CHAPTER IV

METHODOLOGY

Method adopted
Variables selected
Population and sample
Tools used
Description of tools
Standardisation procedure
Administration of the tools
Statistical techniques employed
CHAPTER IV

METHODOLOGY

The present study is intended to explore the possible relationship between certain pupil- and institution related factors and the basic language skills in English. This chapter gives a detailed account of the method used, the sample selected, tools used, preparation and administration of tools and the statistical techniques of adopted. The machinery of methodology renders the lay out for the investigation.

The investigator adopted survey method for the study as required by the objectives. The pertinence of this method for the investigation is obvious form the commentary of Best (1970, p. 315).

"It is concerned with condition or relationship that exist, practice that prevail, beliefs, points of view or attitude that are held, processes that are going on; effects that are being felt, or trend that are developing". The investigator hopes that survey method would help bringing out the extent of association between the pupil-related factors and the basic language skills, and the institution-related factors and the basic language skills in English at secondary level.

Variable Selected

Variables are the conditions considered for the study

Dependent Variable

The dependent variable considered for the present study is the basic language skills in English. The basic language skills are:

a. Listening and understanding

b. Reading with comprehension
c. Speaking with fluency and
d. Writing with flexibility

They form the main focus of the study. The skill efficiency determines one's proficiency in any language.

The independent Variables

The independent variables are:

i. Pupil-related factors
   a. intelligence
   b. socio-economic status and
   c. attitude of pupils towards learning English

ii. Institution-related factors.
   a. instructional strategies
   b. library facilities and
   c. co-curricular activities in English

Pupil related variables

a. Intelligence

Intelligence forms the basis for all kinds of mental functioning including language learning. In Guilford's SOI model, some of the components of intelligence are language components like semantic memory. To Binnet and Simon (1965), Intelligence is a fundamental faculty, the alteration or lack of which is of the utmost importance for practical life. Piaget (1960) has been instrumental in shaping the way for the relationship between language and thought.

Wechsler (1949) defines intelligence as "the aggregate or global capacity of an individual to act purposefully to think rationally and to deal effectively with his environment".
b. **Socio-economic status**

In the modern context society is accepted as a vital determinant of the child’s language development. This pupil-related variable has three main contents.

1. The parent’s income. It determines which class of social strata the pupil belongs to.
2. The education of the parents. Many studies have proved the positive influence of parents’ educational level on the education of their children. This has a direct-bearing on the educational progress and achievement of the pupils.
3. Occupation of parents. This factor determines the educational opportunities and facilities afforded to the children.

**c. Attitude**

Attitudes are individual expressions representing a summary of evaluation of an attitude object. Morgan (1984) interest and an emotional liking/disliking are involved in attitude. Unless the children develop a positive attitude to the learning of any subject, they would not take interest to learn the subject.

**ii. Institution-related factors.**

a. **Instructional strategies**

Instructional strategies encompass all activities and techniques used for curriculum transaction. Modern strategies speak for numerous and diverse activities in the classroom. The richer the language experience in the classroom, the faster the development of the language skills.

b. **Library facilities**

The modern trend is pupil-directed learning. A proper functioning library in a school caters to the intellectual needs of students to a great extent. Classroom
confined language learning does not bring forth intended results. In this situation, school libraries are a better resort for children.

c. Co-curricular activities in English

Unless in the classroom, co-curricular activities are the best venue for pupils to practice language skills and enrich their language. Language can develop only through use and practice. Judith and Baker speak of a profusive number of co-curricular activities which can conveniently be used in an English classroom.

Population and sample

The sample for the present study is drawn from the population of secondary school pupils, particularly ninth standard students of Kerala State, the teachers who handle English at this level, school librarians or teachers in charge of the school library.

Sample

The dependability of an investigation is determined by the selection of the sample on which the study is conducted. The present investigation was conducted on an initial sample of 580 ninth standard students from six districts of Kerala. Twenty five teachers and twenty five librarians or teachers in charge of the library were selected from the schools where the student sample was taken.

