

CHAPTER-3

Methodology and Procedure

3.1 Introduction

Research methodology refers to the organized approach or structured plan that directs the researcher throughout the process of conducting a study. It encompasses the methods, tools, procedures, and techniques employed to gather, analyze, and interpret data, all aimed at addressing specific research questions or fulfilling the objectives of the investigation. As John W. Creswell defines it, research methodology involves the design, framework, and methodical strategy formulated to effectively seek answers to research problems or questions. This chapter outlines key aspects of the study, including the target population, sampling methods, data collection instruments, and the statistical techniques applied for data analysis.

3.2 Methodology:

A survey cum descriptive method will be used for the study. The investigator will develop the questionnaires keeping in mind the objectives of the study. In this study, the researcher explored the opinion of class IX students. To focus on these opinions, a structured questionnaire was created consisting of two parts:

Part A: Likert Scale Statements

A 5-point Likert Scale (Strongly Agree to Strongly Disagree) was used to collect quantitative data. The scale consisted of 37 items categorized into the following dimensions:

1. Introduction
2. Difficulty areas
3. Teaching process

Each item was rated on a scale from 5 (Strongly Agree) to 1 (Strongly Disagree).

Part B: Open-Ended Questions

To enrich the data, 2 open-ended questions were included to gather qualitative insights on students' experiences, challenges, and suggestions related to the learning difficulties.

3.3 Statistical Technique:

Percentage will be used as a statistical technique for data collection.

3.4 Procedure of the study

Following procedure were used for this study:

1. Review of related literature
2. Identification of the Problem
3. Formulation of research questions
4. Identifying the sample
5. Construction of 5 point likert Scale
6. Collection of data
7. Analysis of data

8. Reporting the findings

3.5 Population

The population in a study encompasses all individuals who possess a specific trait or a set of traits that the researcher aims to investigate and make generalizations about. In this particular research, the focus is on class IX students of cbse board.

3.6 Sample

A sample is a smaller group drawn from the overall population, intended to accurately reflect the larger group in a research study. In this investigation, a total of 100 students in class IX from JNV Rajgarh and PM Shri K V 39 GTC Schools were focused based on the reach of the researcher.

3.7 Tools for data collection

The primary tool used for conducting the study on learning difficulties in science subject faced by class-IX students in JNV Rajgarh and PM Shri K V 39 GTC Varanasi was a self constructed questionnaire. Three sets of questionnaires will be used according to each objective.

3.8 Sources of data collection:

Investigation is based on the study and data collected from various sources.

Reference book

Internet sources

Questionnaire sent to the students.

3.9 Ethical Considerations

Ethical standards were strictly adhered to throughout the research process to ensure the rights, dignity, and privacy of all participants were respected. The following ethical measures were taken:

1. Informed Consent: All participants were informed about the objectives of the study. Their consent was taken before participation.
2. Voluntary Participation: Participation in the study was entirely voluntary. Respondents were assured that they could withdraw from the study at any stage without any consequences.
3. Confidentiality and Anonymity: The identity of all respondents was kept strictly confidential. No personal identifiers were included in the data analysis or final report.
4. Use of Data for Academic Purpose Only: The data collected was used solely for academic and research purposes, and not shared with any unauthorized individual or organization.
5. Non-Harmful Procedures: No physical, psychological, or emotional harm was caused to the participants during the data collection process.