CHAPTER II
RESEARCH METHODOLOGY
2.1- INTRODUCTION

This chapter presents goals and objectives of the research project on abnormal language development and speech disorders, the hypothesis set to be searched to fulfill the objectives, the tools of data collection, the problems of collecting the data, the design of the sample, the methods for analysis and the outline for the interpretation and presentation of data.

2.2- GOALS AND OBJECTIVES OF STUDY

According to the census of Indian 2001, about 255,951 people, which constitute 7.4% of the total population, are disabled in speech. About 286, 464 people that is 8.3 % of the total population of India are mentally disabled and various degrees of mental disability also affect speech in various ways, so speech therapy is developing to be an important area. To plan therapy, it is very important to spot whether the speech disorder is due to mental retardation or some psychological reason. As we know the study of the unique characteristics of language of the disabled in speech prove helpful for speech therapy, this inspired me to take up this work. The present study investigated the speech disorders in deviant children to find out the actual position at which their speech is unusual. For such children speech therapy is very important because without therapy their speech may not become easily intelligible.

To focus on these issues the following objectives were formulated.

(i) To collect their history of language and other developments, in order to find out how late their developments took place.
To search out the disorders at the level of phonology.

To find out the morphological disorders.

To investigate the disorders at syntactic level.

2.3- HYPOTHESIS

To begin a research work, the very first step is establishing hypothesis that form the key points to be either proved or disproved. Keeping in view the objectives stated above and communications of deviant children, the following hypothesis were formulated for investigation and testing. For the present study the hypothesis were made into three broad categories, that is Phonology, Morphology and Syntax.

1. Phonology:

Under phonology, the following propositions were given for testing.

(i) Rounded vowels are difficult to produce as compared to unrounded ones.

(ii) Nasality is an additional feature of articulation so nasal vowels for mentally retarded (MR) children are troublesome as compared to oral ones.

(iii) Voicing is also an additional feature, so articulating voiceless sounds are easier as compared to voiced.
(iv) Aspiration is also a feature which requires extra effort, so aspirated sounds are hard to deal with in comparison to unaspirated sounds.

(v) Voiced aspirated sounds are still more complicated because they carry two additional features.

(vi) Retroflex sounds are produced by curling of tongue and touching the back of it to the hard palate, which is a complex process and MR children find them difficult.

2. **Morphology:**

Under morphology the following points were formulated for testing.

(i) A mentally challenged child tries to simplify his speech and thus misses plural markers, gender markers and case markers.

(ii) Tenses: Mixing of tenses, in place of past tense he may use the present or future forms or vice versa. Some times mentally retarded children do not have tense markers at all in their speech.

3. **Syntax:**

At syntactic level the following disorders were put to testing.

(i) Agrammatism.

(ii) Dynamic Aphasia.

(iii) Dislocation of imperative forms.

(iv) Wrong agreement of subject and object with verb.
2.4- **TOOLS OF DATA COLLECTION**

Since the children were mentally challenged, questionnaire could not be used. The investigator tried to be around those children and to test the above hypotheses their speech was collected in various situations like in the classroom, in the playground, on computers, during Morning Prayer etc. When possible it was recorded with the help of tape recorder and later transcribed in phonetic transcription. Since the children were mentally challenged, they didn’t always speak when required, so it was made possible with the help of computer, by showing pictures of various objects like fruits vegetables, automobiles, play items etc. various picture books and charts were also used for data collection. Whenever recording was not possible, the data was recorded by the investigator directly in phonetic transcription in a diary.

2.5- **‘ASHA KIRAN’—THE SPECIAL SCHOOL**

The major part of data was collected from Asha Kiran, a Special School, which is the offshoot of DPS (Delhi Public School) Aligarh Branch and is thus situated in the premises of DPS junior wing. As the name suggests ‘Asha Kiran’—‘Ray of Hope’ has been started recently with the motive to give the lives of mentally challenged children, a meaning. It runs on the pattern of ‘Tamanna Special School’ (Delhi).

At ‘Asha Kiran’ children were divided into two groups on the basis of mental age and academics, these two groups were named as junior class and
senior class. The mental level of junior class children was low and they were just beginners in academics and other activities. If a child had concentration problem, then he/she was asked to draw lines on a paper and sometimes-even teachers used to hold their hand and made them draw, they were also asked to put beads in a string. The junior class syllabus was somewhat equivalent to class nursery of a normal school. For recognizing colours, the children were asked to do, the button sorting exercise, for this they were provided with two boxes, one contained a mixture of buttons of various basic colours (like blue, black, white, yellow and red), and the other box had five compartments with a button of each of the above five colours pasted in each of them and the children were asked to sort out buttons and put them in the compartments of respective colours. At this school, a child is given admission on the basis, that he should be able to fulfill his toilet needs and don’t need an attendant for eating and walking.

The senior class students had comparatively higher mental level. In this class, students were taught various things, which are, needed in day-to-day life, like how to see a calendar, a watch etc. They were also made to remember and write the names of days, months, and some basic tables. If a child had a sufficient mental level then he was also taught some basic mathematics like addition, subtraction, multiplication etc.

