CHAPTER - III
## CHAPTER-III

### METHODOLOGY

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CHAPTER - III

METHODOLOGY

3.1 Meaning of Research:

Research comprises defining or redefining problems, formulating objectives and hypotheses, collecting organising and evaluating data, making deductions and reaching conclusions to determine whether they fit the formulated hypotheses. 'RESEARCH' with all its eight alphabets may be expressed like -

R -> Rational way of thinking.
E -> Exhaustive searching for facts, their meaning and implication.
S -> Systematic and methodical scientific investigation.
E -> Employing specialized tools, instruments and procedure with expertise knowledge.
A -> Analysis of the data critically & obtain an adequate solution of a problem.
R -> Refinement of established principles and search out the new facts.
C -> Collection and use of empirical data, facts and evidence.
H -> Honest, intellectual and objective outlook for getting the solution of a problem.

(Bhargava and Raina, 2008)
3.2 Meaning of Research Methodology:

Research Methodology is a way to systematically and scientifically solve the problem. It is the whole research process from problem to solution. The methodology of educational research is of utmost important in a research process. It describes the various steps of the plan to be adopted in solving a research problem.

Research Methodology is the systematic, formal, rigorous and precise procedure of investigating a problem starting from its initial identification to the final conclusion. Its role is to carry on the research work in a scientific and social manner. It provides the idea to choose the method or methods, tools and techniques by which the research problems are attacked. Thus, Research Methodology is a way to systematically solve the research problem. It is the study of various steps that are generally adopted by the researcher in studying the research problem along with the logic behind them, such as - the manner in which the problem is formulated, the definition of the terms, the choice of subject or problem formulated for investigation, the validation of the data gathering tools, the collection, analysis and interpretation of data and processes of inferences & generalizations. Some researchers designate Research Methodology as Research Design. Research Design can be thought of as a ‘glue’ that holds all the elements in a research project.

3.3 Types of Research:

There are mainly two types of research -- basic or pure and applied or action research.
**Basic or Pure**: This research draws its pattern and spirit from the physical sciences. It represents a rigorous and structured types of analysis. The main aim of basic or pure research is the discovery of knowledge solely for the sake of knowledge.

**Applied or Action**: Applied or action research is directed towards the solution of immediate, specific and practical problems. It is performed in condition in which they are found in practice. Some people are inclined to differentiate action research from applied. According to them action research has relevance only to classroom situations while the applied has the wider applicability into the practical problems of greater complexity.

### 3.4 Methods of Educational Research:

Methods of Educational Research according to Good, Barr and Scates (1941), may be classified from many points of views. But the most widely used research methods fall under one of the following three types or a combination of these types-

A) **Historical Research**

B) **Descriptive Research**

C) **Experimental Research**

A) **Historical Research**: A historical research is one which investigates, records, analysis and interprets the events of the past. It has great value in the field of educational research because it is necessary to know and understand
educational achievements and trends of the past in order to gain perspective on present and future directions.

B) **Descriptive Research**: A descriptive research is one which describes, records, analyse and interprets the conditions that exist. In such a research, an attempts is made to discover relationship between existing non-manipulated variables, apart from some comparison or contrast among those variables. Descriptive studies are more than just a collection of data; they attempt to ascertain significant inter-relationships among phenomena. The descriptive research method has undoubtedly been most popular and the most widely used research method in education. The problems in education directly involve people and the situation precipitating these problems are constantly in a state of change. To keep abreast of changes descriptive studies conducted at different intervals with representative groups of people will be immensely helpful.

At times descriptive survey is the only means through which opinions, attitudes, suggestions for improvement of educational practices and instruction and other data can be obtained. The descriptive research is useful in the development of data gathering instruments and tools like checklist, schedules, questionnaires and rating scales. It also provides the background ideas and data from which many more refined or controlled studies of causal relations are made.

According to Best and Kahn (1992), "A descriptive study describes and interprets 'what is'. It is concerned with conditions or relationships that exist, opinion that are held, processes that are going on, effects that are evident, or
trends that are developing."

Descriptive Research has been classified in the following four categories-

a) Survey Studies
   i) School surveys
   ii) Job analysis
   iii) Public opinion surveys
   iv) Social surveys
b) Inter relationship studies
   i) Case study
   ii) Causal comparative studies
   iii) Cross cultural and comparative studies
   iv) Correlation and prediction studies
c) Developmental studies
   i) Growth studies
   ii) Follow up studies
   iii) Trend studies
d) Content Analysis or documentary analysis.

C) Experimental Research: An experimental research is one in which the primary focus is upon the relationship of variables. In this research, certain variables are controlled or manipulated and their effects are examined upon some other variables. Experimental method provides for much control and
therefore, establishes a systematic and logical association between manipulated factors and observed effects. Thus, experimental research basically describes what will be, when certain variables are carefully controlled or manipulated.

