CHAPTER - III
CHAPTER III

METHOD OF STUDY

⇒ Introduction
⇒ Objectives of the Study
⇒ Sample of the Study
⇒ Variables
⇒ Instrumentation: Selection of Tools
⇒ Construction of the Tools
⇒ Student Attitude Scale (SAS)
⇒ Teacher Attitude Scale (SAS)
⇒ School Administrator Attitude Scale (SAAS)
⇒ Preparation Interview Schedule As a Tool of Research
⇒ Pre-Try out of Interview Schedule
⇒ Preparation of Observation Schedule As a Tool of Research
⇒ Tools for Final Investigation
⇒ Hypothesis of the Study
⇒ Data Gathering Procedure
⇒ Data Analysis Procedure
CHAPTER - III

METHOD OF STUDY

Introduction

This chapter deals with the procedural part of the present study. The selection of sample, construction of research tools and administration of these tools for gathering data. The statistical procedures adopted by the investigator for the analyses are described in this chapter.

Objectives of the Study

For the purpose of ready reference the objectives of the present study are given as follows:

1. To study the attitude of resource teachers, regular classroom teachers, visually disabled children, non-disabled children towards integrated education programmes for visually disabled children.

2. To find out the difficulties faced by resource teachers in teaching various plus curricular skills to the visually disabled children.

3. To know the difficulties encountered by regular teachers in teaching content areas of different subjects to the visually disabled children in the regular class.
4. To identify different learning problems of visually disabled and non-disabled children in the integrated set up.

5. To elicit the views of administrators of the schools regarding their role in teaching-learning situations in the integrated education programme.

6. To collect information regarding the factors contributing to the success of the integrated education programme.

Sample of the Study

The investigator applied stratified random sampling procedures to ensure adequacy of sample in each level of the independent variables selected for the analysis of collected data. This satisfies the assumptions of parametric statistics used in this study.

Visually Disabled Children (VDC):

A total of 300 visually disabled children of integrated programmes were also selected for the study. They were classified according to Locality, Gender and Nature of schools. In urban area, 150 visually disabled children were selected. Out of these children, 50 from primary schools, 50 from secondary schools and 50 from higher secondary schools were selected. At each level of schools, the number of male and female children were equal. In rural area also, 150 visually disabled children were selected. The sampling distribution was similar to that of children of rural area. The following table (3.1) gives the details of disabled children selected for the study.
**Table 3.1**

**Distribution of Sample of Visually Disabled Children As Per the Independent Variables**

<table>
<thead>
<tr>
<th>Locality</th>
<th>Primary</th>
<th>Secondary</th>
<th>Hr. Sec.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Urban</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Rural</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

**Non-Disabled Children (NDC):**

A total of 300 Non-disabled children of integrated programmes were also selected for the study. They were classified according to Locality, Gender and Nature of schools. In urban area, 150 non-disabled children were selected. Out of these children, 50 from primary schools, 50 from secondary schools and 50 from higher secondary schools were selected. At each level of schools, the number of male and female children were equal. In rural area also, 150 non-disabled children were selected. The sampling distribution of urban area was similar to that of children of rural area. The following table (3.2) gives the details of Non-disabled children selected for the study.
Table 3.2

Distribution of Sample of Non-Disabled Children As Per the Independent Variables

<table>
<thead>
<tr>
<th>Locality</th>
<th>Primary Male</th>
<th>Primary Female</th>
<th>Secondary Male</th>
<th>Secondary Female</th>
<th>Hr. Sec. Male</th>
<th>Hr. Sec. Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>300</td>
</tr>
</tbody>
</table>

Teachers:

To study the attitude of teachers working in the integrated education programme schools, a total of 240 teachers were selected as sample for administering Teacher Attitude Scale. It consists of 120 resource teachers and 120 regular teachers. The sample was classified as per the independent variables such as teacher, school and gender. The school level sampling of resource teachers consists of 40 primary, 40 secondary and 40 Higher secondary school teachers. The male and female teachers were in equal number at each school level. The classification of regular teachers as per the variables was similar to that of resource teachers.

The details of sample distribution of regular and resource teachers are given in the following table 3.3.
Table 3.3

Distribution of Sample of Teachers As Per the Independent Variables

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Primary</th>
<th>Secondary</th>
<th>Hr. Sec.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Resource Tr.</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Regular Tr.</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

School Administrators:

A total of 50 Heads of the schools implementing integrated education programmes in Tamil Nadu were selected as the sample. They were of 25 male and 25 female administrators. They were further classified as per the independent variables - locality of the school, and the nature of school. The locality-wise classification comprised of 27 administrators from urban 23 from rural areas. The school level classification consisted of 24 from primary schools and 26 from secondary and higher secondary schools. The details of the sampling distribution of administrators are given in the following table 3.4.
Table 3.4

Distribution of the Sample of School Administrators As Per the Independent Variables

<table>
<thead>
<tr>
<th>Locality</th>
<th>Primary</th>
<th>Sec &amp; Hr.Sec.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>12</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>Rural</td>
<td>12</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>26</td>
<td>50</td>
</tr>
</tbody>
</table>

Variables

For an educational researcher certain concepts which have some systematic relationship with any other concepts are of great importance. Any concept that can be expressed in quantitative value or qualitative value is called a 'variable'.