In a normal school one teacher controls a class of 25 to 30 children but in this special school, a class consisted of upto ten children, which was controlled by two teachers’. ‘Asha Kiran’ had the facility of gymnasium for
which they had a physiotherapist, for speech therapy there was a speech therapist. They also had a separate teacher who took up computer classes. Their school started with a morning prayer, followed by Yoga and the rest of the things were taken up according to their timetable. Out of five working days of the week, four days that is from Monday to Thursday were allotted to academics, physiotherapy, speech therapy, computers etc., but Fridays were allotted to cooking. In cooking classes they used to prepare things without fire like fruit-chat, salads, sandwiches, bhel puri etc. Besides these things children were made to learn various other skills like envelop making, block printing for hankies, decorating of Diwali dias, preparing soft toys, greeting cards for Christmas, Eid and Diwali and many more. These products were put on sale from time to time.

2.6- COLLECTION OF DATA

Data collection is the foremost step of a research work. It provides a base to a research, so it should be done carefully and systematically, as a proper data helps in proper study. The data was collected by the investigator herself. Being a female researcher the investigator couldn’t move out of Aligarh and the data was collected with the help of a professor of AMU. His wife was running a special school for mentally challenged children. They were very helpful and extended full co-operation and even procured convince facility to reach the school, because it was situated in the outskirts of the city.

As the children were mentally challenged, the data collection was not an easy job. Initially they didn’t speak out. So elicitation of speech could not be
done in few days and the researcher had to take up voluntary teaching there and befriended with them.

The elicitation of speech for linguistic analysis commonly requires the following three approaches, these are:-

(i) Through imitation.

(ii) Through naming

(iii) Through spontaneous speech collection.

For the present study all the three approaches were used.

(I) IMITATION

Collection of speech through imitation is a controlled process. Here children were asked to imitate the words spoken by the investigator. The children, who were able to read, were asked to read their Hindi texts. They were also provided with a list of words using various voiced and voiceless sounds, at the initial, medial and final positions and were asked to read aloud those words.

(II) NAMING

Elicitation of speech through naming is also a controlled process. It was done with the help of computer and the real objects. Children were shown various pictures on the computer and were asked to name them. They were also asked to name various fruits, play items and other things which were available there, and then their speech was recorded with the help of tape-recorder.
(III) SPONTANEOUS LANGUAGE

Elicitation of speech from spontaneous language is an uncontrolled process because here the words or sentences are not provided by the elicitor but those words and sentences are collected which the informant uses at randomly in various situations. For this researcher talked to children while teaching, while playing with them in the ground, during recess time, while in bus and noted down their utterances in phonetic transcription as in such situations tape-recording was not always possible.

In all, the speech was elicited from nineteen children, out of this the speech of five was collected from independent sources and fourteen children were of ‘Asha Kiran’. Since the school was new the total strength was 17, out of which 2 didn’t have speech at all and one had abnormally low voice. Of these fourteen, four had Down’s syndrome, one had Fragile X Syndrome, one had cerebral palsy, two were autistic and six were categorized under general mental retardation. It was easier to handle the elder children as compared to younger ones.

2.7- ANALYSIS OF DATA

The data has been analyzed on the basic of disorders at three levels that is phonology, morphology and syntax. For phonological and morphological analysis the data was of course analyzed at the level of words and the disorders were observed at the following levels.

(i) Disorders in the manner of articulation:
It included changing of Aspirated Stop to non-aspirated stop, lateralization of trill /r/, aspirated and unaspirated flap /r̚ & ṙh/.

(ii) Disorders in the point of articulation:

It included changing of voiced sounds to voiceless and in some cases vice versa.

(iii) Changing from consonant to vowel

(iv) Dropping of initial elements:

It included dropping of initial word in a sentence and initial sounds in a word.

(v) Absence of bilabial sounds:

In some cases bilabial sounds were not properly articulated.

(vi) Absence of lip rounded sounds:

Since lip rounding is an additional feature some mentally challenged children find it difficult to articulate.

(vii) Disorders in plural Formation:

Urdu and Hindi have two numbers, singular and plural. In some cases plural markers were missing from the speech and the singular forms were used where plurals were required.

(viii) Disorders in gender formation:

Some children used feminine gender in place of masculine and vice versa and there was also lack of agreement of gender with in the sentence.
Disorders in Tenses:

Urdu and Hindi has three tenses- past, present and future. It was observed in some cases that these tenses were not properly organized in the speech.

Disorders in case markers:

In some cases, case markers were missing and in some cases they were improperly used.

For syntactic disorders the speech was analyzed at the level of sentences.

2.8- PRESENTATION OF FINDINGS

The findings of the current psycholinguistic investigation have been presented in three chapters.

Chapter III: In this chapter the psycholinguistic study of phonological disorders among Urdu-Hindi speaking children have been presented.

Chapter IV: It concerns with the psycholinguistic study of morphological disorders.

Chapter V: It discusses the psycholinguistic study of syntactic disorders.

In these chapters the linguistic study of the cases have been carried out and on conditions of anonymity they have been renamed and the actual names have not been revealed and in the proposed study it is attempted to relate the speech
disorders with the psychological and biological abnormalities of abnormal children.