On the basis of these three main research methods, the modern researchers have again separately classified methods in the following manner-

D) **Qualitative Research**: Qualitative Research involves intensive data collection (lots of many variables), over and extended period of time, in a naturalistic setting i.e. variables are studied when and where they naturally occur. Sometimes qualitative research is called naturalistic inquiry or field studies. In qualitative research data are studied from as many angles as possible either to explore the new facts or to reinterpret already known existing facts. The content analysis, inductive analysis and logical analysis are mostly used in analysis of qualitative material.

E) **Quantitative Research**: Quantitative research involves administration of various tools on selected samples. The collected data or informations need to be tabulated, organised, analysed and interpreted for drawing sound conclusions and valid generalizations. Here, various statistical calculations are to be made in organising, analysing and interpreting numerical data. Therefore, in this specific methods, the researcher must know the strengths and weaknesses of the statistical methods so that he may not mislead or be misled by such methods.
F) **Correlational Research**: In this research, the researcher tries to explore the correlations between or among the variables. These correlations help the researcher better understand the conditions and events in a meaningful way, and in making predictions about the future conditions or events. Modern researchers have extracted correlational research from descriptive research on the ground that in descriptive research, one describes the subjects in terms of one or more variables, while in correlation research one is constantly looking at the relationship between the variables.

G) **Causal-Comparative Research**: Causal-comparative research attempts to identify a causative relationship between an independent variable and a dependent variable. However, this relationship is more suggestive than proven as the researcher does not have complete control over the independent variable, then the research would be classified as true experimental research.

3.5 **Research Methodology consideration of the present study**:

The present research work which is designed to study on the Academic Achievement of VI and HI children falls under the Description Method of educational research.

The present study has been undertaken not only to know the educational achievement of VI and HI children in their HSLC examination from the period 2000-2008, but also to compare their academic achievement. In this context, the investigator also made an attempt to study about the parents' awareness and behaviour towards their normal and impaired children regarding their
education and needs, influence of teachers' effectiveness on the academic achievement of VI and HI children etc. Therefore, the present study follows the survey studies and causal comparative studies (Inter relationships studies) under the Descriptive Research.

In survey studies, the investigator attempts to collect detailed description of the existing phenomena with the extent of employing data to justify current condition and practices or to make more intelligent plans for improving them. Interview schedules, Questionnaires, Inquiry forms are employed to collect the informations.

Causal comparative method has been employed as the research cannot manipulate the independent variables. Here, the investigator attempts to explore not only what a phenomena is, but how and why it occurs. So, the investigator has to compare the likeness & differences among phenomena to discover what factors or circumstances seem to accompany or contribute to the occurrence of certain events, conditions or practices. This causal comparative studies are based upon John Stuart Mill's method of discovering causal relationship. Mill's method of agreement states that- “If two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all the instances agree, is the cause (or effect) of the given phenomenon” (Mill 1846, P 224). So, it can be said that the present study is based on descriptive method of educational research. In this regard George J. Mouly has rightly remarked. “No category of educational research is more widely used than the type known variously as the survey, the normative survey & descriptive research.”
3.6 **Population and Sample:**

Population in its precise explanation is the totality or whole, quantity or the universe in which the individuals of it have one or more characteristics in common. The population may be all the individuals of a particular type or a more restricted part of that group. Thus, population is the universe in particular context or variable. Therefore, it refers to any collection of systematic group of human beings or non-human entities such as objects, educational institutions etc. that one or more characteristics in common which may be the interested problems of the researchers.

Sample is a small representation of the whole or totality. In other words, sample is a partial or small representation of the whole, selected for evaluation and analysis. A sample is chosen in a systematically random or purposive way, so that the chances or the operation of probability can be utilized by observing the characteristics of the sample. So, it is a small proportion selected for observation and analysis. It helps to reduce expenditure, save time and energy, permits measurement of greater scope or produces greater precision and accuracy. Sampling procedure provides generalization of the sample one can make certain inferences about the characteristics of the population from which it is drawn.

3.6. a) **Sample selection for the study:**

Before going into the details of the procedure for data collection, it would be in proper perspective to present the sampling procedure adopted in this
research work. In selection of the schools for the present study, keeping in view of the limited number of schools, all the schools were taken as sample schools. So, it can be said that here, the purposive sampling procedure was used as the sample was selected arbitrarily without any restriction. In purposive or judgement sampling there is good evidence that it is the "representative" of the total population.

Likewise, while selecting the students, the same sampling procedure i.e. judgement or purposive sampling method was adopted keeping in view of the limited number of students in each school.

To study about the parental behaviour and teachers' effectiveness in relation to academic achievement of the students, quota sampling procedure and stratified random sampling procedures were adopted. If a researcher fixes a quota of limited number of people, for example if the quota is of 100 number of people, the researcher may go on collecting data from first 100 people she or he is able to contact and gets co-operation from them. So, the first sample of 100 people thus selected is called quota or chunk sample. So, here in this study the parents were selected under this sampling method. One point should be made clear that the data were collected from the parents of the students studying in all the 10 number (7 VI + 3 HI) of schools in accordance with the feasibility of the research.

