CHAPTER – III

METHODOLOGY

This chapter deals with the methodological details adopted for the study. The design, the sample chosen, the tools developed and used and procedures of data collection are discussed in detail.

3.1 THE DESIGN OF THE STUDY

This study explored the effect of Discourse Oriented Pedagogy in acquisition of English language skills among the upper primary students.

The study was conducted in two phases. In the first phase of the study the implementation of the Discourse Oriented Pedagogy in the state of Kerala was studied. In the second phase of the study the students of sixth standard were assessed in terms of their language skill acquisition and self efficacy in using English language skills. The method used here in the study was a pre-test post-test single group design, a type of pre-experimental design.

A survey was also taken up to understand the relationship among the variables. The awareness and attitude of the teachers regarding the newly introduced Discourse Oriented Pedagogy was assessed. Also the implementation of the Discourse Oriented Pedagogy was studied.

3.2 SAMPLE OF THE STUDY

The population for the study can be considered as all the Upper Primary School students, teachers and resource group members of Kerala state. Multi-stage sampling technique was used for the study. In first phase one of the districts namely Kozhikode revenue district was selected randomly from among fourteen districts of Kerala for the study. Kozhikode revenue district has three educational districts and all
the three educational districts were selected for the further sampling. All the schools were classified into two; i.e., Government and Government Aided. From each educational district four schools i.e., two Government schools and two Aided schools were randomly selected using simple random procedure. Thus, from three educational districts total twelve schools were chosen (six Government and six Aided). From each school one 6th standard division was randomly chosen and from that division ten boys and ten girls were randomly selected using simple random procedures again for the purpose of study. In total two hundred and forty students (One hundred and twenty boys and one hundred and twenty girls) were chosen as sample of students.

Forty teachers from each educational district were randomly selected for the study as teacher sample. Four state resource group members as well as four district resource group members were also selected for the study by using simple random procedure.

3.2.1 Sampling Frame

Kozhikode (Revenue District) (Three Educational Districts)

- Kozhikode (Four Schools)
  - Government Schools (2)
  - Aided Schools (2)
  - Twenty Students per School (Ten boys and ten girls)

- Vadakara (Four Schools)
  - Government Schools (2)
  - Aided Schools (2)
  - Twenty Students per School (Ten boys and ten girls)

- Thamarasseri (Four Schools)
  - Government Schools (2)
  - Aided Schools (2)
  - Twenty Students per School (Ten boys and ten girls)

Total Students: 20 x 12 = 240 (120 Boys + 120 Girls)
Total Teachers: 40 x 3 = 120
SCERT resource persons (4 state resource persons + 4 district resource persons)
3.3 TOOLS

The study involved assessment of the acquisition of language skills (Listening, Speaking, Reading and Writing) and Self efficacy in the use of four language skills as an effect of Discourse Oriented Pedagogy. It also studied the implementation of the Discourse Oriented Pedagogy in Kerala and the awareness and attitude of the teachers towards the pedagogy. All the tools were developed by the investigator to assess the variables related to the study. The following paragraphs give a detailed account of the tools developed for the study.

**English Language Skills Test**

It consists of the following sub-tests:

- Listening Skill Test
- Speaking Skill Test
- Reading Skill Test
- Writing Skill Test

**Self-Efficacy Scale in the use of English Language Skills**

**Questionnaire for Teachers and Resource Persons**

**Interview Schedule for Stakeholders**

**Teachers’ Discourse Oriented Pedagogy Attitude Scale**

3.3.1 Development of English Language Skill (LSRW) Tests

Language skills, in the study refer to the four basic skills i.e., Listening, Speaking, Reading and Writing skill. The survey of related literature revealed that there are many tools to test the LSRW of the students, developed by reputed agencies like TOEFL, IELTS etc. The investigator could not find a suitable tool for the grade of the students on whom the study is intended to be conducted. Hence, the need for
the tools to assess the listening, speaking, reading and writing skills of the upper primary students was felt.

**Steps Followed in the Development of Language Skill (LSRW) Tests**

For the construction of language skill tests the steps and guidelines suggested by Lyle Bachman (1990), Davidson and Lynch (1993), Alderson, J.C. (2005), UK Dept. of Education and Skills-National Recognition Scheme; Language Assessment Programme (2007), National Assessment of Educational Progress, USA (2007) were followed. At this juncture it is worth mentioning, “Language testing still lacks any agreed standards by which language tests can be evaluated, compared or selected” (Alderson, J.C., 2005). All the tools for this study were developed to meet the requirements to achieve the objectives of the study.

