SYNTAX IN THE WRITTEN LANGUAGE OF NORMAL HEARING AND HEARING IMPAIRED STUDENTS OF THE 8TH STANDARD: A COMPARATIVE STUDY.

Register No. M8808

Submitted as part fulfillment for the
Degree of Master of Science (Speech and Hearing),
University of Mysore
May, 1910.

DEDICATION

This study is dedicated to
all hearing handicapped children.

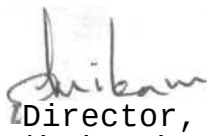
"Listen to the child well, to what he is saying, and almost saying, and not saying at all. We has something he wants to tell you, something that has meaning for him, that is important to him.

Respect him as a speaker, listen to him enough to hear him out. ft is wonderful for him as a growing person to feel that he is being heard, that others care about what he if saying."

- Wendell Johnson.

CERTIFICATE

This is to certify that the dissertation entitled "Syntax in the Written Language of normal Hearing and Hearing impaired Students of the 8th Standard: Comparative Study." is a bonafide work done in part fuifiLiment for the M.Sc, (speech and Hearing) Degree, of the student with Register Mo. M8803.



Director,
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CERTIFICATE

This is to certify that the dissertation entitled "Syntax in the Written language of Normal Hearing and Hearing Impaired Students of the 8th Standard; A Comparative Study." has been prepared under my superivion and guidance.

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DECLARATION

I hereby declare that the dissertation entitled "Syntax in the Written language of Normal Hearing and hearing Impaired Students of the 8th Standard: A Comparative Study." is a result of my own study undertaken under the guidance of Dr.P.Karanth, Professor and H.O.D., Dept, of Speech Pathology, A.I.I.S.H, and has not been submitted earlier at any University, for any other dipioma or degree.

Register No. M8808. Mysore

May , 199O

ACKNOWLEDGEMENT

I am very grateful to my Guide, Dr.Prathiba Karanth, Professor and Head of the Department of Speech Pathology, A.I.I.S.H., for her invaluable advice and scholastic support, not to mention her precious time which was taken up by this piece of work.

I would also like to thank Dr.S.Nikam, Director, A.I.I.S.H., for allowing me to carry out this dissertation.

My sincere thanks go to Mr.S.Krishnaiah, Superintendent of the Government School for the Deaf, for his kind cooperation and helpful suggestions.

I extend my gratefulness to the Headmaster of the Onkarmal Somani College of Education, Prof.Narayanamurthy, for letting me work with his students.

The teachers of the deaf at the Government School for the Deaf, Mr.H.Narasaiah, Mr.B.B.Puradal and Mr.H.S.Balaram, are especially acknowledged for sacrificing their lessons and their time in helping me with my work.

I am very obliged to Mrs.Rajalakshmi, Lecturer of Audiology at A.I.I.S.H., for stimulating me into carrying out this dissertation and for the help she extended on Kannada grammar.

Kiran, Yashoda and Nagapoornima receive my heartfelt thanks for their extremely valuable assistance in deciphering words and pointing out important errors from the samples of writing. A special word should go to Nagapoornima who sat right down with me to go through each sample. I cannot imagine completing this on time without her.

I am most of all indebted to all the subjects of my study, the hearing impaired 8th graders and the 8th standard students with normal hearing. Without their enthusiastic participation, there would have been no study,

My classmates and friends deserve a special word each, for bringing in the mood to work', so essential to complete this dissertation.

Last but not the least at all, I am very thankful to everyone in my family; but most of all, to my sister, Lovanya, who helped me use the computer for the 'special effects'.

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Numerous studies have been centered around the speech and linguistic skills of the hearing impaired individual. These have in turn, led to an interest in the performance of the hearing impaired student in his academic pursuits.

Interest in these areas revealed that the student with a handicapping hearing impairment had great difficulties in keeping up with their normal peers. Their poor writing abilities were one of the major problems, contributing to poor scholastic abilities, especially in the subjects whioh require excellent linguistic abilities. Consequently, many researchers have settled down to study the writing ability of the hearing impaired and compared them to the writing abilities of the normal hearing students. (Heider and Heider, 1940; Myklebust, 1960; Kretschmer and Kretachmer, 1978; Strong, 1986; etc.)

Writing has been studied with interest because it contributes in a major way to communication. It is not as efficient as speech, but is much more flexible than the use Of a sign system. In a country like India, with a wide range of languages and dialects, a standard sign system has not yet been made available for use by the handicapped. Thus, the use of any sign language system is very limited, in that few people outside the area of instruction will be able to understand the individual.

The additional factor of poor speech abilities makes communication more difficult. Through writing however, a wider range of people is available for the hearing impaired to communicate with.

Good writing ability will also help in academic achievement, which in turn provides better job and life oppurtunities.

Although many studies have been carried out by researchers in the English language, very few have been done to explain, let alone describe, the difficulties faced by the hearing impaired student in writing, in the Kannada language.

This study provides a description of the style of writing used, and the errors made, in the writing of the hearing impaired students. For a comparison with normal writing abilities, normal hearing students studying in the same standard as the hearing impaired students, though in a normal school, were also taken as subjects. The hearing impaired subjects themselves, were taken from the local School for the Deaf and Blind, Mysore, where a combination of a sign system, gestures and speech-reading are used as a means of communication.

Based on previous studies on writing, which are highlighted in the review of literature, it was hypothesized that hearing impaired students did not show any kind of sentence structure. It was further expected that there would be a lower production of words in all the different grammatical classes considered. Errors,in terms of misusing words, spelling errors and errors in punctuation were expected to be higher in the samples of the hard of hearing students, than in the normal hearing student studying in the same standard.

"The chief merit of language is clarity, and we know that nothing detracts so much from this as do unfamiliar terms."

- Galen.

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REVIEW

OF

LITERATURE

REVIEW OF LITERATURE

"Writing, when properly managed, is but
a different name for conversation."
- Laurence Stern*.

Introduction :

Language, as we know it, consists of all the essential tools we need to communicate. Anything we utter in communicating through speech has specific sounds and a specific meaning. These respectively refer to the phonology and semantics of language. This string of meaningful sounds can however, become quite incomprehensible if they are not ordered in a specific sequence. This sequencing is what is referred to as syntax.

Syntax has been defined as referring to the orderly or systematic arrangement of word orders permissible in English or any other language. (Eretschmer and Kretschmer, 1978)

It is that part of language which links together the sound patterns and their meaningS. (Aitchinson, 1978.)

A minor change in the sequence of words may bring about a major change in the meaning of the sentence, or render it meaningless.