In this study, the investigator attempted to study the challenges encountered by the personnel and children in teaching and learning situations. Many research studies proved that variables such as age, gender, standard, qualification of teachers, teaching experience of teachers, location of schools, nature of schools, socio-economic status of parents, attitude of parents etc., have some kind of relationship with the learning process of the child. The researcher was interested in identifying the variables which have more impact on the dependent variable of the study. In light of a thorough review of literature and preliminary analysis, the investigator selected the gender, location of schools (rural and urban), nature of schools (Primary, Secondary and Higher
Secondary levels) and type of teachers (resource and regular teachers) as the independent variables of the study. The details of classifications were described in tables 3.1 to 3.4. In all the three cases - teachers, students, and administrators, the attitude has been treated as the dependent variable of the study.

The following table 3.5 presents the nature of variables and their levels used for the analysis and interpretation of data collected for the study.
Table 3.5

Independent Variables and Their Levels

<table>
<thead>
<tr>
<th>Tool</th>
<th>Independent variables</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Attitude Scale</td>
<td>* Nature of Schools</td>
<td>* Primary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Higher Secondary</td>
</tr>
<tr>
<td></td>
<td>* Type of Teacher</td>
<td>* Resource Teacher</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Regular Teacher</td>
</tr>
<tr>
<td></td>
<td>* Gender</td>
<td>* Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Female</td>
</tr>
<tr>
<td>Student Attitude Scale</td>
<td>* Nature of Schools</td>
<td>* Primary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Higher Secondary</td>
</tr>
<tr>
<td></td>
<td>* Locality</td>
<td>* Urban</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Rural</td>
</tr>
<tr>
<td></td>
<td>* Gender</td>
<td>* Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Female</td>
</tr>
<tr>
<td>School Administrator</td>
<td>* Nature of Schools</td>
<td>* Primary</td>
</tr>
<tr>
<td>Attitude Scale</td>
<td></td>
<td>* Secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Higher Secondary</td>
</tr>
<tr>
<td></td>
<td>* Locality</td>
<td>* Rural</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Urban</td>
</tr>
<tr>
<td></td>
<td>* Gender</td>
<td>* Male</td>
</tr>
</tbody>
</table>

122
Research Methodology

The credibility of the results obtained in research depends very much upon the credibility of the methods used. The choice of method or procedure for a given piece of research is one of the most meaningful decisions a scholar makes.

The investigator wanted to collect the data which give the basic information reflecting the basic issues and the problems faced by the teachers, children and the school administrators in the teaching and learning situations particularly in integrated education programmes in Tamilnadu. At this juncture, it is more appropriate to expose the views or the opinions of the teachers from a survey rather than from sophisticated approach. The investigator also made an attempt to compare the level of agreement or disagreement to various common issues in teaching-learning process in the integrated education. Therefore, an exploratory research approach similar to that of a survey was found to more appropriate.

Hillway (1960) mentioned “When a scholar wishes to determine the present educational conditions or trends, compare the present situations with those of the past or evaluate them on same sort of rating scale, he turns to the survey.”
Instrumentation

Selection of the Tools:

Sukia and Mehrotra (1960) have rightly pointed out that factual material or data unknown or untapped so far, which are essential for every study can be obtained from many sources. It is necessary to adopt or evolve a systematic procedure to collect essential data, adequate in quality and quantity.

Selection of the tool is an important ingredient of a successful research study. There are various tools available to collect the necessary data for a research study. In collecting data for survey research, the Investigator either makes direct observations which he carefully records or culls information from a variety of reliable sources library and other written materials, individuals or institution. He consults the sources that give him the most accurate, complete and up to date information. To make this job more scientific and purposeful, the researcher can select a suitable tool or tools if they are readily available. In case, such tools are not available or inadequate to collect the necessary data, it is advisable to prepare necessary tools which serve the purposes of the study. Since the standardised tools relevant to the present study are either inadequate or not available, the investigator developed the following tools and established reliability and validity.

The tools used are as follows:

1. Teacher Attitude Scale (TAS)
2. Student Attitude Scale (SAS)
3. School Administrator Attitude Scale (SAAS)
Construction of the Tools

The investigator presents below the different stages of the construction of the tools and the procedures adopted in establishing their reliability and validity measures.

Attitude Scales - The Questionnaires:

The investigator prepared three questionnaires on the basis of Likert Type Attitude Scale namely, Teacher Attitude Scale, Student Attitude Scale and School Administrator Attitude Scale. Each questionnaire provides a five point scale and assigns each of the five positions a scale value. The five points are - Strongly Agree, Agree, No Opinion, Disagree and Strongly Disagree. The investigator collected a number of statements concerning the issues and challenges encountered by both resource teachers and regular teachers, children (both visually disabled and non-disabled) and school administrators in teaching-learning situations in integrated education programmes.