The steps in the development of the tests are given under different heads in the following sections. All the tools were constructed in English only. No translation was done to any other language. All the tools were sent to the same panel of experts for content validity.

3.3.1.1 Listening Skill Test

As mentioned earlier the below given steps were followed to construct the Listening Skill test.

**Test Specification**

A test’s specification provides the official statement about what the test tests and how it tests it (Alderson, J.C., 2005). In consultation with the experts in the field and existing texts by considering the grade of the students the test specification was laid down as given. In this study the listening skill test was constructed to test the listening skill of the sixth standard students with comprehension. It may fall in the category of Proficiency test. The specification set a structure to the test. There are two methods usually used to conduct a listening skill test. The incumbents will be
provided with a recorded passage and it will be followed by a set of questions to be answered. They can either answer orally or in writing. Here in the study the second option was selected for the convenience of scoring and further calculations.

**Determining the method of measurement**

There are different methods of measuring skills. Performance test and self-assessments are frequently used methods. In the performance test the examinee would be given certain task to perform and the performance would be assessed against the standards. Here the first method was opted for the test purpose.

**Generating a pool of test items**

At this stage seven passages i.e., informative, fiction etc were identified for keeping as the basement for constructing the test.

**Selection of the test passage by Expert Panel**

In order to select the most suitable passage out of the already identified seven passages, these seven items were sent to a group of sixteen experts from the area of English language teaching, which included teacher educators (5), teachers of language and literature (5) and school teachers (6) (Annexure 2). The method followed by Biner (1993) as adopted from Lawshe (1975) was followed. The experts were requested to rate the items in a three point scale. (1= Not suitable, 2=suitable & 3=most suitable). According to the ratings made by the experts a small story ‘The House’ was finalized as the base of the test with Content Validity Ratio (CVR 0.75).

**Preparation of the test**

Based on the selected listening passage a twelve item test was constructed. Thus altogether there were twelve items at this stage.

**Critical evaluation of the test items by the experts**

Content validity is defined as the extent to which a set of items is relevant and representative of the concerned domain content (Anastasi, 1968; Cronbach, 1984).
One widely used method of finding the content validity is developed by Lawshe (1975). It is essentially a method for gauging agreement among raters or judges regarding how essential a particular item is. Lawshe (1975) proposed that each of the subject matter expert raters (SMEs) on the judging panel responds to the following question for each item. Is the skill or knowledge measured by this item ‘essential’, ‘useful, but not essential’, or ‘not essential’ to the performance of the construct?.

According to Lawshe (1975), if more than half the panelists indicate an item is essential, that item has at least some content validity. Greater level of content validity exists as larger number of panelists agrees that a particular item is essential. Using these assumptions, Lawshe developed a formula termed the Content Validity Ratio (CVR).

Content Validity Ratio (CVR) is calculated using the following formula (Lawshe, 1975):

\[
CVR = \frac{Ne - \frac{N}{2}}{\frac{N}{2}}
\]

Where

- \( Ne \) = the number of experts saying the item is essential
- \( N \) = the number of the experts to whom the items are given

We can infer from the CVR equation that it takes on values between -1.00 and +1.00, where a CVR=0.00 means 50% of the SMEs in the panel size N believe that a measurement item is “essential”. A CVR > 0.00 would therefore, indicate that more than half of the SMEs believe that a particular measurement item is “essential” and thereby face valid. Lawshe (1975, p 568) has further established minimum CVRs for different panel sizes based on a one tailed test at \( \alpha=0.05 \) significance level. For example if 25 SMEs constitute the panel, then measurement items for a specific
construct, whose CVR values are less than 0.37, would be deemed as “not essential” and would be deleted from subsequent consideration.

The tool for testing the listening skill with 12 items was given to a group of sixteen experts from the area of English Language Teaching, which included teacher educators (5), experts from language and literature (5) and School teachers (6) (Annexure 2). The experts were requested to rate the items in a three point scale (1=essential, 2=useful but not essential and 3=not essential) with an additional request for their suggestions and comments on every item. The CVR was calculated using the formula given. 9 items having CVR greater than 0.50 (Lawshe, 1975) were included in the test for preliminary administration.

