

# *CHAPTER III*

## *METHODOLOGY*

### **LIST OF ABBREVIATIONS**

**HI:** HEARING IMPAIREMENT

**HIS:** HEARING IMPAIRED STUDENTS

**NHS:** NORMAL HEARING STUDENTS

**HIC:** HEARING IMPAIRED CHILDREN

**NHC:** NORMAL HEARING CHILDREN

**HIP:** HEARING IMPAIRED PEOPLE

**AA:** ACADEMIC ACHIEVEMENTS

**PE:** PROFESSIONAL EXPECTATIONS

**DD:** DEGREE OF DISABILITY

**CODE:** HEARING IMPAIRED STUDENTS AND NORMAL HEARING  
STUDENTS

**SES:** SOCIO ECONOMIC STATUS

**F:** F RATIO

**df:** DEGREE OF FREEDOM

## **STATEMENT OF THE PROBLEM**

A person has to face various psychological problems of adjustment with the members of his family, teachers, peer groups, co-workers and other social groups. He has to adjust also to own his emotions and problems of health. All these problems may be significantly different in case of a hearing-impaired person in comparison to a person with normal hearing, and may have great correlation to the growth and development in case of the former. While the innate intellectual capacity of a hearing-impaired student may ordinarily be comparable to a student with normal hearing, hearing-impairment may effect the academic achievements in a significant manner. Hearing-impaired may also hamper the free choice of profession for want of adequate facilities for specialized training, rehabilitation and employment. This work aims at studying the adjustment, academic achievements and professional expectations of the hearing-impaired students in the age group of 14-22 years. The area of study is restricted to Gujarat.

## **OPERATIONAL DEFINITIONS**

### **HEARING IMPAIREMENT**

The expression 'hearing-impairment' has been used in this work to refer to the person who suffers from this disability right from

birth and in whom the hearing loss is mild to profound i.e. hearing loss exceeding 25dB.

#### ADJUSTMENT

The term 'adjustment' has been taken to mean as the level to which a subject establishes a satisfactory psychological relationship with members of the family, school and social environment, and also with his own health and emotions.

#### ACADEMIC ACHIEVEMENT

The expression 'Academic Achievement ' is referred herein to the performance of the hearing impaired students of schools in the age group of 14-22 years, in terms of years taken to pass a particular examination. In other words, the term academic achievement refers to the progress made by a hearing impaired student each year. i.e. getting promoted from one class to another. Under the study, the student who got promoted from one class to another in the academic year of 2001 –2002 and joined a higher standard in the year 2002 - 2003 were referred as high achievers whereas the students who continued with the same class for the academic year of 2002 – 2003 were included in low achievers.

## PROFESSIONAL EXPECTATIONS

‘Professional expectation’ refers in this work to the expectations of a student in the matter of choice of profession or occupation in his later life.

## **AIMS AND OBJECTIVES OF THE STUDY**

Following are the aims and objectives under the study:

- I. To study the degree of adjustment in hearing-impaired students of Gujarat, with areas of adjustment to include home, social environment, health, emotions and school and to compare the same with students with normal hearing.
- II. To assess the nature of academic achievement among hearing-impaired students in Gujarat.
- III. To assess the nature of professional expectations of hearing-impaired students in Gujarat, and to compare the same with students with normal hearing.
- IV. To ascertain the degree of adjustment in hearing-impaired students and students with normal hearing with respect to their gender.
- V. To ascertain the degree of adjustment in hearing-impaired students and students with normal hearing with respect to their socio-economic status.

- VI. To ascertain the degree of adjustment in hearing-impaired students and students with normal hearing with respect to their family type.
- VII. To ascertain the degree of adjustment in hearing-impaired students with respect to their degree of disability.
- VIII. To assess the nature of academic achievement in hearing-impaired students with respect to their gender.
- IX. To assess the nature of academic achievement in hearing-impaired students with respect to their socio economic status.
- X. To assess the nature of academic achievement in hearing-impaired students with respect to their family type.
- XI. To assess the nature of academic achievement in hearing-impaired students with respect to their degree of disability.
- XII. To assess the nature of academic achievement in hearing-impaired students with respect to their degree of adjustment in all the areas including home, health, social, emotional and school adjustment .
- XIII. To assess the Professional expectation of hearing-impaired students and students with normal hearing with respect to their gender.

- XIV. To assess the Professional expectation of hearing-impaired students and students with normal hearing with respect to their socio economic status.
- XV. To assess the Professional expectation of hearing-impaired students and students with normal hearing with respect to their family type.
- XVI. To assess the Professional expectation of hearing-impaired students with respect to their degree of academic achievement.
- XVII. To ascertain the Professional expectation of hearing-impaired students with respect to their degree of disability.
- XVIII. To study the perception of hearing impaired students about his health, social life, family members, relatives, friends, and teachers and about the available academic and rehabilitation opportunities.
- XIX. To study the perception of parents about the social life, health, adjustment levels of hearing impaired children and the academic and rehabilitation challenges faced by their hearing impaired children.
- XX. To view the perception of teachers and professionals like speech therapists, special educators, ENT specialists, Audiologists etc about the social life, health, adjustment

levels of hearing impaired children and the academic and rehabilitation challenges faced by hearing impaired children.

