CHAPTER – III

METHODOLOGY

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3.1. INTRODUCTION

Research methodology is a way to systematically solve the research problem. It may be understood as the science of studying how research is done scientifically. In it we study the various steps that are generally adopted by the researcher in studying his research problem along with the logic behind them. It is necessary for the research to know not only the research techniques but also the methodology. Researcher not only need to know how to develop certain indices or tests, how to calculate the mean, the mode, the median or the standard deviation or the chi- square, how to apply particular research technique, but they also need to know which of these methods and techniques are relevant and which are not and what would they mean and indicate and why. Researcher also need to understand the assumptions underlying various techniques and they also need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and other will not. All this means that it is necessary for the researcher to design his methodology for his problem as the same may differ from problem to problem.

Why a research study has been undertaken, how the research problem has been defined, in what way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analyzing data has been used and a host of similar other questions are usually answered when we talk of research methodology concerning a research problem or study.

This chapter deals with methodology employed to achieve the objectives of the study mentioned in chapter one. Keeping in view the nature and objectives of the study appropriate sample was selected and tools were developed. This chapter deals with variables, research design, sample, tools used, data collection and statistic used.

3.2. VARIABLES

A variable is a property that takes on different values, it is something that varies. The nature of variable i.e. independent and dependent is based upon the statistical treatment given by the investigator in a particular study.

According to Borg and Gall (1983) "A variable can be thought of as a qualitative expression of construct, variable usually take the form of scores on measuring instrument".

In this study:

Variables: Job Preference, Professional Adjustment and Job satisfaction.
Background Variable: Gender

3.3. OPERATIONAL DEFINITION OF TERMS USED

1. Job preference

To achieve satisfactory profession in ones life is the mission of every individual. It is the profession one wants to have in order to earn his living throughout his life. Job satisfaction is highly the result of attainment of ones preferred job. Every individual has different preferences related to profession.

2.   Professional Adjustment

Adjustment is the main component of human life. Living is the process of adjustment and it is of unique importance in human life. The term professional adjustment may be defined as the process of finding and adopting modes of behavior suitable to the environment or profession.

3.   Job Satisfaction

Job satisfaction is the positive orientation of an individual towards the work role, which he is presently occupying. Satisfaction results from successful adjustment to self, society and work.

4.   Gender

Male and female teachers of secondary classes are considered as gender for study.

3.4.   RESEARCH DESIGN

No planning of educational research can be completed without detailed design of investigation. Design is considered as the heart and soul of investigation. A clear visualization of the methodological step is an important need for the successful completion of the research project.

Research design implies the process of reaching a reliable solution to a problem. In this connection research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research question and the variable undertaken in the study.

According to Tuchman (1978) "A research design is a specification of operations for the testing of hypothesis under a given set of conditions".

The present study follow the descriptive survey type research as the present investigation is totally based on the views of teacher in terms of their job preference, professional adjustment and job satisfaction. The information obtained from different teachers in the form of questionnaire and on the basis of information obtained, appropriate statistic is used to establish relationship between the variables.

3.5. SAMPLE OF THE STUDY

The technique of selecting sample together with its size is an important aspect of research. This proves to be effective for the reliability and validity of research findings.

The sample of study consisted of 100 state government secondary school teachers of Bhopal. Total numbers of schools were ten.

Keeping in view the objectives, hypothesis and number of sample of the present study investigator found random sampling technique suitable for data collection.

In random sampling, each unit of the population is given an equal chance of being selected. The selection of units from the population is done in such a manner that every unit in the population has an equal chance of being chosen and the selection of any one unit is in no way lead to the selection of any other. Lottery method was used to draw samples. The sample selected is as follows: -

Table-3.1

List of Schools and details of teachers selected as a sample

SL. No.	Name of School	No. Of Teachers	
		Male	Female
1.	Govt. High Secondary School, Kotra Sultana bad, Bhopal	5	5
2.	Govt. Naveen girl's higher secondary school. Nehru Nagar, Bhopal	3	5
3.	Govt. Kamla Nehru Girls Higher Secondary School, T.T. Nagar, Bhopal	6	20
4.	Govt. Samrat Ashok Secondary School, South T.T. Nagar, Bhopal	1	4
5.	Sardar Patel Govt. Secondary School, T.T. Nagar, bhopal	-	10
6.	Chandrashekhar Azad Govt. Secondary School, North T.T. Nagar, Bhopal	-	3
7.	Govt. Kasturba Girls Higher Secondary School, Banganga, Bhopal	-	8
8.	Govt. Nutan Subhash Higher Secondary School, T. T. Nagar, Bhopal	3	10
9.	School for Excellence, Shivaji Nagar, Bhopal	7	4
10.	Gandhi Higher Secondary School, BHEL, Bhopal	3	3
	Total	**28**	**72**

