

CHAPTER TWO

CHAPTER TWO : METHODOLOGY

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M E T H O D O L O G Y

The study is aimed at bringing out a comprehensive state profile of the educational institutions and vocational rehabilitation institutions of Gujarat with critical assessment of these on the basis of a logical model of schooling of hearing impaired. It is this basic orientation of the study on which the methodology was based. As can be delineable, evolving a logical model of schooling was a major concern in the study, which formed the reference point for assessment of the state's system of rehabilitation of the hearing impaired.

Special needs of the hearing impaired children which stem from their problem in hearing ability had been the basic source for formulating the logical model of schooling. As stated in the 1st chapter, the field of special education is still in an embryonic stage in India and therefore, apart from the few studies done in India, studies done in other countries had been referred to, for developing the model. Nonetheless, while screening these studies to justify the aspects presented in the model, relevance and feasibility of their findings had been borne in mind. Modus operandi of effectively running institutions of other states of India had been an important source of data for formulating the model, apart from the literature in the field of rehabilitation of hearing impaired, all of which were used to substantiate arguments put forth in the model.

Although the model was formulated before the

investigator plunged into the field, certain aspects did get fine-tuned after seeing and internalizing the real situations and their inherent inevitabilities. For example, the proposal that a school for hearing impaired should not be residential on the principle that constant interaction with dear and near ones at home is essential for language development, had to be withdrawn when it was realized that, had there been no hostels many students would not have seen the doorsteps of a school ever! Thus the model evolved into its fullness as the fieldwork progressed.

Further details of the model are presented in chapter III. The following sections present the procedural details

2.1.

Population

The three units under study were schools for the hearing impaired, teacher education institutions for teachers of hearing impaired, and the vocational rehabilitation centres for the handicapped.

There were 27 schools for hearing impaired in Gujarat during the time of data collection, (1991-92) out of which 22 were run by private trusts with recognition and financial backing by government. 3 were established and fully maintained by government, and others and private schools were waiting for government sanction.

There were 2 teacher education centres for teachers of hearing impaired one at Bhvanagar and another at Ahmedabad and two vocational rehabilitation centres for the handicapped, one at Ahmedabad and another at Baroda.

2.2.

Sample

2.2.1.

Schools

All the 3 government schools were included in the study. Among the schools run by private trusts only those which were recognized by the Government of Gujarat by 1991 March were included in the study. Thus, 3 Government schools, and 22 private - aided schools formed the sample of the study, making a total of 25 schools. Only 2 schools which were not recognized by the Government were excluded. The schools included are listed below. Throughout this thesis, the schools have been referred to, by the numbers below (Identification numbers).

Sr. No.	Place	Name of the School
1.	Adipur (Kutch)	Mata Lachmi Deaf School
2.	Ahmedabad	School for Deaf - Mutes.
3.	Baroda	Kamalaben School for the Deaf & Dumb
4.	Bhavnagar	K.L. Institute for the Deaf.
5.	Dehgam	Deaf & Dumb School.
6.	Gandhinagar	Gandhinagar Education Trust Deaf School.
7.	Godra	Sarvajani Deaf & Dumb School.
8.	Himmat Nagar	H.N.S. Bank Deaf & Dumb School.
9.	Jamnagar	Mudra & Dhanani Deaf School.
10.	Junagad	Govt. School for Deaf.
11.	Kacholi	School for Deaf girls.
12.	Kacholi	School for Deaf & Dumb (Boys)
13.	Mandvi (Kutch)	Jasraj Rajpal Deaf School
14.	Mehsana	Govt. School for Deaf.
15.	Modasa	Vadilal Hiralal Gandhi Deaf & Dumb School.
16.	Nadiad	S.G.Brahmbhatt Badhir Vidyavihar.
17.	Navsari	P.S.Kothari School for Deaf.
18.	Palanpur	Ma Shnavanvani Deaf School.
19.	Patan	Smt. Vyas School for Deaf.
20.	Rajkot	C S Virani Deaf & Dumb School
21.	Rajpipla	Govt. School for Deaf.
22.	Sola	K.S. Dedhia Deaf Vidyamandir
23.	Surat	Mook Badhir Vikas Trust School.
24.	Surendranagar	Deaf & Dumb School.
25.	Talod	J. B. Upadhyaya Deaf & Dumb School