### **HYPOTHESES UNDER STUDY**

- Hypotheses formulated under the variable 'ADJUSTMENT' are as follows:
  - HYPOTHESIS 1: There will be significant difference in the degree of Home adjustment among hearing-impaired students and students with normal hearing.
  - HYPOTHESIS 2: There will be significant difference in the degree of Health adjustment among hearing-impaired students and students with normal hearing.
  - HYPOTHESIS 3: There will be significant difference in the degree of social adjustment among hearing-impaired students and students with normal hearing.
  - HYPOTHESIS 4: There will be significant difference in the degree of emotional adjustment among hearing-impaired students and students with normal hearing.
  - HYPOTHESIS 5: There will be significant difference in the degree of overall adjustment among hearing-impaired students and students with normal hearing.

- HYPOTHESIS 6: There will be significant difference in the degree of school adjustment among hearing-impaired students and students with normal hearing.
- HYPOTHESIS 7: There will be significant difference in the degree of home adjustment among male students and female students.
- HYPOTHESIS 8: There will be significant difference in the degree of health adjustment among male students and female students.
- HYPOTHESIS 9: There will be significant difference in the degree of social adjustment among male students and female students.
- HYPOTHESIS 10: There will be significant difference in the degree of emotional adjustment among male students and female students.
- HYPOTHESIS 11: There will be significant difference in the degree of overall adjustment among male students and female students.
- HYPOTHESIS 17: There will be significant difference in the degree of school adjustment among male students and female students.



- HYPOTHESIS 13: There will be significant difference in the degree of Home adjustment among students with respect to their family type.
- HYPOTHESIS 14: There will be significant difference in the degree of Health adjustment among students with respect to their family type.
- HYPOTHESIS 15: There will be significant difference in the degree of Social adjustment among students with respect to their family type.
- HYPOTHESIS 16: There will be significant difference in the degree of Emotional adjustment among students with respect to their family type.
- HYPOTHESIS 17: There will be significant difference in the degree of Overall adjustment among students with respect to their family type.
- HYPOTHESIS 18: There will be significant difference in the degree of school adjustment among students with respect to their family type.
- HYPOTHESIS 19: There will be significant difference in the degree of Home adjustment among students with respect to their socio economic status (SES).

- HYPOTHESIS 20: There will be significant difference in the degree of Health adjustment among students with respect to their socio economic status (SES).
- HYPOTHESIS 21: There will be significant difference in the degree of Social adjustment among students with respect to their socio economic status (SES).
- HYPOTHESIS 22: There will be significant difference in the degree of Emotional adjustment among students with respect to their socio economic status (SES).
- HYPOTHESIS 23: There will be significant difference in the degree of overall adjustment among students with respect to their socio economic status (SES).
- HYPOTHESIS 24: There will be significant difference in the degree of school adjustment among students with respect to their socio economic status (SES).
- HYPOTHESIS 25: There will be significant difference in the degree of home adjustment among hearing impaired students with respect to their degree of disability.
- HYPOTHESIS 26: There will be significant difference in the degree of health adjustment among hearing impaired students with respect to their degree of disability.

- HYPOTHESIS 27: There will be significant difference in the degree of social adjustment among hearing impaired students with respect to their degree of disability.
- HYPOTHESIS 28: There will be significant difference in the degree of emotional adjustment among hearing impaired students with respect to their degree of disability.
- HYPOTHESIS 29: There will be significant difference in the degree of overall adjustment among hearing impaired students with respect to their degree of disability.
- HYPOTHESIS 30: There will be significant difference in the degree of school adjustment among hearing impaired students with respect to their degree of disability.
- HYPOTHESIS 31: There will be no significant difference in degree of Home adjustment among HIS and NHS because of interaction between code and gender.
- HYPOTHESIS 32: There will be no significant difference in degree of Health adjustment among HIS and NHS because of interaction between code and gender.
- HYPOTHESIS 33: There will be no significant difference in degree of Social adjustment among HIS and NHS because of interaction between code and gender.

- HYPOTHESIS 34: There will be no significant difference in degree of Emotional adjustment among HIS and NHS because of interaction between code and gender.
- HYPOTHESIS 35: There will be no significant difference in degree of overall adjustment among HIS and NHS because of interaction between code and gender.
- HYPOTHESIS 36: There will be no significant difference in degree of school adjustment among HIS and NHS because of interaction between code and gender.
- HYPOTHESIS 37: There will be no significant difference in degree of Home adjustment among HIS and NHS because of interaction between code and family type.
- HYPOTHESIS 38: There will be no significant difference in degree of Health adjustment among HIS and NHS because of interaction between code and family type.
- HYPOTHESIS 39: There will be no significant difference in degree of Social adjustment among HIS and NHS because of interaction between code and family type.
- HYPOTHESIS 40: There will be significant difference in degree of Emotional adjustment among HIS and NHS because of interaction between code and family type.