Hence, the straightforward statement "The rose is red", turns into a question form when the words are ordered as "Is the rose red ?".

Here, the whole intention of the sentence changes. The ordering of the words as in "Red the rose is" though, will not be acceptable because the words do not follow the syntactic rules of English.

Correct ordering of words, or syntax, is important for effective communication.

Syntax :

There are different types of sentences or syntax. The simplest forms are the basic sentence types. These are :-

(1) Simple nominal sentence,
(2) Question transformed nominal sentence,
(3) Negative trahsformed nominal sentence,
(4) Sentences with transitive verbs,
(5) Sentences with intransitive verbs, and
(6) Sentences with reflexive verbs. (Vijayalakshmi, 1981)

Complex sentences have clauses which are modified from the simple sentence. They may have relative clauses, which are modifiers of the noun phrase. Conjoining, or the use of conjunctions, and embedding, or the use of one clause as a constituent of another, are

also used. The complement clause, which functions as the subject or object of another clause may also be used. (Langacker, 1973)

Thus, different types of complex sentences in the Kannada language are :-

(1) Enbedded sentences;

(2) Coordinated sentences with (a) /-u/,
(b) /-matte/,
(c) /a:mele/ :

(3) Conditional clausal sentences;

(4) Quotative sentences; and

(5) Question transformed sentences - (a) Tes - No,
(b) Wh- Questions,
(c) Tag Questions.

(Vijayalakshmi, 1981)

Certain syntactic rules apply in the general usage of language. These are :-

(1) Reduction - This is the removal of elements which are identical to others in the sentence.

Eg. "My uncle and aunt are eating." instead of "My uncle is eating and my aunt is eating.".

(2) Verb deletion - This results in verb forms being deleted and replaced by a word.

Eg. "My uncle has been eating and my aunt, too." instead of the original sentence.

(3) Subject raising - The subject replaces the complement clause in this case.

(Langacker, 1973)

Acquisition of Syntax :

Children do not immediately use correct syntax on acquiring speech. They acquire syntax in a, particular sequence pattern starting with simple one word utterances. Subsequent stages take them to more complex sentence types. Rates of development vary from child to child within a normal range. (Uma, 1989)

Kretschmer and Kretschmer (1978) described six stages in a child's language development ;

1st stage - Preverbal stage.

2nd stage - Single word stage - only single words are uttered. There are mostly nouns and a few verbs. Descriptive terms very rarely appear.

3rd stage - Two word utterance stage - At this time, syntactic patterns begin to interact with the semantic and pragmatic domains. Word order is specific. For example, a child would say "that box" for "that is a box" but very rarely come up with "box that" for the came sentence. There is also a recognition of categories which have been laxically verbalised. The concepts of agents, action and object are new categories in use.

4th stage - Three word stage - This stage consists of telegraphic speech. The sentence retains only information or content words, omitting function words.

5th stage - Refinement stage - Function words start appearing. The sentences are now very much like adult forms.

6th stags - Complex form stage - From simple sentences, the child now learns to use transformations and form more complex sentences. Clauses are used more easily too.

(KretBohmer and Kretschmer, 1970, cited in Uma, 1989)

Studies have been done on the acquisition of syntax in Kannada as well. Sreedevi (1976) studied the emergence of syntactic structures in children aged two to three years. She found grammatical hierachies in the process of acquisition. Some of these are :

(1) The root form of a word is acquired before words with affixes are learnt.

(2) The nominal and verbal sentencespatterns are acquired prior to the age of two.

(3) Nouns and verbs are distinguished before the age of two.

(4) The expression of case relations is done with explicit ease markers.

(5) Coordinate constructions are not acquired by three years of age.

(6) Inflection of verbs for numbers and gender are achieved just after affixes have started being Used.

(7) Children of two years will have acquired the negative transformations. Common markers are "-lla", "ill" and "be:d".

(8) Embedding transformations were acquired in the proceaa of constructing discourses. (Sreedavi, 1976)

Children between the ages fiva to six years were examined by Frama (1979) for syntax in Kannada. Some inferencea from her study are :

(1) The structure of the basic sentence resembles the adult form.
(2) Negative auffixes were not acquired, although free negative markers were used.
(3) All the basic interrogative markers in yea/no and 'Wh'- queations were found, though aa a simpler form than the adult form.
(4) Most of the noun phrase and verb phrase conjunctions were absent.
(5) Simple declarative santances were used more than coordinate sentences.
(6) Pronominalisation was used inconsistently.
(7) Gender and number markers were instable. (Prema, 1979)

Other studies have been carried out in Kannada and other Indian languages. Subramanya (1978) worked on the development of morphological categories in Kannada for children six to eight years of age. He found that plurals, genders and tenses ware used by them correctly. (Subramanya, 1978, cited in Kathayani, 1984)

The syntactic development in Hindi, in children aged between four to five years of age was studied by Roopa (1980) while Sudha (1981) looked into the syntax of two to five year olds who spoke Tamil as their mother tongue. Venugppal (1981) also studied Tamil speaking children aged five to six years for their production of certain syntactic elements like negation, interrogation, imperatives, coordination, pronominalisation and relativisation. Certain aspects of the syntactic development in Marathi were deals with try Madhuri (1982). She took children between the ages two-and-a-half and threw years as her subjects. (Kathayani, 1984)

Children between the ages one to five years were tested with the Test of Acquisition of Syntax in Kannada, TASK, by Vijayalakahmi. She found that the children in the age group tested used case, tense, gender, number and person markers, as well as postpositions, determiners, adverbs and adjectives; all of which rose in in frequency with increase in age. (Vijayalakshmi, 1981)

Writing and Syntax :

Syntax is especially important in writing. This is because of the absence of other clues while writing. When we speak, we tend to use other cues such as intonational changes, gestures and facial expressions, to get the meaning across.

Thus, a sentence "Going home early today?" would be perfectly acceptable if spoken with a rising tone at the end of it. The same sentence written down however, would hardly be understood unless it were used in a specific situation with certain people, or in a particular context. Otherwise, it should have been written as "Are you going home early today ?".

Writing differs from speaking in that it needs the coordination of the visual motor activities. These have to be linked with the internal language symbol system. This internal language symbol system has been described as the child's acquisition and learning of the roles of syntax of his language, in the process of language acquisition. (Crandall, 1973)

Speech on the other hand, requires the interaction of auditory and motor skills. Audition has long since been recognised as being flexible than vision. It is multidimensional and leaves the hands free for other work. It is therefore, a more useful modality in the acquisition of language. (Myklebust, 1973)

In the sixteenth century, Giralamo Cardano ia known to have remarked, "....writing ia associated with speech snd speech with thought, but written charaoters and ideas may be connected without the intervention of sounds." (Wolff, 1973)

This statement has not been agreed upon by all researchers in the field of written language, but it has been noted that a child doesn't start to write a word until he has comprehended and used it in the auditory or visual mode.

