ASSESSMENT OF CHILDREN'S SPEECH BY PARENTS'.

A DISSERTATION SUBMITTED IN PART FULFILMENT
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CERTIFICATE

This is to certify that the dissertation entitled "Assessment of Children's speech by parents" is the bonafide work in part fulfillment for M.Sc in Speech and Hearing of the student with Register Number:

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This is to certify that this dissertation titled "Assessment of children's speech by parents" has been prepared under *my* supervision and guidance.

Dr(Miss)S.Nikam
Guide.

DECLARATION

This dissertation titled "Assessment of Children's speech by parents" is the result of my own study undertaken under the guidance of Dr.S.Nikam, Professor and Head of the Department of Audiology, All India Institute of Speech and Hearing, and has not been submitted earlier at any University for any other diploma or degree.

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C O N T E N T S

INTRODUCTION

In the past the diagnostic labels used to classify children with language and communication problems were derived from medical models, which placed great emphasis on etiology. A need arose for the speech and language pathologists to find ways to promote modes of language reception and expression (Siegel and Spradlin, 1978).

In order to stand parallel to the field of medical sciences, tests in the area of communication were developed and standardized. This was to ensure objectivity, reliability and validity. However, the limitation of the tests in the area of behavioral sciences was recognised. In 1960's, Brown and his co-workers started collecting child's speech sample in the natural setting. This method was found to yield a wealth of information about child's communication " behaviour.

The clinical practice revealed that clinicians did not get the complete clinical picture of the child **for** monitoring development from short observation periods. Therefore Aural rehabilitation programmes included parental reporting as part of a programme. This has been found to yield valid and reliable information about a child's communication status. Hence, more and more of this is being used in recent years.

NEED F*OR* THE STUDY

Children require maximal stimulation during their early hood days. A child with speech and hearing handicap requires more. Speech services should be made available for these children. The plausible ones that could be thought of, for why the speech services are not available to some children could be because of

(1) Non-availability of Speech and Hearing centres in their place.

(2) Available Speech and Hearing clinic could be too far for the parents to travel everyday.

(5) Available close by clinics could be too expensive for the parents to afford.

Despite the availability of Speech and Hearing centres, the reluctance of infants and young children to display their typical communication behaviour in the presence of strangers and the fact that in some programmes, clinicians are able to observe the children only during infrequent and short intervals, prevent the clinician from acquiring the data for monitoring development. Therefore rehabilitation programmes include parental reporting as a part of the programme. Parental reporting can yield valid and reliable information about a child's communication status, if parents are given instructions in observation

and recording procedures. It may help the parents observe the communicative behaviours of the child. This information provided by parents can be used to advantage.

(1) Roman (1980) points out that when information could not be obtained by directly testing the child due to physical, emotional or intellectual disabilities, obtaining information from a parental source could be an easier, quicker way of screening large numbers of children.

(2) Parental reports would be helpful in cases of children residing in far off places. The professional would get some idea of the child's speech to start the intervention programme.

(3) Parental reports can be used as a basis for evaluating child's progress and to know the effectiveness of the remedial programmes. It could be speech and language therapy or medical treatment as in CSOM,

(4) Besides providing data, the documentation of the child's progress is reinforcing for parents.

(5) Most clinics are overcrowded and handicapped by lack of personnel. The professional's limited time can be utilized more effectively if such parental report techniques can be made use of.

Though several studies (Elliott and Ambruster, 1967, Asbed et al, 1970, Roman 1980, Gleason and Blood, 1982, Kessler, 1985) have been conducted in the Western Countries using the parental reporting techniques, in India, no study has yet been conducted involving the parents of hard of hearing in the assessment programme though it has been done in the area of mental retardation. Hence, we see the need for such a study on Indian population.

The study was designed to answer the following questions.

*Is it possible to have the parents of hard of hearing children assess their children's speech using the questionnaire method

*Is it possible to have the parents of normal children assess their child's speech using the questionnaire method.

REVIEW OP LITERATURE

Everybody knows what language is — everybody i.e., except for the psychologists, philosophers, linguists and clinicians who must deal with it in formal and technical ways. For the ordinary person, language is what comes out of the mouth and works its way into the brain, via the ears. The curious paradox in the study of language and perhaps in all of behavioural sciences is that the profoundest mysteries are ensnared in the things best known. As Chomsky has ventured "Only the most preliminary and tentative hypothesis can be offered concerning the nature of language, its use and its acquisition (Lloyd, 1976).

There are essentially two approaches to account for the acquisition of language. The first approach assumes that language is learned like other behaviours. The second approach assumes that language is innate and that no real learning situation is there or even necessary. However, all the theories accept thatllanguage is a developmental process in the sense that there is progressive emergence or learning of the structures of language (Thirumalai, 1977).

Children learn language effortlessly and at their own pace.(Streng, Kretschmer and Kretschmer, 1978). From birth onward the child begins to experiment with the sounds of language. Birth cry is the first milestone in the child's acquisition of phonology. Unlike later crying, crying of

the newborn is reflexive and is due merely to the inhalation and exhalation of air. Crying during the later part of the first month and after is differentiated in response to various stimuli. (Ex): hunger, illness, discomfort). These cries vary in length and pitch and volume.(Bryen, 1982) Dodorica (1984) analysing the narrow band spectrograms taken of four Italian infants cry and non cry vocalizations provides evidence of differentiation of cry vocalization produced in different contexts.

Between one month and three months, the crying gives way to other forms of vocalizations. These early non crying vocalizations usually accompanying a period of satisfaction are called cooing. Cooing is essentially vowel like in form, and the earliest vowel sounds are front. Back consonant like sounds, such as /K/ ,/g/ and specific fricative sounds are produced during this early period although vowels exceed consonants (Irwin, 1948, 1951)•

During the period from 5-6 months there is an increase in the variety of sounds produced. Additional consonantal sounds such as |p|, |b| and |d| emerge along with nasal sounds. The area of articulation moves forward in the case of consonants and backward in the case of vowels. The repetitive chaining of sounds which is characteristic of the babbling period first appears (Tonkova-Yampolskaya, 1973).

There is further development of imitation characterized by the child's own imitation. This period of self imitation is viewed as a preparatory period for imitating unfamiliar sounds produced by others (Bryen, 1982).

The babbling period from 6-9 months is characterized by repetition of syllables accompanied by distinctive intonational patterns (Pierce, 1974). Winitz and Irwin (1958) have reported high percentage of words as either monosyllabic or disyllabic during the 7th, 8th and 9th months. The vowel sounds varying in relative use at the different age levels with the exception of the vowel |æ j which was outstanding at each age level. The labials and post dentals sounds constituting more than 80% of the consonants at each age level, while approximately 95% of the words were composed of both vowels and consonants. A higher percentage of front and back vowels than of middle vowels were used.

Between 9-12 months, echolalia (consonant imitation of sounds of the environment) is the chief characteristic of this period. The child exhibits action responses to verbal requests such as "Where is the book"? There is the appearance of first words in his speech during the e end of this period which take on the practical functions of attracting adult attention (Berry, 1969).

PHONOLOGICAL DEVELOPMENT: . ••

According to Menyuk, 1971, the following consonants are mastered by age four: |b|, |m|, |n|, |f|, |w|, |h|, |p|, |g| , |k| , |j| and |l|. Although their mastery is not evidenced in all word positions (i.e., initial, medial and final), their intelligibility is at a fairly high level. In addition to these individual speech sounds, the following initial consonant clusters are reported by Templin (1957): |sm-|, |Sn-|, |St-|, |tW-|, |bk|, |kw-|, |Pl-|, |Pr-|, |tr-|, |dr-|, |Kl-| and |Kr-|, The following consonants add to the child's inventory |t|, |V|, |S|, |z|, |ʃ|, |ʒ|, |tʃ|, |r|, |dʒ|, |θ|, and |ð| and completes the phonological mastery by age 7 years. Ingram (1976), Akkinson-King and Scane (1975), have demonstrated that phonological development continues into the teens. Ex: further development of suprasegmentals such as stress, pitch and intonational patterns.

Kumudavalli (1972) studied the relationship between articulation and discrimination of Kannada speech sounds in terms of distinctive features. The following observations were made.

1• The sounds which were discriminated correctly were also articulated correctly.

2. The sounds that were misarticulated were also not discriminated in four instances.

3. Many word pairs which were articulated correctly were not discriminated. And

(4) In both perception and production, the alveolar and retroflex distinction was the last to be acquired.

This study supports the motor theory of speech perception.

Thirumalai (1972) studied the acquisition of Tamil phonology of a four year plus child. The results analyzed showed that among the consonants, the subject had acquired all the stop consonants, K, C, t and P found in the adult Tamil speech. The subject had acquired all the six nasal sounds in adult Tamil speech. There was difference between the subject's and adult speech, i.e., the retroflex and alveolar nasals in the intervocal position were interchanged.

Sridevi (1976) studied the acquisition of aspects of Kannada language in 2+ year old children. The results analysed revealed that, at the commencement of the recording, all the 4 subjects had acquired most of the vowel distinction found in the adult speech in Kannada. The acquisition of the consonants was not complete at the commencement as well as at the end of the study. The stop

consonants had been uniformly acquired, but in 2 children of the older age group, the voiceless and voiced velar stops were only at the phonetic level. Aspirated counterparts were not acquired during the course of the study. The laterals, sibilants and trills were not fully established till the stage of the completion of the study. The distinction between the nasals was not fully made during the course of the study.

Tasneem Banu (1977) studied the articulatory acquisition in children between 5-6.6 years. She found a definite pattern in the articulation acquisition. There was gradual but definite change from age to age. The children were found to acquire most of the sounds earlier than the English speaking children.

PRELINGUISTIC TO LINGUISTIC SPEECH;

During the period from 12-24 months speech sounds, which were previously unattached to meaning become phonemic with the onset of the first words. There is some similarity in the form of speech sounds produced during the prelinguistic period and those used during this period. Ex: repetitive quality of the babbling period continues as the first word emerge. The phonological structure of the first words is comprised of either the CV and CVG combinations of most monosyllabic words of the CVC and CVCVC combinations of

disyllable words. The occurrence of consonants become more frequent than that of vowels (Bryen, 1982). Schwartz et al (1980) describe the reduplication of syllables in children's early words. Reduplication consists of child's productions of adult equivalents Ex |bye,bye|, reduplications of adult non reduplicated syllables Ex (water) and reduplications of monosyllabic adult equivalents Ex |ball|. The role of syllable reduplication may be a transitional one, facilitating the phonological acquisition of multisyllabic words. This hypothesis is shared by Schwartz (1980) and Smith (1973).

The single word utterances used are tied to here and now objects, actions and relationships rather than being capable of displacement in time and space (Bryen, 1982). Overgeneralization of one word for any member of a given . category and extreme restriction of the meaning of a word, i.e., using a label of only one instance of a category is quite common during this period. (Bowerman,(1976).Nelson (1973) reported that the names of salient objects and events constituted the major portion of child's vocabulary during this period.

As a child begins to develop cognitively and to see important differences between objects in his environment, he begins the process of increasing his vocabulary. As children develop appreciation of features, they begin the process of dividing their cognitive fields, which results

in finer or smaller categories. As a child separates out a new concept, he requires a new word which is how he increases the vocabulary in the beginning stage.

The first lang expression or the single word stage seems to be the time when child's cognitive understanding are being tied to his linguistic system not only in terms of meaning of specific words, but also in terms of general semantic categories of agent-action patient or instrument (Streng, Krtschmer and Krecschmer, 1978).

Semantic categories that form the basis for the single word stage is placed into two categories by BLOOM, 1973. The first category is labelled functional words i.e., words, which represent nonexistence, recurrence and existence - Ex, no, more, that, this etc. This category is the most stable in the child's lexicon. The second semantic category basis for the single word utterances is labelled the referential category. Referential words encode the ideas of actor, action, patient, location or instrument. Unlike functional words, referential words tend to be quite unstable.

As child begins to merge information on semantic categories with some notions of word order, two word combination emerge. Normals do not adhere to the rigid word order, but seem to move toward Syntax during this period (Bloom, 1973).

The following person markers were reported to be acquired at the following ages, me and my) at 21 to 22 months, I, it,at 24 months (Bloom, 1970), he, she, they, at 3,6 years and 'we' at 8-0 years (Huxley, 1970). Sridevi (1976) observed the first and second person singular and third person neuter singular to be acquired earlier than other types. Basavaraj (1981), reported the occurrence of |na:nu| (I), |ni:nu| (you) at 2½-3 years, avanulivanu at 4-4½ years, and avalu/ivalu (She-remote/proximate at 4-4/2 Yrs).

