CHAPTER III
METHODOLOGY

3.1 INTRODUCTION
The contending perspective on special education and the different approaches to the SwD in India followed by the empirical studies to draw the implication for the present study have been presented in the previous chapter. The scope of the remaining chapters, however, will be limited to discussions on the SwD of the universities of Gujarat. Considering the differences in the courses and the type of disability, there may be variations in their problems, needs and reasons for their high academic achievement and low academic achievement too. Nevertheless, findings of the present study may at best be indicative of the total picture of the SwD and may help to generate certain hypothesis rather than arriving at definite statements. With this assumption the present chapter presents the methodological details that were adopted to comprehend the SwD in the universities. The present chapter includes approach, research design, data required, sources of data, population and sample, tools, data collection and techniques used for data analysis. Details of the present chapter presented as follow.

3.2 APPROACH
In the context of SwD who have their own learning characteristics based on their disability, mere quantification of data may not be sufficient to discern and understand their problems and needs existing. Rather their own understanding of their problems, needs and reasons for their high and low academic achievement when expressed uninterruptedly will unravel many facts which cannot be obtained through administration and structural tools. At the same time some of the educational data like enrolment of SwD, total number of teaching staff, overall enrolment figure of the students, educational achievement etc., can very well be quantified. Hence taking into consideration the objectives of the present study, combination of both quantitative and qualitative approach have been followed.
3.3  RESEARCH DESIGN

The present study was a cross-sectional survey as data were collected from SwD at a single point of time i.e. during the academic year 2008-09. For finding the reasons of high and low academic achievement, case study method has been employed. The collective type of case study was used as the present study involves multiple cases of academically high and low SwD to learn more about the reasons of their high and low academic achievement.

3.4  DATA REQUIRED FOR THE PRESENT STUDY

In order to achieve the stated objectives in chapter I (page no. 37), both qualitative and qualitative data were required. The quantitative data included the enrolment of the SwD for the last five year and for the year 2008-09, total number of the students, total number of teaching staff, educational qualification of the SwD, total number of the teaching staff and enrollment figure of the students in each department, gender, habituate, type and percentage of disability, their academic achievement, name and year of the course of the SwD were collected.

Descriptive data pertaining to the universities of Gujarat, teaching departments, facilities provided to the SwD, training and recruitment of special education trained teachers, information pertaining to the SwD like personal information, family background, their education profile, leisure activities, engagement with the disability organization, academic problems, social problems, financial problems, health related problems, help-seeking behavior and needs to overcome their problems were required. Apart from this, their expectation regarding the facilities, encouraging and discouraging points in their department/university, awareness regarding the provisions available to them, academic support receiving from their family, teachers and classmates, teacher’s help in content understanding, information regarding the use of library, information regarding the examination, use of leisure time, their suggestions for other fellow SwD for successfully completion of the course, for making library facilities disability friendly, for examination and other information if they want to mention were also collected to find out the reasons of their success and failure.
3.5 SOURCES OF DATA

The data required for the present study mentioned above were available from various sources mentioned below:

Offices of Vice chancellors and Registrars, Academic branches of the universities, Post-graduate cells, Annual Reports of the selected universities, enrolment registers of the teaching departments, Heads of the Departments, Clerical staff, SwD, Teachers of SwD, Family members of SwD and friends of SwD were the sources of data. Apart from this, official websites of the universities and telephonic interview with the selected SwD also served as source of data.

3.6 POPULATION

- There are thirty universities (MSU Diary, 2012) functioning in the Gujarat. As the present study was delimited to the UGC recognized and funded universities of Gujarat, total nine universities of Gujarat recognized and funded by UGC comprised as the population for the present study. The list of the nine universities is given below:
  i. Bhavnagar University (BU), Bhavnagar.
  ii. Gujarat University (GU), Ahmedabad.
  iii. Gujarat Vidyapeeth (GV), Ahmedabad.
  iv. KSKV Kutch University (KU), Bhuj.
  v. Maharaja Sayajirao University of Baroda (MSU), Vadodara.
  vi. Hemchandracharya North Gujarat University (NGU), Patan.
  vii. Sardar Patel University (SPU), Vallabh Vidyanagar.
  viii. Saurastra University (SU), Rajkot.
  ix. SGU, Surat.

- All the SwD enrolled in the various teaching departments and colleges of the above listed nine universities of Gujarat during the academic year 2008-09 were also considered as a population for the present study.
3.7 SAMPLE

In order to collect data from the universities, teaching departments and SwD, sample at different stages has been drawn in the following manner.