As Kretschmer and Kretschmer put it, writing should be viewed as a way of expressing what is already known about the world and what can already be expressed in at least one other mode - speaking, signing or gesturing. (Kretschmer and Kretschmer, 1978) In other words, children would normally start writing only when they have internal linguistic rules.

Writing is important because it is not ambiguous as is speech. Neither is it transient. What ia written remains as such as long as it is stored. An individual is given plenty of time to analyse the message. The transient message when speaking ia affected by mispronunciations, different accents, and disfluenciea. Theae cause interruptiona in the transmission processes and results in incomprehension. This ia not the case with a corrected written sample.

This may be one reason why writing and reading have become the main tools in academic learning. An inability to write results in an inability to do well academically. Good writing skills are essential for any good student to succeed at school and college. (Hayes-Scott, 1987)

More importantly, writing results aa a mode of communication. An inability to write means being unable to communicate with the public when speech is not possible. Writing letters hawe become an essential part of our lives. Not everyone can understand signs or gestures so it is difficult to use them. Besides, both of these methods would make the message too obvious to everyone else.

For a person without speech, writing is one of the alternative modes of communication. In order to allow writing to be successfully implemented however, would mean that the sentences produced must be correct. Spelling mistakes, punctuation errors and incorrect word orders are to be minimised if efficiency is sought.

We have already seen the change in the meaning of the declarative statement "The rose ia red" to the question "Is the rose red?" caused only by a change in the word order. Similar changes in the meaning can result from interruptions or mistakes in spelling and punctuation. The omission of function words like 'the', 'a', 'is', etc. or their addition in inappropriate places also cauaea a disturbance in the message transmission process.

The Hard of Hearing Child - The problem he presents :

Hearing loss, especially if congenital, presents a problem which is difficult to solve, even with the fitting of a hearing aid.

The congenitally hearing impaired child is unable to hear the speech of others around him. He is also unfamiliar with his own voice. This would mean that his exposure to the spoken languages is limited.

For a child to develop language, he must be able to hear it being used and then use it himself. By doing so, he learns the rules of the language. He may imitate others at first, and later try to experiment with new words.

Others in the immediate environment indicate the accuracy of hia utterances through reinforements. In this way, the child begins to internalise the rules of his language. His competence in the language increases resulting in an increase in his performance. When the child then begins to write and read, he associates meanings with the written words that he is already familiar with through speech.

The hard of hearing child may not get the chance to imitate words spoken by others, however. He may not hear the differences between various phonemes, morphemes, words and larger syntactic patterns. Consequently, he will not be able to recognise the patterns of his language and associate them with meanings.

The fitting of a hearing aid is not going to help him differentiate all the elements of his language. (Wolff, 1973) This is because while speaking, we tend to put stress on the content worda and leave moat function worda unstressed. Those unstressed worda fade in intensity and may not be idebtified by the hearing impaired person.

The child may also be restricted by the reactions of his parents to his sensory deficit. The verbalisations of a deaf child are grossly distorted and easily misunderstood. The child consequently receives an inappropriate reaction and nonselective reinforcements from the important people in the enviromment. He usually gets bewildered and may actually inhibit any effort in future to try speech.

Subsequently, deaf children find it more difficult to generalise what they might have leamt and fail to develop the ability to discriminate between various linguistic forms or use them. (Meadow, 1960)

Schleainger points out that mothers of disabled children tend to feel powerless when they realise their child's handicap. The uncertainity of their child's future and the lack of quick progress in speech, in the child,results in an overprotecting attitude. They offer the child directive monologues which give the hearing impaired child little chance to try speech. It also makes him more

dependant on the clues offered by vision, touch and smell. This may be an alternate or concurring cause for poor language ability. Intemalisations of the rules of a language become a difficult as a result. (Schlesinger, 1988)

To write correctly, a child would have to have a set of linguistic rules internally which have been first tested in speech, signs or another mode. The child with severe or profound hearing impairment present before the language acquisition process is over, is faced with the task of learning to write without having internalised the rules of learning language. (Crandall, 1978)

While differences are present in the overall pattern of syntax development in the deaf and hearing children, the writing ability of the former is very much poorer than that of the normal hearing children. (Uma, 1989) If however, speech or a sign language with the structure of English is taught at an early age, it may be possible to help the hard of hearing child succeed in writing. This calls for early intervention and a lot of hard work.

Although written and spoken language both have the same structural information, approximately, a hearing impaired child has difficulty learning visually, even if he has acquired some amount of speech. (Ward and Bostron, 1983)

This is probably because the environment does not support the interactive use of written language as much as it does spoken language. Thus, unless such an environment is provided that helps the child interact with it through writing, a hearing impaired child will have problems in acquiring and mastering the skill. (Ward and Rostron, 1983)

Such an environment may not be provided even in schools. A study was carried out to describe the modes of communication used by the mainstreamed hearing impaired students, their peers and their teachers. Speech waa found to be the most commonly used and pantomiming as well as gestures were used only to call for attention to something or tease one another. Writing was used a lot, but only to draw attention to already supplied information. This supplement was hardly ever used to provide new information. The teachers' written contact with the hearing impaired students occurred in a one-to-one meeting only. Even here, it never extended to messages more than one or two words long. Sometimes, it was restricted only to underlying wards in the students' textbook or workbook. Writing as a communication tool with hearing students, though, was noted to be at a higher level. (Raimond and Maxwell, 1987)

The ability of the hearing impaired child to acquire writing skills and master them will naturally depend on many of the factors that favour languages development. These are :

(1) **Amount of hearing loss** - Chidren with only mild losses are not as deprived as those with severe or profound hearing losses.

(2) **Age of onset of hearing loss** - The child with a prelingual hearing impairment is at a diaadvantaga compared to the child who acquired a hearing inpairment postlingually.

(3) **Age at which intervention was started :-** Tha earlier the intervention taking place, the easier it is for the child to acquire language and therefore, waiting.

(4) **Amount of stimulation provided -** Stimulating a child in terms of all his sensory modalities is important for language acquisition.

(5) **Associated problems -** Mental retardation and motor problems associating with hearing loss can impede tha growth of language and writing ability.