The acquisition of adjectives "more" at 3 to 3½ years, little, Kari at 4 to 4½ years and "white", "Straight" was reported by Basavaraj (1981).

Bloom (1970) reported "This", "That", "a", "the", "these" and "more" determiners at 2 years. Devillers and Devillers (1973) reported that the consistent use of "a" and "the" were found at 4½-5 years of age and "here", "there", "this" and "that" at 3 years of age. Webb and Abrahamson (1976) observed that children had difficulty with "this" and that at 7 years of age also. The mastery of "here" and "there" was not observed at 4 years by Clark and Sengul (1978). Basa-varaj (1981) reported the acquisition of that|this at 4/2 years.

The order of acquisition of prepositions reported by Johnston Slobin (1979) were in, on, under, beside, back, front, between, whereas the locative prepositions reported by Dromi (1979) were, "in", "to", "on", "from", "beside", "behind" and "under". Basavaraj (1981) observed the acquisition of below, inside, on top, outside, "in front of" at 4-4½ years of age.

Sreedevi (1976) reported the acquisition of transitive and intransitive verbs to be earlier than reflexive and causative ones. Prema (1979) studied children between 5 and 6 years and found that the causative verbal sentences were not used properly. Basavaraj (1981) observed the , use of simple transitive and intransitive verbal sentences in children of 2-2½ years of age and causative verbal sentences at 4½-5 years of age.

The Wh-questions of "what", "where" were found frequently in the younger age group of 1½-3½ years and "how", when "why" in the older group of 3½-6 years (Smith, 1933). Sridevi (1976) studied the children in the age group of 2 years to 2 years-8 months and found that children used where, why and who. Roopa (1980) reported what, where, who: why, how and whose in 4 years old children. Prema (1979) found all types of Wh-questions in 5-6 years children. Basavaraj (1981) reported the occurrence of "why", "who" at 2½-3 years and "what", "how much" at 3½-4 years of age.

The acquisition of "yes-no" type of question has been reported around 2 years of age (Smith, 1932, Menyuk, 1964, Limber, 1973, Sreedevi, 1976, Tyack and Ingram, 1977). Prema (1979) did not observe the tag questions in 5-6 years children which is in contrast to Roopa's (1980) study who reported the use of tag questions in 4-5 years aged children.

The negation "no" for all types of negation at 22 months, "not" at 24 months, "can't" and "don't" at 26 months and "couldn't" at 28 months was reported by Bloom (1970). Prema (1979) in 5-6 years aged children found "ilia" "alia" and "be:da". Negative suffixes with modal auxiliaries and other main verbs were not yet acquired by these children. Basavaraj (1981) reported the occurrence of"ilia" at 2-2½ years, be:da at 3½-4 years and Markers "—Kolde" and "—a:gde;iro:" at 4-4½ years.

With appearance of two word combinations in the child's expressive repertoire, he next works on three word combinations and the establishment of the finer details of language usage. While developing modulations children tend to focus first on those modulations that convey useful semantic information to the sentence. In addition, children tend to focus on those modulations that are grammatically the most consistent in their application in sentences. (Streng, Kretschmer, and Kretschmer, 1978).

After the child is well into possibly producing modulations and modalities, he begins to turn his attention to the development of complex sentences resulting from the conjoining of sentences to one another and embedding of one sentence into another. One complex operation of interest in conjoining involves joining of 2 or more sentences with a conjunction. The conjunction may be after, before, therefore. Prema (1979) reported the use of "matte" "Pause" and "a:mele" as Noun phrase conjunction and |-u| as verb phrase conjunction in 5-6 years aged children. Ingram (1975) found that co-ordinating conjunctions are acquired before subordinate conjunctions. In subordinate conjunctions units which reflect temporality have received much attention. Time is first encoded by use of "and", "or", and then. Later after and before appear. When these concepts finally appear in the usage, the concept has been truly mastered.

LANGUAGE IN THE HEARING IMPAIRED

For many years it was believed that the vocalization development of hearing and hearing impaired infants was the same, at least through the babbling stage. After this period, hearing impaired infants were reported to stop babbling. This notion was primarily based on Mavilya's (1968) data which showed a marked decrease in the number of vocalizations, produced by three congenitally hearing impaired infants over a three month period. The results of Stark's (1982) research do not support the belief that hearing impaired infants simply stop vocalizing upon completing the babbling stage. Differences between the vocalizations of normal hearing and hearing impaired infants do emerge at an early age, but the differences are seen in the phonemic production rather than rate of vocal output.

Phonetic inventories have been obtained from the spontaneous samples of hearing impaired children ranging from 11 months to 7 years of age (Carr, 1953; Sykes, 1940; Stark, 1982). Although these studies report differences in the frequency of specific vowel sounds in the samples of hearing-impaired children studied, the pattern of vowel production is remarkably similar. The vowels most commonly used by young-hearing impaired children include the central vowels (ʌ , ə) and the low front vowels | æ, ɛ | . The extreme high vowels |i, u| occured infrequently in the

children's samples. The exception, to this pattern was reported by Carr (1955) whose subjects used a wider range of vowels. He also compared the relative frequency of each vowel type in the speech of hearing impaired children to that of hearing children and noted that the hearing impaired children used vowels in a manner and degree similar to hearing infants of 11-12 months of age. He also found that hearing impaired children use vowel sounds most often than consonant sounds. Sykes (1940) found that 4 to 7 year old hearing impaired children produced almost half of their vowel sounds in isolation and not in combination with a consonant.

Analyses of consonant production have shown that young hearing impaired children produce front consonants |P,b,m,w| more often than they produce back consonants (Carr, 1953, Sykes, 1940).

The cross sectional data obtained by Stoel-Gammon (1982) on phonological acquisition by hearing children 1.5 to 5.10 years of age and hearing impaired children 2.4 to 7.5 years of age, showed that the patterns of development were similar for the two groups of children, although the rate of development was considerably slower for the hearing impaired children than for the hearing children. The set of substitution patterns common to both groups included

voicing of initial stops, devoicing of final stops, fricatives and affricates, and substitution of homorganie stops fro fricatives. When errors were common to both groups, they were more frequent in the speech of the hearing impaired than in the speech of the normal hearing children.

Some differences in the pattern of development between the normal hearing and hearing impaired children were also observed in the above study. Errors found to be present only in the hearing impaired children's speech were: substitution of a glottal stop for the target phoneme substitution of back consonants |h,k,g| for nonlabial consonants and substitution of the palatal fricative | | for the affricates |t and dz|. The data'also showed that the substitutions af the hearing impaired children deviated further from the target phoneme with respect to manner and place of production than did the substitutions of the normal children. The only substitutions observed in the normal children's productions was depalatization of |S, t , dz| , resulting in a sbustitution of |S | for | | or |ts | for |t , dz|. These substitutions did not occur in the hearing impaired children.

The longitudinal data obtained by Stoet Gammon (1982) revealed that the hearing impaired children passed through three developmental stages. In the first stage, the child

produced a wide variety of substitutions for the target phoneme. In the second stage, there was a narrowing of the range of substitutions followed by substitutions with a single sound. In the third stage, the phoneme was produced correctly.

Although the data suggest that hearing impaired children are simply delayed in phonemic acquisition, we know there are differences in the phonology used by hearing children and hearing impaired children. Additional research is needed in order to delineate the stages of speech acquisition in hearing impaired children. This information is essential to help us better understand why some children develop intelligible speech and others do not.

RESPIRATION

Studies on the respiratory pattern of profoundly hearing impaired speakers have shown that (1) they initiate phonation at too low a level of vital capacity and produce a reduced number of syllables per breath and (2) they mismanage the volume of air by inappropriate valving at the laryngeal level (Forner & Hixon, 1976; Whitehead, 1982).

Hixon, Mead and Goldman (1976) have provided data on respiratory behaviour both in normal and hearing impaired speakers. They have used magnetometers to measure changes in the anterior-posterior dimensions of the chest wall during respiratory control maneuvers and speech. Hearing

impaired speakers were found to be like hearing speakers in some respects and not in others. Respiratory activity for non speech activities like tidal breathing was similar to normal. In addition Forner & Hixon (1977) reported that hearing impaired speakers paused at inappropriate linguistic boundaries either to inspire or alternatively to waste air, and thus they produced fewer syllables per breath unit. Hearing impaired speakers were also found to initiate phonation at inappropriate lung volumes and to speak within a fairly restricted lung volume range.

Whitehead (1982) showed that profoundly hearing impaired speakers who were more intelligiblehad respiratory patterns similar to those of normal speakers. They did produce plosives and fricatives with normal airflow patterns. Less intelligible hearing impaired speakers were often quite variable in management of airflow and they did not differentiate voiced and voiceless cognates aerodynamically. These data suggest inappropriate laryngeal gestures that could reduce airflow.

ARTICULATION

Failure to develop certain sound, failure to differentiate between others, substitution of one sound for another use of schwa | | and other distortions of pronunciations of various sorts are all articulatory difficulties encountered in the speech of the deaf persons.

The failure to produce appropriate vowel sounds has been noted as a problem by several investigators (Hudgins and Numbers, 1942, Angelocci, Kopp and Holbrook, 1964). The problem may take the form of a failure to differentiate one vowel sound from another or the production of diphthongs in place of vowels,

Hudgins and Numbers (1942) studied systematically the production of vowels and diphthongs in the speech of the hearing impaired. They classified the errors according to five major types. These include

1 Substitution of one vowel for another
2. Neutralisation of vowels
3. Diphthongization of vowels
4. Nasalization of vowels
5. Errors involving the diphthongs: either the diphthong was split into two distinctive components or the final member of the diphthong was dropped.

In their study, the first three were among the most common errors.

Boone (1966), Nober (1967), Smith (1975) found that hearing impaired speakers produce back vowels correctly more often than front vowels and low vowels correctly more often than those with mid or high tongue position. Boone, 1966 attributed the lower formant frequency (F2) for the deaf to the tongue being held too far back toward the pharyngeal wall.

In contrast, Stein's (1980) cinefluographic study of vowels produced by hearing impaired speakers showed fronting of back vowels.

With respect to errors of substitution, hearing impaired speakers often confuse the tense-lax distinction or substitute a vowel that is clearly related in articulatory position (Smith, 1975), although there is evidence to the contrary (Hudgins & Numbers 1942, Markides, 1970).

CONSONANTS

Hudgins and Numbers (1942) studied 192 subjects between theages of 8 and 20 years whose hearing loss ranged from moderate to profound. The most common error types observed were:-

(1) Confusion of voiced-voiceless distinction
(2) Substitution of one consonant for another
(5) Added nasality
(4) Misarticulation of consonant blends
(5) Misarticulation of abutting consonants
(6) Omission of word-initial or word final consonants.

One of the most frequent consonant errors found by Hudgins and Numbers (1942) was confusion of voiced-voiceless distinction. In subsequent studies, the direction of this error has sometimes been reported as occurring to the voiced

member of the pair (Caxr, 1953, Smith, 1975) and at other times to the voiceless cognates (Markides, 1970, Nober, 1967). Taken together these studies indicate that coordination of the articulators necessary for voicing contrast is an extremely difficult task for hearing-impaired speakers.

Some evidence from EMG data show that articulatory behaviour of deaf speakers is more nearly like that of hearing speakers with respect to lip movemts than with respect to tongue movements and consequently labial consonants produced by deaf tend to be more intelligible than lingual consonants. This could be due either to the greater visibility of lip movements or too the possibly greater inherent complexity of tongue gestures (McGarr and Harris,1980).

Nober (1967) classified the consonants in terms of place of articulation in accordance with relative frequency with which they were correctly articulated by 46 deaf children, from best to worst: bilabial, labiodental, glottal, linguadental, linguapalatal and lingua alveolar. He also reported the following order for articulatory competence in terms of manner of articulation, again from best to worst glides, stops, nasals and fricatives.

- Nonnasal phonemes were reported by Hudgins and Numbers (1942) to be nasalized and nasal consonants were often produced as stops. Other errors in manner of articulation have also been noted. Smith's hearing impaired children most often produced palatal plosives, fricatives, affricates and nasam |ŋ|. Glottals were frequently substituted for stops and fricatives showed a high rate of substitution to, but not from the plosives. Affricates were never substituted for other consonants but tended to be substituted by one of their components, usually the plosive component. Bilabial plosives, the glides, and the fricatives |f| and |V| were often produced correctly.

The articulatory movements for both alveolar and velar sounds are visually obscure. More errors of the alveolar and the velar sounds in a deaf child could be for the following reasons, in addition to the above:

(1) Alveolar sounds are produced in the middle than in the back of the oral cavity. Because of this, precise positioning of the articulators is necessary in order to differentiate correctly all the sounds with a medial place of articulation (Osberger & McGarr (1982).

