CHAPTER 3
OBJECTIVES, HYPOTHESES AND METHODOLOGY OF THE STUDY

The topic for investigation is entitled ‘Impact of Teacher Training in Constructivist Pedagogy on Teacher Competence and Learners Proficiency in Malayalam under Sarva Shiksha Abhiyan’

Definition of key terms

Impact: Present study impact means, classroom transactional changes in teacher competence and learners proficiency due to teacher training

Constructivist pedagogy: The term Constructivist pedagogy means constructivist language pedagogy, which facilitates holistic language learning through receiving and producing a variety of discourses such as narratives, descriptions, poems, etc. in meaningful contexts by virtue of the innate language system

Teacher competence: Conceptual understanding of teachers about constructivist language learning and ability to administer micro level classroom processes involving all learners by helping them construct a variety of discourses.

Learners: who are studying in the lower primary classes (1 to 4) in Kerala

Proficiency in Malayalam: Ability of learners to communicate ideas in Malayalam (mother tongue) meaningfully in a particular situation uses varied modes of discourses like narration description, letters, conversation etc. by virtue of the basic skills in language learning- listening, speaking, reading and writing.
is also the ability to use language for creative expression

**Sarva Shiksha Abhiyan** :- Present study Sarva Shiksha Abhiyan means a national level programme implemented in Kerala to universalize elementary education by community ownership of the school system. It is a time bound programme which aims to provide quality education to all children of the age group by 2010.

### 3.2 Objectives of the Study

1. To investigate the level of conceptual understanding of primary teachers about constructivist language learning and its classroom implications by virtue of Teacher Training programmes conducted by SSA, Kerala in terms of:
   
   a) The theoretical foundations of language acquisition

   b) Approach to learning mother tongue.

   c) Classroom process under the constructivist language pedagogy

2. To find out the ability of teachers to translate the theoretical postulates of social constructivism into classroom practice

3. To study the relationship between the conceptual understanding of teachers and their classroom practice

4. To find out whether the input given to teachers is reflected in the language proficiency of learners to construct various discourses spontaneously.

5. To suggest measures to improve the Teacher Training programmes under Sarva Shiksha Abhiyan for improving language proficiency.
3.1 Hypotheses

Rationale of Hypotheses:

A hypothesis is an educated guess, in other words it is clear, specific, testable prediction. It is a tentative explanation of the relationship between two or more variables. Considering the Guideline given by NCERT in NCF2005 for renewal of curriculum based on the principle of constructivism, Kerala has implemented constructivist language pedagogy along with the programme for quality improvement by SSA. Based on these concepts investigator go through literature on constructivism, language learning, language pedagogy, quality improvement, teacher training and curriculum. On the basis of this background, investigator developed objectives and following hypotheses for the study

1. There is no relationship between the conceptual clarity of teachers and the adequacy of training days in language.

2. There is no relationship between conceptual understanding of teachers regarding language pedagogy and their ability to handle language classes effectively.

3. The input given by SSA, Kerala through Teacher Training programmes does not have any impact on the conceptual understanding of teachers and their classroom practices.

4. There is no difference between the teachers of different classes in primary section with regard to their constructivist language teaching process.

5. There is no relationship between the classroom practices of teachers and the language proficiency of learners.
6. There is no significant difference between the achievement level of learners in Class 2 and 4.

7. There is no difference between the achievement level of students of urban, rural and tribal areas.

8. There is no difference between the achievement levels of learners from different regions of Kerala.

9. There is no difference between the achievements of primary school children with regard to the management of schools.

3.4 Methodology

Methodology refers to the theory of getting knowledge, to the consideration of the best ways, methods or procedures, by which data that will provide the evidence basis for the construction of knowledge about whatever it is being researched is obtained (Opie, 2004). Methodology in the narrowest sense is the collection of methods and roles by which a particular piece of research is undertaken.