Clarke and Rogers performed the Screening Teat from the Test of Syntactic Abilities, TSA, on 382 hearing impaired children between the ages of eight to nineteen years. They found that the total scores went in significant correlation with the hearing threshold level, and the number of handicaps the child presented. The other important factors were the age, the educational setting.

the method of communication in use and hearing aid usage. (Clarke and Rogers, 1981).

There may be considerable difficulty in learning to write even when motivation ia high. Schilp reports one hearing impaired case who was very motivated to correspond with her penfriends. Despite her enthusiasm however, she made continual grammatical errors. Thus, motivation is a necesaary ingredient but, it is not as important a factor as the others seen earlier. (Schlip, 1989).

A study done by Hayes-Scott reveals that there is no significant positive correlation between academic achievement and motivation in the hearing impaired students he studied. The individual's perception of reward and reinforcement however, plays an important role in motivation to improve writing skills. (Hayes-Scott, 1967)

Syntax in the Hard of Hearing Individual's Writing :

A lot of research has been done on the syntax in the written language of the deaf. Writing is important for the hard of hearing because of its clarity. The speech of the hearing impaired reflects improper usage of frequency, intensity and rasonation along with misarticulations. Sign language is limited to an extent

since only a small percentage of the population are fluent in it. Thus, many of the deaf may have to rely on writing.

0ne of the earliest studies done on the writing of the deaf was by Heider and Heider (1940). They compared 118 compositions written by hearing impaired and normal hearing children, written after viewing a short motion picture. The results of their study showed that :

(1) the sentenoes produced by the hearing impaired group were mostly simple in structure, i.e. they were relatively rigid and had unrelated language units following each other, with little overlap of structure or meaning.

(2) very rarely were compound and complex sentences, comparable to those used by normal hearing children seen.

(3) the compositions of the hearing impaired children resembled those written by younger hearing children.

(4) the more difficult forms of subordination in sentence structure were used less by hearing impaired children than by normal hearing children. (Heider & Heider) cited in Ruttedge, Power and Wilgus, 1983)

Myklebust found from his study of written language that some of the errors made by deaf people in written English were never seen in the hearing population, at any age. He suggests that the omissions of words like 'is' possibly reflect the structure of sign language in the deaf student's ability to proceas written language. (Hyklebust, 1960, cited in Liben, 1978).

The earlieat syntamtic rale acquired by hard of hearing children is the simplest phrase structure rule 'S - NP + VP'. This is usually completely mastered by the age of ten years. Children under this age however, tend to interpret simple sentences in terms of their experience of the world. (Russel, Quigley and Power, 1977).

Taylor however, found topic-comment constructions such as S - NP + locative, (eg. "The bird away") and s - NP + adjective (eg. "The ant happy") present in the written samples even before the S- NP + VP structure occurred in the deaf children. Errors ware mostly the result of omissions, especially in the determiner and auxilliary systems. She found no improvement in determiner omission errors upto sixteen years of age. (Taylor, 1969, cited in Russel, Quigley and Power, 1977)

With regard to transformations, Taylor found conjunctions the most frequently attempted in writing and these results were based on testing children with hearing impairment between the ages ten-and-a-half to sixteen-and-a-half years of age. Their use improved with age, unlike the use of tenses. Problems in sequencing tenses and deleting noun phrases whan pronominalisation is required are some other defects she observed. Verbs presented with more difficulty than nouns. Within the latter, plurals were harder than possessive markers.

Apart from these, she found confusion among the students, with tenses in infinitives and with the relationship between infinitives and gerunds. Some of these persist upto the age of sixteen.
(Taylor, 1969, cited in Ruseel, Quigley and Power, 1977)

Cooper, in 1967, studied verb tenses. The results he obtained showed that :

(1) the progressive tense marker '-ing' was easier than the past tense,
(2) plural markers were easier than verb inflections markers,
(3) the thrird person singular present tense markers were the most difficult for the hearing impaired, and
(4) superlatives and adjectives were better understood than the comparative forms.

(Cooper, 1967, cited in Russel, Quigley and Power, 1977)

The acquisition of the passive voice was studied by Power and Quigley. They studied ten prelingually deaf children, nine to eighteen years of age. They found that 'by' was the only passive marker used by less them half these children at around seventeen to eighteen years of age. This finding suggest that the passive marker is a difficult concept for the hearing impaired. Production of it in speech occurs only after eight to nine years of age. Thus, its use in writing can be concluded to be rare.
(Power and Quigley, 1973)

Further research on the syntax of the written language of deaf children was carried out by Russel. Quigley and Powers. They found that hearing impaired children have difficulties in producing the basic phrase structure rule. Noun phrases and verb phrases, negation and pronominalisation are difficult for the handicapped students. (Rusael, Quigley and Powers, 1976). The use of conjunctions, complementation and relativisation were also found to present difficulties. (Quigley, Wilbur and Kontanelli, 1975. cited in Rutledgs, Power and Wilgus, 1983)

The acquisition of the conjunction 'and' was found to be easier than the others. No subject complements were found in the production of hearing impaired, although object complements were used quite often. (Quigley, Wilbur and Nontanelli, 1975, cited in Rutlegge, Power and Wilgus, 1983)

Another major study is that done by Kretschmer and Kretachmer. They collected about 3,000 compositions written by normal hearing and deaf children and adolescents between the age range seven to eighteen years. These were compared to samples written by young adults. Some of the results from their study are as follows :

(1) A large number of hard of hearing children could not produce any complete sentence frames, even of the simple single proposition type.

(2) There are many subcategorisationas rule; violations. Verbs, for example, are used in positions that should be filled by nouns.

(3) Omissions of the local transformations, such as plurality, ponseesion and correct tense makers were seen.

(4) A restricted number of transformations and case markers were used by the children for expression.

(5) Self generated compositions were rigid and simple suggesting a primary difficulty with the base structure especially with verbs, articles, ant prepositions.

They concluded that hard of hearing children seem to learn the general meaning of words, but not all the critical dimensions that govern their use with other words. (Kretschmer and Kretschmer, 1970)

Ivimey decided to test whether the problem of reading and writing for the deaf arose because they had deviant language skills, or not. The generative transformational approach was used. The results of this study were given on the basis of one hearing impaired child's written productions. She seemed to possess a complex set of syntactic rules - basic and transformational These rules are used to produce totally linguistically incompetent novel utterances, not related at all to the utterances produced by normal hearing children.

The conclusions drawn from the etudy include the following:

(1) The language of the hard of hearing is not a loose cancatenation of English words.

(2) Differences in the utterances lie almost totally in the direction of syntax.

