CHAPTER III

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CHAPTER - III

METHODOLOGY

3.0 Introduction

Literature review (vide chapter 2) reveals that a very few studies have been undertaken to assess the impact of the project interventions made in the education sector. One such massive program in education sector is DPEP assisted by World Bank, implemented by Govt. of India, taking into consideration the educational needs of states in a federal setup. As such, there is a need for understanding and assessing the impact of the educational interventions, in India at large and in Karnataka specifically. This study finds its place in the overall educational progress of the nation especially with the interventions of DPEP.

The investigator after going through the related literature and the studies done on the impact of District Primary Education Programme on school education, came to the conclusion that a very few studies have been reported on the impact of the interventions. Hence, the investigator looked upon the problem with utmost necessity.

The District Primary Education Programme (DPEP) was a seven year programme launched in 42 Districts of 7 states in 1994, with the overall goal of achieving universalization of primary education.
Specifically the focus of various interventions under the programme was on -

(a) To provide national norm access for all children to formal primary education or its equivalent non-formal education.

(b) Reducing differences in enrollment, dropout rate and learning achievement among gender and social group to less than 5 percent.

(c) To reduce overall primary levels drop out rate for all students to less than 10 percent.

(d) To raise average achievement levels by at least 25 percent over the baseline levels and to ensure achievement of basic literacy and numeracy competencies and a minimum of 40 percent achievement levels in other competencies by all primary school children and

(e) DPEP also seeks to strengthen the capacity of National, state and district institutions and organizations for planning, management and evaluation of primary education.

**Salient features of DPEP:**

DPEP is different from the traditional teacher dominated classroom teaching. This programme is intended to create a more effective learning environment by encouraging the development of cognitive domain of children, utilizing their own learning strategies and experiences. It is essentially learning through play way methods. It provides opportunity for peer tutoring and generates competitive learning situation. The new approach encourages greater participation
of children in learning. There is immense scope for learning through observation and discovery, using locally available resources. Infact, DPEP has developed greater self dependence, creative ability among children. The method of teaching in DPEP was based on practical experiences and hence it has relevance and meaning to children. The basic skills such as listening, speaking, reading and writing, observing, describing etc. are acquired not through class room teaching but through individual and group activities.

Teacher is regarded as one who provides suitable learning situation to children. Teacher encourages children to raise questions on different concepts and their application to everyday life. The duty of the teacher is to guide the children by explaining necessary help for self learning. Teacher really becomes a guide, philosopher and friend than acting as a dictator.

The trends by the intervention of DPEP are indicative of a clear shift from providing product related aspects of teaching to the process related teaching. As Shaffer (1997) states 'more recently quality has been defined in relation to the nature of educational processes. Thus proper organization and transaction of a lesson, correct use of text and homework, encouragement of child-centered learning, absolute amount of time spent on task, are some of the important aspects while quality of education as a process'.
The study focuses on, class room climate and infrastructural facilities of the DPEP schools vis-à-vis non DPEP schools. Part of the study, tries to compare each of the above variables along with the academic achievements levels of children in DPEP and non DPEP schools. As such, an effort was made by the investigator to adopt proper methodology to explore the above mentioned patterns with the help of designed tools and techniques by selecting an appropriate sample. Numerous data sources were consulted including the experts in the field, so as to gain the insights on the level of impact created by the interventions under DPEP. Incidentally, experiences gained in DPEP State office acted as an added advantage to the investigator.

3.1 Tools used for the Study.

Appropriate tools were developed to collect the necessary data for the study entitled.

"A COMPARATIVE STUDY OF CLASS ROOM CLIMATE, ATTITUDE OF TEACHERS, STUDENTS' PERFORMANCE AND INFRASTRUCTURAL FACILITIES OF DPEP AND NON-DPEP SCHOOLS OF KARNATAKA STATE"

In order to have deeper understanding of the selected topic by observing and examining various dimensions, selected variables were included so as to assess the differential impact of the following variables in DPEP and non-DPEP schools:
1. Class room climate
2. Teachers’ Attitude
3. Infrastructural facilities
4. Socio Economic Status of the parents (SES)
5. Intelligent Quotient of the children (SPM)
6. Academic achievement of the children

To collect necessary data for the above variables, the following tools were used. Since, the tools to be used are constructed and adopted; they required standardization through field testing. In case of achievement tests, standardized tests prepared and validated by DPEPCRG, NCERT New Delhi were used.