When the investigator went through the data it was found that some students did not take some of the tests and some of the answers were incomplete. Such answer sheets were deleted and the sample was reduced to 500. Furthermore, when the data were compiled for computation the investigator had difficulty in correlating the scores on language skills and the scores on instructional strategies and library facilities. Hence the sample size for these variables was reduced from 25 to 10.
Thus the final sample for the present study consisted of 500 students of standard nine from where the data relating to pupil-related variables viz, intelligence, socio-economic status, and attitude, and institution-related variables co-curricular activities in English were collected. Ten teachers, who handle English in the ninth standards from where pupil-related data was collected, were another group of sample. Ten school librarians or teachers in charge of the library were the third group of sample. The present study had three sets of samples.

While selecting the sample due representation was given to the sub-samples boys, girls, mixed, urban and rural. Out of the 500 student sample selected 150, were boys, 150, girls, and 200 mixed (drawn from co-educational institutions). The sample had 250 urban and 250 rural sample representation. The district-wise distribution of the sample selected is given in the Table 1.

Table 1

District-wise Distribution of the Total Sample.

<table>
<thead>
<tr>
<th>Districts</th>
<th>Name of school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kasaragod</td>
<td>Govt. High school, Kamballore.</td>
</tr>
<tr>
<td>Kannur</td>
<td>Payyannur Municipal Higher Secondary School</td>
</tr>
<tr>
<td>Kottayam</td>
<td>St. Mary’s Girl’s High School, Kanjirappally.</td>
</tr>
<tr>
<td></td>
<td>St. Eprime’s High school, Chirrakkadavu</td>
</tr>
<tr>
<td>Idukki</td>
<td>St. Sebastian Boys High School, Thodupuzha,</td>
</tr>
<tr>
<td></td>
<td>St. Antoney’s Boys High School, Mundakayam</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>ST. Joseph Girls High school, Alappuzha,</td>
</tr>
<tr>
<td></td>
<td>Govt. Boys High School, Harippadu</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>Govt. High School Pathanamthitta,</td>
</tr>
<tr>
<td></td>
<td>St.Mary’s High School, Adoor.</td>
</tr>
</tbody>
</table>
Tools used

The validity of the tools determine the authenticity of the study

The tools used are:

1. Generalised Language Ability Test Battery in English
2. Socio-economic Scale
3. Attitude Scale
4. Observation Schedule
5. Interview Schedule
6. Check-list
7. Kerala University Verbal Group Test of intelligence

Description of Tools

The dependent variable of the study is the four basic English language skills. Isolated test batteries for each skill are available. A standardize generalized language ability test for secondary school students is not available. Therefore the investigator developed and standardised a Generalised Language Ability Test Battery for secondary school students constituting four tests: test of listening comprehension, test of speaking, test of reading comprehension and test of writing.

The Generalised Language Ability Test Battery in English, at secondary level was prepared, bearing in mind all the specifications of the individual language skills. Each item in the test was selected with great care so that the item would bring forth an accurate measure of the sub-skill intended to check.

The contents covered in the tests were compared with the curriculum at secondary level of Kerala State.

Details of the development of the tests are described under the following heads.
Planning of the test

The initial step in the construction and standardisation of a test is the planning of it. The main points to be taken into account in this are the coverage of the areas of content and the coverage of expected behaviours implied by the predetermined objectives. Consultation with the supervising teachers and a thorough review of the related literature assisted the investigator to perform this successfully.

Preparation of the test

The test items were selected consistent with the content area of the ninth standard syllabus and in accordance with the blueprint prepared. The investigator went through the related literature to know the new trends in language testing and found many of the models such as that of Rupin (1990) can successfully be adopted to our classroom, keeping up the individual differences. After preparing the items, the investigator consulted with language experts and the necessary modifications were made.

Pilot study

The tests were administered on a sample of 30 students: 18 boys and 12 girls of St. Eprises H.S. Chirakkadavu, Kottayam district.

The pupils were informed of the significance of the test. Necessary instructions were given to them before the commencement of the test. They were
directed to complete all the test items as quickly as possible. Time taken for each individual test was noticed. A tape recorder was used on some occasions for the test-components of listening and speaking.

Analysing the answer scripts the investigator noticed that some items in the test were ambiguous and some were too difficult for them. The defects noticed were rectified. From the time taken for the completion of the test battery the investigator was able to fix the time for each Test. The pilot study helped the investigator to give a reasonable shape to the test and to know the rough estimate of time needed for the completion of the test.