Stratified random sampling procedure was followed in collecting the data from the teachers to know their effectiveness in relation to academic achievement of the students. When the simple random sampling procedure, may by chance have an undue proportion of one type of units in it, then it is
necessary to make certain that the units included in the sample are selected in proportion to their occurrence in the population. When the units in a sample are proportional to their presence in the population, the sample is called stratified random sample. In stratified sampling, the population is divided into strata such as men and women, black and white including stratification factors like sex, age, socio-economic status, residence (urban, rural) caste, occupation etc.

3.6. b) Selection of the school:

There are only 7 (seven) schools meant for the Visually Impaired children in Assam which are properly running. For the Hearing Impaired children, there are only 3 (three) schools in Assam. Out of the three schools for the HI children, one has been established recently under private initiative which is also been considered as sample school. Out of the 7 (seven) VI schools, one school has been established in inclusive education setting. But till now only VI students have appeared in the HSLC Examination. The school has been taken as sample school for the VI children. Keeping in view of the limited number of schools meant for the VI and HI children all those seven VI schools and three HI schools all over Assam have been taken as sample schools. Therefore, either government or private schools, or urban and rural areas are not been taken into account while collecting the data for the present study. The list of the schools meant for both VI and HI children are given in Table: 7 and 8.
TABLE : 7
List of Schools meant for VI children

<table>
<thead>
<tr>
<th>School Code</th>
<th>Name of the Schools</th>
<th>Year of Establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Srimanta Sankar Mission Blind school, Barhampur, Nagaon</td>
<td>1955</td>
</tr>
<tr>
<td>02</td>
<td>Assam Sishu Andha Vidyalaya, Bihpura, Lakhimpur</td>
<td>1969</td>
</tr>
<tr>
<td>03</td>
<td>Moran Janamangal Adarsha Blind School, Moranhat, Dibrugarh</td>
<td>1971</td>
</tr>
<tr>
<td>04</td>
<td>Jorhat Blind Institution, Atilagaon, Na-Ali, Jorhat</td>
<td>1974</td>
</tr>
<tr>
<td>05</td>
<td>Guwahati Blind School, Pilingkata, Basistha, Kamrup</td>
<td>1976</td>
</tr>
<tr>
<td>06</td>
<td>Ghilamara Blind School, Ghilamara Lakhimpur</td>
<td>1984</td>
</tr>
<tr>
<td>07</td>
<td>Monfort School, 10th mile, Guwahati, Kamrup.</td>
<td>1996</td>
</tr>
</tbody>
</table>

TABLE : 8
List of Schools meant for HI children

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Name of the Schools</th>
<th>Year of Establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>08</td>
<td>Govt. B.D.S. Deaf and Dumb School, Guwahati, Kamrup</td>
<td>1968</td>
</tr>
<tr>
<td>09</td>
<td>School for the Hearing Impaired, Jorhat</td>
<td>1995</td>
</tr>
<tr>
<td>10</td>
<td>Saraswati Bagdhani Prasikshan Kendra, Guwahati, Kamrup</td>
<td>2000</td>
</tr>
</tbody>
</table>
3.6. b.i) :

A brief introduction about the schools for the Visually Impaired and Hearing Impaired children:

The institutions or schools meant for the VI and HI children which have been surveyed are situated in different parts of the state of Assam. A brief descriptions about those schools are given below -

1. **Srimanta Sankar Mission Blind School, Barhampur, Nagaon:**

   The School is situated at Barhampur in the district of Nagaon. The School was established in 1955 by Srimanta Sankar Mission which is the oldest voluntary organisation in the whole N.E. India. The school is a residential one. The school is under Sankar Mission Committee. As the school is provincialized, the Government of Assam gives grants to the school from time to time including the monthly salary of the teachers. The Mission runs the hostel of the school as the govt. has not taken the charge of the hostel. There are altogether 65 students (from class-I to class-X) and 22 (19 male and 3 female) teachers. The first blind woman graduate Mrs. Kamala Baruah is in-charge of the junior (ME) section of the school.

2. **Assam Sishu Andha Vidyalaya, Bihpuria, Lakhimpur:**

   This school, which is situated at Bihpuria, in the district of North Lakhimpur, was established on 2nd October, 1969. This school is totally maintained by the Social Welfare Dept., Govt of Assam. The school also gets an amount of Rs. 1.27 lakhs per annum as financial assistance from Secondary Education
Department, Govt. of Assam. The school has different kinds of facilities including co-curricular activities like Music, Games, Knitting etc. The school has also the special computer for the VI children with specially trained teachers. There are 14 (6 Male and 8 Female) teachers and 40 students in this school.