The feedback was also collected on the structure of the test items. Such items were revised based on the feedback and observations given by the content experts.

**Try out of the trial form**

The test with nine items was administered to a sample of 52 students. The researcher interacted with the students regarding the structure of the questions, difficulty in understanding and the meaning of each item conveyed to them. The feedback was used in modifying the items.

**Statistical Analysis of the responses in finding difficulty Value and Discrimination Index**

The administered tool was scored. Total score of each student in the test was calculated. The data of students were arranged in the descending order of their total scores in the test. Top 27% of the students were identified as the Upper group and bottom 27% was identified as Lower group. The data obtained from this procedure was used to analyze the difficulty value and discrimination index of the items. Difficulty Value (DV) refers to proportion of the total group who got the item right.
Thus, a high value indicates an easy item and low value indicates a difficult item. The difficulty value of an item is calculated using the formula:

\[ DV = \frac{U + L}{2N} \times 100 \]

Where

U = the number of the right responses in the Upper group
L = the number of the right responses in the Lower group
N = number of students in either Upper or Lower group

Ebel (1965) has suggested that a test item which has difficulty index value ranging from 20 to 80 is acceptable for a test.

The data was also used to find the discriminative index of the items. Discrimination index was determined by two methods. In the first method discrimination index of an item is calculated using the formula: \[ DI = \frac{U - L}{N} \]

Ebel (1965) has suggested a reasonable criterion to use this index of discrimination.

**Index of discrimination Item evaluation**

- 0.40 and above Very good items
- 0.30 to 0.39 Reasonably good but possibly subject to improvement
- 0.20 to 0.29 Marginal items usually being subjected to improvement
- Below 0.19 Poor item to be rejected or improved by revision

The data was also used to find the discriminative index of the items by another method, for each of the item an independent sample t-test was conducted between upper and lower groups by considering the scores of the students in the respective items. The items for which the t-value was significant at 0.05 level were considered to be discriminating between students from upper group and lower group. Details of the difficulty value and discriminative index are given in Annexure 6.
Among the 6 multiple choice questions and 2 short answer questions only seven were found to be having accepted difficulty value and discrimination index.

Distractor Analysis

The data obtained from 52 students was used for distractor analysis, from which 27% students of upper group and 27% students of lower group were selected. The frequency of students using various distracters and key were determined. The result of this exercise is given in Annexure 4.

Based on the result of the distractor analysis options of two items (1, 2) were either modified or changed.

Selection of the best items for the final test

Eight items fulfilled the criteria for the selection of the item. These items were formulated in accordance with the criteria laid by NAEP (2007) under two levels i.e. 1. locate/recall, 2. Integrate/interpret and 3. Critique/evaluate by giving specified weightage to each level and types i.e., 1. Multiple Choice, 2. Short Response, and 3. Extended construct response. The weightage distribution is given in Annexure 8.

Formulating precise instructions for administration and scoring

Instructions for each type of question were given in simple language in which the respondents were asked to either select the correct option or write short answers. A scoring key was also prepared.

Establishing validity and Reliability of the tool

The content validity of the tool was established by determining the content validity ratio for every item of the tool and including items having content validity ratio greater than 0.50.

The test retest reliability found on administering the tool to 52 students with a gap of two weeks was 0.62 which was very high.
3.3.1.2 Speaking Skill Test

The below mentioned steps were followed to construct the speaking skill test. They are detailed in the following sections.

Test Specification

In consultation with the experts in the field and existing texts by considering the grade of the students the test specification was laid down as given. In this study the speaking skill test is constructed to test the speaking skill of the sixth standard students with normal fluency. It may fall in the category of Proficiency test. The specification set a structure to the test. There are two methods usually used to conduct a speaking skill test. The incumbents will be evaluated on the basis of either individual or group performance. In both the cases the test taker can interfere in eliciting responses from the students. Here, in the study individual performance was evaluated.

Determining the method of measurement

There are different methods of measuring skills. Performance test and self assessment tasks to perform and the performance would be assessed against the standards. Here the first method was opted for the test purpose. Three methods are adopted to record the responses. The responses are either recorded with the help of a mechanical gadget or scored simultaneously by a single person or two persons. In this study the investigator had recorded the responses using the score sheet prepared for the same purpose.