(2) The activity of the velum produces very little paroprioceptive feedback (Nickerson, 1975).

In any event, a consistent finding is that hearing impaired children correctly produce the highly visible phonemes more often than the phonemes which are not articulated with aiahigh degree of visibility.

Another frequently reported error in the speech production of the severely and profoundly hearing impaired is the omission of a phoneme. It may occur in the initial and/or final position of words, also reported as non function of releasing or arresting consonants, respectively (Hudgins and Numbers 1942, Markides, 1970, Smith, 1975).

Hudgins and Numbers (1942) reported that omission of initial consonants was more common than omission of final consonants. The consonants most frequently omitted from the initial position of words included |h,l,r,y,th,S|. Turning to final consonants, the authors point out several error patterns; dropping of consonants completely, releasing the consonants into the following syllable, incomplete production whereby the phoneme loses its dynamic properties and becomes merely a passive gestures. The final consonants omitted in their study were |l,t,S,Z,d,g,K|. These results are in agreement with Geffner (1980) who analyzed the spontaneous speech samples of young hearing-impaired children.

In contrast to Hudgins and Numbers (1942) other studies (Nober, 1967, Markides, 1970, Smith, 1975) have reported a greater number of consonants omitted from the final position of words than from either the initial or medial position.

In the consonant cluster errors, Hudgins and Numbers (1942) reported two forms: one or more components of the cluster were dropped or an adventitious phoneme, usually the || was added between the elements. Smith (1975) tested consonant blends |P,t,K| and |S| in the speech production of older hearing impaired children (13-15 years old). Here again, there was frequent omission of one or more element in the cluster. In fact, a phoneme in the blend environment was more likely to be omitted than the same phoneme occurring in a nonblend environment.

SYNTAX

A large portion of the studies describing syntax acquisition by the hearing impaired focuses on written language. (Cooper, 1967, Odon, Blanton & Nunnaly, 1967, Quigley, Power & Steinkamp, 1979, Wilbur, Quigley and Montanelli, 1975, Quigley, Montanelli and Wilber, 1974). Other methods available are the spontaneous speech sample and the imitated language.

Brannon and Murray (1966) analyzing the spoken language sample of 50 sentences from 30 normal and 30 hearing impaired children reported that the hard of hearing were significantly worse than the normals in measures of structural accuracy, but they showed no statistically significant difference in the productivity measure of words per sentence, i.e., the mean sentence length was consistent with Goda's (1959) group of deaf children.

Brannon (1968) suggested that a moderate hearing loss did not significantly impede the acquisition of all word classes but only adverbs, pronouns and auxiliaries. On the other hand profound impairment limits the output of word tokens in all classes. The author has also reported that the language of the hearing impaired contained more naming words and fewer abstract words. So, the deaf learned nouns more easily, since they could be associated with tangible objects. Whereas an adverb is linked in meaning to another word and does not have a concrete referent as nouns do.

Do deaf children go through the same developmental stages as normals or do they differ? Research into phrase structure rules of spoken english indicates that deaf children did acquire many of the phrase structure rules of English much in the same way as do normally hearing children but in a delayed fashion with some exceptions of deviant rule acquisition. (Pressnell, 1973, Wilcox and Jobin, 1974). For instance the growth patterns of normally hearing and hearing impaired children of comparable language ages have been studied showing the groups to be similar particularly in the sequence of their development. (Wilcox and Jobin, 1974). When such groups of children were given a sentence, repetition task, the hearing impaired groups of children frequently Violated the syntactic integrity of a sentence,

whereas the normally hearing subjects did not (Sarachan-Deily Love, 1974). In such a test situation, normally hearing children tended to use synonyms for test lexical items substitutes that preserved the original semantic intent of the sentence. In contrast, hearing impaired children produced agrammatical sentences or inserted words that seriously distorted the semantic intent of the sentence. In another study (Orton & Blanton, 1967) when children were presented with a series of English word strings that varied in their grammatical correctness from completely correct to totally agrammatical, grammaticality did not assist them in remembering these strings, which was not true of the performance of hearing subjects. These authors considered it a evidence of lack of depth in language acquisition and not evidence of deviance.

What is the order of difficulty of various syntactic structure for deaf children? Is it similar to the order of difficulty for hearing children? And is it predictable from theories of transformational generative grammar? Quigley, Power and Steinkamp (1977) found that the order of difficulty of various syntactic structure was similar but not identical for both deaf and hearing children. Negation,. conjunction and question formation were least difficult structures for deaf and hearing children. This is predictable from transformational generative grammar. They

involve fewer transformations from deep structure to surface structure than do the others. Transformational growth in deaf children also seem to parallel to that of normally hearing children with some exceptions. Deaf children have been observed to encode temporal sequences in precisely the same way that younger hearing children do, namely by using "and" to conjunction descriptive sentences in linear time frame (Wilbur, Quigley and Montanelli, 1975). In contrast when using "and" in conjunction reduction sentences, children, unlike normally hearing children, eliminated only item in the second sentence that appeared in the first sentence resulting in incorrect sentences such as "The dog chased the cat and ran away." Instead of "The god chased the cat and the cat ran away."

Quigley, Power and Steinkamp (1974) also showed that the difficult structures for deaf children were pronominalization, the verb system, complementation and relativization. Transformational generative grammar would predict that the recursive processes of relativization and complementation would be difficult for deaf children because of the number of transformations involved and partly because of departure from the S-V-0 surface order which deaf students tend to impose on sentences. Because of deaf children's overcommitment to S-V-0 order in sentences they tended to treat the object of the subject embedded relative

relative clause as the subject of the main verb. Thus, in a sentence "The woman who hit the man left, a deaf child would think that the man, not the woman, who left. These latter trends were not noted among the normally-hearing subjects.

Deaf students found the disjunction and alternation tests to be the most difficult while hearing had much less difficulty with it. This great difficulty may be explained by the complex semantic nature of sentences containing these structures (Quigley, Power and Steinkamp, 1977)•

Thus the order of difficulty for deaf students of syntactic structures studied is what would be predicted from the theory of transformational generative grammar.

Studies of pragmatic growth in deaf children as compared with normally hearing children have been limited (Gorrell, 1971, Hoemann, 1972) when deaf children were asked to communicate specific information about a task to other deaf children, it was found that the listener received minimal information (Hoemann, 1972). The deaf children tended to keep repeating himself with the expectation that simple repetition would make the information understandadle.

In another study (Gorrell, 1971) triads of hearing impaired children were observed interacting with one another and their behaviours were compared to those of triads of normally hearing children interacting in the same setting but

at different times. The amount of interchange was less and it was more directive or physical. Hearing children tended to use modelling technique and also more direct verbal commands. The deaf children were less comfortable in social interchanges and lacked basic communication or social interaction skills with which to establish relationships with ohters. When interaction was developed it tended to be on a physical basis rather than relying on more socially approved methods of demonstration and verbalization.

SUPRASEGMENTAL ASPECT

Timing and Rhythm:

Poor timing has been considered a major cause of the generally poor intelligibility of the speech of the deaf. Forner and Hixon (1977) reported that hearing impaired speakers paused at inappropriate linguistic boundaries either to inspire or alternatively to waste air, and thus they produced fewer syllables per breath unit. The rate of speech of deaf is slow, because they tend to insert more pauses of longer duration in running speech than do hearing speakers.

Deaf speakers failed to make the difference between the durations of stressed and unstressed syllables sufficiently large (Stevens et al, 1978, Mc.Garr and Harris, 1980).

In the literature, the speech of the hearing-impaired has teen reported to be slow and laboured. The reduced speaking rate has been reported to be due to the excessive prolongation of speech segments and the insertion of pauses. Prolongation of speech segments may be present in the production of phonemes, syllables and words. Calvert (1961) made measurements of phonemic duration in the speech of the hearing impaired by spectrographic analysis of bi-syllabic words. The results showed that hearing impaired speakers extended the duration of vowels, fricatives, and the closure period of plosives upto five times the average duration for normal speakers. In a later study, Osberger and Levitt (1979) observed that syllable prolongation in the speech of the hearing-impaired was due primarily to prolongation of vowels.

Hudgins (1937) found that deaf children used short, irregular breath groups often with only one or two words, and breath pauses that interrupted the flow of speech at inappropriate places. In addition, excessive expenditure of breath on single syllables was observed.

Brannon, 1964 compared the tongue movements of deaf and hearing children by means of electronic glossal transducer. The most conspicuous deviation thus divulged was the extreme slowness with which the deaf children moved

the tongue from one posture to another. In addition, the added unnecessary motions of the tongue. Timing errors extend to phonemic as well as prosodic contrasts.

Hudgins and Numbers (1942) reported the following errors in rhythm:

1. Sentences broken up into unusual breath groups.
2. Word accents misplaced and normally unaccentuated syllables.
3. Adventitious syllables added.
4. Syllables omitted from polysyllabic words.

The information presented above shows that hearing-impaired speakers distort many temporal aspects of speech. These distortions such as excessively prolonged speech, are perceptually prominent and disrupt the rhythmic aspects of speech.

PITCH AND INTONATION

The difficulty that the deaf speaker has with the pitch are of two general types (1) Monotone voice (2)Excessive or erratic pitch variation (Nickerson, 1975).

Several investigators noted that deaf speakers were apt to have a relatively high average pitch or to speak in a falsetto voice. (Angelocci, Kopp & Holbrook, 1964, Boone, 1966).

Deaf speakers often tend to vary the voice pitch much less than do hearing speakers. A particular problem is that of inappropriate or insufficient pitch change at the end of a sentence (Sorenson, (1974). A terminal pitch rise—such as that occurring at the end of some questions may be even more difficult for a deaf child to produce than of a terminal fall (Philips, Remillard, Bass and Pronovast, 1968). Deaf speakers who tend to produce each syllable with equal duration may also generate a pitch contour on each syllable. Such speakers may fail to indicate variations in stress either by changing the syllable deviations or by modifying the pitch contours on the syllables.

It has been suggested that some of the unusual pitch variations that occurred in the speech of deaf persons could result from attempts by the speaker to increase the amount of proprioceptive feed back that they received from the activity of producing speech. Martony (1968) and Willemain and Lee (1971) have observed that deaf speakers sometimes tend to begin a breath group with an abnormal high pitch and then to lower the pitch to a more normal level. Willemain and Lee (1971) also noted that the average pitch of deaf speakers sometimes increased with the difficulty of the utterance. They hypothesized that high pitched tones as a way of providing kinesthetic cues

concerning the onset and progress in voice. A similar hypothesis was put forth by Angelocci, Kopp and Holbrook (1964) who found that F_0 varied more from vowel to vowel when the vowels were produced by some deaf speakers. These investigators attributed this type of abnormal pitch variation to efforts by the deaf speakers to differentiate vowels by varying the F_0 and amplitude rather than the frequency and amplitude of the formants. In physiological terms, he is achieving vowel differentiation by excessive laryngeal variations with only minimal articulatory variations.

VOICE QUALITY

The literature abounds with references to the voice quality of the deaf and some writers have attempted to describe its characteristics. The studies that have been reported appear to agree that "deaf voice" is identifiable by sophisticated listeners. Calvert (1961) found that teachers of the hearing impaired could reliably differentiate the voices of profoundly hearing impaired speakers from normal speakers, provided that the speech samples contained articulatory movement, such as that required for the production of diphthong or a CVC syllable. Productions with negligible arilculatory movements, such as sustained vowels failed to provide the experienced listeners with the necessary information for the correct identification of speakers. On the

basis of these findings Calvert (1961) concluded that the distinguishing characteristics of the speech of the profoundly hearing impaired are associated with articulatory movement over time rather than with voice quality perse.

In a recent study, Monsen (1979) quantified some of these characteristics. Acoustic Analyses of duration, fundamental frequency and phonatory control were correlated with ratings of voice quality for monosyllables produced by young hearing impaired children. The results of this study showed that the fundamental frequency contour appeared to be the most general acoustic characteristic which differentiated the children with better voices from those with poorer voice. He concluded that while other deviations such as poor vowel quality, breathiness, and duration errors may exert a strong influence on perceived voice quality in individual cases. Prom the results of this study and those of Calvert (1961), it appears that the distinctive voice quality of the hearing impaired may be due to both poor articulatory timing control and inadequate control of fundamental frequency.

ASSESSMENT Off SPEECH IN CHILDREN

The evaluation component of a child's language programme typically includes procedures for assessing the child's language abilities to provide diagnostic information and to identify and describe areas of deficit (iiees and Shulman, 1978).

