

CHAPTER-III

RESEARCH METHODOLOGY



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3.0.0 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)

3.0.1 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.

3.0.2 DESCRIBING RESEARCH METHODOLOGY

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.

3.0.3 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.

3.0.4 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
- Data Collection
- Techniques used for Data Analysis

3.1.0 DESIGN OF THE STUDY: The design of the present study is Descriptive Survey study. In the study the Adaptations to internship programme for future teachers in the era of COVID-19 pandemic situation was investigated by applying self-made attitude scales. The tools were administered on Teacher-Educators and Teacher Internees of class B.Sc.-B.Ed. /B.A.-B.Ed. and Integrated B.Ed.-M.Ed. of Regional Institute of Education, Bhopal.

3.2.0 POPULATION- The population of the present study is the all Teacher Educators and pupil teachers of three year integrated B.Ed. M.Ed. programme and four year integrated B.A./B.Sc.B.Ed. programme of RIE Bhopal.

3.3.0 SAMPLE-

Most of the educational phenomena consists 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 Purposive sampling.

Table 3.0 Sample of the study

S.No.	Sample		
		Approached	Responded
1	Teacher Educators	22	16
2	Teacher Internees of Three Year Integrated B.Ed. M.Ed.	46	43
3	Teacher Internees of Four Year Integrated B.A./B.Sc. B.Ed.	80	53
	Total	148	112

The purposive sampling procedure was taken as the sampling procedure. The teacher educators and teacher internees of RIE, Bhopal were the sample. The data was gathered from the teacher educators and teacher internees those who were available and cooperated.

3.4.0 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 were developed by the researcher for data collection in this present study.

- Attitude Scale for Teacher- internees to analyse their perception about adapted modalities of Internship programme
- Attitude Scale for Teacher Educators to analyse their perception about adapted modalities of Internship Programme

3.4.1 Attitude Scale for Teacher-Interns to analyse their perception about adapted modalities of Internship programme: To study the perception of teacher-interns about adapted modalities of Internship programme, this attitude scale was developed on the line of Likert type scale. There are total 21 items in this scale related to adaptive modalities. Five point rating scale was used in developing this scale. Responses on this scale may be recorded in the form of (i) strongly agree (ii) Agree (iii) Neutral (iv) Disagree and (V) Strongly Disagree. Tool was validated on

the basis remarks received from the experts on each and every item. There are both Positive and Negative items in the tool as follows:

Positive Items: 1, 3, 4, 6, 11, 12, 13, 14,16, 18, 21, 22

Negative Items:2, 5, 7, 8, 9, 10, 15, 17, 19, 20

3.4.2 Attitude Scale for Teacher Educators to analyse their perception about adapted modalities of Internship Programme: To study the perception of teacher-educators about adapted modalities of Internship programme, this attitude scale was developed on the line of Likert type scale. There are total 22 items in this scale related to adaptive modalities. Five point rating scale was used in developing this scale. Responses on this scale may be recorded in the form of (i) strongly agree (ii) Agree (iii) Neutral (iv) Disagree and (V) Strongly Disagree. Tool was validated on the basis remarks received from the experts on each and every item.

Positive Items: 1,3,5,6,12,13,14,15,17,19,22,23

Negative Items: 2,4,7,8,9,10,11,16,18,20,21

3.4.3 Administration of the tools: Considering the COVID-19 situation, tools could not be administered directly in face to face mode, Since there was complete lock down in the entire country and especially in Bhopal and all the institutes were working in virtual mode only. Realizing the context, researcher converted the tools in Google form. These google forms were sent through the WhatsApp in the group of the teacher interns and to the teacher educators. Clear Instructions were mentioned in the google form relating to responding on it.

3.4.4 Scoring of the tools: The tools were scored on five point scale. For Positive items strongly agreed option marked as 5 and strongly disagree marked as 1 and three remaining categories consequently were marked as 2, 3 and 4. In case of negative items, scoring pattern was reverse i.e. for strongly disagree option marked as 5 and strongly agree

marked as 1, three remaining categories consequently were marked as 2, 3 and 4.

3.5.0 STATISTICAL TECHNIQUES USED

The statistical technique used in the present study for analysing the data is given below:

For studying and comparing the perception of teacher internee about adapted modalities for internship programs, graphical representation and percentage wise distribution means are used.

3.5.1 STATISTICAL TECHNIQUES:

The role of statistics in research is to function as a tool designing research, analysing its data and drawing conclusions there from. In order to arrange and thrash out the essence from the collected data meaningful, the following statistical techniques were used-

3.5.2 DESCRIPTIVE STATISTICS:

Mean:

In the present study mean value will be computed as measure of central tendency of attitude scores of teacher interneers and teacher educators about adapted modalities of internship programs as well as to compare the perception of teacher interneers courses wise with the help of following formula-

$$\bar{x} = \frac{\sum x}{N}$$

Where \bar{x} = mean

\sum = Total Sum

X= Scores of Distribution

N = Number of Scores

Standard Deviation:

Standard Deviation of the scores of variables have been compared to study the variation in the scores obtained through attitude of teacher internees and teacher educators about adapted modalities of internship programs and to classified the population in to different groups as high, average, and low. The formula used for this purpose is given below-

$$\sigma = \sqrt{\frac{\sum d^2}{N}}$$

Where σ = Standard Deviation

$\sum d^2$ = Sum of the Square Deviation of scores taken from mean

N = Number of Scores

3.5.3 Inferential Statistics:

t-test-

t-test was employed to find out the significance of difference between means related to different groups of teacher internees and teacher educators.

$$t = \frac{M_1 - M_2}{\sqrt{\left(\frac{\sum x_1^2 + \sum x_2^2}{N_1 + N_2 - 2}\right)\left(\frac{N_1 + N_2}{N_1 N_2}\right)}}$$

Where, M_1 & M_2 = Mean of two samples

$\sum x_1^2$ & $\sum x_2^2$ = Sum of the square Deviation from the mean of two samples

N_1 & N_2 = Number of cases in two samples

3.5.4 Graphical Representation:

Graphical representation often facilitates understanding of a set of data. It is usually easier to read and interpret data from the graph. So the following graphs will be prepared by the researcher-

Bar Diagram:

Bar Diagram was plotted to compare the mean gain of place group on the attitude scale in relation to various adapted modalities of internship programs.

Pie Chart:

Pie chart was plotted to study the choices of internees about various modalities available.

The further information about interpretation of data is given in Chapter - IV