For the first part of the study, sample selection of the universities was made by one of the variation of purposive sampling called comprehensiveness (Miles & Huberman, 1994 and Marshall & Rossman, 2006) as the number of units (nine universities) was small and all the units (nine universities) have been included as a sample for the present study. The sample of the study is restricted to the nine general universities (BU, GU, GV, KU, MSU, NGU, SPU, SU and SGU) of Gujarat. There were two major considerations in selecting these nine universities for investigation. First, these universities are recognized and funded by UGC so they have to follow all the rules and regulations made by the central and state government. Also, they have to provide three percent reservations to the PwD as per the government rule. Second, these universities are providing varied courses in majority of all discipline from under-graduate to doctoral level. So SwD can be found in these universities then other universities as the rest universities are providing specialized courses in particular area i.e. Technology (Gujarat Technological University (GTU), Dharmsinh Desai University, Indian Institute of Technology (IIT), Nirma University of Science and Technology and Sardar Vallabhbhai National Institute of Technology), Management (Indian Institute of Management (IIM) and Institute of Rural Management, IRM), Agriculture (Anand Agricultural University, Navsari Agricultural University, Junagadh Agricultural University and Sardarkrushinagar Agricultural University), law (Gujarat National Law University), Ayurved (Gujarat Ayurved University), Information and Communication Technology (ICT), (Dhirubhai Ambani Institute of ICT), Sanskrit (Shree Somnath Sanskrit University), Petroleum (Pandit Dindayal Petroleum University) and Environment (Centre of Environment Planning and Technology University). The four private universities (Ganpat University, Kadi Sarva Vishwavidyalaya, Navrachana University and Sumandeep Vidyapith) are also offering varied courses but fund themselves so all the courses they offer are self-financed thus they don’t follow three percent reservation rule. At the same time though there are SwD studying in the open university (Dr. Babasaheb Ambedkar Open University) but it is not feasible to contact
them. Thus, looking into these all, nine general universities recognized and funded by UGC have been selected for the present investigation and all the teaching departments of the selected nine universities were considered for the study.

For the second part of the study, further the purposive sampling technique (comprehensiveness) was employed as entire population (188 SwD) enrolled in the nine universities during the academic year 2008-09 has been selected as a sample. The major reason behind the selection of entire population of SwD as a sample was variation in their problems, needs as per the disability and university too. There were total 188 SwD enrolled in various teaching departments of nine selected universities. Out of total 188 enrolled SwD, 143 SwD responded whereas, forty five SwD did not respond so the final sample of the SwD was 143.

For the third part of the study, one academically high achiever and one academically low achiever student per category of disability were selected purposively. For selecting academically high and low SwD, their academic achievement was taken as a major consideration alongwith the opinion of their teachers was also considered. Thus total six SwD (one academically high achiever and one academically low achiever SwD per three categories of disability) have been interviewed for finding the reasons of their high and low academic achievement. It may be pertinent to mention here that the academically high and low achiever have been identified among the sample who have responded.

3.8 TOOLS AND TECHNIQUES OF DATA COLLECTION
Considering the objectives of the present study, four tools viz, Information Schedule for the universities, Information Schedule for the teaching departments, Questionnaire for the SwD and Interview Schedule for the academically high and low SwD were developed and used to gather the required information. Investigator had prepared all the tools in English. The prepared tools were shown to some experts for validation and accordingly suggestions of the experts were incorporated and the tools were finalized. The investigator had translated English versions of tools into Gujarati. The translated tools were referred to Gujarati language experts for language corrections and accordingly
necessary modifications and changes were made. A complete set of the tools have been presented in the appendices (I-X). Details of the developed tools are given as follow.

### 3.8.1 Information Schedule for the Universities

The information schedule for the universities was designed to achieve the objective 1 of the present study. The information schedule for the universities was comprised a forward letter along with the questions regarding the name of university, establishment year, name of vice chancellor, his e-mail id, geographic location and address of the university, website and e-mail address, contact numbers, type of university, UGC recognition and funding, whether admitting SwD or not, enrolment figure of SwD for the last five years, category of disability, whether following three percent reservation rule availed to the SwD or not, general and special facilities provided to the SwD by the university, availability of the guidance and counseling service, training provided to the teachers in special education and recruitment of the special education trained teachers. For further details refer Appendix-III.