Procedure Followed in the Construction of Attitude Scale:

The following are various steps followed by the investigator to prepare the questionnaires used for this study.

1. Studying the lists of statements prepared and used for measuring attitude by investigators in related areas of research.
2. Surveying widely available literature on the education of the visually disabled children.

3. Meeting and discussing with various persons such as teachers, students, heads of the institutions, field experts and the well-wishers who have been associating themselves in the education of the visually disabled in general and the integrated education programmes in particular.

4. Including large number of statements than needed for the final scale.

5. Arranging the statements in random order irrespective of their favourable or unfavourable indications.

6. Keeping the number of favourable and unfavourable statements approximately equal.

Choice of Statements:

The following set of criteria was kept in mind by investigator for the choice of items (statements) for all the three questionnaires used for data collection in this study.

- The Statement should express one opinion or thought; it should involve one idea.

- The statement should not be factual. It should be capable of eliciting an opinion.

- The statement should be worded in such a way that it is easily understood by all the subjects.

- The linguistic structure and words should be simple and should not lead to multiple interpretation.
• The statement should not be composed of double negatives.

• The use of modifiers (like only, just merely, all etc., and adjectives) should not cause ambiguities.

Scoring Procedure followed for the Attitude Scales:

Quantification of the opinions expressed by the respondents is an important job of the investigator. Likert Scale of Summated Ratings consists of favourable and unfavourable statements towards the subject of the study. The scores of the items of such a scale is summed to yield individuals attitude score. "As in all attitude scales, the purpose of the summated rating scale is to place an individual somewhere on an agreement continuum of the attitude in question". (Bhatnagar, 1981).

In this method, each response was given a numerical score indicating his/her degree of agreement or disagreement based on five point responses such as Strongly Agree, Agree, No Opinion, Disagree and Strongly Disagree. The sum of the numerical scores assigned to all the separate items of each questionnaire gives his total score which is interpreted as favourable and unfavourable attitude towards the statement. Score was given to each statement on the basis of favourable and unfavourable answer. For favourable statement the scoring order was 5,4,3,2,1. For the unfavourable statement, the scoring order was 1,2,3,4,5. The same scoring procedure was followed for all the attitude scales used for this study.
Selection of Items for the Final Study - Item Analysis:

The primary purpose of item selection is to improve the quality of rating scale for the final administration and to study the strength and weakness in the items. This item analysis will indicate the items that can be discarded or accepted in terms empirically established norms. Anastasi (1954) pointed out that, "through item analysis, it is possible to shorten a test while at the same time increase its validity and reliability". Item analysis consists of two important characteristics namely i. Item difficulty and ii. Discriminating power.

In achievement tests, usually the difficulty index and the discriminating power are calculated on the basis of the proportion of the correct answers (P) and the proportion of wrong answers (Q) for each item. But in the Likert Scale, the subjects were expected to rate each item either towards favourable or unfavourable and therefore it is not possible to calculate the difficulty index and the discriminating power. The most commonly used method of item selection for the scale like Likert Attitude Scale was the application of the criterion of 'internal consistency' (Murphy & Likert, 1938; Good & Hatt, 1956; Anastasi, 1961). In this method of item selection, the items were selected from the preliminary form of attitude scale on the basis of how they are related to the score on the scale as a whole.

Item Difficulty:

When the response is based on 'rating' rather than correct or wrong answer, the preferable methods to establish the item difficulty are:
1. Expert Ranking of the items in order of difficulty
2. Quickness by which the item can be answered

Based on the judgmental process, the items were rearranged after getting the expert opinions so as to establish moderate difficulty (neither too difficult nor too easy) - (P. Aggarwal, 1988).

**Student Attitude Scale (SAS)**

**Structure of the Scale:**

A common scale (questionnaire) was prepared for both visually disabled and non-disabled children based on the Likert Scale of Summated Ratings. This was translated in mother tongue (Tamil) so that the children would feel comfortable in expressing their opinions. All the items were made free from complicated ideas and embracing situations. The preliminary form of the scale consisted of 93 statements. It covers the following aspects.

- Emotional problems
- Inter-personal relationship between the disabled and non-disabled
- Learning behaviours
- General capabilities of visually disabled and non-disabled
- Academic capabilities
- Educational needs
- Service delivery from the regular teachers and resource teachers
- Strengths and limitations of integrated education programme
- Acceptance between visually disabled and non-disabled children
Selection of Items in the Student Attitude Scale - Item Analysis:

The SAS was administered to the sample of 100 children including visually disabled and Non-disabled children. Items were selected from the preliminary form of the Student Attitude Scale on the basis of how they were related to the score on the scale as a whole. Each item was scored on the 1-to-5 scale. These scores were totalled and divided by the number of items in the scale. The resulting average item score for each individual was then be correlated with each of the actual item scores. After this process was over, all the items were put in the order from high to low in accordance with the value of coefficient of correlation. Those items with low coefficients were discarded and the selection was made from the remainder. Based on this criterion of internal consistency, 30 items were selected for the final study. Internal consistency of those items lies between 0.56 to 0.91 and the mean value lies between 2.4 to 4.5. The details of selection of items are given in the appendix 2.

