



**CHAPTER-III**  
**METHODOLOGY**

# RESEARCH METHODOLOGY

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## 3.0 INTRODUCTION

*“A method is the means or manner of determining whether a theoretical construct or proposition is true or false. Each of the specific discipline has developed criteria and conventions about what constitute legitimate tests of theory and what lines of development researchers are to follow as they move from data to knowledge claims. Methodology has as much to do with reasoning as it does with data. There are rules for testing knowledge, and it is this set of rules that define methodology in a discipline. ”*

**Rychlak (1968)**

## 3.1 METHODS AND PROCEDURE

Research Methodology is a way to systematically investigate the research problem. It gives the various steps in the conduct of the research in a systematic and logical way, both empirical and replaceable. It is essential to define the problem, and state the objectives and hypotheses, clearly, at the outset. The research design provides the details, regarding what, where, when how much and by what means, concerning an inquiry. The plan and procedure spell out the description of the sample, the measures used and the steps taken in carrying out the investigation. A detailed description of the sample is needed in order for the reader to assess the generalizability of research findings. This is also helpful to determine the degree to which the research sample is representative of the population. The population from which the sample is drawn should be defined clearly and a detailed description needs to be given of the procedure for selecting the sample. Plan and procedure basically highlight the details of the work carried out by the investigator, and determine, in turn, its destiny. It is the character of the technique on which the degree of precision, objectivity, reliability and validity of results depends. The selection of the technique and devices by an investigator is determined by the nature of the problem, objectives of the study, cost, time, function, availability of the subjects and other resources at the disposal of the investigator, followed by a presentation of the steps of the procedure adopted for the conduct of the study. The statistical techniques required to be used at various stages of the study need also to be briefly described.

Research methodology has two major paradigms, namely, the qualitative and quantitative paradigms. The qualitative paradigm makes use of a logical analysis of rich, soft, verbal, descriptive data that are obtained, whereas the quantitative paradigm makes use of statistical techniques to describe the sample, to test the hypothesis and to draw inferences based on hard, quantifiable data. The quantitative paradigm is aimed at making generalizations.

The present investigation obtains hard, numerical data and makes use of statistical procedures to test and verify preconceived hypothesis. Therefore, it employs the quantitative

Descriptive research methodology has been classified differently by various authors.

- According to **Best and Kahn** descriptive research includes case-studies, ethnographic studies, follow-up studies and causal-comparative approaches.
- Koul (1984) classifies descriptive studies as survey studies, inter-relationship studies and developmental studies.
- Survey studies are conducted to give an accurate description of the existing phenomenon so as to justify current conditions and practices.
- Developmental studies refer to those investigations which research into a subject or a phenomenon over a period of time.
- Inter-relationship studies describe not only the existing phenomenon but also attempt to ascertain relationship among variables.

### 3.3 METHODS OF THE STUDY

#### **Descriptive Method**

*“Descriptive research is concerned with hypothesis formulation and testing and the analysis or relationship between non-manipulated variables and the development of generalizations.”*

*- Best and Kahn*

**Descriptive Research** is concerned with the present conditions, situations, events and practices and deals with relationship among variables. The present study does not deal

with the past, nor is concerned with what will happen if certain variables are manipulated and, therefore, it does not use the historical or experimental method. It mainly uses the descriptive method to study the performance of teachers of different denominations and hence to compare their performance.

### **3.4 RESEARCH DESIGN**

Research is a systematic activity and, as a process, it employs a scientific methodology. A research design provides a framework within which the activity is conducted. According to **Johada and Cook (1957)**, a research design is the arrangement of condition for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. As a blue-print of the research design involved in this study, the following components would constitute the format of the investigation.

- > Methods of the Study
- > Tools of the Study
- > Sample of the Study
- > Data Collection
- > Techniques used for Data Analysis

**3.4.1 DESIGN OF THE STUDY :** The design of the present study is Descriptive survey. In the study the conditions and practices of Elementary Teachers of different denominations was surveyed by applying a self assessment tool known as PINDICS. The tool was administered on Elementary teachers of K.V , J.N.V , D.M.S and Privateschool . The self assessment tool was filled by the teachers after providing the instructions by the researcher.