According to Emerick and Hatton (1974), "diagnosis demands a unique blending of Science and Art". The scientific aspect involves test data and other measurements, while the artistic aspect consists of clinical impressions derived from direct observations of behaviour and previous experience. The combination of both scientific and artistic information results in a viable diagnostic attitude.

Over the recent years, clinical practice has expanded to include various standardized and non standardized procedures to measure children's comprehension and production tasks. Various methods employed in the assessment task are:

- Standardized tests
- Naturalistic description
- Clinical observation
- Interview technique
- Questionnaires

Standardized Tests;

Standardization refers to the establishment of a specified prodedure for obtaining and analyzing information in an effort to ensure objectivity, reliability and validity (Woolfolk and Lynch, 1982).

The standardized tests used with children to assess speech and language behaviour are shown in the chart.

Grammatical Emphasis		Develtl.Emphasis		Cognitive Emphasis		
Comprenension	Production	Combined		Comprehension	Production	Combined
Assessment of children's language comprehension Miller Yader Test of grammatical comprehension Test for Auditory comprehension of language	Bellugi's Negation Test Berry Talbolt Explanatory Test of grammar Developmental sentence Analysis Carrow's elicited language Inventory Language,sampling analysis Eg. Training Language,Assessment remediation & screening procedure	Communication sequence inventory. Northwestern syntax screening test Hichigan picture language inventory Test of psycholinguistics Syntax screening test in Tamil acquisition of syntax in Kannada	Communication Evaluation Chart Denver Developmental Screening test Houston test for language development Preschool language scale ging language Reynall Developmental language Test for Scale Utah test of language development Verbal language developmental scale	Full range picture vocabulary test Peabody picture vocabulary test Vocabulary comprehension scale	Environmental language inventory Environmental prelanguage battery	Basic concept inventory Boehm test of basic concepts Illinois test of psycholinguistics abilities. Parson's language sample Children' language process Inventory

(Hutchinson et al, 1979)

NATURALISTIC DESCRIPTION

In 1960, Brown and his colleagues began their work on the analysis of children's language produced in naturalistic setting - generally in the child's home. This was found to yield a wealth of information. Bloom and Lahey's (1978) assessment procedure was based primarily on the verbal output of the child. They viewed both the child's specific abilities(perceptual, conceptual and feedback components) and "clinical category" (Hearing impairment, MS. etc) as outside of the domain that provided the framework for assessment and intervention.

Miller (1978) attempted to identify language disorders using a developmental data base. He focussed on the definition and description of linguistic behaviour. He included evaluation of comprehension and production tasks.

Muma (1978) presented a philosophy of descriptive analysis that included evaluation of cognition, linguistic and communicative systems and processes.

The acquisition studies reported in India are mainly of the naturalistic descriptive type (Thirumalai, 1977; Sreedevi, 1976; Prema, 1976; Roopa, 1980).

CLINICAL OBSERVATION

This includes observing the child's behaviour during the clinical situation. It includes observation of the nonlinguistic variables such as reduced attention span, distractibility, lability, rapport, disorientation, impulsivity etc. This method supplements the information in the standardized lists and gives full picture of an individual'.

INTERVIEW TECHNIQUE

The informant is interviewed of the child's speech, language and overall development. This method can be used independently or in conjunction with other procedures. The responses given by the informant can be taperecorded or written down. The receptive expressive emerging language scales for children between 0 and 3 years uses the parental interviewing technique. The parents are interviewed of their child's speech and language developmental milestones.

QUESTIONNAIRES

A set of questions are used to obtain the child's speech and language development.

Elliott and Ambruster (1967) administered the questions they had framed to parents whose children were enrolled in a school for the deaf, questionnaire responses analyzed showed major differences between a group of severely hearing impaired and another group also severely hearing impaired and with additional learning problems.

Asbed et al (1970) conducted a two stage screening program, with parents doing the first stage with the aid of a check list. The second stage consisted of testing by the professionals of those children whose parents had answered the questionnaire. The first stage yielded 58% of communicative disorders. Results of the second stage, an abbreviated clinical examination, sampling speech, language, auditory behaviour and developmental history indicated a high degree of association between low physical measurements and communicative problems.

Roman (1980) compared mother's description of their preschool children's language with the child's demonstrated skill. Results indicated that parents could identify their preschool children's language skill. The correlation was found between the language ages derived from a parent informant scale and language ages derived from tests administered directly on children.

Gleason and Blood (1982) examined the parents' perception of their child's hearing abilities. They prepared a 17 item questionnaire. They found that 4% of the parents responded to the question "Does your child have trouble hearing?". Subsequent Audiological testing found 1% of the children had hearing handicap. Otological examination revealed that a significant number of children who were found to have abnormalities of the eardrum had been reported by their parents as having trouble hearing.

Kessler (1983) has reported a case, where a parent diary was used as a component of an assessment of the child's expressive language. The author has found this method very useful.

The above studies support the contention that parents can be reliable sources of information regarding their child's speech, and language abilities.

It is evident from the review that no study has yet been reported in India which involve the parents in the assessment programme of their child's speech. The acquisition studies reported in India are mainly based on spontaneous speech samples (Thirumalai, 1972; Sreedevi, 1976; Prema, 1979; Roopa, 1980). Collecting spontaneous speech samples is both time consuming and laborious, This

limits the number of subjects taken for a study. Pew tests developed in India needs to be administered by the professionals to find out the language development in the child (Karanth, 1980, Basavaraj, 1981, Sudha, 1980). This limits the types, variety and sponteneity of responses. An assessment programme involving the parents would enable the parents to have an accurate knowledge of their child's speech, which in turn would give them the information whether their child has progressed or has remained the same.

The present study has attempted to fulfil the aeed to some extent. The procedure of the study is described in the following chapter.

METHODOLOGY

The study was designed to find out, if the parents of hard of hearing children and normal children are able to assess their children's speech, using the questionnaire method.

Development of Questionnaire:

The questionnaire, planned to elicit information from parents. Identifying information included child's name, age, sex, number of siblings and child's order of birth. Information about family background included items about parents name, education, occupation and socio-economic status. It also included information about the mother-tongue, languages known and languages spoken with the child.

The questionnaire consisted of both closed and open set of question formats. Based on the literature, the following areas significant for speech development were included.

- Movement of the articulators
- Respiratory Process
- Sounds, words and sentences, the child used
- Intonation
- Intelligibility: By asking parents of others opinion of their Child's speech.

•Intelligibility: By asking parents of others opinion of their child's speech

•Parents opinion about their child's speech.

The questions were prepared. It consisted of X questions, covering the above mentioned areas. The questionnaire was first prepared in English and then translated into Kannada (See Appendix "A").

The questionnaire was given to a group of speech pathologists and Audiologists to check for the following in terms of:

•its length

•clarity of the instructions and the questions.

Ten parents were given the Kannada and the English questionnaires. This was to find out if the questionnaire in one language was more difficult than the other. It was observed that questions in both the languages were equivalent.

The questionnaires were then distributed to parents to know how efficiently the questions would yield the expected and required information.

Based on the general response patterns of the parents, the questions were modified. The revised set of questions (See Appendix 'B') consisted of XVI questions. The process followed for the second set of questions was similar to that of the first version.

SUBJECTS

Either of the parent who knew to read and write, either Kannada or English were selected as subjects for the study. These parents were volunteers and formed a heterogenous group with respect to linguistic, socio-economic and religious background.

The first set of questions were given to parents of normal children. Sixty six completed forms were received. The children's age ranged between 0-8 years with mean age being 3,2 years and median age 3 years.

The revised set of questions was given to two groups of parents:

Groups	No. of completed forms received	Mean age in years	Median age in years
Normal children	52	4.5	5
Hard of hearing children	13	8.2	8

Normal Children: Identified by speech pathologists and Audiologists as having no speech problem.

Hard of hearing children: Those who had been identified as such and who wore hearing aids. They also attended the speech therapy programme in a speech and hearing centre.

PROCEDURE

Based on the above selected criteria, the following number of questionnaires were given to parents.

	Groups	Total No. of questionnaires given	No. of completed forms received
I version	Normal children	80	66
II version	Normal children	40	52
	Hard of hearing children	15	13

The questionnaires were distributed individually to parents through the Speech and Hearing professionals coming from various parts of Mysore city. The parents were given the choice to choose either the English or the Kannada version of the questionnaire. The parents were instructed to answer the questions that were applicable to their child's speech behaviour. As the

questionnaire was given to the parents, the child's speech was assessed by speech and language pathologists. Their observations were recorded and later compared with the parents responses. Two forms were rejected since the parents' responses did not agree with the recorded observations of the speech and language pathologists.

ANALYSIS

A descriptive analysis of the data was done. Parents responses of normal children and hard of hearing children were analyzed and compared. The results are given in the following chapter.

RESULTS

The results of parents responses of normal children and hard of hearing children can be classified under two headings: (1) observation of parents responses to the questions (2) parents report. These will be discussed separately.

Observation of parents' responses to the questions

1. (a) The normal children could perform on all items in question II at 2-10 years and onwards.
   (b) The responses of the hard of hearing children in the age group of 4.2 years and above were as normals of the corresponding age for the first eight items in question II.
   (c) Of the thirteen hard of hearing children the responses were negative for the last two items in question II for seven hard of hearing children.
2. The hard of hearing children who were available in the age group of 4.2 years and above could perform as normals of the corresponding age on all the items in question III (i.e., phonation, duration, blowing, chewing and sucking).
3. The normal children of four years and above scared 100% on all the speech sounds given in question (IV) (See Table I).

TABLE-I

Speech sounds	0-11 Months	1.0-1.11Y	2.0-2.11Y	3.0-3.11Y	4.0-4.11Y	5.0-511Y	6.0-6.11Y
a	66.67%	100%	100%	100%	100%	100%	100%
i	33.33%	100#	100%	100%	100%	100%	100%
e	33.33%	100%	100%	100%	100%	100%	100%
o	66.67%	100%	100%	100%	100%	100%	100%
ai	0%	100%	100%	100%	100%	100%	100%
au	0%	100%	100%	100%	100%	100%	100%
ya	0%	100%	100%	100%	100%	100%	100%
ba	0%	100%	100%	100%	100%	100%	100%
va	0%	100%	100%	100%	100%	100%	100%
Pa	33.33%	100%	100%	100%	100%	100%	100%
ta	0%	100%	100%	100%	100%	100%	100%
ta	0%	0%	71.42%	87.5%	100%	100%	100%
la	0%	33.33%	100%	100%	100%	100%	100%
la	0%	66.67%	85.71%	100%	100%	100%	100%
ra	0%	0%	85.7%	87.5%	100%	100%	100%
sa	0%	0%	85.71%	100%	100%	100%	100%
sa	0%	0%	71.42%	87.5%	100%	100%	100%
ca	0%	33.33%	85.71%	100%	100%	100%	100%
ja	0%	33.33%	71.42%	100%	100%	100%	100%
ka	66.67%	66.67%	85.71%	87.5%	100%	100%	100%

Table-I contd...

Speech sounds	0-11 months	1.0-1.11 Y	2.0-2.11 Y	5.0-5.11 Y	4.0-4.11Y	5.0-5.11Y	6.0-6.11 Y
ga	0%	66.67%	85.71%	87.5%	100%	100%	100%
ma	66.67%	66.67%	100%	100%	100%	100%	100%
aa	0%	66.67%	85.71%	100%	100%	100%	100%
Kripa	0%	0%	42.85%	75%	100%	100%	100%
Sknew	0%	0%	42.85%	75%	100%	100%	100%
Stamp	0%	0%	42.85%	75%	100%	100%	100%
Vicks	0%	0%	42.85%	87.5%	100%	100%	100%
Prarri	0%	0%	57.14%	75%	100%	100%	100%
Riksha	0%	0%	71.42%	75%	100%	100%	100%
Grass	0%	0%	42.85%	75%	100%	100%	100%
Brush	0%	0%	57.14%	75%	100%	100%	100%
Blade	0%	0%	57.14%	87.5%	100%	100%	100%

Table-II

Speech sounds	4.0-4.11Y	6.0-6.11Y	7.0-7.11Y	8.0-8.11Y	9.0-9.11Y	12.0-12.11Y	13.0-15.1H
a	100%	100%	100%	100%	100%	100%	100%
i	100%	100%	100%	100%	100%	100%	100%
e	100%	100%	100%	100%	100%	100%	100%
0	100%	100%	100%	100%	100%	100%	100%
ai	-	100%	100%	100%	100%	100%	100%
au	-	100%	100%	100%	100%	100%	100%
ya	-	100%	50%	100%	100%	100%	100%
ba	100%	100%	100%	100%	100%	100%	100%
va	-	100%	50%	100%	100%	100%	100%
pa	100%	100%	100%	100%	100%	100%	100%
ta	100%	100%	100%	100%	100%	100%	100%
ta	-	100%	50%	100%	100%	100%	100%
ta	—	100%	100%	100%	50%	100%	100%
la	-	100%	100%	100%	100%	100%	100%
ra	-	100%	100%	100%	100%	100%	100%
sa	-	100%	100%	100%	100%	100%	100%
3a	-	100%	100%	100%	100%	100%	100%
ca	-	100%	50%	66.67%	100%	100%	100%
ja	-	100%	50%	100%	100%	100%	100%
ka	-	100%	100%	100%	100%	100%	100%

...contd

Table-II contd...