3) The language seems to be rule based, with syntax being incongruent with that of normal English.

(4) The differences are so great that it would be more appropriate to categorise their language as a deviant system. (Ivimey, 1976)

Most of these studies seem to stress that functions words and morphology are major obstacles to the successful acquisition of written language, in the hearing impaired population. Among the most persistent and common sources of error are articles, prepositions, conjunctions, pronouns, verbal auxilliaries and inflectional and derivational suffixes. (Strong, 1988). This may be explained by the fact that these grammatical categories are usually unstressed and may even be omitted in very fast speech. Thus, hearing impaired students may be unable to identify them. In the use of sign language too, most of the signed words are content words. Few function words of the spoken language are used in sign languages, so here too, the hard of hearing child fails to get an exposure to the function words.

These errors seen in simple, active, declarative sentences, indicate faulty cheice or inter-pretation of grammatical markers. When seen in multiple clauses, interrogative and passive sentences however, they seem to involve anomalous structural configuration or overgeneralised processing strategies. (Albertini and Samar, 1983, and Bochner, 1982, cited in Strong, 1988)

Subordinate clauses are treated as or confused with coordinate construction as found by Bochner. The cause for this has been speculated upon by him. Any sentence construction deviating from the S-V-0 word order has been found to be especially difficult for the hard of hearing population, particularly when the subject noun phrase does not immediately precede the verb with which it is associated. (Albertini and Forman, 1985; Berent, 1983; Quigley and Paul, 1984; all cited in Strong, 1988)

This difficulty is also evident in simple sentences which have slight alterations in the S-V-0 word order, such as interrogative and paasive sentences. This could be the result of traditionally based instructional practices which may unintentionally limit the hearing impaired student's exposure to complex aentences. (Bochner, 1982, cited in String, 1988)

Apart from function words and morphemes, specific types of verbs may prove to be equally difficult for the hard of hearing child.

Modals are specific verbs; for example, may, shall, will, might, ought, etc.; which are used to express ideas of possibility, constraint, desire, obligation, prediction and speaker belief. Its acquisition is highly related to reading ability, with the earliest to be acquired being 'will' and the latest being 'should' and 'have to'.

Normal hearing children acquire these from the contexts in which they hear modals being used, Rearing impaired children however, may be learning from the focus on isolated sentences used in the confines of the classroom, the positions medals can occupy within a sentence.

It is this, difficult for them to vary the syntavtic word order of the modals or determine which modal to use and under what pragmatic conditions. A similar problem is encountered with the acquisition of determiners, infinite pronouns and quantifiers, in the hard of hearing children. (Wilbur, Goodhart and Puller, 1989)

The examination of the use of grammatical morphemes was done by Brown. This study used spontaneous languagesamples in the oral form as data. Bwown reveals that his results showed no difference at all between the normal hearing children and their hard of hearing peers in the order of acquisition of grammatical morphemes. Further, significant differences were not found between these groups for the correct use of any of the morphemes tested. (Brown, 1984)

Brown's results would probably suggest then that hard of hearing children should perform equally well if spontaneous written samples were analysed and compared with samples of normal hearing children, at least in the use of grammatical morphemes. There have been studies however, to suggest that although certain concepts of grammar may be used correctly in speech, by the hearing impaired child, there will be mistakes seen in the written language. Many teachers of the deaf too, have suggested that deaf children were able to use correct syntax while speaking but were unable to write as oorrectly, what they could say in English. (Arnold, Crossley and Exley, 1982)

Arnold, Crossley and Erley used the Sentence Comprehension Test, or SCT, developed by Wheldall et al (1979) to test hearing impaired children in terms of their ability to speak, write and comprehend sentences. The test was me modified for the first two tasks but the latter was left unchanged.

They found that indeed, the scores of the spoken task were significantly higher than those of the written task. The authors suggest that the cause may be explained by Vygotsky, partly, in 1962. He said "... in learning to write, a child must disengage from sensory aspects of speech and replace words by images of words and put the words into a sequence to form a sentence."

Deaf children may not have thia ability to form a oomplete written sentence and therefore, writing poses a major problem for them.
(Arnold, Croaaley and Exley, 1982)

A more recent study was carried out on similar lines on partially hearing, deaf and hearing children by Exley and Arnold. The SCT was used again. The results here showed that, aa predicted, deaf children found it difficult to write a sentence, even if they could say it. The other two groups also show more errors in writing than in speaking, but the partially hearing group made more errors than the normally hearing children who were two years younger in age. (Arnold and Exley, 1987)

Another finding was that there were comparatively much better scores on the reading task than on the waiting task when the same sentences were used for both tasks. This was most significant in the hearing impaired groups. It may be that the hearing impaired students read individual words and add these together without understanding the syntactic relationships within the sentence very well. (Bochner, 1982; Exley and Arnold, 1987)

This can be further demonstrated by A study done by Sarachan-Deily. She examined the ability to recall prepositions and inferences from prose reading, of hard of hearing children, and compared their performance with that of hearing students. In the written responses, hearing students were able to recall more prepositions than the hard of hearing group, although both groups recalled similar numbers of story inferences. In both the groups, the better readers were more accurate in recalling explicit prepositional information than others. (Sarachan-Deily, 1985)

In another study done with Gromley, the above researcher took 20 hard of hearing children to study their ability to selfcorrect themselves. They gave each child a composition title and 45 minutes to write the compositions. Two weeks later, the uncorrected papers were returned to the students who were given another 45 minutes to revise their original compositions. The originals and the revised papers were then scored for content, linguistic consideration and surface mechanics. Results showed that only minimal changes were made by revising the drafts. There was a high degree of relatedness between the scores of the drafts and the copies. Good and poor writers differed widely in the use of content and linguistic elements. With regard to the surface mechanics, which includes spelling, punctuation, capitalism, legibility etc., there was no difference seen. (Gromley and Sarahan-Deily. 1987)

Errora in grammar were analysed by Schilp. She studied one hearing impaired teenage girl who made specific errors in noun and verb agreement. She also used to confuse nouns with adjectives, verbs or other word c classes. There were inappropriate additions of 's' to form plurals, wrong uses of verb tenses and deletions of the pronoun 'it'. She further omitted the article 'a' before generalised nouns.