The standards offered in different schools are presented below :-

Sr. No.	Standards offered	The Identification numbers of the schools	Total Number of schools in the category.
1.	Upto IVth (regular Ist)	5	1 (4%)
2.	Upto Vth (regular IInd)	21 & 22	2 (8%)
3.	Upto VIth (regular IIIrd)	1 & 6	2 (8%)
4.	Upto VIIth (regular IVth)	7,9,10 & 13	4 (16%)
5.	Upto IXth (regular VIth)	14 & 17	2 (8%)
6.	Upto Xth (regular VIIth)	2,3,4,8,11, 12,15,16,18,19, 20,23,24,& 25	14 (56%)
7.	Special SSC Programme	2, 4, 8	3 (12%)
8.	K G Classes	1,2,3,4,16,18, 20,23.	8 (32%)

2.2.1.1.

Sampling of Respondent from Schools

Principal, teachers, students, parents, hostel warden, training personnel (vocational training) were all the respondents from each school. Sampling of each of these groups was done as follows :--

Principal

Principal of each of the 25 schools was included in the study, the number thus amounting to 25.

Teachers

Number of teachers ranged from 1 to 37 across the 25

schools under study. Hence uniform sampling was not done, but sampling was of a mixed type depending upon availability. 9 schools had teachers numbering to 5 or less than 5. All teachers from these schools were included as given under :--

3 schools had 5 teachers each ($3 \times 5 = 15$)

4 schools had 2 teachers each ($4 \times 2 = 8$)

1 school had 3 teachers each ($1 \times 3 = 3$)

1 school had 1 teacher each ($1 \times 1 = 1$)

From the other 16 schools that had more than 5 teachers, sampling was done as under :--

2 teachers from 1st, IIInd and IIIrd standards were selected.

In case of one school, only 1 teacher could be included.

4 Teachers from higher classes.

As different schools offered standards ranging from IVth to Xth, teachers were selected according to the availability, taking care to see that the majority or all the classes were covered.

8 Schools offered KG Classes.

1 teacher from KG Section of each of these 8 schools was selected.

Thus, 130 teachers were included as sample for the study, out of a total of 255 teachers, making 51% of teachers, respondents for the study.

Table No. 6

Sampling of Teachers

No. of Schools	No. of teachers from each school	Total No. of teachers
9 (with 5 or less than 5 teachers)	all teachers selected	27
16 (More than 5 teachers)	2 from lower section of I-II-III. (each school except in 1 school from which only 1 teacher was selected)	31
	4 from higher classes of each of the 16 school	64
8 offered KG as well	1 from each school from section	8
Total No. of teachers selected for the study		== 130

Training Personnel

Out of 25 schools, 5 schools ran an Adult Training Centre in their school campus where advanced vocational training was given. Out of 26 training personnel across the 5 schools, 2 from each of the 5 schools were selected making the sample 10 in all, covering all 5 schools.

Students

Strength of the schools varied from 20 to 550. 2

schools had less than 30 students. All the students of these 2 schools were selected for the study. From the other 23 schools that had more than 30 students, sampling of students covering all classes was done and 30/31 were selected from each school according to availability. On the whole 750 students were selected out of a population of 3590. (21%). (Uniform sampling could not be done as different schools offered different grades of standards ranging from Standard IVth to Xth)

Parents

24 schools had hostel facility and majority of the students were hostlers. Hence parents were selected on the basis of availability. 10 parents from each of the 25 schools were selected, making a total of 250, (7%)

Hostel Wardens

24 schools (out of 25 selected for study) had hostels. Hostel warden of each of these 24 hostels was included in the study.

2.2.2.

Vocational Rehabilitation Centres (VRC-s)

There were 2 VRC-s in Gujarat at Ahmedabad and Baroda, hereafter referred to as VRC-I and VRC-II respectively.

These 2 VRC-s were meant for all the different categories of handicapped persons, and had trades to suit persons with different disabilities- blind, orthopaedically handicapped,

hearing impaired and negative leoprosy persons. VRC-I had 9 trades out of which 5 were suited to hearing impaired and VRC-II had 3 trades of which 2 were suited to hearing impaired., Hence the training personnel of these 5 trades from VRC-I and 2 from VRC-II were selected for the study. Out of 48 trainees in VRC-I. 4 were selected at random, and out of 10 trainees in VRC-II, 4 were selected at random.

