of the scale provided the dependent variables for this study.

The statements for the scale were developed with the target subjects in mind i.e, the students and teachers and to understand their attitude towards vocational education. The statements were selected on the basis of the research questions and what was intended to found out about the attitude. The scale included statements about the perceptions, thoughts, opinions, expectations, and outlook that is prevalent about vocational education in the society. Positive and negative sentences were randomly mixed in the scale.

Five pointer Likert-type scale was used for the construction of the scale to measure attitude towards vocational education. Educators and researchers commonly create several Likert-type items, group them into a ''survey scale,'' and then calculate a total score or mean score for the scale items. Often this practice is recommended, particularly when researchers are attempting to measure less concrete concept, motivation, satisfaction, confidence, perception, attitude, etc.—where a single survey item is unlikely to be capable of fully capturing the concept being assessed. The subject may respond in any of the options: strongly agree, agree, neutral, disagree or

strongly disagree to the items of the scale. As both positive and negative sentences were used in the scale the scoring for the two was done differently. Following scoring was used to get the total score of each subject of study.

Table 3.1: Scoring for positive and negative statements in the attitude scale

Scoring for positive statements		Scoring for negative statements	
strongly disagree	1	strongly disagree	5
Disagree	2	Disagree	4
Neutral	3	Neutral	3
Agree	4	Agree	2
strongly agree	5	strongly agree	1

Statements were developed to measure the attitude of students towards vocational education. Initially about 60 statements were selected for the scale related to the study. The content of the scale were sent to the experts in the field of vocational education for validation. The scale was checked by presenting it to group of researchers, for scrutiny and interpretation. Based on their feedback the items in the questionnaire were reframed, eliminated and added. As a result of the deliberations 33 attitude statements were confirmed. Out of these 33, thirteen items measured non favourable attitude while the rest measured favourable attitude of the students and teachers. To check for any false responses both positive and negative sentences were used in the scale and the scoring was also done accordingly.

3.8   PROCEDURE OF DATA COLLECTION

Primary data for the study was collected through self-made attitude scale as no suitable standardised attitude scale or inventory was available according to the requirement of the study. No secondary data was used in the study.

The data was collected personally by the researcher from the subjects included in the sample. Before administering the attitude scale, rapport building exercise was done with the subjects so that they feel at ease. They were acquainted with the topic and purpose of the survey. They were assured that the data collected from them will be kept confidential and were also given an option to not give their name or give a pseudo-name, to ensure confidentiality of identity. This was done to remove any anxiety subjects had regarding the survey and motivate them to give true responses.

The language used in the survey was very simple and easy to understand, the instructions to answer the survey are clearly stated and were also explained by the researcher, so that each subject understood what they had to do and what was required to be filled in the survey.

Firstly, they were asked to fill their information in the survey form. Then they were asked to once again read the instructions carefully before starting, and instructed them to answer all the questions, and then only they started. The survey forms were collected back after completion from the subjects. Data was accordingly collected from the survey and was subjected to statistical treatment.

3.9   DESCRIPTIVE AND INFERENTIAL STATISTICS

Descriptive statistics is used to indicate general tendencies of data like central tendencies, variances etc. inferential statistics is used to infer about unknown using the known data. It is important to draw logical and well reasoned inferences from the collected data.

Here the Likert scale data was used as a summative score of attitude and interpreted as interval data. Likert scale data can be analyzed as interval data, i.e. the mean is the best measure of central tendency. Parametric analysis of ordinary averages of Likert scale data is justifiable, analysis of variance techniques include; t-

test, anova, regression procedures. A series of Likert-type questions that when combined describe a personality trait or attitude use means and standard deviations to describe the scale. However the different scoring was not shown on the attitude scale, to get unbiased responses from the subjects of the study and was utilised only to obtain the final attitude scores.

As the data was considered interval data accordingly, relevant descriptive statistical measures were used. For interpreting the attitude of students and teachers from the summative scores obtained from the Likert scale, inter-quartile range (IQR) was used. The attitude scores in the first quartile were taken as "less favourable", scores lying in the IQR were taken as "favourable", and those in the fourth quartile were taken as "more favourable", to represent the overall attitude towards vocational education. Mean, mode, median and standard deviation were used to check the central tendency, variance and normal distribution of collected data. For testing hypotheses for differences between independent samples two-tailed t-test was used at 0.05 significance level. For testing of hypotheses for relationship between two variables Pearson correlation coefficient and linear regression using scatter plot was done. The relationship was found separately between attitude of teachers and attitude of government school students as well as between attitude of teachers and attitude of private school students.

In this chapter the design of study including research methodology, sample, tool, data collection and statistical analysis to be used in the study were discussed in detail. In the next chapter the results of the statistical analysis of the data are presented.