3.6. TOOLS USED FOR DATA COLLECTION

After the sample has been chosen the next task of the research is to choose appropriate tool for data collection. The following tools has been used in the study:

1. **Job Preference:** Career Preference record made by Vivek Bhargava and Rajshree Bhargava (2001) has been used for data collection. CPR covers ten main areas of vocational interest (1) Mass Media and Journalism (2) Artistic and Designing (3) Science and Technology (4) Agriculture (5) Commerce and Management (6) Medical (7) Defence (8) Tourism and Hospitality Industry (9) Law and Order (10) Education

2. **Professional Adjustment:** Self-developed questionnaire of professional adjustment for secondary school teacher was used. The main components were adjustment to (1) Self (2) Society (3) Work and (4) Health.

3. **Job Satisfaction:** Job satisfaction scale for teacher's (from A for higher secondary and intermediate college) by Dr. S.K. Saxena was used. The main component of the scale were satisfaction with (1) Work (2) Salary (3) Security and Promotion Policies and (4) Satisfaction with Authority.

3.7. DESCRIPTION OF TOOLS USED

3.7.1. Job Preference

In the present study the investigator adopted career preference record (CPR) developed by Vivek Bhargava and Rajshree Bhargava (2001) to measure the job preference of secondary school teachers. The teacher found this record most suitable for the present study, as according to the objectives of study, the researcher wanted to know the past, preferences of job.

Description of career preference record

The description of the tool given below was taken from the manual for career preference record authored by Vivek Bhargava and Rajshree Bhargava. This interest record was developed in the year 2001. The main purpose for developing CPR was to help the student to make a wise choice in his career preference or vocations. CPR covers 10 main area of vocational interest they are: -

1.   Mass Media and Journalism   (MMS)
2.   Artistic and Designing   (AD)
3.   Science and Technology   (SCT)
4.   Agriculture   (AG)
5.   Commerce and Management   (CM)
6.   Medical   (M)
7.   Defence   (D)
8.   Tourism and Hospitality Industry   (TH)
9.   Law and Order   (LO)
10. Education   (E)

Administration of the tool

After obtaining necessary information from the subject. Following instructions were given to the respondent.

1.   The aim of the record is to know the career, which you like to undertake when you finish your studies. It would help you know your preference.

2.   Each cell of this inventory has two careers you can indicate the choice of your career.

3.   If you prefer the first career, please put a tick mark (✓) in square No. 1.

4. If you prefer the second career, please put a tick mark (✓) in square No. 2.

5. If you do not prefer any of the two careers please put a cross marks (x) in both the squares No. 1 and 2.

    Please express your preference or dislike for the career given in each cell. Do not leave it blank.

Scoring procedure

Scoring procedure is quite simple and convenient. There are ten major areas of career preference and each contains 20 vocations or jobs in ascending to descending order and left to right on the record chart, thus each one contains 20 vocations. One (1) mark has to be assigned to each preference of vocation and total in each area is known as raw score of that particular area. Therefore maximum marks in each area are 20 and minimum is to be zero.

Classification of career preference area through profile

On the basis of raw scores of all the 10 areas of career preference, a profile may be prepared as mentioned below so that psychologist must understand the career choices and preferences of his subject and may provide education and vocational guidance accordingly to the person, who may achieve job satisfaction in life.

Reliability

The reliability of CPR is determined by the following methods:

1. The co-efficient of stability of CPR has been computed by employing test retest method with an interval of one month and three months on a sample of 100 male and 100 female students of 10+2 and all the obtained co-efficient of co-relations was found

significant in all the cases as shown in tables 1 and 2 and they ensure the high reliability.

2. The test retest reliability coefficients were obtained as below on a sample of 100 female students of 10+2

Table-1

Showing test retest reliability Coefficients (female)

Areas	MMS	AD	SCT	AG	CM	M	D	TH	LO	E
With an interval of one month	.70	.77	.69	.58	.67	.62	.78	.82	.67	.50
With an internal of three months	.64	.72	.62	.60	.62	.60	.69	.71	.61	.45

(3) The test retest reliability co-efficient was obtained as below on a sample of 100 male students of 10+2.