### 3.8.2 Information Schedule for the Teaching Departments

The information schedule for the universities was modified and used as a information schedule for the teaching departments to collect information regarding, the name of teaching department, admission process, whether providing admission to SwD or not, if not the reason for that, total number of teaching staff, total number of enrolled student, number of registered SwD along with the category of disability, general and special facilities provided to the SwD by the department, name of the SwD registered in the department along with their residential address with contact number, year and course he/she is studying. Refer Appendix-IV.

### 3.8.3 Questionnaire

Keeping in mind the required information to be collected from the SwD, a questionnaire was developed common to all the four category of the disability. The investigator studied the different questionnaire prepared by the earlier and past researcher and also reviewed the questions regarding the problems of the SwD mentioned in the various books of
special education. With this background and keeping in mind all the four categories of
disability i.e. mental retardation, visual impairment, hearing impairment and
orthopaedical impairment, be made an initial list of questions which consisted of three
parts. However, it may be mentioned here that, all three parts were not mutually
exclusive. The dimensions covered in these three parts of the questionnaire are:

Part-I: Educational Profile:

- Name, age, residential address with contact number, married status, 
  mother tongue,
- Educational qualification, present study, present residence place, type, 
  percentage and onset of disability,
- family background,
- Information regarding the scholarship received,
- Year, course and reasons of failure in past year if any,
- Leisure activities, future study,
- Engagement with the disability organization etc.

Part-II:

A-Academic Problems (AP):

- Selection of course,
- Suitability of the department time-table,
- Course syllabus,
- Contents of text-books,
- Extra reading,
- Adjustment with peers,
- Library facilities and problem facing,
- Participation in co-curricular activities,
- Examination,
- Teachers and their teaching methods,
- Completion of course,
• Family responsibility and other difficulties affecting study,
• Any other academic difficulties than above mentioned,
• Need to overcome the academic problems.

**B-Financial Problems (FP):**
• Financial facilities available,
• Ability to purchase educational necessities,
• Financial problems of family,
• Affection of economic problems to education
• Any other economic difficulties than above mentioned,
• Need to overcome the economic problems.

**C-Social Problems (SP):**
• Ability to make friends,
• Adjustment with friends,
• Dealing with friends and other people,
• Affection of disability in social life,
• Teachers help in solving social problems,
• Any other social difficulties than above mentioned,
• Need to overcome the social problems.

**D-Health Related Problems (HRP):**
• Other health related problems than disability,
• Affection of the health related problems in participation in CCA,
• Affection of health related problems in life,
• Guidance receiving to maintain good health,
• Any other health related difficulties than above mentioned,
• Need to overcome the health related problems.

**Part-III: Help Seeking Behaviour (HSB):**
• Use of disability aid/equipment,
• Adjustment with the particular aid/equipment,
• Help receiving and giving to other SwD,
• Use of supporting services
This questionnaire consisted of 121 items including seventy five close ended and forty six open ended questions. The close ended items were to be given in a simple form of yes or no by putting tick mark (✓). The close ended items were to know whether they have particular problem or not. Also in some questions certain options were given for the selection of the particular option as per their view. The open ended questions were given with the view to allow free response from the SwD. Since almost all the different category student with disability have their own problems and needs based on the particular disability, they have something more to say than what is normally expected from a pre-structured items. Above all, at the end they were asked to give their comments regarding their disability, department, university and facilities which are not covered in the questionnaire. For further information refer to Appendix VI.

3.8.4 Telephonic Interview
For conducting case studies of selected cases of high achiever and low achiever SwD, Telephonic Interview was conducted in order to find out the reasons of their high and low academic achievement. The major reason for conducting the Telephonic Interview was, the SwD were busy due to their study so they could be contacted at their convenient time. The questions prepared for conducting telephonic interview were semi-structured. The semi structured questions were designed to elicit the responses regarding the description of their disability, problems faced by them due to their disability, facilities provided by their university, satisfaction from the facilities available to them, their expectation regarding the facilities, encouraging and discouraging points in their department/university, awareness regarding the provisions available to them, academic support receiving from their family, teachers and classmates, teacher’s help in content understanding, information regarding the use of library, information regarding the examination, use of leisure time, their suggestions for other fellow SwD for successful completion of the course, for making library facilities disability friendly, for examination
and other information they want to mention were also collected to find out the reasons of
their success and failure. It may be mentioned here that the semi-structured questions
were used with a view to have discussion to get more penetrative responses by carefully
putting the subsidiary questions. Refer appendix VII.