Generating a pool of test items

At this stage the investigator thoroughly examined the available tools of speaking skill and identified the methods adopted in those tools. The review of the existing tools and related literature and studies revealed that the topics to be given for
the same purpose should be so simple and serve the purpose of the test specifications. Considering these facts the investigator has identified ten topics relatively suitable for the sixth grade students and collected and made an item pool.

**Selection of the test topic by Expert Panel**

In order to select the most suitable topic out of the already identified ten topics, those ten items were sent to a group of sixteen experts (Annexure 2). The method followed by Biner (1993) as adapted from Lawshe (1975) was followed here. The experts were requested to rate the items in a three point scale. (1= Not suitable, 2=suitable & 3=most suitable. According to the ratings made by the experts a topic ‘My Family’ was finalized as the base of the test with CVR 0.80.

**Preparation of the test**

Based on the selected topic a speaking skill test was constructed. It is given in Annexure 17.

**3.3.1.3 Reading Skill Test**

As mentioned earlier the below given steps were followed to construct the Listening Skill test.

**Test Specification**

In consultation with the experts in the field and existing texts by considering the grade of the students the test specification was laid down as given. In this study the reading skill test is constructed to test the reading skill of the sixth standard students with comprehension. The specification set a structure to the test. The incumbents will be provided with a typed passage and it will be followed by a set of questions to be answered. They can either answer orally or in writing. Here in the study for assessing the reading skill a printed passage was given to the students and they were asked to answer the question in writing, for the convenience of scoring and further calculations.
Determining the method of measurement

There are different methods of measuring skills. Performance test and self assessments are frequently used methods. In the performance test the examinee would be given certain task to perform and the performance would be assessed against the standards. Here the first method is opted for the test purpose.

Generating a pool of test items

At this stage seven passages i.e., informative, fiction etc were identified for keeping as the basement for constructing the test.

Selection of the test item by Expert Panel

In order to select the most suitable passage out of the already identified seven items, these seven items were sent to a group of sixteen experts from the area of English language teaching (Annexure 2). The method followed by Biner (1993) as adapted from Lawshe (1975) was followed. The experts were requested to rate the items in a three point scale. (1=Not suitable, 2=Suitable & 3=Most suitable. According to the ratings made by the experts a small story ‘Jack in Trouble’ was finalized as the base of the test with CVR 0.75.

Preparation of the test

Based on the selected reading passage a fifteen item test was constructed. Thus altogether there were fifteen items at this stage.

Critical evaluation of the test items by the experts.

The tool with 12 items was given to a group of sixteen experts from the area of English Language Teaching (Annexure 2). The experts were requested to rate items in a three point scale (1=essential, 2=useful but not essential and 3=not essential) with an additional request for their suggestions and comments on every item. The CVR was calculated using the formula given. Nine items having CVR greater than 0.50 (Lawshe, 1975) were included in the test for preliminary administration.
The feedback was also collected on the structure of the test items. Such items were revised based on the feedback and observations given by the content experts.

**Try out of the trial form**

The test with nine items was administered to a sample of 52 students. The researcher interacted with the students regarding the structure of the questions, difficulty in understanding and the meaning of each item conveyed to them. The feedback was used in modifying the items.

**Statistical Analysis of the responses in finding difficulty Value & Discrimination Index**

The administered tool was scored. Total score of each student in the test was calculated. The data of students were arranged in the descending order of their total scores in the test. Top 27% of the students were identified as the Upper group and bottom 27% was identified as Lower group. The data obtained from this procedure was used to analyse the difficulty value and discrimination index of the items.

Difficulty Value (DV) refers to proportion of the total group who got the item right. Thus a high value indicates an easy item and low value indicates a difficult item.

The data was also used to find the discriminative index of the items.

The data was also used to find the discriminative index of the items by another method, for each of the item an independent sample t-test was conducted between upper and lower groups by considering the scores of the students in the respective items. The items for which the t-value was significant at 0.05 level were considered to be discriminating between students from upper group and lower group.

Details of the difficulty value and discriminative index are given in Annexure 7.
Among the 9 items of the trail form of the test, 8 were found to be having accepted difficulty value and discrimination index.