1. Class room climate scale
2. Primary school teachers’ attitude scale.
3. Infrastructural and physical facilities questionnaire.
4. Socio economic status of the parents.
5. Intelligent Quotient of the children
6. Achievement tests
   i. Achievement test for standard IV Language
   ii. Achievement test for standard IV - Maths
   iii. Achievement test for standard IV - EVS

3.2 Description of Tools.

1. Class-room climate scale
Class-room climate refers to a generalized attitude of pupils towards the teacher and the class that the pupils share in common in spite of individual differences. It is a salient feature which determines the patterns of interaction in the class room. As a result of participating in class room, pupils soon develop shared expectation about how the teacher will act, what kind of person he is, and how they like their class. Class room climate is assessed by analyzing teacher pupil interaction and predicting the quality of class room interaction. Because, the teacher is such a critical member of the group, his behavior will be most important in the climate setting, particularly in the early stage of development of the group. In recent years, importance of psychological climate in which group works has been roughly emphasized in educational literature.

When a new observer comes into a group for the first time, he is able to sense the group which we might call an atmosphere or climate. The class room climate has been employed to comprehend the complexities of teaching-learning process both cognitive as well as attitudinal and adjective. Though the class room climate has many aspects, the climate here is assessed by analyzing teacher pupil interaction and predicting the quality of class room interaction. There is scientific evidence to prove that, the class room climate is complex pattern of interpersonal attitude which affects learning processes qualitatively and quantitatively. Studies of Perkins (1951), Rippy (1960),
Nair (1967) and Rodriguez (1967) found quality of teacher pupil relation was a major determiner of class room climate.

For the present study, Class room climate scale was prepared and standardized by Professor P. Viswanadhan Nair Head, Department of Education, University of Kerala, Thycaud (1999). The tool contains the following aspects of class room climate.

1. Group feeling in the class.
2. Diversity in thinking.
3. Obedience to the class rules.
4. Speed in doing class work.
5. Physical environment (space, ventilation etc.)
6. Academic environment (study materials)
7. Tense situation in the class.
8. Goal direction (students).
9. Favoritism shown to the students.
10. Clique formation in the class.
11. Satisfaction in doing class work.
12. Disorganization in the class.
13. Difficulty in doing class-work.
15. Democratic approach in doing class-work.
16. Competitive spirit in the class room.
Sixteen parameters above, decide three types of classroom climate prevailing in the classes.

Among sixteen sub-dimensions included in the Classroom climate scale, twelve sub-dimensions differed significantly between DPEP and Non-DPEP classrooms. The significant sub-dimensions of the classroom climate scale have been arranged in decreasing order of importance on the basis of absolute values of critical ratios. Comparing the magnitude of the mean scores of the significant sub-dimensions obtained for DPEP and Non-DPEP groups, we may conclude that the DPEP strategies are extremely helpful in developing the following sub-dimensions of the classroom climate:

1. Group feeling in the class \((CR = 16.603)\)
2. Diversity in thinking \((CR=8.558)\)
3. Academic environment \((CR=6.760)\)
4. Democratic approach in doing class work \((CR=6.068)\)
5. Satisfaction in doing class work \((CR=5.550)\)
6. Goal direction (students) \((CR=5.416)\)
7. Competitive spirit in the class-room \((CR=5.332)\)

Also, comparing the magnitude of the mean of the significant sub-dimensions, we may conclude that the DPEP strategy decreases the characteristics of the following sub-dimensions of the classroom climate:

1. Disorganization in the class \((CR=-8.004)\)
2. Indifference towards class work \( (CR= -6.173) \)
3. Tense situation in the class \( (CR= -5.240) \)
4. Difficulty in doing class work \( (CR= -5.023) \)
5. Favoritism shown to students \( (CR= -4.345) \)

Sub-dimensions of the classroom climate for which significant differences were noted are the following:

- Physical environment.
- Speed in doing class work.
- Clique formation in the class.
- Obedience to class rules.

The tool has content validity, since it is meant for primary school class room climate.

The tool has been constructed to know the class room climate, hence, it is has a construct validity.

**Reliability:** The reliability of the tool is established by the test and retest method. The value was found to be .798 which is significant. The same tool was used by the investigator, translating the items into Kannada. Hence, it was subjected to standardization procedure.