Table-1

Showing test retest reliability coefficients (male)

Areas	MMS	AD	SCT	AG	CM	M	D	TH	LO	E
With an interval of one month	.74	.073	.68	.82	.58	.63	.78	.54	.66	.87
With an internal of three months	.68	.69	.70	.74	.60	.58	.72	.52	.60	.82

All the correlations are significant .01 level in both tables 1 & 2.

Thus this test ensures adequate reliability, which is required for a good test.

Validity

In order to establish validity, the present measure is correlated with some related areas of various measures of interest and career and allied concepts as external validation criteria.

As this measure of career preference or choices is originally constructed by Bhargava and Bharagava with a view to include the existing careers which are commonly liked and adopted by this generation, so all the related occupations are the subject matter of this measures, which are not taken in the existing test of interests. Therèfore no single existing test is available for this purpose as on external criteria therefore for this purpose and the common area of CPR and those tests were correlated to establish validity of CPR. When CPR was correlated with the artistic, scientific, agricultural and medical areas of CNPR by Chatterjee it was found that all the four obtained correlation were significant, when Chadha Indian Classification system of vocational expression was correlated with four areas of CPR e.g. artistic, scientific, medical and education significant relationship were observed. Kapoor and Singh's multifactor interest questionnaire was correlated in five areas– aesthetic, scientific, agriculture, business and outdoor (Tourism & Hospitality) with CPR and significant co-efficient of co-relations were noticed. Again when scores of CPR and Sodhi and Bhatnagar interest inventory were correlated in the areas of artistic, scientific, outdoors and education, they have indicated high relations. Kulshrestha vocational interest record was also correlated in four areas – scientific, agricultural, commerce and management and literacy (education, with CPR) and this also revealed high significant correlations. When critics career attitude and career choice competences were correlated with all ten areas of CPR

37

significant relationships were observed between them, thus all this external criteria ensures the high validity of this scale.

3.7.2. Professional Adjustment Scale

In the present study professional adjustment scale has been prepared by the investigator to study the professional adjustment of secondary school teachers.

Development of the Scale

Initially the professional adjustment questionnaire consisted of 60 'Yes – no' type items selected on the basis of pronouns studies and following the secondary school teachers. These items were classified into four different aspects of professional adjustment in teaching. These included (a) Adjustment to self (b) adjustment to society (c) adjustment to work (d) health. These 60 items were classified into four different aspects. The items were presented to the group of five experts and only those items were retained about which the experts were unanimous for their retention. This led to the elimination of 30 items out of 60. The final questionnaire contains 30 items. Each items provided with two alternatives 'Yes-No'. The subjects were asked to make ($\checkmark$) for the due information.

10 items of the questionnaire were positively worded and 20 were negatively worded. All these items were scored '1' and '0' depending upon the direction of the items. The sum of these values gave the professional adjustment score for the subject. The total score varied from to 0 to 30 showing the lowest professional adjustment to the highest professional adjustment for the subject.

Administration

The job satisfaction questionnaire is self-administrating questionnaire. The purpose of the questionnaire was frankly explained to the subjects. It assured that their replies would be kept confidential. The subject is requested to read the instructions carefully and ask the tester, if there is any difficulty in understanding the instruction. It is emphasized that no item should be omitted and there is nothing 'right' or 'wrong' about these questions. There is no time limit for the questionnaire. However it takes approximately 20 minutes to complete it.

Scoring

10 items were positively worded, all these items are given a score of '1' for positive responses and other 20 items were negatively worded in which the case reverse is applicable. (i.e. 1 for No and O for Yes). The sum of these values gives the scores of the subject. The total score varies from 0 to 30 showing lowest professional adjustment to highest professional adjustment for subject.

Reliability

The reliability of the test was determined by split-half method. The split-half reliability of the test is 0.69. The opinion of five psychologists and five educationists was sought and they found the validity for the purpose. Thus the test posses content and construct validity.

3.7.3. Job Satisfaction Scale

In the present study the investigator adopted job satisfaction scale for teachers (Form-A for higher secondary and intermediate colleges) developed by Dr. S.K. Saxena to measure the job satisfaction of secondary school teachers. This scale was found most suitable for the

present study, as according to objectives of study the researcher wanted to know the job satisfaction of secondary school teachers.

Development of the scale

The job satisfaction questionnaire has been developed with a view to provide an instrument for assessing the job satisfaction of higher secondary and intermediate college teachers both for applied and research purposes.