Draft test

Draft test is an essential step in the construction and standardisation of a test. It helps to detect the difficulty and discrimination power of the test whereby the test items may be arranged in a sequential order.

Standardisation Sample

A sample of 385 students of ninth standard was selected for the administration of these tests. This sample consisted of equal numbers of boys and girls from rural and urban schools of Kottayam and Pathanamthitta districts.

Administration of the tests

The tests were administered with great care. A rapport with the students was made first. Time allocation for each test was strictly observed. Number of items and time allotted for each test are given in table 2.
Table 2

Number of Items and the Time allotted for Each Test in the Draft Test

<table>
<thead>
<tr>
<th>Tests</th>
<th>No. of items</th>
<th>Time allotted in minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>18</td>
<td>50</td>
</tr>
<tr>
<td>Speaking</td>
<td>12</td>
<td>45</td>
</tr>
<tr>
<td>Reading</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>Writing</td>
<td>8</td>
<td>30</td>
</tr>
</tbody>
</table>

The answer sheets were valued according to the value points fixed before.

**Item Analysis**

Item analysis was done for the total 385 sample for each test by arranging them in the descending order of their test scores. Fifteen sheets were removed from the total sample by taking away every twenty-second fifth ore sheet. The sample was brought down to 370. One hundred score sheets with high scores were grouped together and considered as the upper group. Similarly one hundred score sheets with low scores were grouped together to form the low group. 170 scores were discarded from the item analysis.

‘Item analysis indicates which item may be too easy or too difficult and which may fall for other reasons to discriminate clearly between the better and the poorer examiners. Item analysis sometimes support why an item has not functioned effectively and how it might be changed to improve it’.

The two extreme groups, the high and the low 27 percent formed the criterion group for the calculation of difficulty and discrimination indices of the test items. The following formule were used.
Difficulty Index of an item = \( \frac{U + L}{2N} \)

Discrimination index of an item = \( \frac{U - L}{2N} \)

where

- \( U \) number of right responses in the group achieving high in the test (top 27%)
- \( L \) group achieving low in the test (bottom 27%)
- \( N \) number in the high achieving or low achieving group

Applying these criteria the items of the different tests were selected and finalised. Table 3 shows number of items selected for the final version of the tests.

**Table 3**

**Number of Items and Time Schedule for the Final Test.**

<table>
<thead>
<tr>
<th>Tests</th>
<th>No. of Items selected</th>
<th>Time allotted in minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>11</td>
<td>40</td>
</tr>
<tr>
<td>Speaking</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Reading</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Writing</td>
<td>10</td>
<td>25</td>
</tr>
</tbody>
</table>

**Preparation of the Final Test**

The items selected for each test under item analysis were put together and printed in a booklet form. Sufficient instructions are given for each test in the booklet. Score sheets were also printed. ‘A standardised test is a uniform test for which there are uniform prescribed procedure for administering and scoring’ Hayes, L. B (1991).
Components of the Generalised Language Ability Test Battery

1. **Test of Listening Comprehension**

   Listening is an encoding language skill. It has two skill elements – receptivity and reflection. The sub skills taken into account for the preparation of this test are given below.

   1. Ability to observe single details
   2. Ability to keep related details in mind
   3. Ability to follow directions
   4. Auding, hearing and listening (mechanical skills)
   5. Ability to observe a single detail
   6. Ability to recognise organisational elements
   7. Ability to recognise relationship between main ideas and subordinate ideas.
   8. Ability to remember a series of details
   9. Ability to use contextual clues.
   10. Ability to select main ideas as opposite to subordinate ideas

   *The test consists of eleven items.* They are:

   1. passage comprehension, narrative
   2. passage comprehension, descriptive
   3. directions
   4. dictation
   5. sequencing
   6. grammar and usages
   7. matching
   8. precis writing
   9. summarising
10. grouping of ideas from details

The time allotted is 40 minutes. The marks allotted is 25.

2. *Test of Speaking*

The specifications considered are the following:

1. Organisation of ideas – factual
2. Organisation of ideas – creativity and imagination
3. Development of supporting details
4. Listening and free response
5. Language
6. Adaptation to the speech/special situation
7. Enunciation, articulation and pronunciation.