- HYPOTHESIS 41: There will be significant difference in degree of Overall adjustment among HIS and NS because of interaction between code and family type.
- HYPOTHESIS 42: There will be no significant difference in degree of school adjustment at school among HIS and NS because of interaction between code and family type.
- HYPOTHESIS 43: There will be no significant difference in degree of Home adjustment among students because of interaction between gender and family type.
- HYPOTHESIS 44: There will be no significant difference in degree of Health adjustment among students because of interaction between gender and family type.
- HYPOTHESIS 45: There will be no significant difference in degree of social adjustment among students because of interaction between gender and family type.
- HYPOTHESIS 46: There will be no significant difference in degree of Emotional adjustment among students because of interaction between gender and family type.
- HYPOTHESIS 47: There will be no significant difference in degree of overall adjustment among students because of interaction between gender and family type.

- HYPOTHESIS 48: There will be no significant difference in degree of school adjustment among students because of interaction between gender and family type.
- HYPOTHESIS 49: There will be no significant difference in degree of home adjustment among students because of interaction between code, gender and family type.
- HYPOTHESIS 50: There will be no significant difference in degree of health adjustment among students because of interaction between code, gender and family type.
- HYPOTHESIS 51: There will be no significant difference in degree of Social adjustment among students because of interaction between code, gender and family type.
- HYPOTHESIS 52: There will be no significant difference in degree of Emotional adjustment among students because of interaction between code, gender and family type.
- HYPOTHESIS 53: There will be no significant difference in degree of overall adjustment among students because of interaction between code, gender and family type.
- HYPOTHESIS 54: There will be no significant difference in degree of school adjustment among students because of interaction between code, gender and family type.

- HYPOTHESIS 55: There will be no significant difference in degree of home adjustment among students because of interaction between code and socio economic status (SES).
- HYPOTHESIS 56: There will be no significant difference in degree of health adjustment among students because of interaction between code and socio economic status (SES).
- HYPOTHESIS 57: There will be no significant difference in degree of social adjustment among students because of interaction between code and socio economic status (SES).
- HYPOTHESIS 58: There will be no significant difference in degree of emotional adjustment among students because of interaction between code and socio economic status (SES).
- HYPOTHESIS 59: There will be no significant difference in degree of overall adjustment among students because of interaction between code and socio economic status (SES).
- HYPOTHESIS 60: There will be no significant difference in degree of school adjustment among students because of interaction between code and socio economic status (SES).
- HYPOTHESIS 61: There will be no significant difference in degree of home adjustment among students because of interaction between gender and socio economic status (SES).
- HYPOTHESIS 62: There will be no significant difference in degree of health adjustment among students because of

interaction between gender and socio economic status (SES).

- HYPOTHESIS 63: There will be no significant difference in degree of social adjustment among students because of interaction between gender and socio economic status (SES).
- HYPOTHESIS 64: There will be no significant difference in degree of emotional adjustment among students because of interaction between gender and socio economic status (SES).
- HYPOTHESIS 65: There will be no significant difference in degree of overall adjustment among students because of interaction between gender and socio economic status (SES).
- HYPOTHESIS 66: There will be no significant difference in degree of school adjustment among students because of interaction between gender and socio economic status (SES).
- HYPOTHESIS 67: There will be no significant difference in degree of home adjustment among students because of interaction between code, gender and socio economic status (SES).
- HYPOTHESIS 68: There will be no significant difference in degree of health adjustment among students because of



interaction between code, gender and socio economic status (SES).

- HYPOTHESIS 69: There will be no significant difference in degree of social adjustment among students because of interaction between code, gender and socio economic status (SES).
- HYPOTHESIS 70: There will be no significant difference in degree of emotional adjustment among students because of interaction between code, gender and socio economic status (SES).
- HYPOTHESIS 71: There will be no significant difference in degree of overall adjustment among students because of interaction between code, gender and socio economic status (SES).
- HYPOTHESIS 72: There will be no significant difference in degree of school adjustment among students because of interaction between code, gender and socio economic status (SES).
- HYPOTHESIS 73: There will be no significant difference in degree of home adjustment among students because of interaction between family type and socio economic status (SES).

- HYPOTHESIS 74: There will be no significant difference in degree of health adjustment among students because of interaction between family type and socio economic status (SES).
- HYPOTHESIS 75: There will be no significant difference in degree of social adjustment among students because of interaction between family type and socio economic status (SES).
- HYPOTHESIS 76: There will be no significant difference in degree of emotional adjustment among students because of interaction between family type (joint or nuclear) and socio economic status (SES).
- HYPOTHESIS 77: There will be no significant difference in degree of overall adjustment among students because of interaction between family type and socio economic status (SES).
- HYPOTHESIS 78: There will be no significant difference in degree of school adjustment among students because of interaction between family type and socio economic status (SES).
- HYPOTHESIS 79: There will be no significant difference in degree of home adjustment among students because of

interaction between code, family type and socio economic status (SES).

- HYPOTHESIS 80: There will be no significant difference in degree of health adjustment among students because of interaction between code, family type and socio economic status (SES).
- HYPOTHESIS 81: There will be no significant difference in degree of social adjustment among students because of interaction between code, family type and socio economic status (SES).
- HYPOTHESIS 82: There will be no significant difference in degree of emotional adjustment among students because of interaction between code, family type and socio economic status (SES).
- HYPOTHESIS 83: There will be no significant difference in degree of overall adjustment among students because of interaction between code, family type and socio economic status (SES).
- HYPOTHESIS 84: There will be no significant difference in degree of school adjustment among students because of interaction between code, family type and socio economic status (SES).