3. Moran Janamangal Adarsha Blind School, Moranhat, Dibrugarh:

The school is situated about 2 km. from Moran Town on the side of NH-37 in the district of Dibrugarh in Upper Assam. It was established in 1971. The school has already crossed its silver jubilee year and now has grown to a better shape. The school is purely residential and everything including course fee, books, reading materials, food, lodging in hostels, uniforms etc. are provided to the students totally at free of cost. It is purely a private organisation controlled by a very strong executive committee headed by Mr. Victor Banerjee (the film actor of international repute) as President, Mr. P.S. Ghatowar (Earlier Union Minister, Govt. of India) as the Chief Patron, Mr. Pradip Bhatta (a prominent social worker of the locality) as Honorary Secretary and a few others. The Assam Branch Indian Tea Association (ABITA) has always being playing a vital role in the growth and development of the school and also providing all the food materials to the students since last 29 years which is one of the major back-up of surviving and upbringing of the school. Now, the school has its own classrooms, dormitories, dinning hall, kitchen, a small vocational centre etc. on a plot of land measuring 10 bighas owned by the school authority. At present the school has 11 teachers including Principal and
42 number of students.

4. **Jorhat Blind Institution, Jorhat:**

This institution was established on 25th March, 1974. The school has a very beautiful campus and it is located at Na-All, within the Jorhat town. The institution was taken over by the Govt. of Assam w.e.f. 01.01.81 and at present the institution runs under the supervision of Social Welfare Department, Govt. of Assam. The institution is purely residential and no food and lodging expenses are charged from the students. The school has recently introduced pre-primary section for the age group of 3-6 years and has gained good responses from the parents of the VI children. There are altogether 18 teachers (7 female and 11 male) and 72 (37 boys and 35 girls) number of students in this institution. The school has both special computer course and audio-library facility for the students.

5. **Guwahati Blind School, Basistha, Guwahti, Kamrup:**

This institution for the VI started on 4th January, 1976 by a voluntary organisation. Later on it was taken (ME section first) by the Government of Assam. The school is provincialized upto high school level. The Social Welfare Department, Govt. of Assam runs the hostel. It may be noted that every visually or hearing impaired student of provincialized schools gets scholarships from the government which is of course very nominal and adjusted against the mess dues. At present, there are 12 (7 male and 5 female) permanent teachers in the school with 80 students strength.
6. Ghilamara Blind School, Ghilamara, Lakhimpur:

The school was established in 1984 and it is totally functioning with the help and financial assistance from the public. The permanent school building was constructed in 1997 with the financial assistance given by Bardalani Development Block. Both the Girls’ and Boys’ hostels were constructed in the same year. The hostels were donated by District Commissioner Office and Ghilamara Development Block respectively. The school is functioning under a very pathetic condition. The teachers are serving the students without any salary from the inception of the school. Till date, the school has not received any financial aid from the State Govt. There are 17 teachers and 50 students in the school. The school is purely residential in nature. The school is surviving under the supervision of a management committee.

7. Montfort School, 10th Mile, Guwahati, Kamrup:

Montfort School, Guwahati started on January 20, 1996. In the year 2003, the school started imparting education and training to children with disabilities as an Inclusive Education setting. The medium of instruction of the school is English and follows the CBSE syllabus. It is a co-educational Institution. It has attached hosted for boys and girls. The school has recently started imparting education to the HI students. The school has 32 HI students and 21 VI students. There are altogether 1004 students including both normal and impaired and 40 teacher including 3 VI and 6 HI teachers in this school.
8. **Govt. B.D.S. Deaf and Dumb School, Kahilipara, Guwahati:**

This is the first institution for the deaf and dumb students in the entire North-Eastern region. The school was established in 1949 as a voluntary institution with a donation of Rs. 20,000/- from Sri Chandmal Sarawgi, a local businessman. The school was taken over by the Govt. of Assam and it was renamed as Government Bhawri Devi Sarawgi (BDS) Deaf and Dumb school in 1968 after the name of donor's wife. This is a residential school. Local deaf and dumb students are also given admission who can study without residing in hostel. Students' scholarships are adjusted against the mess dues and moreover, an amount is also charged from each student. There are around 150 students and 21 (14 male and 7 female) teachers including instructors in the school. The school is functioning under the Social Welfare Department, Govt. of Assam.

9. **School for the Hearing Impaired, Jorhat:**

This school was established in 1995. Although the school has a good campus, but the school is suffering from many problems. There is no permanent head or principal till now. There are only two regular teachers in the school. Due to non-availability of the teachers, the school is teaching the students upto class-VIII only. After class-VIII, the school sends their students to Govt. B.D.S. Deaf and Dumb School situated in Guwahati and the students of School for the Hearing Impaired, Jorhat appear their HSLC Examination from the Govt. B.D.S. Deaf and Dumb School, Guwahati. At present there are 33 (20 boys and 13 girls) students in the school.
10. **Saraswati Bagdhani Prasikshan Kendra, Guwahati:**

