

Chapter 3: Methodology

3.1 Introduction

This chapter is concerned with the methodology used to achieve the objective of the study mentioned. Sampling and tool development has been done according to objective of the study. This chapter includes discussion upon research design, sample, tools used for research. Methodology decides the planning of whole research.

3.2 Design of the Study

Research design is concerned with fundamental question of how the subject matter of a study is brought into the scope of the research and how they will be employed within the research setting to yield the required data. It is a model of proof that allows the researcher to draw inferences concerning relationships among two or more variables under study or investigations. The pre-test, post-test control group quasi experimental design was used for this study. The population of this study comprises of secondary govt school in Bhopal. The sample used for this study. The sample was selected from school one for experimental and one for control. The instrument used is Science Achievement Test (SAT) which contains twenty- five questions. The SAT question were from selected topics in science:

Matter, state of matter,

The reliability KR-20 of the instruments using KR-20 was 0.83 which shows that the instrument was reliable. The pre-test and post-test results were scored over one hundred (100) each. FOUR marks were awarded to each correct answer in the Science Achievement Test (SAT). Data collected were analyzed using Analysis of Covariance (ANCOVA). This was used to test the three null hypotheses stated. The instrument used is Science Achievement Test (SAT) which contains twenty- five question

Table 3.1 Schematic Representation of the Study:

Activity group formation	Experimental Group	Control group	Time
Pre-test	Achievement test	Achievement test	35 min
Treatment	Lesson was taught through ICT approach	Lesson was taught through traditional approach	40 min
Post testing of the variable	Achievement test	Achievement test	35 min

3.3 Sample

In present study purposive sampling is done. Sampling of the study were drawn from one school. The population of the sample were 60 students studying in 9th standard under senior secondary govt school in Bhopal (M.P). The sample includes both boys & girls.

3.4 Variables:

A variable is something that varies. Variables are the conditions or characteristic that experimenter manipulates, controls, or observe there are following types of variables.

Independent variable- present study methods of teaching were independent variable.

Dependent variable- In this study students' science achievement was dependent variables.

3.5 Tools Used:

To select the proper tool for the research is the main mechanism of educational research. Sometimes researcher uses tool constructed by other, in this study tools constructed according to the requirement of the study. It is an achievement test. This test focused on some chapter of related subject.

3.6 ICT Tool

Two ICT packages were taken based on IX class syllabus consisting of animated videos related to the content of the chapter.

3.7 Data Collection

Data collection is essentially an important part of the research process so that the inference, hypothesis generalized tentatively, study of entire population become difficult so researcher should use sample from population, appropriate use of tools, techniques, and sampling make useful and effectiveness research. Experimental method was used for present study. Firstly, the researcher selected a target population, for the present study the target population was 9th class of student of senior secondary govt school in Bhopal section A taken as a control group and section B taken as an experimental group then pre-test intervention was done by the teacher then after that data were collected by conducting post-test in both the classes.

3.8 Statistical Technique

After collecting data for primary result proper statistical technique should be used. Selection of statistical technique depends upon the nature and the objective of statistical method are extensively used in

educational research they provide useful tools for collecting, organizing, analysing, and interpretation of data which expressed in numerical forms, sampling style decide that what type of statistical should be used. In present study mean, standard deviation and ANCOVA statistic used to analyse data.