**Distractor Analysis**

The data obtained from 52 students was used for distractor analysis, from which 27% students of upper group and 27% students of lower group were selected. The frequency of students using various distracters and key were determined. The result of this exercise is given in Annexure 5.

Based on the result of the distractor analysis options of three items (1,3,4) were either modified or changed.

**Selection of the best items for the final test**

Eight items fulfilled the criteria for the selection of the item. These items were formulated in accordance with the criteria laid by NAEP (2007) under three levels i.e. 1. locate/recall, and 2. Integrate/interpretand 3. Critique/evaluate by giving specified weightage to each level and types i.e., 1. Multiple Choice, 2. Short Response, 3. Extended response. The weightage distribution is given in Annexure 9.

**Formulating precise instructions for administration and scoring**

Instructions for each type of question were given in simple language in which the respondents were asked to either select the correct option or write short answers. A scoring key was also prepared. It is given in Annexure 12.

**Establishing validity and Reliability of the tool**

The content validity of the tool was established by determining the content validity ratio for every item of the tool and including items having content validity ratio greater than 0.50.

The test retest reliability found on administering the tool to 52 students with a gap of two weeks was 0.58 which is sufficient.
3.3.1.4 Writing Skill Test

As mentioned earlier the below given steps were followed to construct the writing Skill test.

Test Specification

In consultation with the experts in the field and existing texts by considering the grade of the students the test specification was laid down as given. In this study the writing skill test is constructed to test the writing skill of the sixth standard students with comprehension. The specification set a structure to the test. The incumbents will be provided with a question to be answered.

Generating a pool of test items

According to the guidelines given by NAEP, 2007 integrated topics (to explain and to convey experience) were collected. At this stage five topics were identified for keeping as the basement for constructing the test.

Selection of the test item by Expert Panel

In order to select the most suitable passage out of the already identified seven items, these seven items were sent to a group of sixteen experts from the area of English language teaching (Annexure 2). The method followed by Biner (1993) as adapted from Lawshe (1975) was followed. The experts were requested to rate the items in a three point scale (1=Not suitable, 2=Suitable & 3=Most suitable). According to the ratings made by the experts an integrated question to write a short story was finalized as the test item with CVR 0.60.

Try out of the trial form

The test was administered to a sample of 52 students. The researcher interacted with the students regarding the question, difficulty in understanding etc. The feedback was used in modifying the structure of the question.
Formulating precise instructions for administration and scoring

Instructions were given in simple language. A scoring key was also prepared. It is given in Annexure 13.

Establishing validity and Reliability of the tool

The test retest reliability found on administering the tool to 52 students with a gap of two weeks was 0.55. Since it being an open ended question it is considered sufficient. The content validity of the test was ensured by giving to the experts as mentioned earlier.

3.3.2 Teachers’ Attitude to Discourse Oriented Pedagogy Scale

Attitude is a tendency to react favourably or unfavourably towards a designated class of stimuli, a custom or an institution (Anastasi, 1968).

Allport (1935) defined attitude as “a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects with which it is related”.

The affective quality of attitude was also emphasized by Krech and Crutchfield (1948). They defined attitude as an enduring organization of motivational, emotional, perceptual and cognitive processes with respect to some aspect of the individual’s world.

Attitude is considered as a hypothetical construct, being unobservable; it must be inferred from measurable responses that reflect positive or negative evaluation of the attitude object.

As discussed earlier there does not exist any tool to measure the attitude of English language teachers towards Discourse Oriented Pedagogy. So such a tool had to be developed. For the scale development, the guidelines and steps suggested by Devellis (1991) as given in Mishra and Panda (2007) was followed. The steps
followed in the development of English teachers’ attitude to Discourse Oriented Pedagogy scale are given in the following sections.

**Generating an item pool**

The investigator thoroughly examined the available tools concerning teachers’ attitude towards teaching, computer use, teaching aids etc. in order to observe similar statements. Fifty five statements each expressing one opinion were collected after careful study of existing tools. For screening of such statements the criteria given in Annexure 14 were used.

Each statement was carefully examined in the light of these criteria. As a result 35 statements about the attitude of teachers towards Discourse Oriented Pedagogy were framed.