Speech sounds	4.0-4.11Y	6.0-6.11Y	7.0-7.11Y	8.0-8.11Y	9.O-9.11Y	12.0-12.11Y	13.0-1'3.
ga		100%	100%	100%	100%	100%	100%
ma		100%	100^	100%	100%	100%	100%
na		100%	1000	100%	100%	100%	100%
Kripa		0%	*0%*	66.67%	50%	0%	50%
Skrew		0%	*0%*	66.67%	0%	0%	50%
Stamp		0%	50%	66.67%	50%	0%	100%
Vicks		0%	50%	66.67%	100%	0%	100%
Pram		0%	50%	66.67%	50%	0%	100%
Riksha		0%	0%	66.67%	100%	0%	100%
Grass		0%	0%	66.67%	50%	0%	100%
Brush		0%	0%	66.67%	50%	0%	50%
Blade			50%	66.67%	100%	0%	100%

In no age group included could the hard of hearing children score 100% on all the speech sounds. The children had difficulty with one or more speech sounds in all the age groups. Less than 100% success was seen mostly on the cluster sounds (See Table II).

4. For question VII, IX, X (i.e., for nouns, adjectives, prepositions and verbs) the responses were more descriptive (i.e., as produced by the child) in the hard of hearing group than in the normal group,

5. No differences were/observed between the two groups for the items in the question V, VI, XI (1), XI (2), XI (3).

6. For question XII, parents of normal children reported "where" and "what" questions at 2 years of age and all wh-questions at 3 years of age. In the hard of hearing group responses were variable. These variables were not consistent with age.

7. In both the groups, most of the children were found to have higher scores on object naming task compared to other items included in the question VIII such as body parts, colours etc.

8. The differences for the hard of hearing and the normal group was most marked for the question XIV.

The minimum age when the child started humming and singing songs was found to be 2 years in the normal children.

Of the thirteen hard of hearing children

(i) The responses were negative for singing prayers and poems in six of the children

(ii) Three children were able to repeat poems on stimulation

(iii) Three children could say the poems and prayers spontaneously.

(iv) The responses were "No" for singing film songs in all the thirteen hard of hearing children.

PARENT'S -REPORT

(1) For question I, mothers of normal children in **the** younger age group i.e., less than one year reported that they could identify their children's cry depending on the situation. Similar information could not be obtained from the parents of hard of hearing children as **the** number did not include parents of children in the very young age group.

(2) Parents of normal children reported that, after answering the questions they could observe their child's speech behaviour more closely and meaningfully.

Parents of the hard of hearing children reported that a checklist as the present one for the parents would be helpful in evaluating the child's progress periodically and also could be used as a baseline for the intervention programme.

Examining the questionnaire revealed the child's level of speech. It was possible to identify whether the child could communicate with isolated sounds oil the morphological level. The parents of the younger children responded to the first four questions. They responded to atleast some items in each of the four questions. While parents, whose children were communicating beyond isolated sounds, responded to other questions in the questionnaire.

As discussed earlier, in the hard of hearing group, based on the parents responses, it was possible to identify

(1) The sound substitutions, and

(2) The grammatical categories which had not been acquired by their children.

DISCUSSION

The results will be discussed under two headings:

(1) Observation of parents' responses to the questions

(2) Parents report.

Observation of parents' responses to the questions:

(1) In the literature, the speech of the hearing-impaired has been reported to be slow and laboured. Failure of a majority of hard of hearing children on the last two items (items for diadochokinetic rate) in question II could be attributed to the reduced speaking rate. Calvert (1961) showed that hearing impaired speakers extended the duration of vowels, fricatives and closure period of plosives up to five times the average duration of normal speakers. In a later study, Osberger and Levitt (1979) observed that syllable prolongation in the speech of the hearing impaired was due primarily to prolongation of vowels. Hudgins (1946) found that hearing impaired children used short, irregular breath groups often with only one or two words, and breath pauses that interrupted the flow of speech at inappropriate places. In addition, there was excessive expenditure of breath on single syllables, fake groupings of syllables and misplacements of accents.

(2) The observation that hard of hearing children could perform as normals, indicates that hard of hearing children had no difficulty in performing tasks required by the items of question III. Since these items included motor activities which could be observed and imitated, and also other types of feed back could be made use of like tactile, kinesthetic, visual etc.

(5) Normal children aged four years and above scored 100% on all sounds listed in question IV. These results are in agreement with the studies, of Menyuk (1971) and Templin (1975). Menyuk (1971) reported the mastery of the following consonants by age four: |b|, |m| , |n|, |f|, |w|, |h|,|P|, |gl, |k|, |j| and |l|. In addition to these individual speech sounds, the following initial consonant clusters are reported by Templin (1975). |St- |,|Sm-|. |Sn-|, Pr-|, |Dr-|. The results obtained for question IV for the hard of hearing group agrees with the findings of Hudgins and Numbers (1942). They reported misarticulations of consonant blends. Their study together with other studies (Nober 1967, Markides, 1970) suggests that co-ordination of the articulators necessary for voicing contrast is an extremely difficult task for the hard of hearing children.

4. The descriptive responses in the hard of hearing group for question VII, IX, X (i.e. for nouns, adjectives, prepositions and verbs) could be because the parents of hard of hearing children are in touch with the Speech and Hearing professionals which might have made them more sensitive to their children's speech and are normally accustomed to giving such information to the professionals.

Based on their responses it was possible to identify
(1) the sound substitutions and
(2) the grammatical categories which had not been acquired by their children.

5. The performance was equal in Doth the groups for items in question V, VI, XI(1), XI(2), XI(3). This indicates that hard of hearing children are performing as normals on these items.

6. For question XII, parents of normal children have reported Wh-question usages at three years of age. Roopa (1980) reported, use of "what", "Where", "who", "Why", "how" and "whose" in four year old children. Basavaraj (1981) reported "Why" and "who" in the $3^1/_2$-4 years age group and "what" and "how much" in the $4^1/_2$-5 years old children. It should be noted that Roopa (1980) used spontaneous speech elicitation method and Basavaraj (1981), her test TASK to find out the acquisition age for the Wh - questions. *Even* though in the present study

present study the age for the Wh-questions has been reported based on the parents' responses to the questions the results seem to be in good agreement with the reports of other investigations where the professionals did the evaluations.

7. On the vocabulary, items parents in both the groups have reported more vocabulary on object naming task compared to other items included in the question VIII. In view of Nelson's (1975) report, names for the salient objects and events in a child's world constitute the major portion of his vocabulary. It is also possible that parents are able to observe this item to a greater extent compared to other items.

8. The marked differences between the two groups for question XIV could bi because the parents of hard of hearing children concentrate more on the immediate" communication needs of their children rather on other aspects like music. It is also possible that the responses might have reflected the stereotyped bias of the public over the hard of hearing children.

PARENTS REPORT

The parents of normal children reported that after answering the questions they could observe their children's speech behaviour more closely and meaningfully. This indicates that as information become available to the general public and as parents enter the professional field in increasing numbers, they can be called upon in the early identification of the speech problem in children.

The parents of the of hearing children reported that a checklist as the present one for the parents would be helpful in evaluating the child's progress periodically and also could be used as a baseline for the intervention programme.

As the parents have indicated, the questions can be used with children; to note the progress they have made in speech, before and after wearing hearing aids and also could be used as a baseline for the intervention programme.

Examining the questionnaire revealed the child's level of speech. To this extent objective of the study is fulfilled and further studies can be taken up. Based on the information given by the parents further investigations can be carried out.

From the discussion, we see that the information provided by the parents are in agreement with the studies reported in the literature. Hence the following conclusions seem warranted.

*It is feasivle to collect information from parents; about their children's speech development through the questionnaire method.

* It is possible for the professionals to know the child's level of speech based on the information given by the parents.

SUMMARY AND CONCLUSIONS

The study was designed to find out, if the parents of haxd of hearing children and normal children are able to assess their children's speech, using the questionnaire method.

To begin with, questions were given to 66 parents of normal children. Based on the responses obtained from the parents, the questions were modified. The revised set of questions were given to 40 parents of normal children and 15 parents of hard of hearing children.

The questionnaires were distributed to parents through the Speech and Hearing professionals. As the questions were given to the parents, child's speech was examined by the Speech and language pathologists.

A descriptive analysis of the data was done.

On examination of the parents' responses, the following conclusions seem warranted.

*It is feasible to collect information from parents, about taeir children's speech development through the questionnaire method.

*It is possible for the professionals to know the child's level of speech based on the information given by parents.

*Based on the parents' responses it was possible to differentiate the speech of hard of hearing children and normal children.

RECOMMENDATIONS FOR FUTURE RESEARCH

1. The questions can be administered on larger normal population to different age groups representing different linguistic background.

2. The questionnaire can be administered on other speech disordered children. Eg: MR, CP, BD, etc.

3. Similar questions in other Indian languages can be constructed and used,

4. The present questions to be modified and made more specific to the language.

5. The grammatical categories and other structures to be dealt in greater detail.

6. A cassette version of the questionnaire can be made and the difference in responses for the recorded and the questionnaire version can be found out.

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A P P E N D I X - A

Child's Name	:
Sex	:
Age	:
No. of brothers & Sisters	:
Birth order of child	:
Father's name	:
Age :	
Education	:
Occupation	:
Mother's name	:
Age	:
Education	;
Occupation	:
Total family income	:
Mother tongue	:
Languages known	:
Lanauage/s spoken with the child	:

(Note: Use extra paper if needed)

Mark "Yes" against each item, if your child does the followings, otherwise mark "No"

I a) Opens the mouth

b) Makes the lips as in "0" and "U"

c) Closes the lips tightly

d) Stretches the tongue outside

e) Pulls the tongue inside

f) Moves the tongue from one corner to another inside the mouth

g) Touches the upper lip with the tongue

h) Touches the lower lip uith the tongue

i) Says papa - - quickly and repeatedly

j)Says patapata - quickly and repeatedly

k) Says pataka pataka - - quickly and repeatedly

II. Can your child do the following

a) Says aa - - -ii- - -ee- - uu - - oo for a longer time

b) Such liquids through the straw

c) Blows bubbles uith soap water, blouing candles, balloons etc.

d) Chew hard things like chapati etc.

III. When the child cries, can you make out uhether he is

a) hungry

b) frightened

c) discomfort

d) pain

If so how?

IV. Indicate the sounds your child makes similar to the examples given in the list.

Mark / in the columns applicable

	Sounds made by your child own	On his	when asked to	has
1. aa, ii, ee, oo, uu				
2. ai ou				
3. ka, ki, ge, go, gu.				
4. pa, pi, bu, pe, bo				
5. ta, li, ru, ce, jo				
6. si, se, shi, shu, sho				
7. fi, fo, ve, vu, ve. . . • • •				
8. mi, mo, na, na, nu. . . • . •				
9. kri, pru, tra, gro, kra. . . .				

V. 1) Can he say only the sounds?

2) Says the sounds instead of the word

Ex: On seeing the "dog" says "bou bow"

3) Uses one word for two or more words:

Ex: Vava for "water", "Milk", "Juice" - give examples

4) Says the sounds as part of uord

Ex. "fa" for flower

5) Says one uord for the other

Ex: "lala" for "tata"

6) Combines the sounds to form words:

Give examples

7) Can he use the words

i) Correctly

ii) On seeing the object/people

iii) Even in the absence of object/people

VI List the names your child says in each of the following group

Names of people	Names of objects	Names of body parts	Names of colours	Names of Animals	Names of food items	Fruits names	Vegitab names

VII List the words your child uses in each of the following group

Descriptive words: **Ex:**Small, big, front, back etc.	words referring to actions Ex: eat, run, ualk etc.	Pronouns Ex: I, she, he etc.	Questions **Ext** where, **what** etc.

2. Can he use the uords he knows in a sentence?

   If yes, give example.