After selecting the items for the final study, the Student Attitude Scale was subjected to the measure of establishing reliability and validity.

Reliability Test for Student Attitude Scale:

A test is reliable to the extent that it measures consistency from one time to another. Reliable tests whatever they measure yield comparable
score upon repeated administration. The instruments that have a high coefficient of reliability, errors of measurement have been reduced to a minimum. If it is to be said in more technical terms, every measure of test reliability denotes what proportion of the total variance of test scores is 'error variance'.

The reliability of a test or scale can be computed by using any one of the following methods depending upon the nature of the reliability required by the investigator.

1. Test -Retest Method
2. Equivalent or Parallel forms
3. Split-half method
4. Rational equivalence method

Of these methods, the first method of Test-retest method was used for measuring the reliability of the attitude scales used for the data collection of this study.

For measuring the reliability of Student Attitude Scale, the test-retest procedure was followed by the investigator. A total of 20 children consisting of 10 visually disabled and 10 non-disabled children of integrated education programmes in Coimbatore region participated in the test of reliability. The result of the test and retest are given in the table 3.6.
Table 3.6

Test Retest Scores of Students on Student Attitude Scale

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Test</th>
<th>Retest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>129</td>
<td>130</td>
</tr>
<tr>
<td>2</td>
<td>120</td>
<td>129</td>
</tr>
<tr>
<td>3</td>
<td>110</td>
<td>125</td>
</tr>
<tr>
<td>4</td>
<td>129</td>
<td>136</td>
</tr>
<tr>
<td>5</td>
<td>120</td>
<td>130</td>
</tr>
<tr>
<td>6</td>
<td>100</td>
<td>105</td>
</tr>
<tr>
<td>7</td>
<td>118</td>
<td>131</td>
</tr>
<tr>
<td>8</td>
<td>121</td>
<td>127</td>
</tr>
<tr>
<td>9</td>
<td>128</td>
<td>137</td>
</tr>
<tr>
<td>10</td>
<td>102</td>
<td>110</td>
</tr>
<tr>
<td>11</td>
<td>121</td>
<td>128</td>
</tr>
<tr>
<td>12</td>
<td>85</td>
<td>87</td>
</tr>
<tr>
<td>13</td>
<td>97</td>
<td>99</td>
</tr>
<tr>
<td>14</td>
<td>98</td>
<td>114</td>
</tr>
<tr>
<td>15</td>
<td>99</td>
<td>98</td>
</tr>
<tr>
<td>16</td>
<td>102</td>
<td>98</td>
</tr>
<tr>
<td>17</td>
<td>106</td>
<td>120</td>
</tr>
<tr>
<td>18</td>
<td>120</td>
<td>124</td>
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<tr>
<td>19</td>
<td>98</td>
<td>99</td>
</tr>
<tr>
<td>20</td>
<td>105</td>
<td>125</td>
</tr>
</tbody>
</table>

The result of test-retest scores shows a correlation coefficient of 0.912 which indicates that the tool is highly reliable.

Validity of the Tool:

Meheus and Lehman (1973) pointed out, "perhaps the most important technical concepts in measurement are reliability and validity. Reliability and validity should be established for the standardisation of a tool to be used in research."
According to Garret (1973), the validity of a test or of any measuring instrument depends upon the fidelity with which it measures what it purports to measure.

The criteria, Jury opinion is more reliable frequently used method to measure the validity of the tool (Goods and Hatt, 1968).

Validity of Student Attitude Scale:

The tool was presented to 14 juries including 4 certified professionals in the field of special education, 4 experienced regular teachers, 4 resource teachers and two language experts. All the juries carefully read each item of the questionnaire and gave comments and suggestions on the following aspects as requested by the investigator.

- The length of the items
- Subject matter of trivial importance if any
- The items vaguely worded and improperly arranged if any
- Adequacy of the items in the light of the objectives of the study
- General format of the questionnaire

The juries assured that the tool had face validity and content validity.

Administration of Pilot Study:

Before administering the tool to the actual sample, pilot study was conducted. The aim of the pilot study was not only to test and refine the tool of
research but also to force the nature of analysis and proceeding that may be needed at a later stage.

SAS was administered to the sample of 10 visually disabled children and 10 Non-visually disabled children in the integrated education programmes.

For the visually disabled children, non-disabled (seeing children) were used as scribes to record the responses of the visually disabled children in the respective response sheet. This was purposely done by the investigator to make the responses of the respective group as natural and real as possible.

On the successful conduct of the pilot study, the investigator found that the tool was highly workable and proposed to conduct the final study by increasing the size of the sample.