It is necessary for a researcher to know not only the research methods and techniques but also methodology. The methodology may vary from problem to problem. The researcher has to specify very clearly what decisions he/she selects so that they can be evaluated by others. Therefore, the methods sections structure should: describe the materials used in the study, explain how the materials were prepared for the study, describe the research protocol, explain how measurements were made and what calculations were performed and state which statistical tests
were done to analyze the data. Once all elements of the methods sections are written, subsequent drafts should focus on how to present those elements as clearly and logically possible. The description of preparations, measurements and the protocol should be organized.

The purpose of the present investigation is to study the Impact of Teacher Training in constructivism on Teacher Competence and Learners Proficiency in Malayalam under Sarva Shiksh Abhiyan, From the different approaches that may be employed in descriptive research, “Normative survey” was selected mainly for the study, considering the objective of the study and the nature of the data required. The survey method is a quantitative research technique in which the researcher administers some sort of survey or questionnaire to a sample or, in some cases, an entire population of individuals in order to describe their attitudes, opinions, behaviours, experiences or other characteristics of the Population (Creswell, 2005).

Variables are measurable attribute of things that change (Thomas, 2009). Variable are the conditions or characteristics that the experimenter manipulates, controls or observes. The variable from which one predicts is called the predictor variable and the variable is being predicated is called the criterion variable. (Wiersma & Jurs, 2009). The present study has been designed with one predictor variable and a criterion variable.

Predictor variable - Impact of Teacher Training in Constructivist pedagogy

Criterion Variable - Teacher Competence and Learners Proficiency in Malayalam
The main purpose of the present study is to find out the Impact of Teacher Training in Constructivist pedagogy. Impact Teacher Training could be studied only by triangulating the teacher, the learner and the pedagogic inputs since the interplay of teacher’s belief system, conceptual understanding, and the classroom process leads to the achievement of the learners moreover investigator tries to understands the conceptual understanding of the constructivist pedagogy and the actual classroom process they followed in the classrooms. It was also necessary to know about the achievement of the learners in language. To have a clear idea about this the researcher had to interact with the Resource Persons and the concerned implementing officers of the Pedagogy unit of SSA. Moreover, the conceptual understanding of the resource persons also had to be taken care of because these would have direct impact on the training conducted. It was with these assumptions the methodology and the tools for the research were decided. The methodology followed was as stated below:

3.4.1 Interview

Structured interviews with Programme Officers of SSA in order to find out the initiatives taken by SSA for empowering teachers in language and pedagogy, the areas of training input, total number of days of training in language pedagogy, the nature of resource support given and the monitoring that was carried out.

3.4.2 Survey

Separate surveys were conducted involving resource persons and primary school teachers. Through the surveys the researcher wanted to know mainly about the belief system of the teachers, their understanding about pedagogy
gained from training conducted by Sarva Shiksha Abhiyan and the classroom process they followed.

3.4.3 Observation

Classroom observation was necessary in order to find out whether the process actually followed by the teachers was in conformity with the constructivist pedagogy. This would also reveal to what extent their understanding would be reflected in the classroom practice.

3.4.4 Achievement study

It was necessary to study the achievement made by the learners by virtue of the classroom experience they got without which the impact of Teacher Training could not be studied.

3.5 Tools

A suitable research tool contributes to the validity of the findings of any research study. The success of any research depends on the nature of tools used. To achieve the objectives of the study appropriate tools such as questionnaire, observation schedule, tool for achievement test and interview schedule were conceived.

Interview schedule

Interview schedule is a set of questions which are asked by the interviewer and filled in on the spot in a face to face interaction with other person (Goode, William J. & Hatt, Paul K. (1952)). In the present study interview schedule was
designed to gather accurate information from the respondents. This tool is useful to produce quick, cheap and easy data which is high in reliability. Other advantages of this tool are it is free from biasness, helpful to the investigator to probe deeper in to responses given by the interviewee and it produces a higher response rate. It is not practical to use for a large number of people is one of disadvantage of this tool .It demands more time and expertise to gather information. In consultation with experts researcher rigorously examined each questions in terms of the relevance of each question to the objective, practicability, clarity and un ambiguity, appropriateness of the type of questions and validity of the questions. The logical order and length of questions were also considered. In the light of above evaluation the tool was revised and pre tested in order to identify the strength and weakness of the interview schedule. Based on this the tool was finalised. Considering the practical aspects, interview was done only with six programme officers of Sarva Siksha Abhiyan.