*The items included in the test are:*

1. debate situation to contribute
2. story to complete
3. classroom discussion to participate
4. situation to pass comments / raise doubts
5. language practice
6. speech production
7. conversation situation
8. narration
9. pronunciation
10. pick the odd one out

The time allotted is 30 minutes and total marks allotted is 25.
3. **Test of Reading**

This test considered the following specifications:

1. Recognise the communicative function of a test
2. Infer the context of the text
3. Attain the gist
4. Use of contextual clues
5. Identify specific details
6. Infer ideas not explicitly stated
7. Word recognition

*Items used in the test of reading are:*

1. picture reading
2. antonyms
3. language items
4. summary (a story)
5. language items
6. passage comprehension
7. cloze passage with language items
8. cloze passage (lexical)

Time allotted is 30 minutes and the total marks for the test is 25.

**Test of Writing**

The specifications considered are the following:

1. Reproduction
2. Recall
3. Application
4. Self Expression and Synthesis
Items used in the test are

1. spelling
2. preposition
3. articles
4. tense forms
5. lexis
6. synonyms
7. antonyms
8. expressions
9. sentence completion
10. communication by writing
11. descriptive

The time allotted is 25 minutes and the total marks is 25.

Thus the test battery carried a total of 100 marks. The time allotted for the battery is two hours and five minutes. A copy of the Generalised Ability Test Battery the answer sheet and script for the teacher are given in appendix. 1,2,3

Objective type questions were reduced to minimum in number based on the fact that skill elements in language cannot be assessed fully through single word answers.

The independent variables are intelligence, socio-economic status and attitude as pupil-related factors and instructional strategies, library facilities and co-curricular activities as institution related factors. Tools were prepared to measure each of these variables except intelligence. A standardised tool was used to measure intelligence.
Tools used for pupil related variables - intelligence, socio-economic status and attitude of pupils towards learning English

1. Intelligence

The Kerala University Verbal Group Test of Intelligence.

Intelligence is a general ability, vital in determining capacity for understanding. Many intelligence tests emphasize language ability, vocabulary, definition, perception of absurdities, likeness and differences in the meaning of words, memory for sentences and the like. The common measure of intelligence provides the best singles source of information for predicting the quality of a pupil’s language development.

As the study is based on the relationship between the pupil and institution related factors on the development of basic English language skills the investigator measured the verbal intelligence of the target group using the Kerala University Verbal Group Test of Intelligence. This test is one of the most popular measures of intelligence available in Kerala. The test has been standardised on a population of ninth standard students of Kerala. This is a point scale for the factors of intelligence.

Test Components

The test battery consists of five sub-tests. The components of the test are given in the Table: 4
Table 4
Details of Kerala University Verbal Group Test of Intelligence

<table>
<thead>
<tr>
<th>Test number</th>
<th>Name of the component</th>
<th>No. of items</th>
<th>Time limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Analogy</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>II</td>
<td>Classification</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>III</td>
<td>Proverbs</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>IV</td>
<td>Number Series</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>V</td>
<td>Verbal Reasoning</td>
<td>20</td>
<td>8</td>
</tr>
</tbody>
</table>

Description of sub-tests verbal analogy

In this sub-test three words are given of which the first two suggest a relationship. The same relationship is observed between the third and the fourth one to be found out from the four works gives in brackets to choose. This sub-test assess the ability to see the relationship in particular situation and apply them to other situations. This type of items (based on Spearman’s (1960) principles of cognition) measures abilities like the following.

1. A person tends to find relation between the parts of any apprehended material.

2. If a presentation is apprehended by a person and a relationship presented with it, the related experience or concept (correlate) also is evoked.

Illustrations

1. Train: station # Bus :----
   a) Sea.  b) Lake.  c) Harbour.  d) Boat.

2. Crow: bird # Tiger:-------
   a) animal.  b) forest.  c) cave.  d) cage.
Factor analysis studies have shown that this involves a reasoning factor identified as ‘Education of Relationships’.

**Verbal Classification**

In each of these, five words are given of which four can be grouped together according to some principles of law. The student has to choose the word that stands out.

**Illustrations**

I  
   a) Addition.  b) Subtraction. c) Multiplication,  d) Arithmetic  
   e) Division.
II  
   a) English.  b) Malayalam. c) Hindi,  d) Tamil  e) Telugu.

**Proverbs**

Each item in this sub-test is a proverb followed by four statements which express the meaning of the idea contained in the proverb.