**Teacher Attitude Scale (TAS)**

**Structure of the Scale:**

A common teacher attitude scale was prepared to collect data from regular teachers and resource teachers. Each item was given five choices to respond such as Strongly Agree, Agree, No Opinion, Disagree, Strongly Disagree. Out of these choices or alternatives, the respondent was to choose one which he felt correct and appropriate. A pre-constructed response sheet with five positions was also prepared. Thus, Teacher Attitude Scale consisted of two parts, namely the questionnaire and the response sheet. Each questionnaire contains the request for the respondents the purpose of the study, provision for Bio-data etc., along with necessary details for giving
responses. This Teacher Attitude Scale was prepared in such a way that it could be commonly used for collecting the opinions of the regular teachers and resource teachers. It covers the acceptance of the strength and limitations of the integrated education programme, the role of the regular teachers, adequacy and usefulness of teaching aids and appliances, availability of the supportive services of the resource teachers, classroom management of the regular teachers, co-operation among the teachers and the children and the heads of institution, sharing responsibility of the resource teachers and regular teachers, achievement of the children including academic achievement and skills development and other relevant items to the teaching-learning situations in the integrated education programme. The preliminary form of this scale consisted of 151 statements with favourable and unfavourable items.

Selection of Items in the Teacher Attitude Scale - Item Analysis:

The Teacher Attitude Scale (preliminary) was administered to the sample of 100 teachers. Items were selected solely on the basis of responses of the teachers (subjects). Each item was scored on the 1-to-5 scale. These scores were totalled and divided by the number of items in the scale. The resulting average item score for each individual was then be correlated with each of the actual item scores. After this process was over, all the items were put in the order from high to low in accordance with the value of coefficient of correlation. Those with low coefficients were discarded and the selection was made from the remainder. Based on this criterion of internal consistency, 50 items were
selected for the final study. Internal consistency reliability value for those items lies between 0.55 to 0.81. The mean value of selected items lies between 2.90 to 4.64. The details of selection of items are given in the Appendix 3.

The procedure followed for establishing Item difficulty for the Teacher Attitude Scale, was similar to that of Student Attitude Scale.

After selecting the items for the final study, the Teacher Attitude Scale was subjected to the measure of establishing reliability and validity.

Reliability of Teacher Attitude Scale:

The investigator measured the reliability of Teacher Attitude Scale by following the test-retest procedure before administering it to the selected teachers of the study. A total of 20 teachers consisting of 10 regular and 10 resource teachers of integrated education programmes in Coimbatore region participated in the test of reliability. The scores obtained by the teachers in test and retest are given in the table 3.7.
Table 3.7

Test - Retest Scores of Teachers on Teacher Attitude Scale

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Test</th>
<th>Retest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>186</td>
<td>211</td>
</tr>
<tr>
<td>2</td>
<td>211</td>
<td>198</td>
</tr>
<tr>
<td>3</td>
<td>205</td>
<td>199</td>
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<tr>
<td>4</td>
<td>215</td>
<td>230</td>
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<tr>
<td>5</td>
<td>220</td>
<td>235</td>
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<td>6</td>
<td>209</td>
<td>219</td>
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<td>7</td>
<td>223</td>
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<td>8</td>
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<tr>
<td>9</td>
<td>228</td>
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<td>10</td>
<td>221</td>
<td>234</td>
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<tr>
<td>11</td>
<td>208</td>
<td>216</td>
</tr>
<tr>
<td>12</td>
<td>213</td>
<td>221</td>
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<tr>
<td>13</td>
<td>217</td>
<td>224</td>
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<tr>
<td>14</td>
<td>185</td>
<td>229</td>
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<td>15</td>
<td>181</td>
<td>180</td>
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<td>16</td>
<td>190</td>
<td>182</td>
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<tr>
<td>17</td>
<td>197</td>
<td>203</td>
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<tr>
<td>18</td>
<td>205</td>
<td>215</td>
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<tr>
<td>19</td>
<td>141</td>
<td>136</td>
</tr>
<tr>
<td>20</td>
<td>228</td>
<td>231</td>
</tr>
</tbody>
</table>

The Teacher Attitude Scale shows a correlation coefficient of 0.868 which indicates high reliability of the tool.

Validity of Teacher Attitude Scale:

All the statements included in the questionnaire were presented to 8 juries who were certified professionals in the field of education of visually disabled children. The scale was also distributed to 15 well experienced regular teachers and 15 resource teachers working in the integrated education
programmes. The juries participated in validating the tool opined that the tool had face validity and content validity.

Administration of Pilot Study:

Before administering the tool to the actual sample, pilot study was conducted. The aim of the pilot study was not only to test and refine the tool of research but also to force the nature of analysis and proceeding that may be needed at a later stage.

The investigator personally administered the questionnaire to 20 teachers consisting of 10 resource and 10 regular teachers of the integrated education programme of the visually disabled children. On the successful conduct of the pilot study, the investigator proposed to increase the size of the sample for the final study.

On the successful conduct of the pilot study, the investigator found that the tool was worth for the final study and proposed to increase the size of the sample for the final study.