**Determining the format of the scale**

Review of different scaling options was done here. For attitude measurement Thurstone’s equal appearing interval scale and Likert’s scale are frequently used. From these the Likert’s scale was selected for its simplicity, wide use in attitude measurement, higher reliability coefficients with fewer statements and method of summated ratings (Edwards & Kenny, 1946). Hence for each point the following five point agreement/ disagreement scale given with the numerical values assigned to each point (which was reversed for negative statements) was used:

5 = Strongly Agree
4 = Agree
3 = Neither Agree nor Disagree
2 = Disagree
1 = Strongly Disagree
Content validity and Review by experts

In order to review the statement, the method followed by Biner (1993) as adapted from Lawshe (1975) was followed. The list of 35 items was given to a group of sixteen experts from the area of English language teaching, which included teacher educators (5), teachers of language and literature (5) and school teachers (6) (Annexure 2), to rate how relevant the statements to measure teachers’ attitude towards Discourse Oriented Pedagogy. The experts were requested to rate the items in a three point scale (1=Not essential, 2=Useful but not essential, 3=Essential). According to the ratings made by the experts the Content Validity Ratio (CVR) was found for each statement using the formula as given earlier.

Thirty statements were of CVR greater than required value of 0.49. But a lesser number of statements are desired, only statement with a CVR greater than 0.7 were included in the scale for administration. There were 26 statements in the scale at this stage of which 12 were negatively keyed.

Administration of the items to a development sample

The scale with 26 statements was administered to a sample of fifty teachers. Thus the questionnaire containing these 26 statements were given to the teachers.

Analysis of the psychometric properties

The statements were scored as indicated earlier, with the twelve negative statements in the scale being reversed scored. The obtained scores were used to find the discriminative index of the statements. For this the teachers’ data were arranged in descending order of their total scores. Top 27% of the teachers were identified as the upper group and the bottom 27% of the teachers were identified as lower group. For each of the statement, an independent sample t-test was carried out between these groups by considering the scores of the teachers in the respective statements. The
statements for which the t-value was significant at 0.05 level were considered to be discriminating between teachers from upper group and lower group.

For 24 statements t-values were significant. These statements were retained in the final form of the test.

The reliability alpha coefficient for the scale with 24 statements was 0.65, which indicated that the statements in the scale were highly inter correlated and were all measuring the same attribute i.e. attitude towards Discourse Oriented Pedagogy. The test-retest reliability was found, on administering the tool on 52 teachers with a gap of two weeks, to be 0.61 which indicate that the tool is reliable.

**Norm Table**

The range of the score used to categorize the teachers into three groups is given in the following norm table.

**Table 3.1: Norm table**

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>Range of raw score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>107-113</td>
</tr>
<tr>
<td>Average</td>
<td>101-106</td>
</tr>
<tr>
<td>Low</td>
<td>98-100</td>
</tr>
</tbody>
</table>

**3.3.3 Development of Self-Efficacy Scale**

Perceived self efficacy is concerned with people’s beliefs in their capabilities to produce given attainments (Bandura, 1997). Self efficacy in the use of English language skills refers to over all confidence shown in identified areas where the skills are used. In accordance with that the self efficacy scale is developed for the study. The scale development guidelines and steps suggested by Bandura (2006) and Devellis (1991) were followed. The steps followed are as given below.
Formulation of an item pool

The investigator observed and studied many available scales in different fields like self efficacy in Computer, self efficacy to promote Mathematics, self efficacy to promote reading, parental self efficacy etc. A good number of statements were formulated for the preparation of the scale. Only those items which would reflect an individual’s perceptions of his or her ability to use English language skills in the accomplishment of a specific task were retained.

Determining the response scale

At this stage, different scaling format was investigated. It is understood that there is no uniform scaling being used. For measuring self efficacy beliefs individuals are presented with items portraying different levels of task demands, and they rate the strength of their belief in their ability to execute the requisite activities. They record the strength of their efficacy beliefs on a 100-point scale, ranging in 10-unit intervals from 0 (“Cannot do”); through intermediate degrees of assurance, 50 (“Moderately certain can do”); to complete assurance, 100 (“Highly certain can do”). An efficacy scale with 0-100 response format is a stronger predictor of performance than one with a 5-interval scale (Pajares, Hartley, & Valiante, 2001). The format is given below,

<table>
<thead>
<tr>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot do at all</td>
<td>Moderately can do</td>
<td>Highly certain can do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The scale contained 26 items at this stage.