**Illustration**

I  
   Slow and steady wins the race
   a) steady application to work done in a slow manner.  
   b) If we do some work slowly we can finish the work however hard it might be.  
   c) Any work should be done slowly.  
   d) Any work done slowly is good.  

Items of this type are mostly saturated with ‘g’ factor. The mental ability involved in selecting the best statement is supposed to be verbal comprehension.

**Number Series**

Each item is composed of a series of numbers where the different terms are found according to a particular rule. One terms in the series is missing. The student
has to find out the missing number of the terms from a test set of three alternatives given.

**Illustrations**

I 2, 4, 8, 10, ------
   a) 20,  b) 12,  c) 14

II 50, 46, 42, 38, ----, 30.
   a) 26,  b) 34,  c) 32.

The mental ability involved in this type of test material is inductive reasoning (RI).

**Verbal Reasoning**

Each of the items in this sub test requires a perception of some sort of a relationship and its application also is given. The student has to select the correct answer to the problem from the three or four alternatives given.

**Illustrations**

1. Rani is older than Rubi. Leena is older than Rani. Who is the oldest of the three?
   a) Rani  b) Rubi  c) Leena

2. A family went for a walk. The sun walked in front of the father. The daughter was walking behind the father and ahead of the mother. Who among the four was the last?
   a) Father,  b) Mother  c) Son  d) Daughter

Thurston identified that the mental ability in answering items of these type is deductive reasoning (RD)

**Standardisation Sample**

The test was administered on a sample of 500 students of standard VIII, IX, and X drawn from various schools of Kerala. Proportionate stratified sampling was adopted for giving representation to age, sex, type of school etc.
Reliability

The test re-test reliability is 0.79, the interval between the test and re-test being one month and \( N = 86 \).

The split-half reliability (\( N = 120 \)) corrected for shortening using Spearman Brown formula is given in Table 5.

Table 5

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Test</th>
<th>Correlation values of the reliability coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Whole Test</td>
<td>0.93</td>
</tr>
<tr>
<td>2</td>
<td>Analogy</td>
<td>0.88</td>
</tr>
<tr>
<td>3</td>
<td>Classification</td>
<td>0.86</td>
</tr>
<tr>
<td>4</td>
<td>Proverb</td>
<td>0.66</td>
</tr>
<tr>
<td>5</td>
<td>Number series</td>
<td>0.86</td>
</tr>
<tr>
<td>6</td>
<td>Verbal Reasoning</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Validity

Validity of the test was ensured mainly by adopting components from other tests of proved merit and partly by ensuring high internal validity attained through item analysis. The inter-correlation of the 5 tests in the battery are given in Table. 6
Table 6

Validity coefficient of the Kerala University Verbal Group Test of Intelligence.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Test</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Analogy</td>
<td></td>
<td>0.75</td>
<td>0.66</td>
<td>0.45</td>
<td>0.56</td>
</tr>
<tr>
<td>2</td>
<td>Classification</td>
<td>0.75</td>
<td></td>
<td>0.63</td>
<td>0.47</td>
<td>0.47</td>
</tr>
<tr>
<td>3</td>
<td>Proverbs</td>
<td>0.66</td>
<td>0.63</td>
<td></td>
<td>0.47</td>
<td>0.41</td>
</tr>
<tr>
<td>4</td>
<td>Number series</td>
<td>0.45</td>
<td>0.47</td>
<td>0.47</td>
<td></td>
<td>0.32</td>
</tr>
<tr>
<td>5</td>
<td>Verbal Reasoning</td>
<td>0.56</td>
<td>0.41</td>
<td>0.41</td>
<td>0.32</td>
<td></td>
</tr>
</tbody>
</table>

With marks obtained in examination in schools as external criterion the validity co-efficient is 0.64 (N= 500). With Raven’s progressive matrices Test as external criterion the validity co-efficient is 0.56 (N = 120).

The validity co-efficient of sub tests I to V with school marks as external criterion are 0.61, 0.53, 0.65, 0.67 and 0.45 respectively (N= 60).

The details provided above reveal that the test is a tolerably good measure of intelligence or general mental ability and the sub-tests have attained a high level of reliability.

2. Socio-Economic Scale

Socio-Economic Status

The education of the parents and other members of the family their income and the place of the family in the society also influence the language development of the child.