School Administrator Attitude Scale (SAAS)

Structure of the Scale:

This was the third tool constructed by the investigator to collect the data from the heads of schools. Like the other attitude scales prepared for the teachers and the students, The School Administrator Attitude Scale was also prepared on the basis of Likert Type. The procedure followed in constructing
the items, the format and structure were the same. As far as possible, the technical words which are used only by special educators were avoided in the items. All the precautions about the preparation of the items were kept in the mind. The preliminary form of attitude scale consisted of 80 statements. The School Administrator Attitude Scale covers the following aspects.

- The responsibilities of the regular teachers and resource teachers
- Existing facilities for learning and teaching
- Co-operation and relationship among teachers and children
- Strengths and limitations of integrated education programme
- Training facilities for the teachers (staff enrichment programmes)
- Teaching efficiency and commitment of the teachers working in the integrated education programme
- Feasibility of dual teaching plan
- Status of resource teachers in the integrated education programme
- General problems in enrolment, discipline etc.,
- Educational needs of the children particularly the visually disabled children.

Selection of Items in the School Administrator Attitude Scale - Item Analysis:

The SAAS was administered to the sample of 20 school administrators. Items were selected from the preliminary form of the School Administrator Attitude Scale on the basis of how they are related to the score on the scale as
a whole. Each item was scored on the 1-to-5 scale. These scores were totalled and divided by the number of items in the scale. The resulting average item score for each individual was then be correlated with each of the actual item scores. After this process was over, all the items were put in the order from high to low in accordance with the value of coefficient of correlation. Those with low coefficients were discarded and the selection was made from the remainder. Based on this criterion of internal consistency, 25 items were selected for the final study. Internal consistency of those items lies between 0.58 to 0.92 and mean values lies between 2.18 to 4.47. The details of the selection of the items for the final study are given in the appendix 4.

The procedure followed for establishing item difficulty was similar to that of other two scales such as SAS and TAS.

After selecting the items for the final study, the School Administrator Attitude Scale was subjected to the measure of establishing reliability and validity.

Reliability Test for School Administrator Attitude Scale:

The procedure followed for establishing reliability for the School administrator Scale was similar to that of other two attitude scales described in the preceding section. A total of 10 school administrators in Coimbatore region participated in test-retest conducted by the investigator. The following table 3.8 presents the scores obtained by the school administrators involved in the test of reliability.
Table 3.8

Test-Retest Scores of Subjects on School Administrator Attitude Scale

<table>
<thead>
<tr>
<th>S.No</th>
<th>Test</th>
<th>Retest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>88</td>
<td>91</td>
</tr>
<tr>
<td>2</td>
<td>98</td>
<td>106</td>
</tr>
<tr>
<td>3</td>
<td>100</td>
<td>101</td>
</tr>
<tr>
<td>4</td>
<td>79</td>
<td>76</td>
</tr>
<tr>
<td>5</td>
<td>87</td>
<td>86</td>
</tr>
<tr>
<td>6</td>
<td>91</td>
<td>92</td>
</tr>
<tr>
<td>7</td>
<td>112</td>
<td>106</td>
</tr>
<tr>
<td>8</td>
<td>103</td>
<td>115</td>
</tr>
<tr>
<td>9</td>
<td>78</td>
<td>81</td>
</tr>
<tr>
<td>10</td>
<td>83</td>
<td>75</td>
</tr>
</tbody>
</table>

The correlation coefficient of test and retest scores is 0.903 which indicates that the tool is highly reliable.

Validity of SAAS:

This tool was given to a panel of juries which includes 4 certified professionals, 4 senior resource teachers, 4 well experienced regular teachers and 4 school administrators. The juries certified that the tool had face validity and content validity.

Administration of Pilot Study:

Before administering the tool to the actual sample, pilot study was conducted. The aim of the pilot study was to find out difficulties if any, in the administration of the tool and also to refine the procedures of experimentation.
The School Administrator Attitude Scale was administered to the sample of 8 Heads of the institutions of integrated education programmes. This study was made in and around Coimbatore city. The procedures of administration of this tool was the same as that of the procedures followed for other two attitude scales.

On the successful conduct of the pilot study, the investigator found that the tool was worth for the final study and proposed to conduct the final study with increased sample.

Preparation of Interview Schedule As a Tool of Research

"Schedule is the name usually applied to a set of questions which are asked and filled in by an interviewer in a face to face situation with another person." - Goode and Hatt (1958).

The investigator prepared the interview schedule in the light of the objectives of the study. The interview schedule consisted of 15 questions. The investigator decided to have focused interview to collect the information regarding some important issues related to the integrated education programme _ its strengths and weaknesses, involvement of the teachers, children and head of the institutions, resource facilities, supportive services, inter-personal relationship, teaching methods and approaches, evaluation system etc., The focused interview was conducted in 15 schools and the data were collected from 30 resource teachers, 30 regular teachers 50 visually disabled, 50 non-disabled children and 10 school administrators. The data
collected from the subjects were based on the questions prepared for the interview schedule. The investigator also used counter questions whenever necessary. The interview used for the final investigation is given in the appendix.

All the schools selected for the observation and interview were selected randomly from the schools selected for administering the attitude scales.