**First Try out:** The tool was administered to DPEP and Non-DPEP schools of Kolar district and Tumkur district on a sample of 10 schools each district on standard IV. The mean and standard deviation was calculated. The mean was 61 and SD was 3.2 – indications of less variations.
Second Tryout: Similarly second try out was conducted on a sample of 10 DPEP and Non-DPEP schools with IV standard. The mean was 63.8 and SD was 3.2. Both the observations were put on to ‘t’ test. The value of ‘t’ test was 1.23 which is not significant at 0.05 levels of significance. Hence, the tool is said to be consistent.

The tool has content validity since it is meant for primary school class room climate and it has construct validity, since, it has been constructed to know the class room climate.

The reliability of the tool was established by test and retest method. The value was found to be .798 which is significant. Hence, the tool was retained for final data collection which is given in Appendix-I.

2. Teachers’ attitude scale

It is also important to know the attitude of teachers who are working in DPEP and Non-DPEP schools. The tool contained simple questions. Since, the scale is adopted with the purpose which has five point scales under the following sub headings. The tool is developed by Dr. Malahotra M.C. Professor of Education, Department of Education and Mass-Communication, University of Lucknow, U.P., 1996. The original tool is in Hindi. The same is adopted in Kannada to suit to the teachers. All the fifteen sub areas are having three to four items. Totally there are eighty items. The sub areas are given below

1. Attitude of teachers towards teaching profession
2. Attitude of teachers towards primary education and towards the interventions by DPEP.

3. Attitude of teachers towards the school, infrastructure and physical facilities, teaching learning materials.

4. Attitude of teachers towards headmaster.

5. Attitude of teachers towards co-teachers.

6. Attitude of teachers towards students.

7. Attitude of teachers towards parents and community.

8. Attitude of teachers towards educational officers and towards the department.


10. Attitude of teachers towards teaching methods.

11. Attitude of teachers towards examination and evaluation techniques.


13. Attitude of teachers towards salary, promotion and other incentives.

14. Attitude of teachers towards teaching profession and professional growth.

15. Attitude of teachers towards teaching aids (modern).

The tool was in the form of open-ended questions with five point rating scale, like, --

<table>
<thead>
<tr>
<th>Strongly Agree, Agree, Un-decided, Dis-Agree, Strongly Dis-agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2  1  0  -1  -2</td>
</tr>
</tbody>
</table>
The tool was administered to a sample of 500 teachers belonging to both urban and rural, male and female primary school teachers of Uttar Pradesh. After three try-outs, the items were standardized by using appropriate statistical methods. The validity of the test was to be appropriate with content validity, construct validity and concurrent validity. The reliability of rating scale was established by test and re-test method and it was found to be 0.586.

It was found appropriate to use it for the present study. Since, the rating scale contains almost all dimensions of the teachers' attitude under consideration. Hence, the tool was used, after translating it into Kannada language. The investigator took the help of those who are well versed in Hindi and Kannada for translation. The original version containing 80 items were translated into Kannada. Some of the items were rearranged without changing the meaning and objective of the original tool in Hindi.

For example,

1. मुझे शिक्षक कृति से अपार गौरव है।
2. प्रचलित प्राथमिक शिक्षा पद्धति शोषणात्मक लगती है।
3. बहुतसे प्राथमिक पाठ्यांगांना ठीक तरह से व्यवस्थित स्थिति में नहीं है।
4. हमेशा मिलता है अनुभव का कारण बनना चाहिए लेकिन अनुभव के हमेशा खोजने का साधन नहीं।
4 हमारे स्कूल के मुख्य अध्यापक गुरुजी का स्वागत के है।
5 हमारे स्कूल में खुश मिलकर खुश यह दिन हुआ है। आगे जाने के लिए,
6 बहुत देर के रोज हमारे अध्यापक हरिश जी के नाम उद्घाटन हुआ।
7 बद़े मण्डल में पालक अपने बच्चों की शिक्षा के बारे में आख्या नहीं रखते। या निष्कासनी विभाग है।
8 बहुतसे अधिकांश हमारे उपर रचना करते हैं।
9 ज्ञान प्राप्ति प्रवृत्ति विश्वासित और बच्चों के द्वारा है।
10 बहुत से शिक्षक उपरांत उपयोग करते हैं।
11 प्राथमिक शाळाओं के अवधि में दो परामर्श परीक्षा पत्र दिन है। इन्हें सब बच्चों के संबंध में आत्मिक होती है।
12 बहुतसे बच्चों के स्कूल में अधिकतम परीक्षण से आने से उनका भविष्य आश्वासन नहीं लगता है।
13 हमें सीखना और निर्धारण करते हैं। बच्चों के लिए संस्कृति के लिए बच्चों के लिए देने है।
**Standardization procedure**

Malahotra’s primary school teachers’ attitude scale was translated in Kannada for adoption. All the 80 items were retained. The tool was shown to Hindi and Kannada translators to modify accordingly. The Kannada version containing 80 items were first administered on a sample of 50 primary school teachers and their opinions were collected and scored out. The mean found out to be 95.50 out of 120 and SD is 8.5(with acceptable limits of variations).