Munindra Kalita, M.A., a young man from the Barpeta district developed a special therapy to give language training to dumb children and established a training centre in Chandmari area in later part of 1990s. He received a tremendous response from the parents of HI children. By using the therapy or the special method, the dumb children were able to communicate with verbal language. So, later on in 2000, Mr. Kalita converted his training centre to a school and named it after his own therapy (Bagdhani) as Saraswati Bagdhani Prasikshan Kendra. It is a totally private institute and charges Rs. 1000/- per month from each student. The school has also the hostel and bus facility. Now there are 55 students and 15 teachers (5 male & 10 female) in the school. The school is under SEBA, Assam. Till now the school has not received any financial help from the state government.
Schools for the Visually Impaired (VI) and Hearing Impaired (HI) children situated in different Districts of Assam
3.6. c) Sample size:

i) Schools:

It was already been mentioned that 7 (seven) VI schools situated in Kamrup, Nagaon, Jorhat, Dibrugarh and Lakhimpur districts and 3 (three) HI Schools situated in Kamrup and Jorhat districts were taken into consideration for the present study.

It may be made clear that to study the objective : 1, 2 and 3, only two numbers of HI schools had been taken into account. The reason behind is that due to non-availability of required number of teachers for different subjects, the School for the Hearing Impaired, Jorhat sends their students from class VIII to Govt. B.D.S. Deaf and Dumb School, Guwahati, Kamrup. So, the students of School for the Hearing Impaired, Jorhat, appear HSLC Examination from Govt. B.D.S. Deaf and Dumb School, Guwahati. Except these 3 objectives, to study the other objectives, the number of Hearing Impaired schools have been counted as three.

ii) Students:

Keeping in view of the limited number of students in each school, all the students who appeared HSLC Examination during the period from 2000-2008 were taken as sample students. The present study covered altogether 117 VI students' academic achievement and 257 number of HI students' academic achievement during the period. As their academic performance was counted from class-VIII, to know whether there was any wastage and stagnation rates, so the age group of the students were from 13-16 years. Students' HSLC
results were counted as their Academic Achievement.

It may be mentioned that the present study started from 2004, hence the researcher got the opportunity to meet some batches of students, whose opinion were taken in relation to their academic achievement. Thereby, the researcher took opinion of the students on many dimensions in relation to their academic achievement, parental behaviour and awareness and teachers' initiative in relation to their academic achievement. So, the researcher took the opinion of the students who appeared HSLC examination in 2005, 2006, 2007 and 2008 physically. Therefore, the study covered total 374 students from both the VI and HI schools out of which 215 (54 VI + 161 HI) students' opinion were taken into account for the study who appeared HSLC Examination from 2005 to 2008.
Distribution of the student sample may be presented in Table: 9 below -

**TABLE : 9**

**Distribution of student sample**

<table>
<thead>
<tr>
<th>Category of Schools</th>
<th>School Code</th>
<th>Name of the School</th>
<th>Sample students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visually Impaired</td>
<td>01</td>
<td>Srimanta Sankar Mission Blind School, Barhampur, Nagaon</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>02</td>
<td>Assam Sishu Andha Vidyalaya Bihpuria, Lakhimpur</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>03</td>
<td>Moran Janamangal Adarsha Blind School, Moranhat, Dibrugarh</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>04</td>
<td>Jorhat Blind Institution, Jorhat</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>05</td>
<td>Guwahati School for the Blind, Basistha, Guwahati, Kamrup</td>
<td>30</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>06</td>
<td>Ghilamara Blind School, Lakhimpur</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>07</td>
<td>Montfort School, Guwahati, Kamrup</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Hearing Impaired</td>
<td>08</td>
<td>Govt. B.D.S. Deaf &amp; Dumb School, Guwahati, Kamrup</td>
<td>251</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09</td>
<td>School for the Hearing Impaired, Jorhat</td>
<td>-</td>
<td>257</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Saraswati Bagdhani Prasikshan Kendra, Guwahati, Kamrup</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grand Total</td>
<td>374</td>
<td></td>
</tr>
</tbody>
</table>

**iii) Parents:**

Through quota sampling procedure 60 (sixty) number of parents were selected whose children were studied in all 10 number (7 VI + 3 HI) of schools.

**iv) Teachers:**

Through stratified random sampling procedure, 60 teachers were selected
for collecting data to know the effectiveness of the teachers in relation to academic achievement of the students. Out of the 60 (sixty) teachers 30 (15 male and 15 female) from the VI Schools and 30 (15 male and 15 female) from HI Schools. The clear description of parents sample & teachers sample may be presented in the Table: 10 below -

TABLE : 10

Distribution of sample (Teachers and Parents)

<table>
<thead>
<tr>
<th>Category of Schools</th>
<th>School Code</th>
<th>Total No. of Teachers</th>
<th>Sample Teachers</th>
<th>Sample students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
<td>Total</td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>01</td>
<td>19</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>School Code</td>
<td>02</td>
<td>6</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>03</td>
<td>7</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>04</td>
<td>11</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>05</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>06</td>
<td>10</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>07</td>
<td>15</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>Hearing Impaired</td>
<td>08</td>
<td>14</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>School Code</td>
<td>09</td>
<td>3</td>
<td>2</td>
<td>05</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>160</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