2.2.3.

Teacher Education Centres (TEC-s)

There were two TEC-s in Gujarat at Ahmedabad and Bhvnagar, referred to as TEC-I and II respectively both of which were covered under the study. 5 teacher educators covering all the subjects taught, and 10 teacher trainees (making 100% of TEC-II and 67% of TEC-I) were selected for the study.

2.3.

Sources of Data

2.3.1.

Objective No. I :-

It has been stated in the initial paragraphs of this chapter that sources for formulating model of schooling were documented literature, modus operandi of effective schools of other states of India and dicussion with experts in the field of education of the disabled.

2.3.2.

Objective No. II

Data regarding material resources was collected from office records of the respective schools. Functional aspects of schools were studied from the responses of principals, teachers, students, hostel warden, training personnel of advanced vocational training and parents.

2.3.3.

Objective No. III

- i) **VRC-s :-** Data regarding the VRC-s I & II was collected from the responses of training personnel and trainees of the centres.
- ii) **TEC-s :-** Data regarding the TEC-s I and II was collected from the responses of teacher educators, teacher trainees and the selected 130 teachers of the 25 different schools under study, who had been trained from either of these centres.

2.4.

Tools of Data Collection

Tools were decided on the basis of the objectives and the nature of data expected, which was essentially descriptive in nature like opinions, perceptions, judgements and understandings about the aspects under study. These responses were to be scrutinized and categorized in order to evolve interpretative descriptions of the system studied. What was aimed at was to

evolve a comprehensive state profile with critical appraisal for which no quantitative analysis of data (other than finding out percentages on the basis of categories of responses) was planned.

2.4.1.

Description of the Tools

2.4.1.1.

Information Schedules :- (Appendix No.5 and 27)

The source of data for part of objective II, i.e. to evolve interpretative discussions on structural aspects of schools, was office records of each school which gave details of human and material resources of the respective school. Similarly, source of data for part of objective III, i.e. to assess the adequacy of the supportive organizations (VRC-s and TEC-s), was records of VRC-s which gave details about the resources at VRC-s. These data were collected through information schedule. The data collected through this tool was factual, and were used to bring out categories of schools and VRC-s on the basis of availability of resources and the number available.

The main aspects covered in case of schools were, background information, strength of students, number of students in the hostel, number who wore hearing aids, enrolment and drop-out figures, infrastructural facilities available, teacher-pupil ratio, availability of special assistants, etc.

2.4.1.2.

Interview Schedules

Interview schedules were used for collecting data for

objective II and III.

Objective II Principals, teachers, training personnel, and hostel wardens were interviewed to collect data regarding functioning of schools, using the interview schedule.

Objective III. Training personnel and trainees of VRC-s, teacher educators and teacher trainees of TEC-s were interviewed using the interview schedule in order to collect data regarding the functioning of these VRC-s and TEC-s.

The nature of responses expected from these respondents were, statements of the processes per se, perceptions regarding certain aspects under study, stand taken on certain controversial issues, opinions about views under scrutiny, and judgements on a few aspects. With these responses in mind, a semi-structured, open-ended interview schedule was used, with flexibility to probe into the responses.

Interview Schedule for Principals	: Appendix No.6
Interview Schedule for Teachers	: Appendix No.7
Interview Schedule for Hostel Warden	: Appendix No.8
Interview Schedule for Training personnel of Advanced Vocational Training.	: Appendix No.9
Interview Schedule for Teacher Educators	: Appendix No.21
Interview Schedule for Trainees of TEC-s	: Appendix No.22
Interview Schedule for Training Personnel of VRC-s	: Appendix No.25
Interview Schedule for Trainees of VRC-s	: Appendix No.26

Some of the functional aspects included in the schedule for respondents of schools viz. Principals and teachers were, procedure of admission of students, and assessment of their hearing, perception regarding residual hearing, opinion regarding use of personal hearing aid and oral-aural mode of communication (listening & speech), view on mainstreaming of hearing impaired, judgements on refresher courses, statements of problem faced, and suggestions to improve the system.