The second try-out was undertaken using another 50 teachers belonging to both urban and rural area, male and female and their opinions were scores out. The mean found out to be 92.20 and SD 7.5. Where the ‘t’ test was carried out with ‘t’ value of 1.034 which was not significant at 0.05 levels of significance. It means no significant difference between the first and second try-outs.

**Validity of the tool**

**Content validity**

The tool was constructed to know the attitude of teachers towards different aspects of primary education. All the items included belong to various aspects of primary education. The expert opinion was taken with regard to the items. Hence, they have content validity.

**Construct validity.**

Since the tools are constructed to know the attitude of primary school teachers only, it has construct validity.
Reliability of the tool.

The reliability of the tool was established with the help of test and retest method. The scores of 50 teachers of the first test and the same test were given to the same teachers after a week’s time. Those scores were correlated and the correlation value was 0.785 which was highly significant. Hence, the tool is reliable. The same tool is retained for final data collection and is given in Appendix- II.

3. Infrastructural Facilities Data Sheet.

The main purpose of constructing the tool is to know about the infrastructural and physical facilities provided to the schools of both DPEP and Non-DPEP. The facilities are grouped under the following heads.

1. General Information: This section helps to provide information regarding the geographical area in which the schools are located. The year of establishment, nature of school, whether it is LPS or HPS, strength of the school, total number of teachers working at present against enrolment, type of school management-, government/ aided school / un-aided school.

2. Infrastructure: This sub-section of the tool aims to get an overall picture about physical facilities of all the schools provided by the programme like,
   - School building.
   - Nature of the school building pucca / kachha.
• Maintenance of the school building regularly / timely.

• Distance of the school from the village.

• Space around the school building

• Play ground facility for play.

• School garden with water facility.

• Drinking water facility.

• Toilet for children. (girls and boys)

• Toilet for teachers.

• Compound wall.

• Cleanliness of class-rooms.

• Electricity facility.

3. **Physical Facilities**

One of the major objectives of the study is to analyze the physical infrastructure of the DPEP and Non-DPEP schools. This division contains a number of items on class rooms, size of the class rooms, ventilation, light, furniture, black boards, racks for the children to keep their learning materials, library, reading room with required number of books and journals, newspapers. Laboratory for conducting science experiments to have first hand knowledge.

Computer room for computer education. Separate room for Head of the institution and staff room for teachers. Transport facility for both the teachers and children. Facility for proper physical education like
well maintained playground, sufficient play material and time for the children to play.

**Scoring**

All the items in the schedule are structured dichotomously. Responses are pooled and categorized.

**Validity and Reliability**

The questionnaire has covered all the aspects of infrastructure facilities provided by the DPEP. So it was decided that the tool has adequate content and concurrent validity. The data gathered using the tool is adequate. Reliability is not found out separately due to difficulty in administering the same tool again on the same respondents for random check. The tool is given in Appendix-III.

**4. Questionnaire of SES of the students**

Socio-economic status refers to a person’s position in any given group, society and culture.

To know the impact of socio-economic and educational status of the students a questionnaire was developed on the following aspects:

- a. Social factors of the pupils
- b. Economic factors of the parents
- c. Educational status of the parents
- d. Gender related

Social aspects of pupils means the locality that they are living, family members and family norms, the peer group, the school
atmosphere, relationship with schoolmates, relationship with parents, with neighbors, and role of individual in play and cultural activities.

An economic aspect means parents' occupation, monthly/yearly income, and material status, facilities in the house, dress and food habits, taking private tuitions.

Educational status of parents means qualification of parents, individual educational attainment, study habits, other habits, and position in the school.

After identifying the different components, the researcher fairly made three groups of students namely High Socio Economic and Educational Status (HSEES), Medium Socio Economic and Educational Status (MSEES) and Low Socio Economic and Educational Status (LSEES).

HSEES: Highly educated having more than Rs. 20,000 income per month, living in his own house in a sophisticated and posh area like an industrialists, businessmen, owners, professors, engineers, bank managers etc. These professions are highly recognized in the contemporary society as income fetching professions. As such they have been grouped under HSEES as per the existing social norms.