A socio-economic scale was prepared to measure the education, income and occupation of the family of the student sample considered. It has two parts. Part I is the personal details of the pupil, namely name of the people, sex, number of elder
brothers, number of elder sisters, number of younger brothers and younger sisters. Part II asks information on three factors: education, occupation and income of father, mother, sisters, brothers, guardian and other members of the family. Education ranges from IV th grade to professional degree. Seven columns are given. Occupation is classed into five sections. Since an unemployed parent cannot support a family a column for unemployed is avoided. Income is grouped into five stratas. The details of the categorisation are given in table 7.

Table 7

Catagorisation and the Respective Weigateges for the Components of Socio-Economic Status

<table>
<thead>
<tr>
<th>SL No</th>
<th>Education</th>
<th>Weightage</th>
<th>Occupation</th>
<th>Weightage</th>
<th>Income</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Up to grade IV</td>
<td>5</td>
<td>Unskilled</td>
<td>5</td>
<td>Below Rs.3000</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Up to grade IV- VII</td>
<td>10</td>
<td>Semi-skilled</td>
<td>10</td>
<td>Rs. 3001 - 4500</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Up to S.S.L.C.</td>
<td>15</td>
<td>Skilled</td>
<td>15</td>
<td>Rs. 45001 - 6000</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>Up to Pre-Degree and others</td>
<td>20</td>
<td>Semi-Professional</td>
<td>20</td>
<td>Rs. 6001 - 7500</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Degree</td>
<td>25</td>
<td>High professional</td>
<td>25</td>
<td>Rs. 7501 and above</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Master’s Degree</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Professional Degree</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
One mark additional was given to members other than above for their education income and occupation in the respective columns. If any two family members possess the same educational qualification only one mark extra was given to one person’s score and not the full score was given to both which may create a wide disparity between the less educated and highly educated.

Classification of Occupation

The different occupation have been classified into five categories they are unskilled, semi-skilled, skilled, semi-professional and highly professional

1. Unskilled. This category includes coolies, labourers, watchmen etc.

2. Semiskilled, in this category are included small scale merchants, library attenders, farmers, police constables etc.

3. Skilled, merchants, fitters, electricians, drivers, photographers, laboratory assistance, carpenters, masons, blacksmiths, goldsmiths, Head constables, village officers and the like are grouped here.

4. Semi professional. Chemists, druggists, qualified nurses, teachers, managers, superintendents, minor businessmen, excise inspectors, sub-registrars, assistant educational officers, block development officers of the sub district level, public health workers etc are listed in this category.

5. Highly professionals. Ministers, judges, bank executive and officials, doctors, engineers, lawyers, university level teachers, Heads of research organisations, Heads of govt. department, secretaries to govt. big landlords, business executives are counted as highly professional.

The scale is given in appendix 4.
3. **Attitude of pupils towards learning English language.**

*Attitude Scale*

A scale was prepared to measure the attitude of secondary school students towards the learning of English language. The investigator has selected Likert type of attitude scale. On a Likert scale the individual checks one of the possible responses to each statement. A three point scale was adopted. If more dispersions are given, say five or seven the students would not be able to distinguish between one another, since the scale is meant for secondary school pupils, particularly ninth standard. The scale is divided into four parts, as it checks the attitude of the pupils towards the four basic English language skills. It contains statements which seems to definitely favourable and definitely unfavourable. Ten statements are given for each skill, five positive and five negative which are given in mixed order.

For each positive statement five marks are allotted in the first column that is strongly agree. To partial agreement (in the second column) three points and one point for disagreement (in the third column) are given. For negative statements five marks are given in the third column for disagreement because disagreement to negative statements indicates positive attitude. Three marks are allotted for partial agreement to negative statement and one mark for agreement. A summative score was considered as the total attitude of the secondary school students towards the learning of English language.

*Pilot Test*

After preparing the test items a trial test was conducted. The test was administered on one division of ninth standard of St. Eprimes High school Chirakkadavu. 30 students, 15 girls and 15 boys were selected for the purpose.
The pupils were informed of the importance of the test and necessary instructions were also given. Careful study of the answer sheets revealed that some items were ambiguous and difficult. These items were substituted with new items. Thus the defects were rectified. The investigator stuck on to the same number of items as ten in each section. Thus the final draft was prepared. A copy of the attitude scale is placed in appendix 5.