- HYPOTHESIS 85: There will be no significant difference in degree of home adjustment among students because of interaction between gender, family type and socio economic status (SES)
- HYPOTHESIS 86: There will be no significant difference in degree of health adjustment among students because of interaction between gender, family type (joint or nuclear) and socio economic status (SES).
- HYPOTHESIS 87: There will be no significant difference in degree of social adjustment among students because of interaction between gender, family type and socio economic status (SES).
- HYPOTHESIS 88: There will be no significant difference in degree of emotional adjustment among students because of interaction between gender, family type and socio economic status (SES).
- HYPOTHESIS 89: There will be no significant difference in degree of overall adjustment among students because of interaction between gender, family type (joint or nuclear) and socio economic status (SES).
- HYPOTHESIS 90: There will be no significant difference in degree of school adjustment among students because of

interaction between gender, family type and socio economic status (SES).

- HYPOTHESIS 91: There will be no significant difference in degree of home adjustment among students because of interaction between code, gender, family type and socio economic status (SES).
- HYPOTHESIS 92: There will be no significant difference in degree of health adjustment among students because of interaction between code, gender, family type and socio economic status (SES).
- HYPOTHESIS 93: There will be no significant difference in degree of social adjustment among students because of interaction between code, gender, family and socio economic status (SES).
- HYPOTHESIS 94: There will be no significant difference in degree of emotional adjustment among students because of interaction between code, gender, family type and socio economic status (SES).
- HYPOTHESIS 95: There will be no significant difference in degree of overall adjustment among students because of interaction between code, gender, family type and socio economic status (SES).

- HYPOTHESIS 96: There will be no significant difference in degree of school adjustment among students because of interaction between code, gender, family type and socio economic status (SES).

□ **Hypotheses formulated under the variable 'ACADEMIC ACHIEVEMENT' are as follows:**

- HYPOTHESIS 97: There will be significant difference in the degree of academic achievement among hearing-impaired students with respect to their gender.
- HYPOTHESIS 98: There will be significant difference in the degree of academic achievement among hearing-impaired students with respect to their socio economic status (SES).
- HYPOTHESIS 99: There will be significant difference in the degree of academic achievement among hearing-impaired students with respect to their family type.
- HYPOTHESIS 100: There will be significant difference in the degree of academic achievement among hearing-impaired students with respect to their degree of disability.
- HYPOTHESIS 101: There will be significant difference in the degree of home adjustment among low academic achievers and high academic achievers.

- HYPOTHESIS 102: There will be significant difference in the degree of health adjustment among low academic achievers and high academic achievers.
  - HYPOTHESIS 103: There will be significant difference in the degree of social adjustment among low academic achievers and high academic achievers.
  - HYPOTHESIS 104: There will be significant difference in the degree of emotional adjustment among low academic achievers and high academic achievers.
  - HYPOTHESIS 105: There will be significant difference in the degree of overall adjustment among low academic achievers and high academic achievers.
  - HYPOTHESIS 106: There will be significant difference in the degree of school adjustment among low academic achievers and high academic achievers.
- ❑ **No hypotheses were framed under the variable “PROFESSIONAL EXPECTATION” as the study is restricted to assess choice of career amongst hearing-impaired students on one hand and the students with normal hearing on the other hand.**

## **VARIABLES UNDER STUDY**

Following are the Independent and Dependent variables under the research study:

### **INDEPENDENT VARIABLES**

#### **□ GENDER**

Gender is used to denote whether the subject is male or female.

#### **□ FAMILY TYPE**

Family type here means whether the family is a Joint or a Nuclear family. For the study, nuclear family is one where only parents and children stay together in one house. Whereas in a joint family besides parents and children, grand parents, uncles, aunties, cousin brothers and sisters etc are staying together under one roof.

#### **□ SOCIO ECONOMIC STATUS (SES)**

Socio economic status is commonly viewed as the standing of a person in society on the basis of both social class and financial situation. For the study, SES would cover individuals following aspects of life:

1. Type and nature of the family.
2. Type of accommodation facilities and services available in the home.



3. Articles possessed.
4. Total monthly income of the family.
5. Literacy levels of parents.
6. Occupation of parents.
7. Exposure to mass media.
8. Library, club membership.
9. Interaction among family members.
10. Holidaying habits of the family.

Thus, the socio-economic status of the subject would be perceived as a composite of the above-mentioned factors.

#### □ DEGREE OF DISABILITY

Degree of disability refers to the level of hearing loss in an individual. It can be classified into the following categories:

- Mild hearing loss: Here the individual is having hearing loss between 26 – 54dB
- Moderate hearing loss: Here the individual is having hearing loss between 55 – 69 dB.
- Severe hearing loss: Here the individual is having hearing loss between 70 – 89 dB.
- Profound hearing loss: Here the individual is having hearing loss of 90 dB or above.

## **DEPENDENT VARIABLES**

### **□ ADJUSTMENT**

The term 'adjustment' has been taken to mean as the level to which a subject establishes a satisfactory psychological relationship with members of the family, school and social environment, and also with his own health and emotions.

### **□ ACADEMIC ACHIEVEMENT**

The expression 'academic achievement' is referred herein to the performance of hearing-impaired students of schools and colleges in the age group of 14-22 years, in terms of years taken to pass a particular examination. The students who got promoted to next higher class in the normal period of one year have been rated as high achievers, while those having taken more than one year are rated as low achievers.