**Pre-Try Out of Interview Schedule**

Interview was conducted for 4 Regular Teachers and 4 Resource Teachers and 2 School Administrators, 6 Visually Disabled and 6 Non-Disabled children of integrated education programmes in Coimbatore city. The following observations were made by the investigator.

1. Focused interviews were found to be very interesting and purposeful.
2. Informal approach in conducting interview made the work easy and natural.
3. Information can be collected whenever and wherever possible during the informal discussion with teachers, students and school administrators.

The pilot study and the Pre-Try out made with the tools prepared for this study helped a lot to know the strong and weak points of the tools. Based on the experiences gained in the pilot study and pre-try out, the tools were finalised for the final study.
Preparation of Observation Schedule As a Tool of Research

The investigator also chose observation as one of the tools for this study. Observation was made to confirm the data collected through attitude scales. The investigator prepared the observation schedule for easy analysis and interpretations of recorded observations. The schedule included the following components.

- Availability of resources for the programme in general.
- Aids and appliances and their uses for the programme.
- Participation of visually disabled in the resource room activities.
- Classroom Management by the Regular Teachers.
- Co-operation between the Resource teachers and Regular teachers.
- Co-operation between the teachers and the administrators.
- Auxiliary services such as Reader Service, Live Reader Service and Recording Services.

For observation purposes, 15 schools were chosen by the investigator for collecting data on the basis of components listed in the observation schedule.

Tools for Final Investigation

Student Attitude Scale (SAS):

As a result of item selection and pilot study SAS consisted of 30 statements. It included 17 favourable statements and 13 unfavourable statements directed towards opinions of the visually disabled and non-disabled children on the various challenges faced by them in teaching-learning situations.
It covers mainly their inter-relationship with teachers, sighted peers (non-disabled) experiences, the strengths and weaknesses of the integrated education programme etc.,

The following table 3.9 presents the number of favourable and unfavourable statements included in the scale.

**Table 3.9**

<table>
<thead>
<tr>
<th>Favourable and Unfavourable Statements - SAS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sl. No</strong></td>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>1</td>
<td>Favourable</td>
</tr>
<tr>
<td>2</td>
<td>Unfavourable</td>
</tr>
</tbody>
</table>

**Teacher Attitude Scale (TAS):**

After the selection of items and the pilot study of this tool, 50 items were selected for the final investigation. It included 38 favourable statements, 12 unfavourable statements towards the various aspects of teaching and learning situations in the integrated education programme. It was confirmed by the investigator that no statement is termed right or wrong. But it represents the opinion of the substantial number of regular teachers and resource teachers working in the integrated education programme.
The following table 3.10 presents the number of favourable and unfavourable statements included in the tool used for the final investigation.

Table 3.10

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Category</th>
<th>Statement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Favourable</td>
<td>1-2, 4-9, 11-13, 15, 17-19, 24, 28-42, 44, 46, 48-50.</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Unfavourable</td>
<td>3, 10, 14, 16, 20-23, 25, 43, 45, 47.</td>
<td>12</td>
</tr>
</tbody>
</table>

School Administrator Attitude Scale (SAAS):

For the SAAS, 25 statements were selected after item analysis and pilot study were over. All the statements were arranged in such a way that it exposes the opinions of the Headmasters and Headmistresses towards the pertinent issues of the IED programme and the challenges they face in day to day functioning of the integrated education programme in their schools. For this purpose, 15 favourable and 10 unfavourable statements were included in the tool used for final investigation. The following table 3.11 presents the number of favourable and unfavourable statements.

146
Table 3.11

Favourable and Unfavourable Statements - SAAS

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Category</th>
<th>Statements</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Favourable</td>
<td>2-3, 7, 9, 12, 14-22, 25</td>
<td>15</td>
</tr>
<tr>
<td>2.</td>
<td>Unfavourable</td>
<td>1, 4-6, 8, 10, 11, 13, 23, 24</td>
<td>10</td>
</tr>
</tbody>
</table>

In addition to the above tools, observation schedule, focused interview were used to collect the necessary data.

Hypotheses of the Study

The investigator formulated certain hypotheses which are given below in the form of null hypotheses.

\( H_{01} \): There is no significant difference between the attitude scores of visually disabled children in the integrated education programme on the basis of the level of schools.

\( H_{02} \): There is no significant difference between the attitude scores of visually disabled children in the integrated education programme on the basis of locality.

\( H_{03} \): There is no significant difference between the attitude scores of visually disabled in the integrated education programme on the basis of gender.
$H_04$: There is no significant interaction effect of attitude scores of visually disabled children between schools and locality.

$H_05$: There is no significant interaction effect of attitude scores of visually disabled between the level of schools and gender.

$H_06$: There is no significant interaction effect of attitude scores of visually disabled children between locality and gender.

$H_07$: There is no significant difference between the attitude scores of non-disabled children in the integrated education programme on the basis of the level of schools.

$H_08$: There is no significant difference between the attitude scores of non-disabled children in the integrated education programme on the basis of locality.