Content validity and review by experts

In order to review the statements and for expert validation the method followed by Biner (1993) as adapted from Lawshe (1975) was followed. The list of 26 statements were given to sixteen experts from English language teaching area, who included teacher educators (5), experts in the field of language and literature (5),
School teachers (6) (Annexure 2) to rate how relevant the statements were to measure students’ self efficacy in the use of language skills. A three point scale (1=Not essential, 2=Useful but not necessary, 3=Essential) was used by them to rate the items. These responses were analyzed to calculate the Content Validity Ratio for each item using the formula given earlier.

The 10 items with CVR greater than 0.54 were retained in the scale for administration.

**Administration of the items to a development sample**

The scale with ten items was administered to a sample of 48 sixth standard students. The distribution of the questionnaire containing 10 items to a sample size of 48 students was considered satisfactory.

**Analysis of the psychometric properties**

The items were scored as indicated in step 2. The data used to find the discriminative index of the items. For this the students’ data were arranged in descending order of their total scores in the test. Top 27% of the students were identified as the Upper Group and bottom 27% were identified as Lower Group. For each of the item an independent sample t-test was carried out between these groups by considering the scores of the students in the respective items. The items for which the t-value was significant at 0.05 level were considered to be discriminating between students from upper group and lower group. The result of the t-test conducted is given in Annexure 3. All the ten items were retained in the final form of the tool.

The reliability alpha coefficient for the scale with ten items was 0.93, which indicated that the items in the scale were highly inter-correlated and were all measuring the same attribute, i.e., English language skill efficacy. The test-retest reliability was found on administering the tool on 48 students with a gap of two
weeks, to be 0.61 which shows that the tool is reliable. The developed tool is given in Annexure 20.

3.3.4 Development of Questionnaire for Teachers and Resource Persons

Taking into consideration the objectives of the study the researcher has prepared a questionnaire for collecting data from the teachers and the resource persons. The following steps were adopted for the preparation of this tool.

Generating an item pool

The investigator observed and studied thoroughly the classroom process and activities under Discourse Oriented Pedagogy and made a questionnaire with thirty five items under seven categories.

Content validity and expert opinion

The questionnaire was sent to 10 experts and according to the opinion of them eight items was eliminated. In the final stage only 27 items were accepted.

3.3.5 Development of the Interview Schedule

To collect data from the stake holders a semi-structured interview schedule was prepared by the researcher. Initially, it had four major questions with seven sub questions. However, in the later stage it had six major questions with nine sub-questions. The interview schedule is given in the Annexure 22.

3.4 Procedure Adopted for Data Collection

The data collection was carried out at two stages. In the first stage the researcher collected data from the resource persons by conducting interviews and using the questionnaire.

In the second stage of the data collection, the data related to students and teachers were collected. The selected schools were visited twice, once in the month of June, 2009, i.e., in the beginning of the academic year to collect the pre-test scores.
and teachers’ data and second time in the months of January, 2010 i.e., in the end of the academic year to collect the post test data from the students.

3.5 SCORING

The tools administered to students and teachers were scored.

For scoring the language skill tests, the scoring keys given in Annexures 10, 11, 12, 13 respectively were used. Marks obtained in each of the components and in the total test were calculated.

The responses to the attitude scale was scored by giving weightages 5 to 1 for strongly agree to strongly disagree for positively keyed items and 1 to 5 for negatively keyed items. Total scores of all 24 items were found out.

The self-efficacy in the use of English language skills was scored by giving weightages 0 to 100 as given in the scale of the tool. Total scores of all 10 items were found out for individual students.

3.6 STATISTICAL TECHNIQUES USED IN THE STUDY

Following statistical techniques were employed to achieve the objectives of the study.

Descriptive statistics was used to analyse the data regarding implementation of Discourse Oriented Pedagogy and the attitude of the teachers towards Discourse Oriented Pedagogy.

To study the effect of Discourse Oriented Pedagogy on acquisition of language skills and self efficacy in the use of language skills, paired t-test was used.

3.7 CONCLUSION

The present chapter discussed the details pertaining to methodology followed in the study. The next chapter deals with the analysis of the data collected and its interpretation.