### **□ PROFESSIONAL EXPECTATION**

'Professional expectation' refers in this work to the expectations of a student in the matter of choice of profession or occupation in his later life.

### **SAMPLE**

The scope of the present study is confined to the hearing-impaired students and students with normal hearing of Gujarat. Samples were randomly selected from the seven of its cities, which included Vadodara, Ahmedabad, Surat, Rajkot, Bhavnagar, Jamnagar and Nadiad. Thus the total sample comprised of 500 subjects including 250 hearing-impaired students and 250 students with normal hearing.

The following tables will reflect the pattern of data collection for the research study:

TABLE NO. 3.1

**List of Normal and Special School from which data was collected**

SERIAL NO.	NAMES OF SCHOOLS	CITIES
1.	SMT. KAMLABEN BADHIR VIDYALAYA	VADODARA
2.	AKSHAR TRUST SCHOOL	VADODARA
3.	SAI BABA VIDYALAYA	VADODARA
4.	SCHOOL FOR DEAF MUTES	AHMEDABAD
5.	SHRI & SMT. VIRANI SCHOOL FOR THE DEAF & DUMB	RAJKOT
6.	KENDRIYA VIDYALAYA	RAJKOT
7.	ST. MARY'S HIGH SCHOOL	BHAVNAGAR
8.	K.L. INTITUTE FOR THE DEAF	BHAVNAGAR
9.	L.H. HARIA HIGH SCHOOL	JAMNAGAR

10.	SHRI MUNDRA AND DHANANI DEAF & DUMB SCHOOL	<b>JAMNAGAR</b>
11.	SEVENTH ADVENTIST SCHOOL	SURAT
12.	RAYON INTERNATIONAL SCHOOL	SURAT
13.	SCHOOL FOR THE DEAF	SURAT
14.	S.S.G.B. BADHIR VIDYAVIHAR	NADIAD

TABLE NO. 3.2

**Gender wise distribution of Hearing-impaired students and Students with normal hearing**

CODE	GENDER	FREQUENCY	PERCENTAGE
HEARING IMPAIRED STUDENTS	MALES	156	62.4
	FEMALES	94	37.6
	TOTAL	250	100
NORMAL STUDENTS	MALES	148	59.2
	FEMALES	102	40.8
	TOTAL	500	100

TABLE NO. : 3.3

**Age wise distribution of Hearing-impaired students and Students with normal hearing**

CODE	AGE	FREQUENCY
HEARING-IMPAIRED STUDENTS	14	2
	15	29
	16	30
	17	34
	18	41
	19	52

	20	48
	21	12
	22	2
TOTAL		250
STUDENTS WITH NORMAL HEARING	12	3
	13	17
	14	42
	15	74
	16	73
	17	34
	18	5
	19	1
	20	1
TOTAL		250

TABLE NO. : 3.3

**Class wise distribution of Hearing-impaired students and  
Students with normal hearing**

CODE	CLASS	FREQUENCY
HEARING-IMPAIRED STUDENTS	5	4
	6	2
	7	18
	8	53
	9	24
	10	149
TOTAL		250
STUDENTS WITH NORMAL HEARING	9	74
	10	68
	11	62
	12	46
TOTAL		250

TABLE NO. : 3.4  
**Family type wise distribution of Hearing-impaired students  
 and Students with normal hearing**

CODE		FREQUENCY
HEARING-IMPAIRED STUDENTS	NUCLEAR	143
	JOINT	107
	TOTAL	250
STUDENTS WITH NORMAL HEARING	NUCLEAR	186
	JOINT	64
	TOTAL	250

TABLE NO. : 3.6

**Degree of disability wise distribution of Hearing-impaired  
 students**

MILD	MODERATE	SEVERE	PROFOUND	TOTAL
11	99	20	120	250

TABLE NO. : 3.7

**Socio-economic status wise distribution of Hearing-impaired  
 students and Students with normal hearing**

SES STATUS	CODE		TOTAL
	HEARING- IMPAIRED STUDENTS	NORMAL HEARING STUDENTS	
LOW	47	82	129
MEDIUM	136	113	249
HIGH	67	55	122
TOTAL	250	250	500

## **TOOLS AND TECHNIQUES**

For the present study, set of different tools was used as per the requirements. Following are the tools and techniques used for the research work:

- A. Demographic details.
- B. Bell's Adjustment Inventory.
- C. Bhagia's School Adjustment Inventory.
- D. List of Professional Expectations.
- E. School Records for assessing Academic Achievement.
- F. Kalliath's Socio Economic Status Inventory.
- G. Fixed response questionnaire for Hearing impaired students and for students with normal hearing.
- H. Interview Schedule for Parents of Hearing Impaired children.
- I. Interview Schedule for Teachers and Professionals of Hearing impaired students.

(The inventories and interview schedules are placed in the Appendix section of this work.)