**Questionnaires**

According to Brace (2004), the questionnaire is widely used and useful instrument for collecting survey information, providing structured, often numerical data, being able to be administered. Questionnaire consists of same set of questions that are asked in same order and in the same way in order that the same information can be gathered. Using the questionnaire the investigator can collect large amount of information from a large population in a short period of time with the help of selecting perfect sample so as to get a good result and make the study easier. Data collected through questionnaire can be analysed more
scientifically and objectively. According to the purpose of the study different of types questions can be included in the questionnaire. It is pointed out that there is no way to tell how truth full a respondent is being. People may interpret each question differently and it may influence the result.

Designing the Questionnaire: Reliability and validity are enhanced when the investigator takes precautionary steps Suskie (1960). Examine each item is clear and easily understood, ensure the interpretation of each item in the indented way and evaluate the relationship between the items included and the research objectives. Leary (1995) suggested seven guidelines for developing a good questionnaire. They are, use precise terminology in phrasing the questions, write the questions simply as possible, avoiding difficult words, unnecessary jargon and cumbersome phrases, avoid making unwarranted assumptions about the respondents, conditional information should precede the key idea of the question, do not use double barrelled questions, choose appropriate response format and pre test the questionnaire.

For the purpose of data collection two separate Questionnaires for teachers and resource persons related to language pedagogy and teacher training programme have been designed. Keeping in view of the objectives of the study the Questionnaire consisted of specific information related fixed choice and open ended questions.

Pilot study: Pilot study was conducted in Kollam district to find out the weakness and ambiguities and to ensure language standardisation. 40 questionnaires were distributed among teachers and resource persons and based on this the tool was modified.
**Observation schedule**

Observation provides a mechanism to systematically watch people, events and setting to discover something about behaviour and interaction in real world setting. An Observation schedule is a list of behaviours, indicators and conditions that the researcher plans to observe to realize the objectives of the study. In the observation schedule items included are relevant to the research questions or objectives of the study and appropriate to the situation. It can be completed within the time constraints of the study.

Class room observation permit researcher to study the process of teaching in a natural setting. One of the strength of observation is it provides more detailed and precise evidence than other data sources. More reliable data can be collected using carefully designed observation schedule in which items are clearly formulated and space for recording observation is provided. However observation should not be seen as problem free, it can be time consuming and change in people’s behaviour when they know they are being observed.

In the present study investigator used observation schedule for observing class room process in constructivist language pedagogy. To gather reliable information related to the micro process of reading and writing class room observation is essential.

**Achievement test**

Achievement tests attempt to measure what an individual has learned –his/her present level of performance. In research, achievement test scores are used
frequently in evaluating the influence of course of study, teachers, teaching
methods, and other factors considered to be significant in educational practice.
(John W Best & James V Kahn 2008). Achievement tests can provide an accurate
picture of student ability without the subjectivity of teachers or administrators.
Achievement tests can be done orally or make use of written form. There are two
types of written tests-essay and objective type. If the examinee is directed to
writes a sentence, a paragraph, or a longer essay of his/her own composition, the
test is usually known as essay type. Essay type tests consists small number of
question. If the test consists of large number of questions to which the examinee
chooses one of several suggested answers, it is referred as an objective test
Achievement tests have limitations. It is pointed out that a student’s score in
achievement test depends on his/her ability to recall. It does not represent the
whole achievement in the targeted subject. Achievement tests are limited to
measuring student’s knowledge that can be expressed in verbal or symbolic form.
Achievement tests play important role in education. If they are developed more
carefully and more scientifically they could do even more to enhance quality of
education

In the present study investigator used written form of achievement test. Essay
type questions were used because to evaluate ability of a learner to use language
in an independent situation than his/her ability to recall language elements, essay
type tests are more useful.