This study focussed on a method of remediation. It was found that by making the girl identify her own errors made on previously written letters of correspondence. Correcting them with the help of a computer program, she was able to overcome her problem to some extent. (Schilp, 1989)

Few studies have been carried out on the hearing impaired population in India, that concentrate on the usage of syntax in writing. Kathayani prepared at language test in Kannada and recorded the expressions of various grammatical concepts by hard of hearing, mentally retarded and normal children. She found that with regard to the hard of hearing, they did not do as well as normal children in the use of place, number, gender and tense markers. Only in the use of person markers did they give performances equal to the normal ohildren. (Kathayani, 1984)

This study may have been done on speech, but it gives a possible inference that hard of hearing children have difficulties with syntax markers.

Data Collection aad Analysis :

Kretschmer and Kretschmer give three strategies by which samples of writing may be obtained :

(1) Word Association Research - Printed test words are used as stimuli in the method. Subjects respond by either writing the first word that comes to mind or they may sort out the words given into categories which each hold words which have the same or related meanings. Findings of studies which used this method have shown that older deaf ohildren do not uee a semantic field which is as extensive or differential as those used by normal hearing children.

(**2) Cloze Procedure Research -** Ongoing texts of varying complexity are presented in the printed form with some words deleted. The subjects' task is to supply the missing words. Here too, deaf children are less aware of the syntactic and semantic requirements of grammatical sentences, than their hearing counterparts. This results in a poorer performance. The procedure is meant to explore the comprehension of syntactic and semantio constraints. Cohen (1967) used a variation whereby deaf and hearing children had to reconstruct, through writing, passages that had already been read to them.

(3) Research with Spontaneously Produced Written Samples - **S**elf generated writings of deaf children are collacted h here. This method specifies, in more precise terms, the full extent of linguistic capabilities of the hearing impaired children.

(Kretschmer and Kretschmer, 1978)

Various other methods may also be used depending on the interests of the clinician.

Once the data samples have been collected, analysis is to be done. Five types of methods of analysis have been cited by Yoshinage-Itano and Snyder. These are :

(1) Productivity is analysed by quantifying the sentence or composition length, in terms of the mean length of utterance. This has been used by most of the earlier researchers like Heider and Heider (1940), Myklebust (1965) and others.

(2) Sentence complexity can be assessed using syntactic-ranking systems adapted from those deacribed by McCarthy (1930). Mating of the sentences is done on a scale ranging from incomplete to elaborate sentence construction. This procedure describes the sentences but no additional information about the use of structural rale governing syntactic development. This has been us used by Stuckless and Marks (1966) and others.

(3) Analysis of the errors is another way of analysing the data of hearing impaired subjects. This system was developed by Thomson (1936). Errors are categorised as omissions, substitutions, additions or word order deviations. Myklebust (1965) adapted the method to get the syntax quotient. Other adaptationa have been made by others such as having qualitative error counts, (Stuckless and Marks, 1965) and using weighting systems for grammatical errors (Gunderson, 1965).

(4) The frequency of use of various parts of speech can be measured in the writing also. (Simmons, 1963). This does not seem to relate to knowledge or correctness of use, however.

(5) Tranaformational grammar structure - This method can be used by focussing directly on the grammar. Taylor (1969), Kretschmer and Kretschmer (1978) and Ivimey (1976) have applied the procedure. The growth of grammar within clause structure using the T-unit analysis was done by Hunt (1965).

(Yoahinaga-Itano and Snyder, 1985)

Quigley and Paul have described the need to look beyond the level of words, phrases, clauses and sentences to examine the narrative discourse characteristics of written language. (Quigley and Paul, 1984, cited in Yoshinaga-Itano,and Snyder, 1985)

Baker studied the development of written language ability in 96 children from grades five to ten, using a picture stimulus. The children were given 20 minutes to write an essay based on the stimulus. Nine criteria representing the areas of productivity, spelling, semantic development and syntax were used to score the essays.

This study found that that the only sensitive measurement in the area of productivity was the total number of words used. Other studies had found that the number of words per sentence as more important. (Myklebust, 1973) (Baker, 1983) .

Spelling errors were seen to affect the ability to express an idea fluently. This is possibly because it adds a structural constraint to the writer. (Gregg, 1980, cited in Baker, 1963) Analysis of this aspect however, does not indicate the children's writing ability. (Baker, 1983)

Sex differences were found in total sentence construction with femakes constructing longer sentences than males. With regard to syntactic complexity however, no such differences were seen. The facets of verbal behavior under syntax include word order, language structure, relationship among sentence elements and rules governing linguistic formation. The measurements taken included the words per t-unit and the communicative effectiveness of the composition. From this study, the author hypothesized that syntax development is established prior to Grade 5. (Baker, 1983)

Gromley and Sarachan-Deily remark that the rasults given by teachers in evaluating the writing of hearing impaired students are based on very highly set standards. They are also subjective and therefore inconsistent.The authors suggest that feature analytical scoring may prevent variability among studies. Feature analytical scoring oonsiders three important categories. These are

(1) Content - This refers to the written protocal in terms of a appropriateness and completeness of the response with respect to the task at hand.

(**2) Linguistic Scoring** - Word order, omissions of the subject, verbs or object, and the violation of semantic relations are some of the common errors in hard of hearing children which are looked into in this category.

(3) Surface Mechanise - Refered to as surface mechanics, come all the spelling errors, punctuation errors, errors on capitalism, derivational or inflectional endings, articles and possessives, an well as legibility and minor grammatical errors.

(Cromley and Sarachan-Deily, 1987)

Apart from data collection and methods of analysis, many tests have been constructed to measure the syntax of hearing impaired children.

The Test of Syntactical Abilities is a measure of written and read syntactical skills developed for the hard of hearing child. (Quigley, Steinkemp, Power, and Jones, 1973, cited in Fitzgerald and Bess, 1982)

Another test which may be used to test either the oral or written language ability is the Carrow Eliceted Language Inventory, or CELL This measures the productive control of grammar and is noraed on mormal hearing children upto the age of eight years. (Carrow, 1974, cited in Fitsgerald and Bess, 1962)

Both these tests focus on the later acquired linguistic skills. (Fitsgerald and Bess, 1982)

The Picture Story Language Test (PSLT), developed by Hyklebust can be used as well when measuring the written skills of hard of hearing children. Five measures are used to define each of three attributes of language usage - productivity, correctness and meaning. Three scales are used.

Productivity measures the amount of language expressed under a given circumstance and comprises three of the five measures. These are :

(1) Total words,

(2) Total sentences, and

(3) Words per sentence.

Correctness is measured by the syntaz scale, while meaning is measured by the last scale, the abstract-concrete scale. (Myklebust, 1965)

Other tests which are used to teat the written syntax in the deaf include the Illinois Test of Psycholinguistic Abilities (ITPA); the Northweatem Syntax Screening Test, or NSST; the Developmental Syntax Screening Test; the LARSP, and the TASK, or Test of Acquisition of Syntax in Kannada.