MSEES: Middle class people with parental income of Rs 6-15 thousand per month, living in a rented or small own house, in thickly populated area, having two wheelers like office superintendents, clerks, teachers, and small businessmen etc.
According to the plan as mentioned above, the items were prepared in the form of questions. Initially 20 items were written for each aspect. The schedule finally contained 45 items in the form of questions expecting direct answers. The final format was prepared and administered. The schedule is presented in the Appendix IV.

5. **Intelligent Quotient (IQ).**

It is a ratio of mental age, as measured by intelligence tests, to the mental age that is normal for a particular chronological age. The ratio is multiplied by 100. Thus giving an average IQ or 100.

To measure IQ of the children, Ravens Standard Progressive Matrices (SPM) was used. It is a tool to assess a person's maximum capacity to form comparison and region by analogy without being unduly exhausting or unwisely. SPM was designed to cover the widest possible range of mental ability and to be equally useful with people of all ages. It is a culture free, non-verbal, frequently used test by many researchers.

SPM contains 5 sets of problems namely A, B, C, D and E. Each set contains 12 problems. Totally there are 60 problems. All the problems are graded and are arranged according to difficulty level. Each
of the problems is boldly presented in a geometric design and each problem has 6-8 choices which are given below the problem.

The test-retest reliability of the test varies from 0.83 to 0.93 for different age groups. Validity coefficient reported in studies with English and non-English speaking children and adolescents generally range up to +0.70. The content validity of SPM for different test items, correlations ranged from 0.2 to 0.8.

The investigator decided to use the SPM for the following reasons. First, Standard Progressive Matrices is a culture free, non-verbal and self motivating test, which measures the mental development of an individual. Second, an acceptable verbal standardized intelligent test in Kannada was not available. The same is given in Appendix-V.

6. Achievement tests in Language, Numeracy and Environmental Science (EVS), for class-IV.

Children's academic achievement is one of the variables of the present study. Hence, standardized tests for class-IV are used in language, numeracy and EVS. For this purpose, the head quarters of District Primary Education Programme, New Delhi was approached. Also the District Primary Education Programme Core Research Group National Council of Educational Research and Training were consulted for the standardization of tool which was administered throughout the country. Tool was prepared and standardized by the core research group for class IV on a large sample using all the norms of
standardization. This tool contains simple items. The very objective of these tests was to measure the level of attainment, the extent of skills acquired in language, numeracy and EVS. The children were expected to identify, comprehend the language and the basic numeracy skills after attending the test.

**Achievement test for standard-IV language – Kannada.**

The objective of the test is to make the student understand that some pair of words which have the same meaning and some have opposite meanings. Secondly, the children are expected to comprehend the passage and find out one correct answer out of four alternatives. Here the reading ability, speed, accuracy in language is being tested. There are two types of tests. One is Reading Compression which consists of 25 items and the other one is Word Knowledge consisting of 25 items. One mark is allotted to the correct answer. The total score for the test is 25 + 25=50.

**Achievement test for standard-IV numeracy**

This test measures the skill of a child in numeracy, numerical thinking and comprehension. There are 25 items in the test. Most of the items deal with addition, subtraction, multiplication, and division. One mark is allotted to the correct answer. The total score for the test is 25.

**Achievement test for standard- IV EVS.**

The test measures the skill of observations, identifications, analyzing the nature around us. It helps the children know the nature
around us. It enables children to keep the surroundings clean and tidy. These tests contain 25 items which include multiple choice questions, matching questions and fill-in-the-blanks questions. One mark is allotted to the correct answer. The total score for the test is 25.

These tests were originally in English and Hindi versions. The State Project Office, DPEP, Karnataka prepared the Kannada version with the help of experts and teachers. These standardized tests were used for the study, which are validated and constructed according to the present syllabus of Karnataka State. The test papers are given in Appendix-VI.

3.3 Sample and sampling procedure.

The present study includes stratified random sampling and provides scope for a variety of sample methods.

Selection of the Districts.

The present study is a comparison between some of the variables of DPEP and Non-DPEP schools. So the DPEP and Non-DPEP districts from Karnataka were chosen. Hence, stratified random sampling procedure is adopted. Karnataka has 27 revenue districts with 32 Educational Districts. They are.