3. What is the length of the sentence uhen be speaks on his own?

   Two uords

   Three uords

   More than that

   Give examples

4. what is the length of the sentence uhen he is insisted on forced to speak in sentence?

   - Tuo word sentence

   - Three uord sentence

   - more than that

   Give examples

VIII. put a \/ in the columns applicable

	Give example	On his own	Repeats or u his asked to
Songs (inclusive of poems, lullabies) etc.			
Stones			

2. Can he vary (raise or lower) the voice depending on the context/situation?

   i) on his oun

   and/or

   ii) When he is asked to

IX. 1) when others don't understand what he is saying ? what does he do?

2) Does he try to say it again? How?

X. 1) Uhat is your child's stock of words in your opinion?

2) what is your child's sentence length in your opinion?

3) Uhat do you think is your child's interest in speech?

4) Please write your remarks about these questions.

ಬೆಳಗಿನ ಹೆಸರು

ಗಂಡು : ಹೆಣ್ಣು

ವಂತುಸುನ್ನ

ಅಕ್ಕ : ತಂಗಿಂತುರ್ಲ ಸಂಬೆ

ವುತಪ್ಪ ಅಣ್ಣ : ತವುಪ್ಪಂದಿರ ಸಂಬೆ

ಈ ವುಗು ಎಷ್ಟನೆಂತುವನು : ಳು

ತಂದೆಂತು ಹೆಸರು

ವಂತುಸುನ್ನ

ಓದು

ಕೆಲಸ

ತಾಂತುಂತು ಹೆಸರು

ವಂತುಸ್ಸು

ಓದು

ಕೆಲಸ

ಒಟ್ಟು ಅದಾಂತರ

ಪರಾತ್ಪರ ಭಾಷೆ

ಗೊತ್ತಿರುವ ಬೇರೆ ಭಾಷೆ/ಗಳು

ಮಗುವಿನ ಜೊತೆ ಪರಾತಾಡುವ ಭಾಷೆ/ಗಳು

(ಟಿಪ್ಪಣಿ: ಅವಶ್ಯಕವಾದರೆ ಹೆಚ್ಚಿಗೆ ಕಾಗದ ಉಪಯೋಗಿಸಬಹುದು)

I ನಿಮ್ಮ, ಮಗುವು ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ಮಾಡಿದರೆ ಈ ✓ ಗುರುತನ್ನು ಹಾಕಿ
ಮಾಡದೇ ಇರುವುದಕ್ಕೆ ಈ X ಗುರುತನ್ನು ಹಾಕಿ

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1) ಬಾಂಯಿ ತೆಗೆಂಯುತ್ತಾನೆ/ಳೆ :

2) ತುಟಿ ಮುಂದೆ ಮಾಡುತ್ತಾನೆ/ಳೆ 'ಒ' : ಮತ್ತು 'ಊ' ಶಬ್ದದಲ್ಲಿ ಹೇಳುವ ಹಾಗೆ

3) ತುಟಿ ಬಿಗಿಂಯಾಗಿ ಮುಚ್ಚುತ್ತಾನೆ/ಳೆ :

4) ನಾಲಿಗೆ ಹೊರಗೆ ಚಾಚುತ್ತಾನೆ/ಳೆ :

5) ನಾಲಿಗೆಂಯನ್ನು ಒಂದು ಮೂಲೆಂಯಿಂದ ಇನ್ನೊಂದು ಮೂಲೆಗೆ ಬಾಂಯಿಯಾಳಗೆ ಆಡಿಸುತ್ತಾನೆ/ಳೆ :

6) ನಾಲಿಗೆಂಯನ್ನು ಮೇಲ್ದುಟಿಗೆ ತಾಕಿಸುತ್ತಾನೆ/ಳೆ :

7) ನಾಲಿಗೆಂಯನ್ನು ಕೆಳತುಟಿಗೆ ತಾಕಿಸುತ್ತಾನೆ/ಳೆ :

8) ನಾಲಿಗೆಂಯನ್ನು ಒಳಗೆ ತೆಗೆದು ಕೊಳ್ಳುತ್ತಾನೆ/ಳೆ :

9) ಪಪ.....ಎಂದು ಶೀಘ್ರವಾಗಿ ಪುನರೆ ಉಚ್ಚರಿಸುತ್ತಾನೆ/ಳೆ :

10) ಪಟ ಪಟ....ಎಂದು ಶೀಘ್ರವಾಗಿ ಪುನರುಚ್ಚರಿಸುತ್ತಾನೆ/ಳೆ :

11) ಪಕಟ ಪಕಟ.....ಎಂದು ಶೀಘ್ರವಾಗಿ ಪುನರುಚ್ಚರಿಸುತ್ತಾನೆ/ಳೆ :

II ನಿಮ್ಮ, ಮಗು ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ಮಾಡುತ್ತಾನಾ/ಳಾ

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1) ಧೀರ್ಘವಾಗಿ ಅ, ಈ, ಏ, ಊ, ಓ ಎಂದು ಹೇಳುತ್ತಾನಾ/ಳಾ :

2) ನಾಲ್ಕನಿಂದ ದ್ರವವನ್ನು ಹೀರುತ್ತಾನೆ/ಳೆ :

3) ಬಿಸಿಂಬತ್ತಿ, ಬಿಲಿಸಾನು, ನಿಂಬೆಹಿನ ಗುಳಿಂಯನ್ನು ಊದುತ್ತಾನೆ/ಳೆ :

4) ಗಟ್ಟಿಂಯಾಗಿರುವ ಪದಾರ್ಥವನ್ನು ಅಗಿಂಯುತ್ತಾನೆ/ಳೆ :

ಉದಾ: ಪಪಾತಿ

III ನಿಮ್ಮ ಮಗುವಿನ ಅಳುವಿನಿಂದ ನಿಮಗೆ ಗೊತ್ತಾಗುತ್ತದೆ? ಅವನಿಗೆ

ಹಸಿವಾಗಿದೆ :

ಭಂತುವಾಗಿದೆ :

ಬಜುಗರವಾಗುತ್ತಿದೆ :

ನೋವಾಗುತ್ತಿದೆ ಎಂದು :

ಗೊತ್ತಾದರೆ ಹೇಗೆ ಗುರುತಿಸುತ್ತೀರಾ?

IV ನಿಮ್ಮ ಮಗುವು ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ಶಬ್ದಗಳನ್ನು ಅಥವಾ ಅದೇರೀತಿಂತು ಶಬ್ದಗಳನ್ನು ಮಾಡಿದರೆ ಅದನ್ನು ಪಟ್ಟಿ ಮಾಡಿ

ಸ್ವಂತವಾಗಿ ಅಥವಾ/ಮತ್ತು ಕೇಳಿದಾಗ ಮಾಡುವುದಕ್ಕೆ ಈ ✓ ಗುರುತನ್ನು ಹಾಕಿ

ಮಗುವು ಮಾಡುವ ಶಬ್ದಗಳು	ಸ್ವತಃ	ಕೇಳಿದಾಗ
1) ಅ, ಆ, ಇ, ಈ, ಉ, ಊ, ಎ, ಏ, ಒ, ಓ		
2) ಐ, ಔ,		
3) ಕ, ಕೆ, ಕೋ, ಗೂ, ಗಿ, ಖ, ಫೆ		
4) ಪ, ಪಿ, ಖೂ, ಮೋ, ಪಿ,		
5) ತೆ, ವಿ, ಬಿ, ಡೋ, ಥ, ಠ, ಡಿ, ಜ, ಟ,		
6) ನೆ, ನೋ, ಸಿ, ಶ, ಶು, ಶೂ,		
7) ಷ, ಚೆ, ಛೌ, ಪು,		
8) ಮೀ, ಮೋ, ನು, ನಿ, ನ,		
9) ಷ, ಸೌ, ಸು, ಕಿ,		

V 1) ಶಬ್ದಗಳನ್ನು ಮಾತ್ರ ಕೇಳುತ್ತಾನಾ:ಳಾ?

2) ನಿಮ್ಮ ಮಗು ಪದಗಳ ಬದಲಾಗಿ ಶಬ್ದವನ್ನು ಮಾಡುತ್ತಾನಾ:ಳಾ?
ಉದಾ: ನಾಯಿಯನ ನೋಡಿದ ತಕ್ಷಣ " ಬಾ ಬಾ " ಎಂದು
ಉದಾಹರಣೆ ಕೊಡಿ:—

3) ನಿಮಗೆ, ಮಗು ಎರಡು ಅಥವಾ ಹೆಚ್ಚಿನ ಪದಕ್ಕೆ ಒಂದೇ ಪದವನ್ನು ಉಪಯೋಗಿಸುತ್ತಾನಾ/ಳಾ?

ಉದಾ:— ನೀರು, ಹಾಲು, ಜ್ಯೂಸ್‌ನಿಗೆ '' ಲಾಲಾ '' ಎಂದು
ಉದಾಹರಣೆ ಕೊಡಿ

4) ಪದದ ಒಂದು ಭಾಗದ ಶಬ್ದವನ್ನು ಎಷ್ಟೆ ಹೇಳುತ್ತಾನಾ/ಳಾ?

ಉದಾ: '' ಹಾಲು '' ಗೆ '' ಹಾ '' ಎಂದು
ಉದಾಹರಣೆ ಕೊಡಿ

5) ನಿಮಗೆ, ಮಗುವು ಒಂದು ಪದಕ್ಕೆ ಬದಲಾಗಿ ಮತೊಂದು ಪದ ಹೇಳುತ್ತಾನಾ/ಳಾ?

ಉದಾ: '' ನೀರು '' ಗೆ ನೀ ನಿ ಎಂದು

ಉದಾಹರಣೆ ಕೊಡಿ

6) ಶಬ್ದವನ್ನು ಒಂದುಗೂಡಿಸಿ ಪದವನ್ನು ಹೇಳುತ್ತಾನೆ/ಳಾ?

ಉದಾ: ತಾತ

7) ಪದಗಳನ್ನು
ಸರಿಯಾಗಿ ಉಪಯೋಗಿಸುತ್ತಾನೆ/ಳೆ
ವಸ್ತುವನ್ನು/ ಜನರನ್ನು ನೋಡಿದಾಗ ಮಾತ್ರ ಉಪಯೋಗಿಸುತ್ತಾನೆ/ಳೆ
ವಸ್ತು/ ಜನರು ಇಲ್ಲದಾಗ ಸಹಿತ ಉಪಯೋಗಿಸುತ್ತಾನೆ/ಳೆ

ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ಪ್ರತಿ ವಿಭಾಗದಲ್ಲಾ ನಿಮಗೆ ಮಗುವು ಹೇಳುವ ಪದಗಳನ್ನು ಪಟ್ಟಿಮಾ

ಜನರ ಹೆಸರು	ವಸ್ತುವಿನ ಹೆಸರು	ಹೆಣ್ಣಾಂಗಗಳ ಹೆಸರು	ಬಣ್ಣಗಳ ಹೆಸರು	ಪ್ರಾಣಿಗಳ ಹೆಸರು	ತಿನ್ನುವ ಪದಾರ್ಥಗಳು	ಹಣ್ಣಿನ ಹೆಸರು	ತರಕಾ ಹೆಸರು

ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ಪ್ರತಿ ವಿಭಾಗದಲ್ಲಾ ನಿಮಗೆ ಮಗು ಹೇಳುವ ಪದಗಳನ್ನು ಪಟ್ಟಿಮಾಡಿ

	ವರ್ಣತೆಯಂತು ಪದಗಳು	ಅಭಿನಯಂತು ಪದಗಳು	ಸರ್ವನಾಮ	ಪ್ರಶ್ನೆಗಳು
1)	ಉದಾ: ಬಿಕ್ಕಿ, ದೊಡ್ಡ ಲಿಲ್ಲಿ, ಇಲ್ಲಿ, ಎಲ್ಲಂದೆ	ಉದಾ: ಓಡು ಮಾಡು, ತಿನ್ನು	ಉದಾ: ನಾನು ನೀನು, ಅವನು	ಉದಾ: ಎಲ್ಲಿ, ಏ ಹೇಗೆ

2) ಗೊತ್ತಿರುವ ಪದಗಳನ್ನು ವಾಕ್ಯದಲ್ಲಿ ಉಪಯೋಗಿಸುತ್ತಾನಾ/ಳಾ?
ಉದಾಹರಣೆ ಕೊಡಿ

3) ಸ್ವಂತ: ಮಾತಾಡಿದಾಗ ವಾಕ್ಯದ ಉದ್ದ ಎಷ್ಟಿರುತ್ತದೆ?