**3.5 POPULATION-** The population of the present study is the Elementary Teachers of the Bhopal district teaching in government schools.

### **3.6 SAMPLE-**

Most of the educational phenomena consist large number of units. It would be impractical to observe each unit of the population under controlled conditions is in

order to arrive at the principle having universal validity . Some populations are so large that their study would be expensive in terms of time , money , effect and manpower. Sampling is a process by which a relatively small number of individual objects of events are selected in order to find out something about the entire population from which it was selected.

An appropriate chosen sample size enhances the reliability and validity of research findings. Commonly used sampling techniques are random sampling , stratified sampling , quota sampling , purposive sampling and incidental sampling . For conducting the present study , keeping in view the limitations and resources available with , the method of purposive /incidental sampling was used . The Researcher collected the data from the teachers that are conveniently available and willing to cooperate for providing information , the sample is called Incidental sampling.

Table 3.6 The following table shows the sample taken out of population :-

<b>S.No</b>	<b>Schools of different denominations</b>	<b>No of Elementary Teachers taken from the school</b>
1	Demonstration Multipurpose School	18
2	Kendriya vidyalaya	15
3	Jawahar Navodaya Vidyalaya	8
4	Public school	18
Total		59

The incidental sampling procedure was taken as the sampling procedure. The Elementary teachers of K.V , J.N.V , D.M.S and Public school of M.P government were the sample. The data was gathered from the teachers those who were available and cooperated.

### **3.7 VARIABLES OF THE STUDY**

#### **A. Dependent Variables:**

The dependent variable in the present study is Teacher Performance.

#### **A.Independent variables:**

The Independent variable in the present study is Elementary Teachers.

### **3.8 TOOL DESCRIPTION-**

*“If the tools used possess all the necessary and desirable attributes then the potential for the sound research is present. ”*

**-F.J. Fox**

Findings of any research study are based on data collection; data collection in turn depends on the tool used. The research tools should have reliability, validity, availability, appropriateness, ease in administration, scoring and objectivity.

Keeping in view the above, the following tools which were readily available and suited the requirements of the study in hand, and had also been tested on the touchstone of various test requirements on reliability, validity etc. by their authors, were preferred to be employed for collection of the data for the study.

The standardized tool of NCERT i.e PINDICS ( Performance Indicators ) is used as a tool in the present study. The tool is of 4 point scale. The tool is divided into 7 performance standards and then 54 sub items. The tool is mainly divided into 7 performance standards.

### **3.9 PERFORMANCE INDICATORS (PINDICS)**

Performance Indicators (PINDICS) are used to assess the performance and progress of teachers. It consists of performance standards (PS), specific standards and performance indicators. Performance standards are the areas in which teachers perform their tasks and responsibilities. Under performance standards there are some specific tasks which are expected to be performed by the teachers. These are termed as specific standards. From specific standards performance indicators have been derived.

PINDICS is based on the provisions in sections 24, 29 and the schedule specifying norms and standards for schools in the RTE Act 2009, NCF-2005 and SSA Framework-2011. It has been further fine-tuned using the feedback received from the NCERT Study-‘In-service Education for Teachers (INSET) impact on classroom transaction’ conducted in 2010-11, try out with primary and upper primary school teachers and comments received from state level officers from SCERT and SPO, and teacher education professionals.

### **3.9.1 PERFORMANCE STANDARDS (PS)**

Performance Standards communicate expectations for each responsibility area of the job performance. The following performance standards have been identified.