**Tools for Institution-related factors**

1. Instructional strategies.

**Observation Schedule.**

The developments in recent years prove that teacher is the ultimate key to educational change and school improvement. Teacher develops defines and reinterprets the curriculum. It is what teachers think what they believe and what they do at the level of the classroom that ultimately shape the kind of learning that pupils get. The teacher behaviour, thus is a strong determinant of learner outcome. The strategies employed by teachers really motivate the students, develop interest in them and figure the attitude in their minds towards the language.

An observation schedule was prepared covering almost all aspects of teacher behaviour and the classroom activities. The schedule contained thirteen sections. At the on set some personal information, viz., name of the teacher, name of the school, qualification specialisation and teaching experience were asked. Section I is the methods of teaching. Eight alternatives are listed according to the order of its significance. Value points are given for each method for the purpose of quantifying the data. The scoring pattern are given below.
<table>
<thead>
<tr>
<th>Methods of teaching</th>
<th>Max: Marks 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Integrated approach</td>
<td>8</td>
</tr>
<tr>
<td>2 Communicative approach</td>
<td>7</td>
</tr>
<tr>
<td>3 Direct method</td>
<td>7</td>
</tr>
<tr>
<td>4 Modular approach</td>
<td>7</td>
</tr>
<tr>
<td>5 Structural approach</td>
<td>6</td>
</tr>
<tr>
<td>6 Project study</td>
<td>6</td>
</tr>
<tr>
<td>7 Supervised study</td>
<td>5</td>
</tr>
<tr>
<td>8 Grammar translation method</td>
<td>4</td>
</tr>
</tbody>
</table>

If one teacher used more than one method the average scores of them was taken.

The 111nd section is communication, for which three dispersions are acquisition: good, satisfactory and below satisfactory and the value point given are 5, 3 and 1 respectively. The IIId section is non-verbal cues. The same dispersions and scoring as that of section II is used. Section IV is classroom activities and section V is use of questions; the scales are very effective and effective and least effective. The scoring pattern is the same. Section VI is pupil’s response section VII is practice in pronunciation section VIII practice in spelling, IX practice in grammar, X practice in composition and XI evaluation; all with three point scale: frequently, occasionally and rarely with same pattern of scoring. Section XII is teaching techniques with three dispersions: very often, often and never and the scoring is 5, 3 and 0. Section XIII is use of audio-visual aids with the same pattern of scoring and the dispersions are very often never. Scores were given in order to rank the performances of ten teachers who
teach English in the IXth standard in the schools from where the student data was collected. A copy of the observation scheduled is added to the appendix as 6

2. **Library Facilities**

*Interview Schedule*

A library is an institution like school which educate the child or supplements the information required by the child, if it is fully equipped and properly utilised. A semi-structured interview was conducted with the teacher in charge of the library to gather information regarding library facilities in the school such as presents or absence of a library, number of English books available there, number of seats, availability of English newspaper, attendance of high school students to the library, use of library books in the classroom and contribution of P.T.A. There are twenty questions in the schedule. Five marks are given for each question as some question had more than one point as answer. If direct questions like, “do you have a library, how many English books are there in your library?”, the answers etc. elicited would be fake. This is the reason why the investigator did not select these types of questions. A semi-structured interview was prepared. A copy of the schedule is given in appendix 7

3. **Co-curricular Activities of students in English**

*Checklist*

Co-curricular activities enable the students to practice the skills of the language and enrich them. It is the place where the skills can develop into language habits, more especially the productive skills.

A checklist was prepared to find out the availability of facilities to practice the skills. There is provision for all children to answer as the checklist has two response columns, one enquires about the facilities for the conduct of the co-curricular
activities and the other, the participation of students in them. The checklist is divided into four sections, each section focuses on each basic language skills: listening, speaking, reading and writing. Each section is sub-divided into two, one checks the facilities and participation to practice the skill and the other checks the facilities and participation in competitions organised in the skill. The total responses in the two columns, facilities and participation are counted. If participation of students in competitions in each skill is counted, only a very few students participate in them and the scores would be very low and rather incomparable. A copy of the checklist is given in appendix 8.