1) 2 ಪದದ ವಾಕ್ಯ
2) 3 ಪದದ ವಾಕ್ಯ
3) ಇನ್ನೂ ಹೆಚ್ಚಿನದು_ _ _ _ _ _ _

ಉದಾಹರಣೆ ಕೊಡಿ:—

A P P E N D I X E S

Child's Name	**:**
Age	**:**
Sex	**:**
No. of Brothers & Sisters	**:**
Birth Order of Child	**:**
Education	**t**
Mother Tongue	**I**
what language(s) does the child speak	**:**
Language(s) spoken with the Child	**:**
Father's Name	**:**
Age	**:**
Education	**:**
Occupation	:
Mother's Name	**:**
Age	:
Occupation	:
Total Family Income Yearly/Monthly	:

I. When the child cries can you make out whether he/she is

a) Hungry
b) Frightened
c) Disccomfurt
d) Pain

If so, how?

II. Can your child do, "as you do" the following (Mark "Yes/No")

1. Opens the mouth as in "aa - - - - - - -
2. Makes the lips as in Do---------& uu ----------
3. Closes the lips tightly as in "Pa"----------
4. Sticks the tongue out
5. Pulls the tongue inside
6. Moves the tongue from one corner to other
7. Touches the upper lip with the tongue
8. Touches the lower lip with the tongue
9. Says pa pa----------quickly and repeatedly
10. Says pa ta----------quickly and repeatedly
11. Says pa ta ka------ quickly and repeatedly

III. Can your child do the following

1. Says the following for 5-10 seconds

a) aa------------------------
b) ii---------------------
c) oo---------------------------
d) uu---------------------------
e) ee-----------------------------

2. Blows

a) Bubbles uith soap uater
b) Candles
c) bits of papers
d) balloon

3) Chews (a) bubble gum
(b) chapati
---

4) Sucks through the straw (a) Juice
(b) Coconut Water
(c) water

IV. Can your child make the following sounds
Plark" " in the columns applicable

SI. No,	Sounds	on his/her own	When the/he is asked to	Does not say
1.	a			
2.	i			
3.	e			
4.	0			
5.	ai			
6.	au			
7.	ya			
a.	ba			
9.	va			
10.	pa			
11.	ta			
12.	ta			
13.	la			
14.	la			
15.	ra			
16.	sa			
17.	sa			
18.	ca			
19.	ja			
20.	ka			
21.	ga			
22.	ma			

1 2 3 4 5

---

23. na
24. Kripa
25. Skrew
26. Stamp
27. Vicks
28. Pram
29. Riksha
30. Grass
31. Brush
32. Blade

V. How does your child refer to the animals:

1) By the sounds produced by the animals
   Eg. "Mew Mew" for "Cat" bow bow for dog" etc.
2) By the name Eg. Cat, Dog
3) **Any** sound/name specify

VI. Hou does your child refer to the vehicles?

1) By the sounds produced by the vehicles
   Eg. "Chuk Chuk" for Train, " brrr_____for "bus" etc.
2) By the name Eg. bus, Car
3) **Any** sound/name specify

VII. Hou does your child address/call following people:

1) Mother
2) Father_____
3) Brother/s_____
4) Sister/s_____
5) Grand pa
6) Grand me_____
7) Uncle/s_____
8) Aunt/s_____
9) Others_____

VIII, Approximately how many names does your child say in each of the following category

SL,No.	Approximate Number
1. Objects (including Ornaments furniture etc.)	
2. Body parts	
3. Fruits	
4. Clothing	
5. Vegetables	
6. Colours	

IX. Hou does your child say each of the following words given in the list

Size	Quantity	Position
Big	More	In
Small	Less	out
Long		up
Tall		Down
Short		Under
Fat		Over
Thin		Top
		Near/next behind
		in front o Bottom

How does your child say the following or any other word act

(Note: Use an additional sheet of paper if necessary)

1. Sleeping _____
2. Brushing _____
3. Bathing _____
4. Eating _____
5. Drinking _____
6. Sitting _____
7. _____

XI. Mark "Yes" against items applicable to your child

1. Hou does She/he identify himself/herself

   a) By his/her name

   b) uses "I"

   c) Any other way specify

2. Hou does She/he identify others?

   a) By their names

   b) uses "You"
      "They"
      "She"

   c) Any other way specify

3. Hou does S/he identify objects?

   a) By their names

   b) Uses "This"
      "That"
      "It"

   c) Any other way specify

XII. Does your child ask what s/*he* wants

   1) By changing the tone of the voice

   2) By asking questions like i) where_____?
      ii) Uhat_____?
      iii) When_____?
      iv) Why_____?
      v) Which_____?
      vi) How_____?

   3) Any other way specify

XIII. How many uords does your child put together while speaking

1. One word Eg. Mama
2. Two Uords Eg. Mama come
3. Three uords Eg. Mama give milk
4. Longer than that

Specify

XIV. Put " ^ " in the columns applicable

SI.No.	Repeats	Hums along	Sings on his/her own
1. Lullabies			
2. Nursery Rhymes			
3. Poems			
4. Film songs			
5. Prayers or Slokas taught at School or at Home			

XV. 1) Write in your own uords what you have observed of your child's speech?

2) what do friends and relatives say of your child's speech?

XVI. Please write your remarks about these questions.

Note: Answer all the questions. Do not leave any blanks. Urite "Not applicable" against questions which are not applicable to your child.

ವಧುವಿನ ಹೆಸರು :

ವಂಶಸ್ಥ :

ಗಂಡು/ಹೆಣ್ಣು :

ಅಕ್ಕ ತಂಗಿಯರ ಮತ್ತು ಅಣ್ಣ ತಮ್ಮಂದಿರ ಸಂಖ್ಯೆ :

ಈ ವಧು ಎಷ್ಟನೆಯವಳು/ಳು :

ವಿದ್ಯಾಭ್ಯಾಸ

ಮಾತೃಭಾಷೆ :

ವಧು ಮಾತನಾಡುವ ಭಾಷೆ/ಗಳು :

ವರನಿನ ಜೊತೆ ಮಾತನಾಡುವ ಭಾಷೆ/ಗಳು :

ತಂದೆಯ ಹೆಸರು :

ತಂದೆಯ ವಂಶಸ್ಥ :

ವಿದ್ಯಾಭ್ಯಾಸ :

ಉದ್ಯೋಗ :

ತಾಂತ್ರಿಂತು ಹೆಸರು :

ವಂತುಸುಸ್ಥ :

ವಿದ್ಯಾಭ್ಯಾಸ :

ಉದ್ಯೋಗ :

ಕುಟುಂಬದ ಒಟ್ಟು ಆದಾಂತು :

I ನಿವುಕ್ಕ ಮಗುವಿನ ಅಳುವಿನಿಂದ ಅವನಿಗೆ/ಅವಳಿಗೆ

ಹಸಿವಾಗಿದೆ

ಭಂತುವಾಗಿದೆ

ಪುಟುಜುಗರವಾಗುತ್ತಿದೆ

ನೋವಾಗುತ್ತಿದೆ

ಎಂದು ಗೊತ್ತಾಗುತ್ತದೆಂತಾ?

ಗೊತ್ತಾದರೆ ಹೇಗೆ ಗುರುತಿಸುತ್ತೀರಾ?

II ನಿವುಕ್ಕ ಮಗು ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ನೀವು ಮಾಡಿದ ಹಾಗೆ ಮಾಡುತ್ತಾನಾ/ಳಾ?
'' ಹೌದು:ಇಲ್ಲ '' ಎಂದು ತಿಳಿಸಿರಿ

1) ಅ..... ಎಂದು ಬಾಂಯಿ ತೆಗೆಂತುಂತುತ್ತಾನೆ/ಳೆ

2) ತುಟಿಗಳನ್ನು 'ಊ.....ಮತ್ತು 'ಓ..... ಶಬ್ದದಲ್ಲಿ ಉಚ್ಚರಿಸುವಾಗ ಮಾಡುವಂತೆ ಮಾಡುತ್ತಾನೆ/ಳೆ

3) ತುಟಿಗಳನ್ನು ಕೂಡಿಸುತ್ತಾನೆ/ಳೆ, ಉದಾ / ಪ

4) ನಾಲಿಗೆಂತುನ್ನು ಹೊರಗೆ ಚಾಚಿ ಒಳಗೆ ತೆಗೆದುಕೊಳ್ಳುತ್ತಾನೆ/ಳೆ

5) ನಾಲಿಗೆಂತುನ್ನು ಒಂದು ತುದಿಂಯಿಂದ ಇನ್ನೊಂದು ತುದಿಗೆ ಆಡಿಸುತ್ತಾನೆ/ಳೆ

6) ನಾಲಿಗೆಂತುನ್ನು ಮೇಲೆ ತುಟಿಗೆ ತಾಕಿಸುತ್ತಾನೆ/ಳೆ

7) ನಾಲಿಗೆಂತುನ್ನು ಕೆಳ ತುಟಿಗೆ ತಾಕಿಸುತ್ತಾನೆ/ಳೆ

8) ಪ ಪ..... ಎಂದು ಶೀಘ್ರವಾಗಿ ಪುನರುಚ್ಚಿಸುತ್ತಾನೆ/ಳೆ

9) ಪಟ ಪಟ.....ಎಂದು ಶೀಘ್ರವಾಗಿ ಪುನರುಚ್ಚಿಸುತ್ತಾನೆ/ಳೆ

10) ಪಟಕ ಪಟಕ.....ಎಂದು ಶೀಘ್ರವಾಗಿ ಪುನರುಚ್ಚರಿಸುತ್ತಾನೆ/ಳೆ

III ನಿವುಕ್ಕ ಮಗ್ಗುವು ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ಮಾಡುತ್ತಾನಾ/ಳಾ?
'' ಹೌದು/ ಇಲ್ಲ '' ಎಂದು ತಿಳಿಸಿರಿ

1) ಕೆಳಗಿರುವುದನ್ನು 5—10 ನಿಕೆಂಡುಗಳಷ್ಟು ಹೊತ್ತು ಹೇಳುತ್ತಾನೆ/ಳೆ

ಎ) ಅ.....

ಬಿ) ಈ.....

ಸಿ) ಊ.....

ಡಿ) ಏ.....

ಇ) ಓ.....

2) ಕೆಳಗಿರುವುದನ್ನು ಯಾದುತ್ತಾನಾ/ಳಾ?

ಎ) ಬೆಲೂನು

ಬಿ) ಕಾಗದಗಳ ಚೂರು

ಸಿ) ಸೋಪಿನ ಗುಳ್ಳೆ

ಡಿ) ವೈಲಾಂಬತ್ತಿ

3) ಗಟ್ಟಿಯಾಗಿರುವುದ ಪದಾರ್ಥಗಳನ್ನು ಅಗಿಯುತ್ತಾನಾ/ಳಾ?

ಎ) ಪಪಾತಿ

ಬಿ) ಬಬಲ್ ಗಮ್

ಸಿ).....

4) ಸಾಪ್ಟ್‌ನಿಂದ ಜ್ಯಾಸನನ್ನು ಹೀರುತ್ತಾನಾ/ಳಾ?