3.5.1 Preparation of Tools

The investigator had gone through the documents such as National
Curriculum Framework (NCF) 2005 and Kerala Curriculum Framework (KCF)
2007, regarding language approach, language text books, handbook for teachers and guide lines for SSA. Personal discussions with experts in the field of Teacher Training and functionaries of SSA were held to get an idea about the classroom process and teacher empowerment programme in the constructivist paradigm. The tools designed were described below:

3.5.2 Description of Tools

**Tool 1:** Structured interview schedules for collecting data from district and state programme officers under SSA.

The interview schedule covers the major district level and state level activities related to language teaching and learning. Areas addressed through the schedule are given below:

1. The programmes / Interventions implemented by SSA for empowering primary teachers with Constructivist Language Pedagogy related to Teacher Training, On Site Support (OSS), Learning Enhancement Programme (LEP), Workshops for developing learning materials and teaching manuals, Distribution of grants (teacher grant, school grant and library grant)

2. Specific Objectives of Teacher Empowerment Programmes undertaken by SSA in terms of learner outcomes

3. The attitude of teachers towards the empowerment programmes

4. The process followed by SSA to identify and equip resource personnel for carrying out the empowerment programmes
5. Issues of learners regarding dialectical variations and specific programmes for addressing the issues

6. District specific programmes for developing the language proficiency of learners in lower primary classes

**Tool 2: Questionnaire for teachers related to language pedagogy and Teacher Training programme of SSA**

The questionnaire had six parts. The preliminary part of the questionnaire was to collect personal data of the teachers related to their General Qualification, Professional Qualification, service period and the class in which they taught.

The second part of the questionnaire sought the information about details of training programme such as the following:

1. Duration of In-Service Teacher Training attended by teachers during past 2 years

2. Adequacy of training days for language

3. Conceptual clarity of language pedagogy that the teachers gained through Teacher Training

4. Extent of Effectiveness of Training to handle Language classes

5. Method of In-service Teacher Training attended by teachers and

6. Method of In-service Teacher Training excepted by teachers

Under item number 3 above the tool asked the teachers to rate the level of
conceptual clarity they had gained through in-service training. Seven major areas of language pedagogy were considered for this. They were:

1. Social Constructivism

2. Language approach

3. Micro process of writing

4. Micro process of reading

5. Continuous assessment

6. Learning aids for language

7. Theatre techniques in language

A 5-point rating scale was used for each item in which 4 points were for excellent clarity of understanding, 3 points for fairly good clarity, 2 points for good clarity, 1 point for somewhat clarity and 0 for poor clarity.

The item number 5 of Part 2 of Tool 3 covered the methods of training. A list of seven methods was given in the questionnaire for teachers to point out the appropriate item of method they had undergone. There was also a space for any method that would not be included under the listed ones. The tool also asked the teachers their choice method for future training programmes. Items contained in the list were:

1. Lecture Method

2. Group discussion
3. Demonstration class

4. Video Presentation of Model classes

5. Self Learning through ICT facilities

6. Gaining experience through tryout classes by one self

7. Simulation

8. Other methods

Part 3 of the questionnaire enquired about teacher’s perspective about language learning. Ten statements regarding language approach were included in this part and teachers were informed to identify the statements they agreed with. The statements were related to their perspective of language learning such as

1. The role of Imitating good models

2. Interpretation for a single text

3. Teaching elements of language

4. Demanding fixed responses to questions

5. Approach to correcting learners’ errors

6. Role of standard language in teaching

7. Opportunities and evidences for self correction

8. Teaching language beginning from the letters of the alphabet and proceeding to words sentences and then passages (stories/ poems/ descriptions/essays, etc.)
9. Nature of questions to be asked for evaluation

10. The innate language system

Part four of the questionnaire collected information about the class room experience of teachers. Ten items were included under this part in connection with reading, writing and performance.