3.9 ORGANIZATION OF DATA COLLECTION: THE FILED WORK
The field work for the present study was carried out in three phases spread over a long
period of time from June’ 2008 to October’ 2010. The phase wise field work completed
has been presented as under:

Phase-I
In the first phase of the data collection, the investigator personally visited each of the
selected universities of Gujarat and submitted the forwarding letter (see appendix I) to the
vice-chancellor office and collected the required information regarding the university,
teaching departments, facilities provided by them to SwD and their enrolment figure.
Investigator also approached them to give permission for staying in university guest
house during the total process of data collection (see appendix II). After getting the
permission from the Vice Chancellor’s office, investigator had visited Post Graduate Unit
of the selected nine universities and collected information regarding the university,
teaching departments, overall enrollment figure of the students, enrolment figure of the
SwD for the academic year 2008-09, facilities provided by the university to the SwD,
name of affiliated teaching departments etc. After getting the list of the affiliated teaching
departments from the each of the university, the investigator visited each and every
teaching department of all the nine universities alongwith the forwarding letter (see
appendix IV) and collected data regarding admission process, admission to SwD, total
number of teaching staff, total number of enrolled student, number of registered SwD
along with the category of disability, general and special facilities provided to the SwD
by the department, name of the SwD registered in the department along with their
residential address with contact number, year and course he/she is studying etc.
**Phase II**

During the second phase, questionnaire for the SwD was administered by personally visiting each and every teaching department of the selected nine universities. Investigator met each of the identified SwD and collected required data from them through the questionnaire. Also investigator had visited hostel campus of the universities and collected data from the SwD who were residing in hostel. In case the SwD were found absent and SwD who were not attending the classes regularly due to their disability; they were contacted through the mailed questionnaire (along with postal duty paid self addressed envelope) and collected the required data from them.

**Phase III**

In the final phase, investigator had taken help of a representative for conducting telephonic interview of selected academically excellent and academically poor SwD. The major reasons for taking help of representative in conducting interview session was the limitation of the investigator due to hearing problem. For this investigator had devoted considerable time in obtaining general information like procedure for contacting respondents, conventions for asking questions in a consistent and standardized way, procedures for probing further answers, procedures for recording responses for interviewing. Also, investigator had provided orientation to the representative for conducting the entire interview session. At the time of telephonic interviews of the selected SwD by the representative, investigator framed sub questions based on the responses of the SwD and provided it to the representative. The entire interview session has been recorded through the voice recorder of mobile device. For conducting the interviews of SwHI, the investigator alongwith his representative had visited personally to the selected SwHI and interviewed them with the help of sign language interpreter.

**3.10 DATA ANALYSIS**

The collected data were analyzed both qualitatively and quantitatively so that meaningful trends could be visualised. Quantitative data collected through the *Information Schedule* pertaining to the number of teaching staff, total enrollment of students and enrollment of the SwD have been analyzed through frequency and percentage while the qualitative data
pertaining to the universities, teaching departments and different facilities provided were analyzed through the content analysis technique.

The data collected through the Questionnaire pertaining to the educational profile, academic problems, social problems, economic problems, health-related problems, help seeking behavior and needs of SwD were analyzed quantitatively as well as qualitatively. For the close ended items frequencies and percentage was counted while for the open-ended items content analysis was employed. Coding was done to the collected data and data entry was made in SPSS software package and frequency & percentage were counted. The data collected through the Telephonic Interview was analyzed through content analysis. The following table depicts objective and tool wise analysis techniques adopted.

Table 3.1: Objectives and Tools wise Analysis of the Collected Data

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Items of the Questions</th>
<th>Techniques of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective-1 &amp; 5</td>
<td>Information Schedule</td>
<td>Close ended</td>
<td>Content Analysis</td>
</tr>
<tr>
<td>Objectives-2, 3, 4, &amp; 6</td>
<td>Questionnaire</td>
<td>Close ended and Open ended</td>
<td>Frequency, Percentage and Content Analysis</td>
</tr>
<tr>
<td>Objectives-7</td>
<td>Telephonic Interview</td>
<td>Open ended</td>
<td>Content Analysis</td>
</tr>
</tbody>
</table>

The chapter III focused upon the research’s methodology, population and sampling, tools used, data collection procedure and data analysis techniques. It is also important to be familiar with the setting of the area under the investigation. The next chapter presents the setting of the areas.