

CHAPTER - III

PROCEDURE

&

METHODOLOGY

3.1 INTRODUCTION :

A well thought and well arranged plan plays its own important role. This can be well established by the definition that "research is an intellectual activity which brings to light new knowledge or correct previous errors and misconceptions and adds to the existing corpus of knowledge." But this is possible only when a well designed procedure and appropriate techniques are used in research methodology, since this not only makes the study scientifically sound and plausible but also gives credibility to the findings.

The methodology and research procedure used in this study are presented in this chapter under the following sections:

- (a) Sample/participant selection procedure.
- (b) Tool/Data gathering device.
- (c) Data gathering procedure.
- (d) Data analysis : Descriptive Statistics
 Inferential Statistics

3.2 Sample/Participant Selection Procedure :

"Sample is a part taken from the population which represents the population wholly and truly."

- Kerlinger

In the present work, school is the unit of study and out of twenty C.B.S.E. affiliated schools two were randomly picked namely the K.V. No. 1 from the govt. sector and M.G.P.S. from the private sector. The selection of classes was also done randomly and out of three sections of eighth one section was chosen from each school respectively.

No. of students	Class	Medium	School
44	VIII A	English	K.V. No. 1
55	VIII A	English	M.G.P.S.

3.3 Tool/Data Gathering Device :

In research methodology we study the various steps that are generally adopted by an investigator in studying his/her research problem along with the logic behind them.

To check the cross-domain knowledge of the selected students the investigator referred some related studies, textbooks and tools used in and then constructed a cross-domain concept mapping inventory which was divided into five sections.

Section One dealt with some preliminary data required from the students such as name of the student, name of school, class, gender, parental educational qualification and professional qualification and their salary per annum.

Section Two contained thirty multiple choice questions of various disciplines.

Section Three contained a diagrammatic representation which the students had to describe and give a suitable title to it.

Section Four required on the part of the students to construct a cross-domain concept map on the given topic.

Section Five - This was the last part which again contained multiple choice questions to check the students attitude on the given

topic. For convenience investigator prepared a three point attitude inventory and all the questions were purposely kept of negative nature.

(Refer Annexure)

3.4 Data Gathering Procedure :

To carry on any type of research investigation, the data are gathered from which the hypotheses may be tested. For the purpose of this study investigator has used a self constructed inventory to measure the ability to construct cross-domain concept map, which was administered on the selected students of the sample schools.

For a.a., marks of seventh class annual exam were collected from school record and the students who were newly admitted in the eighth grade were eliminated from the list as their a.a. was not available.

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|-----|-----------|---|------------|
| I. | Day 1 | : | Monday |
| | Date | : | 24/01/05 |
| | School | : | K.V. No. 1 |
| | Duration | : | 60 min. |
| II. | Day 2 | : | Tuesday |
| | Date | : | 25/01/05 |
| | School | : | M.G.P.S. |
| | Duration. | : | 60 min. |

3.5 Scoring Procedure :

Section II contained thirty objective questions and one mark was allotted for every correct answer. (All questions were of closed type).

- The diagrammatic rep. was of five marks from which three marks were for description, one was for title and one for justification.

- Cross-domain concept map carried 1 mark for propositions, 2 mark for hierarchy, 3 mark for cross-links and 1 mark for eg. The total score for a concept map was the weighted composite score of these four abilities.
- Marks allotted to the attitude inventory were 3, 2 and 1, respectively for the responses of disagree, neutral & agree.

3.6 Data Analysis :

The analysis of data involves three major steps namely data preparation, descriptive statistics and inferential statistics.

(a) **Data Preparation** : involves checking the data incorporated, entering the data in computer, transforming the data and developing and documenting a database structure that integrates the various measures. The investigator here checked the data according to the scoring procedure (mentioned earlier), entered the data on computer and transformed the required data into the desirable form.

(b) **Descriptive Statistics** : forms the basis of virtually every quantitative analysis of data which is used to simply describe the basic features of the data in a study. It is used to describe what is going on in our data and what the data shows. Moreover it is essential to carry on the inferential statistics which forms the basis of any investigation.

Here the investigator has used the statistical procedure of mean and standard deviation which comes under the measures of central tendency & measures of variability respectively.



(c) **Inferential Statistics** : It plays a pivotal role in any investigation. It is used to investigate questions, models and hypotheses. In many cases the conclusions from inferential statistics extend beyond the immediate data alone. For instance we use inferential statistics to try to infer from the sample data what the population thinks or to make the judgements of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. Thus we make inferences from our data to more general conditions.

Here the investigator has used the statistical procedure of regression, anova and t-test, to investigate the various hypotheses.