### ***DEMOGRAPHIC DETAILS***

Under the heading of demographic details, subjects following aspects were covered:

- A. Age
- B. Gender
- C. Name of school
- D. Class
- E. Degree of disability (for hearing impaired students only)
- F. Father's educational qualifications.
- G. Mother's educational qualifications.
- H. Total number of brothers and sisters.
- I. Total number of hearing impaired brother and sisters (for hearing impaired students only)
- J. Birth order
- K. Type of family: Joint / Nuclear

### ***BELL'S ADJUSTMENT INVENTORY***

Bell's Adjustment Inventory (Student form) developed by H.M. Bell in the year 1934 is one of the most widely used personality inventories. It was later adapted by Mohsin and Shamshad and was translated in Hindi. For the present study, this revised Hindi version was used. It consists of 135 items, which measures adjustment in four different areas-home, health, social, and



emotional-separately, as well as yields a composite score for overall adjustment. Home adjustment is expressed in terms of satisfaction or dissatisfaction with home life; health adjustment in terms of illness; social adjustment in terms of shyness, submissiveness, introversion and emotional adjustment in terms of depression, nervousness etc. High scores on the inventory indicate low adjustment and low scores on the other hand indicates high adjustment.

The present researcher further adapted the inventory by making major reduction in number of items because it was extremely difficult to explain such a large number of items to hearing-impaired students through sign language and simultaneously facilitating lip reading.

During the pilot study it was noted that each item would take around 8-10 minutes for a special educator or the researcher to convert it into sign language and make the hearing-impaired students understand its meaning. Hence it was decided that number of items should be decreased so that each item is satisfactorily explained and simultaneously the students should also not feel boredom.

Thus, for the present study 15 items from each area of adjustment (home, health, social & emotional) were selected. These were then given to the panel of special educators of hearing-impaired students for their expert opinion. They were suppose to choice 10 items out of 15 items from each area of adjustment. The special educators took into concern two criteria's for selection of items: Firstly, Simplicity of language, which was the most important criteria. Secondly, it was seen that the item should be of short sentence and should have easy understandability. Finally, the panel of special educators selected 10 items from each area of adjustment.

### **PROCEDURE FOR ADMINISTRATION**

Administrating procedure for conducting the test was quite different for hearing-impaired students and students with normal hearing.

In case of hearing-impaired students, firstly all students were given the questionnaires and they were explained through sign language that they just have to tick mark '✓' in 'Yes', 'No' or '?' Columns according to their answer. Then the special educator would initially start with a trail question which is not a part of the inventory so that hearing-impaired students get an clear idea as to how they are suppose to answer.

Thereafter the class was divided into group of five students each. The special educators and the researcher then attended each group separately. During the session each item was written on the black board and then explained through sign language while facilitating lip reading. This was done to ensure that respondents understand the questions properly.

For the students with normal hearing, the administration was quite simple. Although the instructions for answering the questions were given on the inventory, still the researcher explained the instructions to the respondents in order to make them understand it well.

### **SCORING**

The same response categories as provided by the author (Mohsin and Hassain, 1969) were accepted for the present version as well. The inventory is scored simply by counting the number of 'Yes' and 'No' responses marked in each area of adjustment. Each corresponding responses is to be given a score of one. Higher the score on any dimension indicated the poorer the adjustment of the respondents on that dimension. The sum of scores obtained in all the four areas give a measure of total adjustment level.

## **RELIABILITY AND VALIDITY**

The reliability of the original tool was .93, which was taken out by odd-even method whereas reliability of the revised version of the inventory is .74, which is taken out by applying Alpha Cronbach method. Alpha Cronbach method is a model of internal consistency based on average inter-item correlation.

Validity of the present revised version was calculated by finding out the square root of reliability value, which came to .85.

## ***BHAGIA'S SCHOOL ADJUSTMENT INVENTORY***

For assessing student's level of school adjustment, Bhaigia's school adjustment inventory was used. The inventory furnishes information about the student's adjustment to various aspects of school-life in terms of their characteristic behavior and feelings in and about the school. It comprises of 135 items which measures school adjustment in five categories covering all main aspects of school life viz. Academic matters, Schoolmates, Teachers, School organization or school environment in general and Self-adjustment at school. They are coded as A.S.G.T and P respectively and are discussed as follow:

- (i) 'Academic adjustment' or 'A' indicates how far a pupil is satisfied with his studies; subject and class work;

feels confident, serious and successful in schoolwork and is free from the fear of the tests and examination.

- (ii) 'Schoolmate adjustment' or 'S' indicates how far a pupil likes his mates; feels happy in their company and enjoys relationship, experiences approval and popularity among mates and gets into the social interaction by forming friendship and being co-operative.
- (iii) 'School environment adjustment' or 'G' indicates how far a pupil is satisfied with school-administration and general environment facilities and conforms at school; likes miscellaneous administrative conditions, feels interested and participates in co-curricular activities and experiences attachment with the school.
- (iv) 'Adjustment with teachers' or 'T' indicates how far a pupil likes the teachers of his school- their teaching, treatment and personality, experiences their approval and acceptance, and feels close and respectful to them.
- (v) 'Self adjustment at school' or 'P' indicates how far a pupil is satisfied from his self at school, feels free from disturbed state of mind, worries, sadness, inadequate, personal handicap, immoralities, undue aggressions

and conformity, possess personal qualities like regularity, punctuality, resourcefulness, responsibility etc.