*= Blind Teacher
TABLE : 11

Design of the sample for the study from 10 schools

<table>
<thead>
<tr>
<th>Category of Schools</th>
<th>Total School</th>
<th>Age Group</th>
<th>No. of students (HSLC appeared)</th>
<th>No. of students interviewed</th>
<th>No. of Teachers</th>
<th>No. of Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>VI</td>
<td>7</td>
<td>13-16</td>
<td>117</td>
<td>*54</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>HI</td>
<td>3</td>
<td>13-16</td>
<td>257</td>
<td>*161</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

*inclusive of 117 & 257

FIGURE : 10

Sample distribution of the final study through schematic diagram

3.7 Tools and Techniques:

The following tools were used by the researcher for the present study:

a) Students’ Academic Achievement record through Inquiry form
b) A self-developed Questionnaire for Hearing Impaired children
c) A self-developed Interview Schedule for visually Impaired Children.
d) Interview schedule for the parents (self developed).
e) Teacher Effectiveness Scale (developed).
f) Observation Method.

3.7. a) A brief discussion of the tools and their validity:

i) Questionnaire:

Questionnaire is a popular means of collecting all kinds of data in research. It is widely used in Educational Research to obtain information about certain conditions and practices. A questionnaire is either administered personally to a group of individual or mailed to them to save a great deal of time, money and effort in travel. The questions may be asked in a closed or a open form. The researcher may use any one type exclusively or both in combination.

In the present investigation the questionnaire has been used for the HI students as they cannot communicate verbally. The investigator had prepared an open form of questionnaire through which knowledge about students home background, health background, their interest and capability, in academic & non-academic matters, attitude on the teachers and institutions, parental behaviour towards them, their future plan of action etc. were tried to know. Based on experts’ comments and suggestions 80 items were selected for the questionnaire.

ii) Interview Schedule:

Another tool used in the present study for gathering information from the VI children and parents was the interview schedule.
a) Interview Schedule for the VI children:

Almost entering the same items used for collecting information from the HI children, the interview schedule was prepared for the VI children. As the VI children can communicate verbally, so, instead of questionnaire, the interview scheduled was used. Here also, 80 items were finally prepared with the experts’ opinion and suggestions. Research literatures were also reviewed while preparing these two tools.

b) Interview Schedule for the Parents:

In the present study, Parental Behaviour and Awareness (PBA) towards their impaired and normal children has also been taken into account. As the parents of both the categories children were semi-literate and most of them were illiterate, so the investigator had to hold on interviews with the parents. The interview schedule was prepared with four options for each statement to know about the family background of the students, parental behaviour for their normal and impaired children, awareness regarding education and needs towards their normal and impaired children etc. Therefore, in the interview schedule, same statement was used for both normal and impaired children of the family.

The statements of the interview schedule for the parents were carefully constructed with the help of conceptual and related research literature so that the objective of the study could be achieved. Based on experts’ comments, some statements were edited properly and some were dropped. After making necessary modifications, 50 statements were made ready for the schedule.
iii) Inquiry form:

To collect the Academic Achievement Record on the basis of the HSLC Examination of the differently abled students, an Inquiry Form was used. In the form not only the students, HSLC final examination results, but also their annual examination results were also recorded to know the actual rate of wastage and stagnation of any even the involvement of students in co-curricular activities were also recorded in the inquiry form. The format has been shown in the Appendix-A (page 265).

iv) Teachers’ Effectiveness Scale (TES) and its scoring:

A TES was developed by the researcher on the basis of 5 point scale. All the formalities were observed to construct the scale. The statements of the scale were prepared on the basis of a standardized Teacher Effectiveness Scale developed by Dr. Promod Kumar and Prof. D.N. Mutha. The scale was prepared by covering both favourable and unfavourable statements and was sent to experts’ opinion and suggestion. A total number of 55 statements were selected for the final draft. For each statement, the scoring procedure was made by giving points as 5, 4, 3, 2 and 1 for the responses like ‘strongly agree’, ‘agree’, ‘uncertain’, ‘disagree’ and ‘strongly disagree’ respectively. For unfavourable statements the reverse i.e. 1, 2, 3, 4 and 5 points were used against the responses.

After careful observation and analysis made by the experts it was found that the TES possessed face validity and content validity. Besides teacher effectiveness was based on analyses of studies and related literatures. Secondly,
the scale also had the reliability \( r = .79 \) which was calculated on the basis of test-retest method conducted at the interval of 2 months.

v) Observation Method:

Observation is the most refined technique of modern educational research. The investigator had to observe the physically impaired children in different times. With due permission from the concerned authorities, the investigator spent considerable time in the classrooms of both the VI and HI schools. This had helped the investigator to know their behavioural activities in the class and outside the class. The investigator also carefully observed the activities of those students while they were in the hostel, in the playground and so on.