The fifth part of the questionnaire was intended to collect data regarding the Competence attained by learners as the result of introducing the new pedagogy based on their own experience. The last part deals with the school level programmes implemented by teachers for enhancing reading.

**Tool 3: Questionnaire for resource persons related to language pedagogy and training programmes of SSA**

This questionnaire was for collecting data from resource persons who were deputed by Sarva Shiksha Abhiyan to conduct training for teachers handling language classes. The areas covered by this tool were exactly the same ones as included in Tool 3 except part five of the tool 3. The only difference between Tool 3 and Tool 4 was the former collected data related to teachers whereas the latter contained questions for collecting data related to the Resource Persons.

**Tool 4: Observation schedule for collecting data related to language learning process.**

Three areas such as micro process of reading, micro process of writing and performance of learners were considered in the observation schedule for gathering data related to constructivist language learning process as followed in the class
room. Under the area of reading five important micro process indicators were included.

They were:

1. Triggers for instilling the need in the learners to read
2. Eliciting the learners’ perceptions related to the context created,
3. Asking analytical questions for facilitating in-depth reading,
4. Giving instructions for sharing experiences of reading in groups,

Under the area of writing the following were considered:

1. Opportunities for learners to express their ideas in writing as part of reading
2. Process for refining the written discourses of in groups
3. Feedback for learners for refining the written discourses
4. Strategies for catering to the needs of the learners who progress at a low pace.
5. Exhibiting evidence of learning and its progress with help of portfolios, big books, Magazines & Journals, etc.

Another area covered by the same tool was the performance of the learners such as choreography, classroom theatre, oral presentations, etc.
**Tool 5: Achievement test**

The tool for achievement test contained two tasks for assessing language proficiency of learners in writing discourses with due consideration of the level of the learners of class two and four and the approach to language pedagogy. The tasks were not taken from the text book. The tool tries to find out the ability of learners to use language in an independent situation. Same discourses were considered for achievement test in both classes.

**3.6 Sample of the study**

In any statistical investigation, researchers are attempting to study the various characteristics of individuals or items of a particular group. This group of individuals under study is known as population. A finite subset of population, selected from it with the objective of investigating its properties is called sample. Sample is the representative part of the population. Sample refers to individuals who are included in data collection, selected from the whole population. (Somekh& Lewin,2009).

**Population of the study:** The population of the present study comprises of teachers and students of Kerala at primary level.

**Sampling technique:** Sampling in research is generally conducted in order to permit the detailed study of part, rather than the whole. Instead of a complete coverage of the population, selection of a sample provides many advantages. There is not enough time, energy, manpower, access to reach every single item of the population to collect data. There for appropriate sampling technique is adopted to obtain representative sample of the whole.
Multi stage sampling technique was used for the present study by dividing Kerala into three geographical regions such as north, middle and south (first stage) and then selected two districts from each region (second stage).

Random sampling technique was done for selecting schools from these districts, giving equal weightage to classes two and four. Teachers and students of class two and four were selected randomly from selected schools for observation and achievement test.

The State of Kerala was established as on the 1st of November 1956. Historically, the Southern, Middle and Northern regions of Kerala enjoyed their own cultural density. Relationships in agrarian sector, religions and customs, educational background as well as the royal reigns of administration in these regions were quite diverse. Though some changes have occurred in these during the past 60 years, the three regions that cover 14 districts of the state exhibit diversity in terms of socio-economic development and educational background of the people.