The main aspect covered in the interview schedule for personnel of VRC-s were statement of procedure of admission, reasons of low enrolment and drop-outs, method of evaluation, types of rehabilitation measures, modes of contact with schools for hearing impaired, counselling done to help trainees from dropping out and strategies to encourage girls to join the course.

The questions in the interview schedule for trainees of VRC-s covered aspects like their adjustment with the whole programme, their vision regarding usefulness of the training for making their lives etc., apart from personal information

2.4.1.3.

Questionnaires

Parents and students formed two groups of respondents whose responses were sources of data to study the functional aspects of schools (objective II). In order to collect their responses, structured questionnaire which demanded minimum writing from the respondents were used.

The responses expected from students were perceptions regarding classroom interactions, reactions to the ways of teaching, reaction to different subjects, reaction to use of personal hearing aids and degree of its usefulness, preference for hearing and hearing - impaired friends, etc. The answers were given as multiple choice items and the students were expected to tick mark the answer that they perceived as the best or tick Yes or No given after a question.

Questionnaire for students : Appendix No.10

Questionnaire for Parents : Appendix No.11

The responses expected from parents were statements regarding the steps taken to help the child after knowing that he/she was hearing impaired, reasons for delay in admission to school, sources of information regarding possibility of educating the child, involvement with the school by way of teacher-parent meetings, their attitude to hearing aids, their perception regarding their child's development after getting admitted in the school etc. Here again they were expected to tickmark either 'yes' or 'no' or the best alternative out of the few alternatives given as responses to a question.

2.4.1.4.

Observation Framework

Observation of classroom interactions by the investigator was an additional way of collecting data regarding the functional aspects of the schools. Hence a broad framework for carrying out these observations was used, although what

evolved from the observations was descriptive reports of the classroom processes seen as a continuous activity in each period.

The main aspects covered in the framework were teaching of language, development of communication abilities, mode of communication of teacher and students, individual attention given to students by the teacher, use of personal hearing aids, teacher's alertness to problems of hearing aids, steps in teaching, use of group hearing aids, formative evaluation techniques, use of visual aids, and students' participation.

Observation framework : Appendix No.12

The following table No.7 shows all tools alongwith the corresponding objectives and sources.

Table No. 7

Objectives, Corresponding Sources of Data and Tools of Data Collection

Objectives	Sources of Data	Tools
II 1. Structural aspects of schools	Office records	Information schedule
2. Functional aspects of schools	I Responses of <ol style="list-style-type: none"> 1. Principal 2. Teachers 3. Students 4. Parents 5. Hostel warden 6. Training personnel of advanced vocational training centres 	Interview schedule Interview schedule Questionnaire Questionnaire Interview schedule Interview schedule
	II Classroom process & Hostel Function	Observation Framework
III 1. TEC	Response of <ol style="list-style-type: none"> 1. Teacher educators 2. Teacher Trainees 3. Trained Teachers in schools 	Interview schedule Interview Schedule Interview Schedule
2. VRC	Office Records	Information Schedule
	Responses of <ol style="list-style-type: none"> 1. Training Personnel 2. Trainees 	Interview schedule Interview Schedule

2.4.2.

Construction of Tools

The tools used for the present study viz interview schedules, observation framework, information schedules, and questionnaires were constructed by the investigator.

In the first phase, review of research studies and related studies was carried out. In the second phase, literature review was coupled with exposure in the field by way of visits to schools for hearing impaired, teacher education centres and vocational rehabilitation centres. Discussions with principals and teachers of schools, teacher educators and trainees of teacher education centres, and personnel and trainees of vocational rehabilitation centres for a month provided a good degree of exposure to work on the items of the tools. Apart from these activities, discussion with experts who were in close contact with disabled children was a continuous process that helped to enrich the basic understanding required in the field.

Along with the review of related literature and discussion with experts the model was taking shape and before the construction of the tools was started the model had been more or less developed. Thus the items of the tools got churned out from the aspects covered in the model, fine tuned after observations and discussions carried out in the field.

It is pertinent to state in the context of tool construction that the tools, especially the interview schedules got revised, and transformed in certain subtle ways during the

phase of data collection. For example, when it was realized that teachers gave their own explanations of the phrase - 'profoundly hearing impaired' which was different for different schools, this item got incorporated in the schedule. Likewise in the context of use of hearing aids when some teachers stated that residual hearing was not present in the students as far as their experience informed them, this item also got incorporated.