Even when the investigator interviewed the teachers and the parents, their specific behaviour and attitudes were also carefully observed and recorded by the investigator.

3.8 Data Collection:

After finalizing tools for the present study, the study was planned to be conducted in the following phases for collecting data. The researcher started the data collection process from the beginning of academic year 2005-06 for the pilot study. For the final study, after some modifications in final registration seminars, all the tools were finalised and made ready for data collection. The whole data collection procedure was done on the following phases.
Phase I:

The investigator went to the respective schools one by one and met the principal or head of the institution and took necessary permission for collecting the data from the students and teachers. Even the investigator had taken special permission to observe the activities of the VI and HI children in and outside the classroom and also when they were in hostel. As the VI schools were purely residential in nature and HI schools had also the hostel facility, so, the investigator collected the residential address of the students to meet the parents.

Phase II:

The investigator then collected the results of the students (from each school) in their HSLC Examination from the period 2000-2008 from the office records. In this connection, the investigator visited the nearby schools a number of times after declaration of each HSLC Examination result from 2005 to 2008. The investigator also held telephonic communication with some of the teachers to collect the results of HSLC Examination of last 2 or 3 years from the schools situated in Dibrugarh, Jorhat and Lakhimpur. The investigator also collected data through using questionnaire (for HI), interview schedule (for VI) from the students who were studying in class-VIII to class-X during the visit to cross-check the opinion given by their parents and teachers. Questionnaire was used for the Hearing Impaired children and Interview schedule was used for the visually Impaired children.
Phase III:

Teachers were interviewed to judge the correlation between their effectiveness and academic achievement of the students. In this respect the investigator used the TES with the sample teachers during the visit to each school. The informations regarding the involvement and performances of students in co-curricular activities which were collected by the investigator during the interview with the students was also cross-checked through the TES whether the teachers were really involved and motivated the students in this important aspect of education.

Phase IV:

By following the quota sampling procedure, the parents were selected. It was made sure that the sample parents were covered from each school and each parents sample was the parents of sample student. The investigator went personally to visit the house of the students (sample) and held interview with their parents to know the parental behavioural and awareness regarding education and needs towards their impaired and normal children.

The data collection procedure was completed during the last part of 2008.

3.8. a) Problems faced during data collection:

The whole data collection process underwent in a smooth manner except one or two cases -

i) The investigator faced trouble while collecting the data from Govt. B.D.S.
Deaf and Dumb school. The school authority refused to co-operate with investigator at first due to some official reasons. So, the investigator had to seek written permission from the Directorate of Social Welfare Department, Govt. of Assam (copy enclosed in the appendix), to collect the required data from that particular school. The teachers of the school helped the investigator a lot while collecting the data from the students in the form of questionnaire. With the help of the respected teachers of the school, the investigator collected the completed questionnaires.

ii) The most troublesome work in the whole research process was to collect data from the parents. As all the VI schools were residential in nature and HI schools had also the hostel facility, so the students were from the different parts of the North-Eastern Region. The investigator collected the residential addresses of the students who stay within Assam only. The process took a great deal of time.

3.9 Treatment of the data:

The data collected for the present study were treated in the following manner:

i) For the first objective, the data were collected from the office records through an inquiry form. Then total number of the students appeared and passed during the period from 2000-2008, were counted and tabulated along with pass percentages. In that inquiry form each students' annual examination results from class-VIII to Test Examination
were also recorded to see whether there was any wastage and stagnation rate. 7 number of tables for each 7 VI schools were constructed to show individual school results and then a general table was constructed along with divisionwise results to show the academic achievement of VI children of Assam.

ii) For the 2nd objective also, the data were collected in the same procedure. The data were collected and presented in the same way. Here, to study the academic achievement of HI children of Assam, 2 separate tables were constructed to show the academic achievement of HI children as the number of HI schools counted for this objective was two and then a general table was also constructed.

iii) To have a comparative study of academic achievement of VI and HI children, the results of VI and HI children from the period 2000-2008 were presented in a table. Pass percentages were taken as Mean scores and then 't-test' was applied to see the significant of difference between Means.

iv) To study the involvement and performance of visually and hearing impaired children in co-curricular activities, again through an inquiry form involvement of these students were recorded. The performances of the students in different fields of co-curricular activities were also studied and listed. Involvement of both VI and HI children in co-curricular
activities from the period 2000-2008 were put in percentages. Taking the percentages as Mean scores, 't-test' was applied to see whether there was significant difference between the Means.

v) For the fifth objective, here also the collected data were analysed on the basis of four options and parents responses were counted against each option. 4 levels of parental behaviour and awareness were taken into consideration on the basis of 4 options, like- for each 'Always' option, parents awareness was counted as High Awareness (HA), likewise for 'Often' it was Moderate Awareness (MA), for 'Sometime', it was Low Awareness (LA) and for 'Never' it was taken into consideration as Total Unawareness (TU). 60 number of parents were taken as sample for the study. After presenting the data in two separate tables for Education and Needs, \( \chi^2 \) (chi square) test was applied for statistical analysis to test the significant difference of parental behaviour and awareness regarding Education and Needs between their normal and impaired children.

vi) To study and analyse the 6th objective, the TES for each sample teacher were counted. Then average teacher effectiveness score for each school one by one was also calculated keeping in view of Male & Female average TES. Then schoolwise average academic achievement of the students (VI and HI) along with average TES against each school were presented in a separate table. On the basis of that table, Pearson's
Product Moment Method was applied to see whether there was any correlation between teachers' effectiveness with academic achievement of students.