IV ನಿಮ್ಮ ಮಗುವು ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ಶಬ್ದಗಳನ್ನು ಮಾಡುತ್ತಾನಾ/ಳಾ ಈ ✓ ಗುರುತನ್ನು ಉಪಯೋಗಿಸಿರಿ

ಶಬ್ದಗಳು	ಅವನಾಗಿ/ಅವಳಾಗಿ ಹೇಳುತಾನೆ/ಳೆ	ಕೇಳಿದಾಗ ಹೇಳುತ್ತಾನೆ/ಳೆ	ಹೇಳುವುದಿಲ್ಲ
1	2	3	4
ಅ			
ಇ			
ಎ			
ಒ			
ಐ			
ಔ			
ಂಅ			
ಬ			
ವ			
ಪ			
ತ			
ಟ			
ಲ			
ಳ			
ರ			
ನ			

1	2	3	4
ಶ			
ಚ			
ಜ			
ಕ			
ಗ			
ವ			
ನ			
ಕೃಪ			
ಸೂಕ್ಷ್ಮ			
ಸೌಷ್ಠಂಪು			
ವಿಕ್ಸ			
ಪ್ರವಾಹ			
ರಿಷಾ			
ಗ್ರಹಣ			
ಬ್ರಷ್			
ಬ್ಲೋಡು			

V ಅವನು/ಅವಳು ಪ್ರಾಣಿಗಳನ್ನು

1) ಅವು ಮಾಡುವ ಶಬ್ಧಗಳಿಂದ
ಜ ಉದಾ: ವಿಂತವೆ ವಿಂತವೆ ಎಂದು ಬಿಕ್ಕಿಗೆ, ನಾಂಯಿಗೆ ಬೌವೆ ಬೌವೆ ಎಂದು_ _ _ _ _

2) ಅದರ ಹೆಸರಿನಿಂದ ಕರೆಂತುಂತಾನೆ/ಳೆ ಉದಾ: ನಾಂಯಿ, ಬಿಕ್ಕು

3) ಅದೇ ಅರ್ಥ ಬರುವ ಬೇರೆ ಶಬ್ದ: ಪದಗಳನ್ನು ಸಂಬಂಧಿಸಿದ ಪ್ರಾಣಿಗಳಿಗೆ ಹೇಳುತಾನೆ/ಳೆ
ಉದಾಹರಣೆ ಕೊಡಿ

VI ಅವನು/ಅವಳು ವಾಹನಗಳಿಗೆ

1) ಅವು ಮಾಡುವ ಶಬ್ದಗಳಿಂದ ಹೇಳುತಾನೆ/ಳೆ
ಉದಾ: ರೈಲಿಗೆ ಚುಕ್, ಚುಕ್ ಎಂದು, ಬಸ್ಸಿಗೆ ಬರರೆರರ್_ _ _ _
2) ಅದರ ಹೆಸರಿನಿಂದ ಕರೆಂತುಂತಾನೆ/ಳೆ ಉದಾ: ಬಸ್ಸು, ಕಾರು_ _ _ _ _ _
3) ಅದೇ ಅರ್ಥ ಬರುವ ಬೇರೆ ಶಬ್ದ:ಪದಗಳನ್ನು ಸಂಬಂಧಿಸಿದ ವಾಹನಗಳಿಗೆ ಹೇಳುತಾನೆ/ಳೆ
ಉದಾಹರಣೆ ಕೊಡಿ:

VII ಕೆಳಗೆ ಕೊಟ್ಟಿರುವವರನ್ನು ನಿವು ಮಗುವು ಹೇಗೆ ಕರೆಂತುಂತಾನೆ — ಬರೆಂತುರಿ
1) ಅಮ್ಮ:.....
2) ಅಪ್ಪ.....
3) ನೋರರನ್ನು (ಅಣ್ಣ/ತಮ್ಮ).....

4) ನಿಮ್ಮ ಸೋದರಿಯಂದಿರನ್ನು (ಅಕ್ಕ/ತಂಗಿ).....

5) ಅಜ್ಜ. .....

6) ಅಜ್ಜಿ.....

7) ಚಿಕ್ಕಮ್ಮ/ದೊಡ್ಡಮ್ಮ.....

8) ಚಿಕ್ಕಪ್ಪ/ದೊಡ್ಡಪ್ಪ.....

9) ಬೀರೆಂಬುವರನ್ನು.....

VIII ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ಪ್ರತಿ ವಿಭಾಗದಲ್ಲಾ ನಿಮ್ಮ ಮಗುವು ಎಷ್ಟು ಪದಗಳನ್ನು ಉಪಯೋಗಿಸುತ್ತಾನೆ/ಳೆ

ಎಂಬುದರ ಸಂಖ್ಯೆಯನ್ನು ಹಾಕಿ

	ಸಂಖ್ಯೆ
1) ವಸ್ತ್ರಗಳು ಹೆಸರುಗಳು	
2) ದೇಹಾಂಗಗಳ ಹೆಸರುಗಳು	
3) ಹಣ್ಣುಗಳ ಹೆಸರು	
4) ಬಟ್ಟೆಗಳದು	
5) ಬಣ್ಣಗಳ ಹೆಸರು	
6) ತರಕಾರಿಗಳ ಹೆಸರುಗಳು	

X ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ನಿಮ್ಮ ಮಗು ಹೇಗೆ ಹೇಳುತ್ತಾನೆ/ಳೆ ಬರೆಯಿರಿ

(ಟಿಪ್ಪಣಿ: ಬೇರೆ ಪದಗಳನ್ನು ಉಪಯೋಗಿಸುತ್ತಿದ್ದರೆ ಅದನ್ನು ಬರೆಯಿರಿ)

1) ಮಲಗು .....

2) ಉಜ್ಜು .....

3) ತಿನ್ನು .....

4) ಪಡಿ .....

5) ಕೂತಿಕೊ .....

XI 1) ನಿಮ್ಮ ಮಗು ತನ್ನನ್ನು ಹೇಗೆ ಗುರುತಿಸಿಕೊಳ್ಳುತ್ತಾನೆ/ಳೆ?

ಎ) ಅವನ/ಅವಳ ಹೆಸರಿನಿಂದ

ಬಿ) ತನಗೆ '' ನಾನು '' ಎಂಬುದರಿಂದ ಗುರುತಿಸಿಕೊಳ್ಳುತ್ತಾನೆ/ಳೆ?

ಸಿ) .....

2) ನಿಮ್ಮ ಮಗು ಬೇರೆಯವರನ್ನು ಹೇಗೆ ಗುರುತಿಸುತ್ತಾನೆ/ಳೆ

ಎ) ಅವರ ಹೆಸರಿನಿಂದ ಕರೆಯುತ್ತಾನೆ/ಳೆ

ಬಿ) ಬೇರೆಯವರನ್ನು '' ಅವರು ''
'' ಅವನು ''
'' ಅವಳು '' ಎಂದು ಸಂಬೋಧಿಸುತ್ತಾನೆ

ಸಿ) .....

3) ವಸ್ತುಗಳನ್ನು ಹೇಗೆ ಗುರುತಿಸುತ್ತಾನೆ/ಳೆ?

ಎ) ಅದರ ಹೆಸರಿನಿಂದ

ಬಿ) ವಸ್ತುಗಳಿಗೆ '' ಅದು ''
'' ಇದು ''
'' ಅವು '' ಎಂದು ಉಪಯೋಗಿಸುತ್ತಾನೆ/ಳೆ

XII ಅವನು/ಅವಳು ಪ್ರಶ್ನೆಗಳನ್ನು ಹೇಳಬೇಕಾದರೆ

1) ಧ್ವನಿಯಂತನನ್ನು ಮಾರ್ಪಾಡಿಸಿ ಕೇಳುತ್ತಾನೆ:ಳೆ

2) ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳುತ್ತಾನೆ/ಳೆ " ಎಲ್ಲಿ.....?" ?

" ಹೇಗೆ.....?" ?

" ಯಾಕೆ.....?" ?

" ಯಾವಾಗ.....?" ?

" ಎಷ್ಟು.....?" ?

3).....?

XIII ನಿಮ್ಮ ಮಗು ಎಷ್ಟು ಪದಗಳನ್ನು ಜೋಡಿಸಿ ಮಾತನಾಡುತ್ತಾನೆ/ಳೆ

1) ಒಂದು ಪದ ಉಪಯೋಗಿಸಲುತ್ತಾನೆ/ಳೆ ಉದಾ: ಅಮ್ಮ.....

2) ಎರಡು ಪದಗಳನ್ನು ಜೋಡಿಸಿ ಮಾತನಾಡುತ್ತಾನೆ/ಳೆ ಉದಾ: ಅಮ್ಮ, ನೀರು

3) ಮೂರು ಪದಗಳನ್ನು ಜೋಡಿಸಿ ಮಾತನಾಡುತ್ತಾನೆ/ಳೆ ಉದಾ: ಅಮ್ಮ ನೀರು ಕೊಡು

XIV ನಿಮ್ಮ ಮಗು ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ಹಾಡುತ್ತಾನಾ/ಳಾ?

ನಂ.	ಹೇಳಿಕೊಟ್ಟಾಗ ಹೇಳುತ್ತಾನೆ/ಳೆ	ಹಾಡಿನ ಜೊತೆ ರಚುಂಕರಿಸುತ್ತಾನೆ/ಳೆ	ಅವನಾಗಿ/ಅವಳಿಗಾಗಿ ಹೇಳುತ್ತಾನೆ/ಳೆ
1)	ಜೋಗುಳ		
2)	ಪದ್ಯ		
3)	ಚಿತ್ರದ ಹಾಡುಗಳು		
4)	ಶ್ಲೋಕಗಳು		

XV 1) ನಿಮ್ಮ ಮಗು ಮಾತಲ್ಲಿ ನೀವೇನು ಗಮನಿಸಿದ್ದೀರಾ? ಅದನ್ನು ಬರೆಯಿರಿ

2) ನೆರೆಹೊರೆಯವರು ಮತ್ತು ಸಂಬಂಧಿಕರು ನಿಮ್ಮ ಮಗುವಿನ ಮಾತಿನ ಬಗ್ಗೆ ಏನು ಹೇಳುತ್ತಾರೆ?

XVI ಈ ಪ್ರಶ್ನೆಗಳ ಬಗ್ಗೆ ನಿಮ್ಮ ಅಭಿಪ್ರಾಯವನ್ನು ತಿಳಿಸಿರಿ

ಟಿಪ್ಪಣಿ:— ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳನ್ನು ಉತ್ತರಿಸಿರಿ, ನಿಮ್ಮ ಮಗುವಿಗೆ ಅನ್ವಯಿಸದೇ ಇರುವ ಪ್ರಶ್ನೆಗಳಿಗೆ " " ಅನ್ವಯಿಸುವುದಿಲ್ಲ " " ಎಂದು ಬರೆಯಿರಿ

—: ೪ :—

4) ಅಗ್ರಹ ಮಾಡಿದಾಗ ಅಥವಾ ಒತ್ತಾಂತು ಮಾಡಿದಾಗ ವಾಕ್ಯದ ಉದ್ದ ಎಷ್ಟಿರುತ್ತದೆ

1) 2 ಪದದ ವಾಕ್ಯ
2) 3 ಪದದ ವಾಕ್ಯ
3) ಇನ್ನೂ ಹೆಚ್ಚಿನದು

ಉದಾಹರಣೆ ಕೊಡಿ:

VIII 1) ~~ಈ~~ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವುದನ್ನು ನಿಮ್ಮ ಮಗುವು ಹೇಳುತ್ತಾನಾ/ಳಾ?
ಸ್ವಂತವಾಗಿ ಅಥವಾ/ ಮತ್ತು ಕೇಳಿದಾಗ ಹೇಳಿದರೆ ~~ಈ~~ ✓ ಗುರುತನ್ನು ಹಾಕಿ

	ಉದಾಹರಣೆ ಕೊಡಿ	ಸ್ವಂತ/ಕೇಳಿದಾಗ
ಹಾಡು / ಪದ್ಯ		
ಜೋಗುಳ / ಲಾಲಿ		
ಅಂತ್ಯಪ್ರಾಸ		
ಕಥೆ		

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2) ಸಂದರ್ಭಕ್ಕನುಸಾರವಾಗಿ ಸ್ವರವನ್ನು ಮಾರ್ಪಡಿಸುತ್ತಾನಾ/ಳಾ?

1) ಸ್ವಂತವಾಗಿ ಮಾಡುತ್ತಾನಾ/ಳಾ ಅಥವಾ/ ಮತ್ತು
2) ಕೇಳಿದಾಗ ಮಾಡುತ್ತಾನೆ/ಳೆ

IX. 1) ಅವನು/ಅವಳು ಹೇಳುತ್ತಿರುವುದು ಬೇರೆಯವರಿಗೆ ಗೊತ್ತಾಗದೆ ಹೋದರೆ ಏನು ಮಾಡುತ್ತಾನೆ/ಳೆ?

2) ಹೇಳುವುದಕ್ಕೆ ಮತ್ತೆ ಪ್ರಯತ್ನಿಸುತ್ತಾನಾ/ಳಾ? ಹೇಗೆ?

XX 1) ನಿಮ್ಮ ಅಭಿಪ್ರಾಯದಲ್ಲಿ ನಿಮ್ಮ ಮಗುವಿನ ಶಬ್ದಕೋಶ (ಪದಗಳ ಪರಿಜ್ಞಾನ) ಎಷ್ಟಿದೆ?

2) ನಿಮ್ಮ ಅಭಿಪ್ರಾಯದಲ್ಲಿ ನಿಮ್ಮ ಮಗುವಿನ ವಾಕ್ಯದ ಉದ್ದ ಎಷ್ಟಿದೆ?

3) ನಿಮ್ಮ ಅಭಿಪ್ರಾಯದಲ್ಲಿ ನಿಮ್ಮ ಮಗುವಿನೆ ತಾನು ಮಾತನಾಡುವುದರಲ್ಲಿ ಎಷ್ಟು ಆಸಕ್ತಿ ಇದೆ ಅನ್ನಿಸುತ್ತೆ?