While constructing the interview schedule the basic orientation was to have an open and flexible tool which would allow for detailed discussions based on probing done by the investigator. Thus the questions were constructed in a semi-structured and open ended way. Discussions with principals and teachers were adequate to help in preparing the questions.

The interview schedule was prepared in English, although while using it in the schools, the questions were asked by the investigator in Gujarati supported by Hindi.

The information schedule and observation framework were both constructed in English.

The majority of the students of the schools being from rural background with uneducated parents, collection of responses from parents posed a major problem. Moreover, the deficient linguistic skills of the students in general, was an added problem. Considering these hurdles, structured questionnaires which was simplified to the greatest degree possible were constructed.

The questions were constructed in English by investigator and translated into Gujarati by an expert.

All the tools are appended - see appendix No.5 to 12, 21-22 and 25-27.

2.4.3.

Finalization of Tools

The tools were scrutinized by 3 academic experts in the field of education and 2 practitioners in the field of education of hearing impaired. A few of the questions that lacked conceptual clarity were revised as per the advice of the experts. In some items of the questionnaire, it was advised that the language should be simpler considering the background of the students and parents. With such improvisations the tools got finalized.

2.5.

Pilot Study

In order to strengthen the tools for collection of data, a pilot study was carried out in 2 schools.

Administration of questionnaire to parents and students turned out to be an unyielding challenge, as was expected. Due to their inability to read and comprehend, some of the items of the questionnaire had to be read and explained to them with lot of effort, seeking help of the teachers.

The major changes that occurred after the pilot study were addition of more items in interview schedules and deletion

of items from the questionnaires for students and parents. During interviews with principals, teachers and hostel wardens of schools, some of the aspects that got added were views on mainstreaming, awareness about Indian Sign language, view on usefulness of audiograms etc. In case of questionnaires apart from deletion of a few items, rewording of the questions had to be done to enhance the communicability of the ideas.

After the pilot study, it was realized that collection of responses from students and parents would be an extremely laborious and more time consuming process than what had been envisaged. Moreover it was clear that teachers' help would be required to get the students fill up the questionnaire. Over and above all these the pilot study paved way for a great revelation regarding the language, communication skills and basic arithmetic skills of the students. Although students of Xth standard were following the VIIth standard syllabus, they could not read and understand simple sentences on their own, could not understand by speechreading or listening what the investigator spoke to them, and due to these poorly developed language skills, could not read and understand simple statement sums in Mathematics. With this realization, it was decided that a few tests would be developed to study language and communication skills of the students. It was also decided that only Xth standard students (regular VIIth) would be tested, on the premise that time of 10 years of school education would be required for development of these skills, as was experienced in the field and as opined by experts. Thus, 14 schools that offered classes upto Std. Xth (regular VIIth) were

selected for these tests.

These tests are described in the following paragraphs.

2.5.1.

Tests to Study Communication and Language Skills :--

The tests of language and communication skills were developed with an objective to know how far the students could :-

- i) read and understand Gujarati
- ii) speechread and understand when spoken to
- iii) see supportive gestures and signs and understand when spoken to.
- iv) communicate to others by speaking.
- v) communicate by speaking, supported by gestures and signs.
- iv) communicate by speaking, showing gestures and also with written matter.
- vii) speak, when choice of modes was given.

(See appendix No.13 to 17 for these tests)

2.5.1.1.

Construction of the Tests

The month-long observations in schools prior to tool construction and the pilot study did provide great extent of insight required to develop the tests. In addition, literature review, more precisely, reviews of research studies helped to decide the items in the tests. Over and above, discussion with principal and teachers strengthened the views on the standard of students which was decisive to formulate the tests.

These tests were later scrutinized by 2 experts in the field and also by principal and 3 teachers of 2 schools. As a result some of the items had to be deleted and a few had to be further simplified to suit to the level of the students. For example, there was a comprehension passage from the story 'Birbal's Khichdi' which was simplified by a teacher so that students would understand.

A pilot study was conducted to strengthen these tests, during which a test-retest reliability of 0.6 was established for the tests, and were thus finalised. Further details of these tests are presented along with the tests.

2.6.