Phase-I of the District Primary Education Programme was launched in four districts namely Belgaum, Kolar, Mandya and Raichur in the year 1994. In the same way another seven Districts were chosen for the DPEP interventions under Phase-II. They are Bangalore (rural), Bellary, Bidar, Bijapur, Dharwad, Gulbarga and Mysore. The criteria for the selection of these districts are –

a. Backward districts with female literacy below national average.

b. Districts where Total Literacy Campaigns (TLCs) have generated demand for elementary education.
At present, there are 32 educational districts in Karnataka. Out of these, 19 districts come under District Primary Education Programme and the remaining 13 are non-DPEP districts. Stratified random sampling procedure was followed in selection of the DPEP and Non-DPEP districts for the study. Naturally the state of Karnataka is identified as south and north Karnataka. One district from each part of Karnataka was selected. They are:

<table>
<thead>
<tr>
<th>DPEP district from</th>
<th>Non-DPEP district from</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Karnataka</td>
<td>South Karnataka</td>
</tr>
<tr>
<td>Gulburga</td>
<td>Tumkur</td>
</tr>
</tbody>
</table>

Gulburga district was chosen because of adverse criteria such as:

- Large number of out of school children.
- Economic backwardness of the geography.
- Large number of girl children out of school and low learning levels in the northern part of Karnataka among all the DPEP districts.

Tumkur district was selected because of the following reasons:

- Large number of out of school children.
- Economic backwardness of the geography.
- Large number of girl children out of school and low learning levels in the southern part of Karnataka among all the non DPEP districts.
Selection of Blocks

In order to represent required population for the study, the investigator has chosen one block in each district. The criteria for selection of the block are as under.

- Total literacy rate being less than the district average.
- It being the most backward block educationally.
- High drop out rate with high rate of out of school children.

Selection of schools.

In order to understand the existing trends, samples of 100 schools are selected. Out of them 50 schools are from DPEP districts and the remaining 50 schools are from non-DPEP districts. A conscious decision was taken to accommodate more number of rural schools than the urban schools so as to balance the sample with respect to the existing population parameters. The selection of the schools in the rural and urban has been done proportionately on the basis of school population in the block. School population means total number of primary schools in the block. These schools are selected on random basis.

Selection of students.

From each school ten students of class-IV are selected for the study. If the number of students is more than ten, the selection is done on random basis. The total number of students covered for the
administration of tests is 500 for DPEP and another 500 for Non-DPEP district.

**Selection of teachers.**

The investigator has selected two teachers from each school for the study. Selection of teachers is made on the basis of their handling class-IV. The total numbers of teachers covered are 200.

**Selection of headmasters.**

100 headmasters are selected for the study. Required data were collected from them.

**Selection of observers.**

In order to observe the class room transactions and the processes, two observers for each school were taken. Thus 200 observers for 100 schools observed the actual classroom transactions.

**3.4 Data collection procedure.**

Since sample chosen for the study is in two different parts of Karnataka State it was rather difficult to collect the data simultaneously from all the sampled schools. A letter of information through the Head of the Department Post Graduate Studies in Education, Karnataka University, Dharwad, countersigned by the State Project Director, DPEP was sent to all the DPEP and Non-DPEP schools chosen for the study. Letters were sent to the following personnel.

1. Headmasters  2. Teachers  3. Observers
First phase

The following tools were administered in sample schools.

1. Class room climate scale.
2. Primary school teachers' attitude scale
3. Infrastructural facilities questionnaire
4. Socio Economic Status of the parents
5. Intelligent Quotient of children
6. Achievement tests for class-IV in Language, Numeracy and EVS.

The headmasters and the teachers were instructed to use the tools sequentially and orderly with the help of co-workers. Two observers for each school, observed the class-room transactions and processes. The school teachers were instructed to administer the achievement tests as per the guidelines provided.

Second phase.

The schools were again visited to collect the data from all the respondents, headmasters, teachers, students and observers. Many of the teachers and headmasters required some more time to respond. They were given extra time to complete the task.

Third phase.

This is the last phase of data collection. The field notes were made especially on the respondents who could not respond or send the response sheets. The achievement test scores were collected. The
student responses and the check list given to the investigators were collected. The investigator also collected annual examination achievement tests conducted for the students. Thus, a wide range of data from various sources was collected for the study.

3.5 Statistical techniques used for the study.

Simple statistical tools are used while analyzing the data. They are:

1. Descriptive statistics
2. Differential statistics
3. Analysis of variance and critical ratios
4. Correlation analysis
5. Regression analysis
6. Path analysis

The investigator analyzed the collected primary data by using the above mentioned statistical tools and the same is presented in detail in the next chapter.