Initially the job satisfaction questionnaire consisted of 40 'Yes-No' type times selected on the basis of previous studies and following interview with teachers; principals of higher secondary schools and teacher educators. These items were classified into four different aspects of job satisfaction in teaching. These included: (a) satisfaction with work (b) Satisfaction with salary, security and promotion policies (c) Satisfaction with institutional plans and politice, and (d) Satisfaction with authority including higher secondary authority college i.e. principal and the management. These 50 items so classified into four different aspects of twelve to a group were given to experts for their opinions and comments. These were also discussed with 20 teachers of secondary schools of Jodhpur city.

In view of criticism and comments offered by experts and teachers, items were altogether rejected while others were modified and rewritten. 31 items were thus selected for the questionnaire. These items showed 100 agreements amongst the judges as related to job satisfaction in teaching.

First try out

The teacher job questionnaire, being self-administering, was administered to a group of 100 male and female teachers, randomly selected from higher secondary schools of Kanpur city. It was emphasized that no items should be omitted and there was nothing 'right' and 'wrong' about this questions.

They were encouraged to answer each item according to their personal agreement or disagreement. It was assured that their replies would be kept confidential. No time was assigned.

27 items of the questionnaire were positively worded. All these items were score 'l' and 'O' (item No. 4 & 29) depending on the direction of the items. The sum of these values gave the job satisfaction score for the subject. The total score varied from 0 to 29. Showing the lowest job satisfaction to highest job satisfaction for the subject.

Item selection

All the items were scored out to obtain the frequency distribution. 27% of the subjects with the highest scores and 27% of the subjects with lowest score served as criterion groups (Kelley, 1939). Discriminating value for each item was then determined. 29 items with discriminating values 25 and above were finally selected for the questionnaire (Garrett, 1960).

The questionnaire

The teacher Job satisfaction questionnaire (TJQ) consists of 29 highly discriminating 'Yes-No' type items.

Administration

The job satisfaction questionnaire is a self-administering questionnaire. The purpose of the questionnaire is frankly explained to the subjects. It is assured that their replies would be kept confidential. The subject is requested to read the instruction carefully and to ask the tester, if there is any difficulty in understanding the instruction. It is emphasized that no item should be omitted and there is nothing 'right' or 'wrong' about these questions. There is no time limit for the questionnaire. However it takes approximately 20 minutes to complete it.

Scoring

All the items except 4 and 29 are positively worded. All these items are given a score of '1' for the positive responses except for item 4 and 29 in which case reverse is applicable (i.e. 0). The sum of these values gives the job satisfaction scores for the subject. The total scores vary from 0 to 29, showing lowest job satisfaction to highest job satisfaction for the subject.

Reliability

The split half reliability (correlating the odd-even item) of the test applying spearman brown formula is 0.86 (N = 100) with an index of reliability of 0.91. The test retest reliability of the test is 0.78 (N=90); time interval 4 months with an index of reliability 0.81.

Table-01. Showing split half and test

	n	r-value	index of reliability
Split half	100	0.92	.89
Test-retest	180	0.83	.87

Validity

Only highly discriminating items were included in the questionnaire following item analysis (Garrett, 1961). The upper 27% and lower 27% served as criterion group (Kelly, 1939). The face validity of the measures is very high. The content validity is ensured as the item for which there has been 100 percent agreement amongst judges regarding their relevancy to the school teacher's job satisfaction are included in questionnaire.

3.8. PROCEDURE FOR DATA COLLECTION

Collection of data was spread over a period of ten days. The data was collected from ten schools of Bhopal. The researcher personally visited the schools selected for the study. Then she took permission from the heads of the schools for administering the test.

The investigator met the teachers of the concerned school personally and made it clear about the purpose of the test and developed rapport and took them in confidence. The investigator expected full co-operation from them. The instruction regarding the procedure to be adopted was explained by the investigator. Teachers were assured that their responses will be used for research purpose and will be kept confidential. They were requested to give free, frank and honest responses without any hesitation. The teachers were asked to read the instruction written in the first page of the scale carefully before working on it and the time given to complete the questionnaire. Then the investigator collected the filled in questionnaire from the teachers. After completion of the test, the investigator conveyed her gratitude and thanks to the teachers and the heads of the schools for their kind cooperation.

3.9. PROCEDURE FOR DATA ANALYSIS

In order to analyze the raw data suitable statistic like mean, standard deviation, t-test, correlation (product moment correlation) were used.

3.10. SUMMARY

In this chapter different types of techniques used along with data collection, nature of sample and statistical analysis of the data were discussed. In the next chapter findings of the study as well as their discussion will be presented.