3.10 Pilot Study:

The pilot study had been undertaken by the investigator during February, 2006 and May, 2006 to have a preliminary knowledge on the Academic Achievement of VI and HI children in Kamrup district. Then the pilot study report was presented in a Seminar during June, 2006 for final registration. The pilot study helped the investigator to modify objectives and tools and the valuable suggestions and comments of the experts present in the seminar also helped the investigator to find out the right way of doing the further study. The pilot study was conducted on the basis of -

i) Three school comprising one meant for VI and two meant for HI children.

ii) Academic progress of the students was observed from class-VIII to class-X see the rate of wastage and stagnation.

iii) The HSLC examination results were counted as academic achievement of the VI and HI children.

iv) Last five years HSLC results have been taken into consideration to see the academic achievement of VI & HI children.
3.10. a) Sample size of the Pilot Study:

The samples of the pilot study were distributed in the following break-up-

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Schools</th>
<th>Students</th>
<th>Teachers</th>
<th>Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Guwahati Blind High School, Basistha, Guwahati</td>
<td>24</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>Govt. B.D.S. Deaf &amp; Dumb School, Kahilipara, Guwahati</td>
<td>24</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Saraswati Bagdhani Prasikshan Kendra, Guwahati</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>15</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

3.10. b) Tools used in the Pilot Study:

Following tools were used in data collection procedure -

i) Inquiry forms

ii) Questionnaires and Interview schedule for the students.

iii) Interview schedule for the Teachers.

iv) Interview schedule for the parents.

3.10. c) Major Findings of the Pilot Study:

1. It was found that academic achievement of VI students was high.

2. Academic achievement of HI students was low.

3. Senses play a very important role in teaching-learning process. As we all know that, formation of clear concepts ultimately depends on clear vision. But it was proved wrong and in the pilot study it was found that auditory power was more influential in academic achievements of the students.
4. VI students gave the credit of their good results to the teachers. As the schools were residential in nature, they received continuous guidance from the teachers.

5. Causes of disability in both the cases (VI & HI) were almost same like pre-natal, peri-natal & post-natal.

6. 50% cases were found to be congenital and 50% were found to be after birth due to some other reasons like Vitamin A deficiency, German measles, Typhoid, Malaria, Malnutrition etc.

7. Wastage & stagnation rates were nil in all the three schools.

8. Teachers were really special. They took extra classes, extra care whenever necessary and also took remedial classes regularly for which the dropout & stagnation rates were found as nil.

9. Teachers of the hearing impaired school reported that due to the total hear loss, it was very difficult to teach some subjects in depth like social studies, history etc.

10. Both categories of students were interested in co-curricular activities. VI students are interested in vocal & instrumental music while the HI students were very expert in dance & sports.

11. Anowara Begum, a student from Govt. B.D.S. deaf & dumb school, bagged gold medal in 800 meter race in All India Inter School Competition.

12. Mr. Kishor Mohan Bhattacharjya, a student from Guwahati Blind school, Guwahati, now a lecturer in History, Gauhati University got state highest mark in History in HSLC Examination, 1985.

13. HI students were found to be expert in craft like needle work and
tailoring, basket making, toy making, clay modelling and other cane & bamboo works.

14. VI students upto class-X half yearly examination, they appeared in braille system. But due to limited number of schools & trained teachers, in HSLC they appeared with the help of writing scribes who were academically one year junior sighted student from other school.

15. It was found that Saraswati Bagdhani Prasikshan Kendra, Guwahati, gave special speech therapy to all students from the beginning. Although they did not hear anything, but were able to utter words, even some of them could speak clearly & they communicated through Lip reading & gestures.

The school has its own method of teaching which was quite different from that of other hearing impaired schools.

16. Most of the parents were aware about the future of their children, but due to poor economic condition, after HSLC examination, most of them could not afford the extra cost of higher education.

17. There were various types of problems faced by the students & teachers of both the schools like shortage of trained teachers, no braille press for which there was the shortage of text books for the blind, no facility of talking books and no newly invented speech development equipment for the hearing impaired students.

18. So far as indisciplined behaviour was concerned, more was found in hearing impaired students than visually impaired.

19. Both the visually impaired & hearing impaired students were found to be efficient in using & operating computer like normal student.