The TASK checks on the following grammatical categories in Kannada :

(a)Person markers,

(b) Case markers,

(c) Adjectives,

(d) Determiner—definite,

(e) Tense and gender markers,

(f) Postpositions,

(g) Determiner-—indefinite,

(h) Plural forms,

(i) Wh-Questions,

(j) Embedded Sentence Construction,

(k) Yes/No Questions,

(1) Negation,

(m) Coordinators,

(n) Combination of coordinators, and

(o) Narration. (Vijayalakshmi, 1987)

Using any of these tests or subtests, researchers have been able to look into the written syntax of the hearing impaired children in greater detail. In all the studies reviewed, from Heider and Heider's 1940 study right upto the present day, however, it is one factor that stands out.

Hearing impaired children continue to demonatrate profound delays and deficits in the production and comprehension of written language. Thia oocurs despite the up-to-date technology and resources available for rehabilitating and teaching the hard of hearing student. Often, as reported by Powers and Wilgus, the most basic structures like noun phrases and verb phrases, fundamental for success, are not produced. (Powers and Wilgus, 1933, cited in Braden et al, 1939). Thus, it ia not surprising that the more complex tasks of writing are performed poorly by the hearing handicapped.

METHODOLOGY

METHODOLOGY

"Language is the dress of thought."

- Samuel Johnson

Aim :

The aim of this study was to compare the use of syntax in the writing of hearing impaired students with that of normal hearing students matched in terms of level of education.

Subjects :

The eight grade atudenta of the Govemment School for the Deaf, Mysore, were chosen for the study. This school was chosen because the syllabus followed here is the same as that followed by other state board schools for normal hearing students. seventeen boys were taken as subjects. Their mean age was 16 years 2 months.

All these students had bilateral sensory neural hearing loss with threshold levels greater than 80 dB. There was no history of middle ear pathology in any of the subjects. One subject had a history of polio-myelitis at the age of 4 years, but was included in the study as no obvious deviations were noticed in hia writing performance aa compared to his classmates.

No other medical or psychological problems were found in any of the students, and all were found to be of average intelligence. None of the students used a hearing aid, and two students had been attending therapy sessions over a period of 5 years, twice a week. This was mainly for practice in speech reading and improving

No Other medical or psychological problems were found in any of the students, and all were found to be of average intelligence. None of the students used a hearing aid, and two students had been attending therapy sessions twice a week over a period of 5 years. This was mainly for the practice in speechreading and improving expressions in communication. The main mode of communication is through speechreading, gestures and a modified sign system. Speech is not used by any, except three students. One of these boys also happens to be the one with history of poliomyelitis.

Their speech however, is always accompanied by signs and gestures, and consists of certain very familiar words only along with repetitions of what others may say. Many of the teachers move their mouths while gesturing or signing to their students, but very few actually vocalise loud enough to be heard. In comprehending therefore, the students make use of the signs as well as orofacial movements and rely less on speech itself.

Fifteen students with normal hearing were taken from the Onkarmal Somani College of Education,Mysore, as subjects. This school also follows the state board academic syllabus upto the 10th standard. The mean age of this group of boys at the time of testing, was 14 years 2 months.

All the boys were of average intelligence and none had any history of earache, ear discharge, hearing loss or tinnitus and vertigo. No medical or psychological problems were reported either.

At the time of testing, two samples from the hearing impaired group, and two from the normal hearing group were excluded from the total number of samples to be analysed. This was done because these four subjects did not complete all the tasks.

Materials :

Three tasks were administered at three different intervals.

The first task was the story narration task. For this, the story of "The Fox and the Crow was depioted by six coloured pictures framed on a chart.

The second task required the students to describe what they saw in a picture. A picture entitled "The Farm." was reproduced from the One Thousand Words picture vocabulary book and pasted onto a cardboard so that it could be held up easily. This was the stimulus for this task.

In the third task, no visual aids were used except for the title నా ఇల్లు, or 'My House'.

Answer papers were given to the students in the form of a booklet so that a fresh page could be used for each different task. Writing implements were not provided as these were already available to the students.

Test Environment :

Testing was carried out in the classrooms of the respective students. All the students of each group were tested together in one room. Care was taken to see that the students dad not cheat. This was done by having the atudenta spaced out in the classroom and avoiding any form of communication amongst themselves.

Instructions :

Instructions were given in Kannada to the examiner, who in turn, instructed the subjects. For the hearing impaired students, the classteacher was given the instructions. Speech as well as gestures and signs were used to ensure that the students understood the task fully.

The class teacher was instructed as follows

(1) The students should be instructed on the task, as given below.
(2) The story is to be told to the students using gestures, signs and speech to make it more meaningful. The chart is to be referred to as much as possible. If needed, the story can be told two or three times.

(3) No writing should be done during this time, on the blackboard or on any book.

(4) Give cross questions to see if the students really understand the story and the tasks at hand.

(5) In the picture description task, the students are again instructed on what they have to do. The instructions are given below.

(6) The students are to be allowed to approaoh the picture and examine it at close quarters.

(7) They can ask questions to clarify the identity of an object or an event in the picture. Questions must be answered without geing any written clue at all, i.e.- only speech, gestures and signs may be used.

(8) Instructions for the essay writing task 'My House', are to be given as mentioned later on.

(9) No written clues concerning the topic should be given except for the titled which is to be written on the board. Other forms of communication may- be used instead to describe what the topic requires and what aay be written. For example, the students can be told that they have to describe their house and can write where it is located, how many people there are who live there, etc.

Instructions to the students :

The specific tasks each have a set of instructiona which are to be given to the students. These are given in the following pages.

(1) Story Narration Task.

Now, I will tell you a story from these pictures. When I finish, you must write the story in the answer sheets given. If you do not understand the story, tell me and I shall explain it again.

You can book at these pictures while writing. Write all the sentences in full and complete forms. You can take as much time as you want, in writing.

(2) Picture Description Task.

Look at this picture carefully. Then, write as many sentences about it as possible. You must write at least twelve complete sentences. For example, "There is a lorry parked in front of the house."
There is no time limit for this test.

(3) **Essay Writing Task.**

For this test, all of you have to write a few sentences on the topic 'My House'. You can write about anything you want related to the topic. For example, you can write about where your house is, about who all live there and about what you do at home. Try to write in full sentences. You can take your time.

The same instructions were used for the normal hearing studentd. This group was tested by the author herself.