The present researcher further adapted this inventory also by making major reduction in number of items. Thus, for the present study 10 items from five areas of school adjustment were selected. These were then given to the panel of special educators of hearing-impaired students for their expert opinion. They were suppose to choice 5 items out of 10 items from each area of adjustment. Here also, the criteria for selecting the items was similar to that of Bell's Adjustment inventory. The composite score will reflect the level of school adjustment.

#### **ADMINISTRATION AND SCORING OF THE INVENTORY**

In case of both hearing-impaired students and students with normal hearing, the procedure for conducting the test was similar as for the Bell's Adjustment inventory. The special educators and the researcher strictly followed the same pattern of administration.

Higher scores on it indicate a higher level of school adjustment whereas low scores, indicates lower or poor school-adjustment. In other words, students who get high scores on it tend to be well-adjusted to the school environment i.e. they are

more satisfied and happy at school and their behavior at school is more satisfactory; students who get low scores tend to be poorly adjusted i.e. they are dissatisfied and unhappy at school and their behavior in the school is not satisfactory.

### **RELIABILITY AND VALIDITY**

The reliability of the original tool was .93, which was taken out by odd-even method whereas reliability of the revised version of the inventory is .74, which is taken out by applying Alpha Cronbach method. Alpha Cronbach method is a model of internal consistency based on average inter-item correlation.

Validity of the present revised version was calculated by finding out the square root of reliability value, which came to .85.

### ***LIST OF PROFESSIONAL EXPECTATIONS***

As mentioned earlier, professional expectations refers to the expectation in the matter of choice of performance. Hence, the list of professional expectations consists of 38 professions. Here the subject either the hearing impaired student or student with normal hearing is suppose to tick mark just one option or profession which he is planning to opt in his future life. It would reflect the expectation, which a child carries towards his future job profile.

### ***SCHOOL RECORDS FOR ASSESSING ACADEMIC ACHIEVEMENT OF HEARING IMPAIRED STUDENTS***

The term academic achievement refers to the progress made by a hearing impaired student each year. i.e. getting promoted from one class to another. Under the study, the student who got promoted from one class to another in the academic year of 2001 –2002 and joined a higher standard in the year 2002 - 2003 were referred as high achievers whereas the students who continued with the same class for the academic year of 2002 – 2003 were included in low achievers. Thus the school records were checked to assess the academic achievement of each hearing impaired student.

### ***KALLIATH'S SOCIO ECONOMIC STATUS (SES) INVENTORY***

Kalliath's SES inventory measures the social position of an individual in the social hierarchy. The tool may be administered to respondents of any age group (10 years and above). This inventory is basically made for subjects residing in a metropolis, city or town. The tool may be administered to the individual of any age group ranging from ten years onwards. The socio-economic status of an individual is perceived as a composite of the following of the factors.

1. Type and nature of the family.



2. Type of accommodation facilities and services available in the home.
3. Articles possessed.
4. Total monthly income of the family.
5. Literacy levels of the parents/spouse.
6. Occupation of parents/spouse.
7. Exposure to mass media.
8. Library, club membership.
9. Interaction among family members.
10. Holidaying habits of the family.

#### **ADMINISTRATION AND SCORING OF THE INVENTORY**

Again in case of both hearing-impaired students and students with normal hearing, the procedure for conducting the test was similar as for the Bell's and Bhaigai's Adjustment inventory. The special educators and the researcher strictly followed the same pattern of administration.

As the inventory is made to measure the social position of an individual in the society, the scores are assigned keeping in mind the contribution of each item to the status and social class ranking of individuals. The composite score indicates the socio economic status of the subject.

As we know that SES of an individual is a relative measure that acquires significance only when compared against relevant group averages. Thus, the interpretation of scores is based on comparison with group mean score and the standard deviation. After administration of the SES inventory and its scoring, the mean and the standard deviation of the SES scores may be calculated and the individual score may be interpreted in terms of the three ranges.

Low SES group = less  $M - 1\text{ SD}$

Average SES group = between  $M - 1\text{ SD}$  and  $M + 1\text{ SD}$

High SES group = greater than  $M + 1\text{ SD}$

Kalliath's inventory has no general norms. The scores are to be interpreted with reference to the contemporary social group parameters.

## **RELIABILITY AND VALIDITY**

Reliability of the inventory was determined using test-retest method, the parallel form method, Guttman's method and the Crobach's alpha.

### **Test Retest Reliability**

Administering the inventory to a sample of school and college students twice at an interval of 4 weeks and computing the

reliability coefficient found the test retest reliability coefficient of Kalliath SES inventory.

Test retest reliability coefficient=0.96\* (N=118 college students)

Test retest reliability coefficient=0.98\* (N=35 School students) (\* Significant at 0.01)

#### Parallel Form Reliability

Jogawar's SES inventory was used as a parallel form tool to determine the reliability coefficient of Kalliath SES inventory in order to determine its equivalence. The sample was 118 undergraduate and post-graduate students.

*Parallel form reliability coefficient=0.76\**

#### Guttman's r Form Reliability

The reliability coefficient of the SES inventory in terms of its internal consistency was determined using the guttman's formula.

Guttman's r =0.69\*(N=35 school students)

#### Crobach Alpha Coefficient

The internal consistency of the SES inventory was also determined by computing the Crobach's Alpha coefficient.