Data Collection

Data collection for the study was carried out during the academic year 1991-92. Data covering a period of 5 years, 1986-87 to 1990-91 was collected.

Data collection has been presented as per units under study, schools, vocational rehabilitation centres and teacher education centres.

2.6.1.

Schools

Schools were the main focus of the study, and because 25 schools were studied, the major time of the phase of field work was spent in the schools. Moreover data was collected from different types of persons involved, viz - principals, teachers, students, parents, hostel wardens and training personnel through different tools, observation of processes of classrooms and hostel life was carried out, and also the office records were examined to collect data. Due to these different means of data collection, the process was virtually like living as one among the teachers and students and participating in the different activities of the school. Time spent in schools varied from a minimum of 4 days to a maximum of 8 days.

2.6.1.1.

Observation of Classroom Processes

The way the number of observations in each school was programmed was rather complicated as different schools offered different standards and hence uniform distribution of periods of observation was rather difficult across the 25 schools under study. The periods of observations in different classes in the 25 schools were scheduled as follows. :--

K G Classes

Only 8 schools had KG Classes.

Out of 25 schools both K G I and II classes were observed in each of the 8 schools, making a total of 16 observations.

Standards I, II and III

Standards I, II and III followed special curriculum developed for hearing impaired and hence more periods of observations were carried out in these classes. Among these, 1st standard being the most basic, more observations were done in these classes. 4 periods in 1st standard, and 2 periods each in IIrd and IIIrd standards, making a total of 200 periods of observations were carried out (8 x 25).

The objectives of standards I, II and III were to equip the students with skills of listening and comprehending spoken language, of communicating by speaking, and of speechreading, apart from the general objectives of development of skills of reading, writing and arithmetic. Thus, the observations in these classes were carried out with utmost vigilance to study the development of these special skills of listening, speaking, speechreading as also reading, writing and arithmetic.

Standards IVth to IXth

From the IVth standard, syllabus of regular schools was started i.e. regular 1st standard text books were followed

in IVth standard, which meant that regular VIIth standard text books were followed in Xth standard. Language teaching, and development of communication ability were the focus of observations carried out in these standards. The programme of observations was as follows in each school.

2 periods of Gujarati

2 periods of Mathematics

2 periods of Social Studies.

2 periods of Science.

2 periods of each subject were observed in the same class, to get a deeper understanding of the processes. Thus 200 observations 4 in each school were carried out covering 100 classes across the 25 schools.

One problem faced while deciding on the classes for observations was that different schools offered different standards. Some schools had classes only upto IVth (regular 1st) and others upto V, VI, VII, IX or X. Hence different classes were observed as were available in each school.

In all, 416 observations were carried out covering 191 classes across 25 schools. Table no:8 gives the schedule of observations carried out :-

Table No. 8**Schedule of Observation**

Standard	No. of Classes	No. of Periods	No. of Schools	Total No. of peirods.
KG I	8	1	8	8
KG II	8	1	8	8
Std. I	25	4	25	100
Std. II	25	2	25	50
Std. III	25	2	25	50
Std. IV to	25	Gujarati 2	25	50
X (according	25	Maths 2	25	50
to availa-	25	Social)		
bility)		Studies) 2	25	50
	25	Science 2	25	50
Total	191			416

2.6.1.2.**Observation of Hostel Functioning**

Observation of the hostel life was a rather easier task. Investigator was given accommodation in the hostel during visit to each school, and hence time available after school hours was spent in being with the hostels and in observing the various activities that went on.

2.6.1.3.**Interview of Principals, Hostel Wardens of Schools and Teachers**

As and when the principal and teachers of each school were free, they were interviewed. 30-45 minutes were spent for

each interview. The questions were translated into Hindi / Gujarati although some English words were used as they were. The responses were recorded in English. Similar was the mode of interviewing the hostel wardens.

2.6.1.4.

Collection of Data from Students and Parents

The most difficult challenge during the phase of field work was collecting data from students and parents. Students were made to fill up the questionnaire by the teachers of the respective classes in each school. The investigator many a times helped the students directly or through the teacher. In case of parents it was more difficult and time consuming. Wherever possible they were called to the school and in other situations they were contacted at home. In both the cases they were helped by the investigator. In many cases the investigator read out the questions and the choice of answers given, and filled up the selected one given by the respondent, virtually making the procedure close to an interview.