$H_09$: There is no significant difference between the attitude scores of non-disabled children in the basis of gender.

$H_{10}$: There is no significant interaction effect of attitude scores of non-disabled children between schools and locality.

$H_{11}$: There is no significant interaction effect of the attitude scores of non-disabled children between schools and gender.

$H_{12}$: There is no significant interaction effect of attitude scores of non-disabled children between locality and gender.
H13: There is no significant difference between the attitude scores of teachers in the integrated education programme on the basis of school level.

H14: There is no significant difference between the attitude scores of teachers in the integrated education programme on the basis of type of teachers.

H15: There is no significant difference between the attitude scores of teachers on the basis of gender.

H16: There is no significant interaction effect of attitude scores of teachers between school level and type of teachers.

H17: There is no significant interaction effect of attitude scores of teachers between school level and gender.

H18: There is no significant interaction effect of attitude scores of teachers between type of teachers and gender.

H19: There is no significant difference between the attitude scores of visually disabled children and non-disabled children towards integrated education programmes.

H20: There is no significant difference between the general mean attitude scores of resource teachers and regular teachers towards the integrated education programmes.
H21: There is no significant difference between the attitude of school administrators of primary and secondary schools in rural area towards integrated education programmes.

H22: There is no significant difference between the attitude of school administrators of primary and secondary schools in urban area towards integrated education programmes.

H23: There is no significant difference between the attitude of school administrators of rural and urban areas in primary schools towards integrated education programmes.

H24: There is no significant difference between the attitude of school administrators of rural and urban areas in secondary schools towards integrated education programmes.

H25: There is no significant difference between the attitude of school administrators of rural primary schools and urban secondary schools towards integrated education programmes.

H26: There is no significant difference between the attitude of school administrators of urban primary and rural secondary school administrators towards integrated education programmes.

H27: There is no significant difference between the attitude scores of male and female school administrators towards integrated education programmes.
Data Gathering Procedure

As the present study had the aim of investigating the present trend in the education of the visually disabled and suggesting better activities for the future, the investigator wanted to ensure objectivity in collecting data. After contacting the key person of the concerned region of the integrated programme, the investigator visited with the subjects and collected data. Heads of institutions were also contacted. They were assured that the data collected would be used only for research purposes. The investigator also collected the data by mailing the attitude scales to the subjects.

Each teacher was given a questionnaire and a response sheet. All the teachers were requested to read all statements one after the other and give their responses in the response sheet by choosing one out of five choices for each statement which they feel correct and appropriate. All the subjects were explained the purpose of the study and what is expected in the questionnaire given to them. The investigator explained to them the purpose of giving response sheet (coding sheet) along with the questionnaire and the way of giving responses in the sheet for each item. They were requested to avoid mutual consultations. Whenever they had doubts, the investigator clarified and explained to them clearly. Time was not limited. The respondents were requested not to leave any item unanswered and incomplete.

The subjects who responded by post were requested to send back the filled in response sheet which were sent along with the questionnaires meant for the teachers, students and the school administrators.
The investigator used observation and interview schedules in person to collect data in addition to the attitude scales.

**Data Analysis Procedure**

For the present investigation, quantitative analysis was made on the data collected from the attitude scales prepared for the visually disabled children, Non-disabled children, Regular teachers, Resource teachers and School administrators. In addition to this, the investigator made qualitative analysis on the data collected from the supplementary tools namely observation and interview.

Multiple Analysis of Variance procedure was followed for interpreting the results of the attitude scores of children and teachers. To analyse the interaction of attitude scores between the disabled and non-disabled children, multiple comparison procedure was followed by applying 't' test. Comparisons of the means using 't' test were also procedure followed for analysing the attitude scores of school administrators. In the case of School administrators schools, locality and gender were the three independent variables. For teachers, types of teachers, locality, and gender were the variables. For all the subjects mentioned above, the attitude score was the dependent variable.

In multiple ANOVA, a 3 x 2 x 2 model was followed to study the significance of the main effects of the variables. The interaction between the variables was also investigated. The distributions of subjects satisfied the assumptions of ANOVA.
1. The distributions must be normal.

2. The variances of the distributions must be homogeneous.

3. The subjects of the sample must be independent of each other.

The sample size of the subgroups being the same size, there is a good deal of evidence that the analysis of variance is virtually unaffected by violations of normality and homogeneity of variance. (Box, 1954; Lindquist, 1953; & Boneau, 1960).

When the main effects in Analysis of Variance are significant, it is necessary to apply post-hoc procedures to study the nature of interaction between the variables. The results of main effects can be confidently generalised when there is no interaction between variables or when the nature of interaction is justified. The investigator applied 't' test for making comparisons to study the nature of interaction between the variables. Correlation techniques were also used to find out the relationship between the item responses of the subjects on each tool on the basis of variables. This correlation study helped the investigator to justify the results obtained from the multiple analysis of variance.

Having described the methodology used in this study in this Chapter III, the complete analysis and interpretation of the data is followed in the forthcoming Chapter IV.