- Designing Learning Experiences for Children
- Knowledge and Understanding of Subject Matter
- Strategies for Facilitating Learning
- Interpersonal Relationship
- Professional Development
- School Development
- Teacher Attendance

### **3.9.2 USE OF PINDICS**

PINDICS can be used by teachers themselves for assessing their own performance and to make continuous efforts to reach the highest level. These can also be used for teacher appraisal by the supervisory staff/mentor to assess and to provide constructive feedback for the improvement of teacher performance. Each performance indicator is rated on four point scale ranging from 1 to 4 indicating the levels of performance. The rating points are:

- Not meeting the expected standard
- Approaching the expected standard
- Approached the expected standard
- Beyond the expected standard

The marks allotment for each performance standard is-

increasing order value base is used for allotment i.e

- 1 mark is allotted to 'Not meeting the expected standard'
- 2 marks are allotted to 'Approaching the expected standard'
- 3 marks are allotted to 'Approached the expected standard'
- 4 marks are allotted to 'Beyond the expected standard'

If the teacher performs tasks in an innovative way and makes extra efforts for improving student performance can be rated as beyond the expected standard.

### **3.9.3 GUIDELINES FOR TEACHERS**

Self-assessment by the teacher should be done at least twice in a year, one ending first quarter and second ending third quarter.

- Complete the teacher identification information .
- No item should be left blank.
- Read each performance indicator carefully and reflect on it in the context of your classroom practice and give rating point in appropriate box.
- Place yourself on a point on the four point scale according to your performance against each indicator.
- Work out total score on the performance standard (area) by adding scores on each indicator of the standard.
- Prepare a descriptive report on the basis of your assessment. The report may also include the areas in which help is required.



## 3.3.4 Dimension wise distribution of items-

<b>Dimension</b>	<b>Items</b>	<b>Total</b>
Designing learning experiences for children	Planning for designing learning experiences	4
Knowledge and understanding of subject matter	Knowledge and understanding of the content	4
Strategies for facilitating learning	Enabling learning environment and classroom management , Learning strategies and activities , Communication skills , Assessment and feedback	26
Interpersonal relationships	Relationship with students , with colleagues , With parents and community	8
Professional development	Self study – participation in in service , Engagement in innovation and research	7
School development	Contributes to the organization of school activities	4
Teacher attendance		2
<b>Total</b>		<b>54</b>

A sample of the tool format i.e PINDICS is as follows-

Specific Standards	Performance Indicators	Levels of Performance (Write the rating point)				Observation (if any)
		1	2	3	4	
<b>PS 1. Designing Learning Experiences for Children</b>						
Planning for designing learning experiences	<ul style="list-style-type: none"> <li>Uses textbooks and other relevant documents while Planning</li> </ul>					
	<ul style="list-style-type: none"> <li>Uses record of students Performance</li> </ul>					
	<ul style="list-style-type: none"> <li>Plans for engaging children in learning activities</li> </ul>					
	<ul style="list-style-type: none"> <li>Collects and prepares relevant teaching learning Materials</li> </ul>					

**13.2. Knowledge and Understanding of Subject Matter**

Knowledge and understanding of the content	<ul style="list-style-type: none"> <li>• Demonstrates content knowledge with conceptual clarity using appropriate Examples</li> </ul>					
	<ul style="list-style-type: none"> <li>• Uses subject knowledge for making it responsive to the diverse needs of children</li> </ul>					
	<ul style="list-style-type: none"> <li>• Uses subject knowledge for completing entire syllabus within specified time</li> </ul>					
	<ul style="list-style-type: none"> <li>• Corrects errors made by Students</li> </ul>					

**3.10 DATA COLLECTION PROCEDURE**

After the selection of tools, the investigator visited the selected schools of Bhopal district. To ensure quick and complete return of the tool, they were personally given to the selected sample of teachers. Before giving the questionnaires, proper rapport was established with the subjects. Then the purpose of the questionnaire was explained to

them. The teachers were assured that the present questionnaires were meant for the research purposes and would not affect them in any way.

Data was collected with the help of tools described in the preceding captions. The tool was administered on all the Elementary teachers after giving proper instructions. The time period of completing the tool was of 2 days given by the researcher.

### **3.11 STATISTICAL TECHNIQUES USED**

The statistical technique used in the present study for analyzing the data are  
For analyzing the data percentage are used as a statistical technique.