2.6.1.5.

Collection of Data From Advanced Vocational Training Centres (Associated with schools)

Only 5 schools (No.2,4,11,12,18) had advanced vocational training centre and collection of data was done by interviewing the training personnel. Informal discussions with the trainees was also carried out. Apart from these, their office records were referred to, for obtaining required data. Within one day,

work at one centre could be completed well to satisfaction.

2.6.2.

Collection of Data From Teacher Education Centres

The two Teacher Education Centres of the State were attached to two of the schools (No.2 and No.4) and hence data collection from these centres was completed during the visit to the respective schools.

Interviewing teacher educators and teacher trainees of each centre went on smoothly and took 2 days in each centre. The course outline of the centres was also procured. Unfortunately, both the centres could not provide a printed course outline, but the outline was orally given by the principal in each case. The investigator also got a chance to see a few classes in one of the centre which proved useful although this was not a part of the schedule.

2.6.3.

Collection of Data From Vocational Rehabilitation Centres

Collection of data from the two vocational rehabilitation centres of the state VRC-I and II was done by using information schedule and interview schedule. Data from the office records was collected by using the information schedule with help from concerned personnel. Interview with the training personnel had virtually culminated in long discussions on the rehabilitative aspects of the hearing impaired from which relevant data was delineated. Interviewing the trainees was done

with the help of the training personnel. 4 days were spent in each of the vocational training centres to complete the data collection.

2.7.

Analysis of Data

Method of analysis was evolved by and large from the basic orientation of the study i.e. formulation of a model of schooling of the hearing impaired, bringing out the salient features of the prevailing system of schools in Gujarat along with those of teacher education centres and vocational rehabilitation centres, discussing the discrepancies of these systems with the model, and presenting explanations as to how these discrepancies hinder the development of hearing impaired.

Precisely, the analysis was done on the basis of the objectives. The second objective was to evolve interpretative discussions on the structural and functional aspects of schools for hearing impaired keeping the logical model as the point of reference. Therefore, the primary requisite was to bring out a comprehensive profile of the system of schools, juxtaposing each structural and also functional aspect studied, against those in the model. In order to do this, schools were classified according to the presence or absence of the material resources, after scrutinizing the data collected through information schedule, and according to whether or not these were optimally utilized inferred from observations and content analysis of data got through interviews and questionnaires. Apart from the

utilization of resources, the processes of the schools studied by content analysis of data from interview schedules, questionnaires and observations were used as criteria for classifying the schools. Percentages of schools for each of such categories was worked out from these classification. For example, by studying responses of teachers on their view regarding usefulness of hearing aids, analysis such as "it was opined by 92% of the teachers interviewed that hearing aids were not very useful to the students as most of them could not hear at all" was done. In this manner the responses of different groups of respondents viz. principals, teachers, parents, students, training personnel and trainees were analysed, all of which together gave rise to a comprehensive profile of the system of school education of the hearing impaired, and each aspect studied was scrutinized against the model and interpreted thereafter.

The results of tests conducted by the investigator to study the language, and communication skills were analysed and used to supplement the analysed data of schools. Percentage of students giving right and wrong answers were worked out from the results of 14 schools. Results of those schools which were found to be different from the general level of performance have been separately mentioned.

In case of the teacher education centres, scrutiny of the course outline and content analysis of the responses of the teacher educators, teacher trainees and the trained teachers of the schools, were all done to see how far the programme could prepare teachers of hearing impaired to successfully bring about

the development of the students as proposed in the model. As only 2 centres were functioning, the attempt was only to provide a descriptive account of the findings and examine critically against the model.

Vocational Rehabilitation Centres were studied with a perspective of studying the extent to which they could co-operate with the schools to further the goals of vocational rehabilitation of the students. This perspective was taken essentially because of the fact that the study was centred on the schools as a system of educational rehabilitation for the hearing impaired.

Finally, interpretative discussions of the schools were evolved by juxtaposing the functional aspects against the resources available. Moreover aided and government schools were compared with regard to the aspects studied.

Details of data analysis with interpretative discussions are presented in Chapter IV. Next chapter viz. Chapter III presents the logical model of schooling of hearing impaired.

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