The sample for the present study was selected to get a judicious representation of the three regions namely, North, Middle and South. Kasaragod and Wayanad districts were selected as they represent northern part of Kerala. From the middle point of Kerala two districts namely, Thrissur and Palakkad were selected. To ensure the true representations of the Southern part of Kerala, Thiruvananthapuram, and Pathanamthitta were selected. Thus six out of the total 14 districts in Kerala were selected for the study.
Table No. 3.1

Region wise Representation of Sample Districts

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Region</th>
<th>No. of District selected</th>
<th>Name of Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>North</td>
<td>2</td>
<td>Kasaragod, Wayanad</td>
</tr>
<tr>
<td>2.</td>
<td>Middle</td>
<td>2</td>
<td>Thrissur, Palakkad</td>
</tr>
<tr>
<td>3.</td>
<td>South</td>
<td>2</td>
<td>Pathanamthitta, Thiruvananthapuram</td>
</tr>
</tbody>
</table>

The study focuses on the lower primary teachers and learners in Kerala. The pattern of lower primary stage that exists in Kerala is from Standard I to IV. Out of these classes, II and IV were selected as sample. In Kerala standard I and II are treated as constituting one unit as an integrated curriculum is being followed in these standards. Standard II is purposefully selected for the study as it is the upper unit of this preliminary stage. Standard IV was selected as it is the upper limit of the Lower primary sections.

Table No 3.2

District wise representation of Teachers

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>District</th>
<th>Total Number of Teachers in class 2 and 4</th>
<th>No. of Teachers in class 2 and 4 taken as sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thiruvananthapuram</td>
<td>1670</td>
<td>84</td>
</tr>
<tr>
<td>2.</td>
<td>Pathanamthitta</td>
<td>1153</td>
<td>58</td>
</tr>
<tr>
<td>3.</td>
<td>Thrissur</td>
<td>2431</td>
<td>122</td>
</tr>
<tr>
<td>4.</td>
<td>Palakkad</td>
<td>2697</td>
<td>136</td>
</tr>
<tr>
<td>5.</td>
<td>Wayanad</td>
<td>837</td>
<td>42</td>
</tr>
<tr>
<td>6.</td>
<td>Kasaragod</td>
<td>1672</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>10460</td>
<td>526</td>
</tr>
</tbody>
</table>
The total number of teachers in Standard II and IV in the six selected districts is 10,460. Considerable difference exists in the number of teachers in each district in this category. Hence 5% of the total teachers available in each district were selected for the study, following the quota sampling method. Thus the total number of teachers identified as sample is 526, which is the 5% of 10460. Table 3.2 shows the district-wise representation of teachers:

Out of the total sample of 526 teachers, equal distribution was made for classes II and IV taking 263 for each. Table 3.3 given below shows the district wise and class-wise representation of teachers taken as sample for the study:

**Table No: 3.3**

**District wise and class wise distribution of Teachers**

<table>
<thead>
<tr>
<th>Sl no</th>
<th>Districts</th>
<th>Number of teachers in class 2</th>
<th>Number of teachers in class 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thiruvananthapuram</td>
<td>42</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>2.</td>
<td>Pathanamthitta</td>
<td>29</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>3.</td>
<td>Thrissur</td>
<td>61</td>
<td>61</td>
<td>122</td>
</tr>
<tr>
<td>4.</td>
<td>Palakkad</td>
<td>68</td>
<td>68</td>
<td>136</td>
</tr>
<tr>
<td>5.</td>
<td>Wayanad</td>
<td>21</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>6.</td>
<td>Kasaragod</td>
<td>42</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>263</strong></td>
<td><strong>263</strong></td>
<td><strong>526</strong></td>
</tr>
</tbody>
</table>
While taking the sample of teachers for the study, due weightage was given to the Rural and Urban areas. Thus out of the 526 teachers subjected to the study, 263 teachers of schools from rural areas and the remaining 263 teachers were from the schools situated in urban habitations. Moreover, out of the 263 teachers from the rural area, 100 were from tribal areas.