**Administration of the tools**

The investigator personally visited the ten schools in which the tests were conducted. Students were familiarised with the nature of the test.

Separate answers sheets were provided to students to record their answers. Recorded audio cassettes were used to aid the investigator to assess some of the skill components of listening and speaking. However, the investigator ensured individual assistance to students on occasions necessary and tried to make the students feel the neutrality of the situation. A script for the teacher was also prepared carrying the directions.

The Kerala University Verbal Group Test of Intelligence was given first in all the selected schools strictly keeping the stipulated time. The first period was used for it when the pupils were afresh. Then the Generalized Language Ability Test Battery was given in the following sequence. Test of:

a. Listening
b. Speaking
c. Reading
d. Writing

The Socio-Economic Scale was given to the students to be filled in at home with the help of the parents and returned the next day as the investigator spent two days in each school for data collection.

Then the Attitude Scale was given. The investigator explained the instruction to the students and read out each item with the intention that no students should abstain from recording his attitude and no items should be left out.

The checklist was given to the students next. The instructions were clearly explained to them.

A class of the teacher who teaches English in the ninth standard was observed using the observation schedule.

A semi-structured interview was conducted with the teacher in charge of the library. But of the ten schools visited only five schools have separate reading room which is used as a library. The others have some shelves of books but no separate reading rooms or library.

Scoring and Consolidation of Data

Relevant data regarding the pupil-related factors and institution-related factors, and the four basic English language skills were consolidated for the purpose of analysis.

Statistical techniques employed for the analysis of the data

The mean Standard Deviation of total scores on language skills was calculated the formula used is

\[ A.M = \frac{\sum X}{N} \]

where \( X \) is the raw score
N = The total number of scores

S.D. = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}

Where X = Raw score

\bar{X} = Mean

N = Number of scores in the distribution Fraenkel, Jack, and Norman (1993)

Correlation techniques was used as required by the stated objectives.

Correlation between each of the pupil related variable: intelligence, socio-economic status and attitude, and the four basic English language skills, (combined and individually) were calculated using Pearson’s product movement Coefficient of correlation.

The formula used for row score was:

\[ r = \frac{N(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{\left[N(\Sigma X^2) - (\Sigma X)^2\right] \left[N(\Sigma Y^2) - (\Sigma Y)^2\right]}} \]

Where N = Sample size

\Sigma X = Sum of the scores of pupil-related variables.

\Sigma Y = Sum of the scores of the four basic language skills.

\Sigma X^2 = Sum of the squares of the X score.

\Sigma Y^2 = Sum of the squares of the Y score.

When there are more than one variable to be correlated with another set of variables the real magnitude of the correlation can be obtained by eliminating the intervening influence of one or more than one variable or by statistically holding them constant. Garrett (1981). The partial correlation between the pupil-related variable and the basic language skills in English was calculated using the formula.
The notations used are \( r_1 \) basic language skills, \( r_2 \) intelligence, \( r_3 \) SES, \( r_4 \) attitude.

When two variables combined were partialled out the formula used was

\[
\hat{r}_{1.2.3.4} = \frac{r_{1.2.3} - r_{1.4.3}r_{1.2.4}}{\sqrt{1 - r_{1.4.3}^2} \sqrt{1 - r_{1.2.4}^2}}
\]

The cumulative effect of the pupil-related variables on the development of basic language skills was calculated using the multiple correlation techniques.

The formula used is

\[
R_{1.2.3.4} = \sqrt{1 - \frac{\frac{1}{n-1}S_{12.3.4}^2}{s_i^2}}
\]

The standard error of multiple R

\[
SE_R = \frac{1 - R^2}{\sqrt{N - n}}
\]

where

- \( N \) = Size of the sample
- \( n \) = Number of variables being correlated
- \( R \) = multiple R for which \( SE_R \) is computed

As the sample used for institution-related factors were less in number-10-, Spearman's rank order correlation rho was adopted to determine the correlation between institution-related factors and the basic language skills in English.
Rank order Correlation

Rank order Correlation was used to find out the relationship between institution-related factors and the basic English language skills. The formula used is

\[ p = 1 - \frac{6 \left( \sum D^2 \right)}{N(N^2 - 1)} \]

Where

- \( p \) = Coefficient of correlation from rank difference
- \( N \) = Number of pairs
- \( D \) = Differences in paired ranks