Crobach's Alpha=0.64\*(N=35 School students)

(\* Significant at 0.01)

### **FIXED RESPONSE QUESTIONNAIRE FOR HEARING IMPAIRED STUDENTS AND STUDENTS WITH NORMAL HEARING**

Fixed response questionnaire consists of statements or questions with a fixed number of options or choices. The respondent is asked to choose from the options or responses that best fits or suits him. Such questionnaire is also known as closed-form questionnaire or pre-coded type of questionnaire. For example:

- ❖ Do you feel shy in talking to the members of the opposite sex? - Yes / No

These questionnaires were made in order to know the view point of the hearing-impaired students and students with normal hearing about their social life, health, level of satisfaction, family members, relatives, friends, neighbors and general public. It was also prepared to know the opinion of hearing-impaired students about the academic and professional opportunities provided to hearing-impaired students in Gujarat.

During the pilot study personal interaction with some hearing impaired persons, it was observed that one can communicate with the hearing impaired either with the help of sign language and gestures or through writing. Though the researcher has learnt manual alphabets and acquired some knowledge of the sign language, but it was not possible to be proficient in sign language. Gestures serve only a very limited

purpose and writing also had its own limitations. Thus it was decided that to seek information with the help of fixed response questionnaire. A simple questionnaire was prepared to make the work easier and also to get the maximum responses from the hearing-impaired students. Also, only the objective types of questions were framed. Utmost care was taken to keep the number of questions at the minimum. The same questionnaire was administered on the students with normal hearing as well.

A total sample of 200 respondents with equal number of hearing-impaired students and students with normal hearing were administered on the questionnaire.

#### **INTERVIEW SCHEDULE FOR PARENTS AND TEACHERS OF HEARING IMPAIRED STUDENTS AND PROFESSIONALS FROM THE FIELD OF HEARING IMPAIREMENT**

Personal interview method involves a person known as the interviewer, who generally asks questions face-to-face to the other person or persons referred as interviewee. This method of collecting information is usually carried out in an un-structured interview. Unstructured interviews do not follow a system of pre-determined questions neither carry a standardized technique for recording information. In such interviews, the interviewers is given much greater freedom to ask, in case of need, supplementary

questions or at times omit certain questions if the situation so requires. He may even change the sequence of questions.

These interviews were carried out to know the viewpoint of the parents, teachers and professionals about the hearing-impaired children and about hearing impairment as a whole. Besides this to know their opinion about the academic and professional opportunities provided to hearing-impaired students in Gujarat.

A total of 45 parents and 50 teachers were interviewed from seven of the cities of Gujarat.

## **ANALYSIS OF DATA**

For the analysis of data the following statistical analysis were used:

### ➤ ANALYSIS OF VARIANCE (ANOVA)

The 't' ratio or 'z' ratio is one of the most important parametric tool through which we can test the significance of the difference between two means. But it has two general limitations: Firstly, when there are several groups and if we want to test the significance of the mean difference among them, several 't' ratios are required to be computed and secondly, the 't' ratio does not account for interaction effect in its statistical analysis. The variations in the scores may be due to the interactions taking

place among groups and such variations are not accounted for by 't' ratios.

In order to remove these two limitations we turn to Analysis of Variance, originally developed by R F Fisher. Analysis of variance is a compilation of statistical techniques through which we test the overall difference among the two or more than two (normally more than two) sample means. It is of two types: Simple analysis of variance or one-way analysis of variance and Complex analysis of variance or two-way variance. Analysis of variance (of whatever type) is often referred as ANOVA.

#### ➤ MULTIVARIATE ANALYSIS OF VARIANCE (MANOVA)

Multivariate analysis of variance is an extension of analysis of variance. This technique is considered appropriate when several metric dependent variables are involved in a research study along with many non-metric explanatory variables (but if the study has only one metric dependent variables and several non-metric explanatory variable, then we use the ANOVA technique.) In other words, multivariate analysis of variance is specially applied whenever the researcher wants to test hypotheses concerning multi-variate differences in-group responses to experimental manipulation.

### ➤ CHI-SQUARE TEST ( $\chi^2$ TEST)

Chi-square is a non-parametric test. Chi-square test enables us to explain whether or not two attributes are associated. For instance, we may be interested in knowing whether a new medicine is effective in treating headache or not,  $\chi^2$  test will help us in deciding this issue. In such a situation, we proceed with the null hypothesis that the attributes (viz., new medicine and control headache) are independent which means that new medicine is not effective in controlling headache. On this basis we first calculate the expected frequencies and then work out that table value of  $\chi^2$ . If the calculated value of  $\chi^2$  is less than the table at a certain level of significance for given degrees of freedom, we conclude that null hypothesis stands which means that the two attributes are independent or not associated (i.e., the new medicine is not effective in treating headache). But if the calculated value of  $\chi^2$  is greater than its table value, our inference then would be that null hypothesis does not hold good which means the two attributes are associated and the association is not because of some chance factor but it exists in reality (i.e., the new medicine is effective treating headache). Thus we can conclude that  $\chi^2$  is not a measure of the degree of relationships or the form of relationship between two attributes, but is simply a technique of assessing the



significance of such association or relationship between two attributes.

➤ FREQUENCY AND PERCENTAGE ANALYSIS FOR  
QUALITATIVE RESPONSE.

Under this, we simply count and give percentages to the number of responses given in each category.

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