**Table No. 3.4**

_**Locality wise representation of teachers selected as sample for the study**_

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Districts</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thiruvananthapuram</td>
<td>42</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>2.</td>
<td>Pathanamthitta</td>
<td>29</td>
<td>29</td>
<td>58</td>
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<td>Thrissur</td>
<td>61</td>
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<td>Palakkad</td>
<td>68</td>
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<td>136</td>
</tr>
<tr>
<td>5.</td>
<td>Wayanad</td>
<td>21</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>6.</td>
<td>Kasaragod</td>
<td>42</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>263</strong></td>
<td><strong>263</strong></td>
<td><strong>526</strong></td>
</tr>
</tbody>
</table>
As far as the management of the schools is concerned, equal weightage in representation was ensured for teachers from the Govt. sector and aided sector. 263 teachers from each sector from the six districts were taken as sample. This is shown in table 3.5.

**Table No. 3.5**

Sample of teachers selected for the study based on School Management

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>District</th>
<th>No. of Govt. school teachers</th>
<th>No. of Aided school teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thiruvananthapuram</td>
<td>42</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>2.</td>
<td>Pathanamthitta</td>
<td>29</td>
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</tr>
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<td>Thrissur</td>
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<td>Palakkad</td>
<td>68</td>
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<td>136</td>
</tr>
<tr>
<td>5.</td>
<td>Wayanad</td>
<td>21</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>6.</td>
<td>Kasaragod</td>
<td>42</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>263</strong></td>
<td><strong>263</strong></td>
<td><strong>526</strong></td>
</tr>
</tbody>
</table>
A total of 72 classes were observed with equal representation of Rural, Urban and Tribal areas in all the six districts. Since it was practically impossible to observe the classes of all teachers included in the study sample, the classes of only 12 teachers from each of the six sample districts were observed. Under each of the urban, rural and tribal categories, equal representation was given for classes II and IV. In all these categories, one half is from the Government sector and the other is from the Govt. Aided Sector.

**Table No. 3.6**

**Locality wise representation of Classes Observed**

<table>
<thead>
<tr>
<th>District</th>
<th>Urban area</th>
<th>Rural area</th>
<th>Tribal area</th>
<th>Total</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Govt</td>
<td>Aided</td>
<td>Govt</td>
<td>Aided</td>
<td>Govt</td>
</tr>
<tr>
<td>Thiruvananthapuram</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Thrissur</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Palakkad</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Wayanad</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Kasaragod</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

A total of 72 classes were observed giving equal weightage to class II and class IV. However, since the roll strength of each class was different equal number of students could not be obtained from classes II and IV. Thus out of 1948 students who represent the 72 classes, 916 students (47%) were of class II and
1032 (53%) were of class IV. It was also observed that there is an increase in the strength of students from class II to class IV which is a demographic phenomenon across the state. The district-wise number of class II and class IV students who were brought under the study is shown in table 3.7:

**Table No. 3.7**

**District-wise and class-wise representation of students**

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>District</th>
<th>Number of students in class 2</th>
<th>Number of students in class 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thiruvananthapuram</td>
<td>167</td>
<td>184</td>
<td>351</td>
</tr>
<tr>
<td>2.</td>
<td>Pathanamthitta</td>
<td>67</td>
<td>102</td>
<td>169</td>
</tr>
<tr>
<td>3.</td>
<td>Thrissur</td>
<td>153</td>
<td>199</td>
<td>352</td>
</tr>
<tr>
<td>4.</td>
<td>Palakkad</td>
<td>208</td>
<td>188</td>
<td>396</td>
</tr>
<tr>
<td>5.</td>
<td>Wayanad</td>
<td>194</td>
<td>223</td>
<td>417</td>
</tr>
<tr>
<td>6.</td>
<td>Kasaragod</td>
<td>127</td>
<td>136</td>
<td>263</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>916</strong></td>
<td><strong>1032</strong></td>
<td><strong>1948</strong></td>
</tr>
</tbody>
</table>

As regards the locality wise- distribution of students a total number of 672 students were brought under the urban region, 665 from the rural region and 611 from the tribal region. This makes 35% of the sample from the urban region, 34% from the rural region and 31% from the tribal region. The difference in the percentage is due to the difference in the roll of the classes brought under the study. Table 3.8 shows the locality-wise and class-wise distribution of students brought under the study.
Table No 3.8
Locality wise representation of Students selected for the study

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Locality</th>
<th>No. of Students in Class Two</th>
<th>No. of Students in Class Four</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Urban area</td>
<td>307</td>
<td>365</td>
<td>672</td>
</tr>
<tr>
<td>2</td>
<td>Rural area</td>
<td>321</td>
<td>344</td>
<td>665</td>
</tr>
<tr>
<td>3</td>
<td>Tribal area</td>
<td>288</td>
<td>323</td>
<td>611</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>916</strong></td>
<td><strong>1032</strong></td>
<td><strong>1948</strong></td>
</tr>
</tbody>
</table>

Out of the 1948 students brought under the study 990 were from Govt. schools and 958 were aided sector. This is represented in table 3.9.

Table No 3.9
Management- wise representation of Students selected for the study

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Management</th>
<th>No. of Students in Class Two</th>
<th>No. of Students in Class Four</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Govt. Sector</td>
<td>401</td>
<td>589</td>
<td>990</td>
</tr>
<tr>
<td>2</td>
<td>Aided sector</td>
<td>515</td>
<td>443</td>
<td>958</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>916</strong></td>
<td><strong>1032</strong></td>
<td><strong>1948</strong></td>
</tr>
</tbody>
</table>

Structured interview was conducted of 6 programme officers of SSA who
were in charge of Teacher Training in each of the six districts for collecting data. In addition to this structured interview of the State Consultant (Pedagogy) was also conducted.

The data for the study were collected through interviews, observation of classes, surveys and achievement test taking the above mentioned samples. The data were analyzed and the findings of the analysis are given in the subsequent chapters.

3.7 Statistical methods

Descriptive Statistics are used to present quantitative descriptions in a manageable form and each descriptive statistic reduces lots of data into simpler consolidated form. Bar diagrams and Pie diagrams are used for simplifying the complexity of quantitative data and to make them easily intelligible. In survey method descriptive statistics is mainly used to understand the key parameters which include the inputs given by Sarva Shiksha Abhiyan, level of conceptual understanding of teachers, their ability to handle language classes and the language achievement of learners. To understand the relationship between the training inputs and its outcomes a detailed statistical inferential analysis has been incorporated. The key statistical tools and methods which were used for analysis are given in the following table.
Table 3.10

Statistical tests, Methods and Description thereof

<table>
<thead>
<tr>
<th>Statistical tests and methods used</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures of Central Tendencies such as Arithmetic Mean, Median and mode</td>
<td>This tools are used to represent the whole data, comparison between variables and for further statistical computation</td>
</tr>
<tr>
<td>Measures of dispersion like Standard Deviation and Range</td>
<td>This tools are used to measure the reliability and steadiness of the data collected by measuring how far the data is distant from the Mean variables</td>
</tr>
<tr>
<td>Standard Error</td>
<td>This is used to standardise erroneous acceptance or rejections of the Hypotheses and this is the step to find out the Critical Ratio between v</td>
</tr>
<tr>
<td>Testing of Significance of difference between Means – Critical Ratio (T-test)</td>
<td>To test whether the Hypotheses, formulated are accepted or rejected</td>
</tr>
</tbody>
</table>

Based on the above mentioned tests and tools the statistical results were inferred and the findings, discussions and suggestions were made based on the results.

3.8 Scope of the Study

The present study is expected to provide theoretical and pedagogical inputs for the future improvement of the programmes for developing the proficiency of children in mother tongue in the State. The study may help the authorities concerned with Sarva Shiksha Abhiyan in Kerala to improve the standard of language acquisition programme.
3.9 Limitations of the Study

The study is confined to six Districts only- Kasaragod, Wayanad, Thrissur, Palakkad, Pathanamthitta and Thiruvananthapuram.

Only classes 2 and 4 are taken as representative samples of lower primary classes.