Procedure :

The same sequence of testing was followed for both groups. The story narration task was given firat, followed by the picture description task which was brought up by the essay writing task.

Each task was held on a different day. No indication of the nature of the task was given prior to the time of testing. No time limits were imposed on any of the tasks, and the students were allowed to take their time in writing.

The Story Narration task:

The chart with pictures was fixed onto the blackboard using cellotape. The distance from the blackboard to the furtheat pupil was about 15 feet. All students could see the chart and the pictures clearly. They were also allowed to come to the front at any time to examine the pictures more cloaely.

Instructions were given first as to what the task was all about. Then, the story was told once. If the students did not understand any part of the story clearly, it was repeated, twioe if neceaaary. Only when it was ascertained that all the students understood the task and the story very well, were they allowed to begin writing.

(2) The Picture Description task :

The picture on the cardboard was placed on a chair in front of the students. It was placed at a slightly higher—than-the-eye level. The distance from this stimulus to the students was about 8 feet. All the students could see the picture clearly and were allowed to approach the chair in front for closer examination.

Instructions regarding the task were given. Cross questions were used to make sure that all the students could identify every object in the picture, and none had any doubts regarding the picture or the task. Only then did the task begin.

(3) Essay Writing task :

The words "నాయొక్క ఇల్లు", or "My House" were written on the blackboard, so that it could be seen by all the students. Instructions were given concerning the nature of the task.

Positive reinforcement was given in the form of sweets, at the end of each task. They were also told why they had been tested at the end of all the testing.

Scoring and Analyses :

The samples of both groups were scanned through carefully for the types of words used. The number of nouns, verbs and syntax markers used by eaoh subject was recorded.

As there was a great disparity in the numbers of words used altogether between the hearing impaired and the normal hearing groups, aa well as between the tasks, the frequency of the word classes was recorded in terms of percentages.

There was a difference in the responses between the picture description task and the other two tasks. The story narration and the essay writing tasks, however, seemed to produce similar types of responaes. While responses resembling spontaneous speech were found in the picture description task, the latter two tasks gave more sophisticated and literary responses. Due to this, scoring was done separately for the picture description task and the scores of the other tasks were clubbed together to give one score. Thus, there was Taak I and Task II.

A measure of the variability within a group in the use of particular grammatical classes waa also done.

The mean words per sentence (MWS) was computed for each snbject. This was done by dividing the sum of the words in each sentence written by the number of sentences written totally. The average MWS used by the subjects of each group in each of the two tasks was the calculated for use in analysis.

Error scores in percentages, were also obtained for the different types of errors made by the subjects. This was done by dividing the number of times one particular type of error was commited, i.e. its frequency, by the total number of errors made altogether.

All these scores were compared in two ways. Scores of the hearing impaired students were compared with those of the normal hearing students. In addition, the scores on the different subtasks were compared. These are shown, in tabular form, and discussed is the next section.

RESULTS AND DISCUSSION

RESULTS AND DISCUSSION

"Words are mere sound and smoke -
dimming the heavenly light."
' - Goethe.

The Language - Kannada.:

This study was done in Kannada, the native language of all the subjects. Since Kannada, a Dravidian language, is structurally different from English, in which most of the previous studies on syntax in writing have been carried out, a brief description of the language ia given below.

Kannada is a highly inflected language where the verb also carries the tense, gender and number. The basic word order is of the type S-O-V. There are three gender distinctions - masculine, feminine and neuter; as well as two number distinctions - singular and plural. Plural forms are used to indicate politeness as well.

The seven cases of the language - genitive, nominative, accusative, dative, locative, instrumental and vocative - are marked by adding various suffixes to the noun stem to indicate different relationships between the nouns and other constituents of the sentence.

True adjectives are few in Kannada. The adjectives are usually derivations of nouns and verbs. At the syntactic level also, the adjective and adverbial forms function in effecting a change in the noun phrase and verb phrase respectively. Reduplication is used to provide various semantic functions like intensification, emphasis, addition, distribution and enumeration. (Schiffman, 1979. cited in Rahgamani, 1989)

Variations in colloquial Kannada are seen. There are various dialects and local varieties of Colloquial speech. Factors which have contributed to these variations could be historical, geographical, social or stylistic in nature, the speaker's mother tongue, if other than Kannada, also lends a hand to variation.

These differences in colloquial speech contrast greatly with a relatively uniform literary style used in writing and spoken in formal situations. This is explained by Ferguson based on the interrelationship between speech and writing. Writing has the property of reduction, making it quite different from common speech. No members of any speech community speak the way they write. (Nayak, 1967)

Nayak has also given the differences found in spoken and written Kannada, in terms of lexicon, morphology and phonology.

Colloquial Kannada is mere simple, uses fewer syntactical forms, shorter sentences and a more restricted vocabulary than literary Kannada. There are more allomorphic variants in colloquial speech, especially so for suffixes than for the root morphemes. The past perfect tense stem is seen only in colloquial language while the future tense stem is typical of the literary language.

The literary style of Kannada is used in all kinds of writing as well as sophisticated public lectures. While the colloquial style has several standards and substandards in different regions, the literary style is relatively uniform.

Not everyone is well versed with the literary style as this requires around eight to ten years of formal training. It is grammatically regular and rigid, with elaborate and vivid sentence patterns. The bulk of the vocabulary consists of technical terms and learned expressions. (Nayak, 1967)

Thus, the appearance of this formal language in colloquial usage is rare and usually ridiculed. The reverse however, is very common. The colloquial style has been used in fictional writing, poetry and drama, as an instrument to achieve reality and novelty. It is not rare therefore, to find students using the colloquial style in their written work.

The Overall Output between Normal Hearing and Hearing Impaired Students :

The output was considered separately for the normal hearing and hearing impaired students, in terms of the mean words per sentence (MWS) as well as the different grammatical units. The output in terms of MWS is given first, followed by the output in terms of the grammatical categories.

(1) Mean Words per Sentence (HWS) -

The MWS was computed for both the groups of subjects. Computation of the number of words in each sentence was done first. A sentence was taken to be the words between two fullstops, in the normal hearing group.

In the hearing impaired group however, fullstops were not regularly used, and if they were, they were used indiscriminately. Thus, other means of marking off sentences had to be used. If indexing was used by a student, then the words represented by the index were taken aa a full sentence. Some students started each sentence on a fresh line on their answer sheets, or left a large gap at the end of each sentence. For these sentences, the words per sentence was easily computed. The remaining sentences were marked off on the basis of subjective comparisons, and the number of words for each sentence was noted. The MWS was calculated from these for the two subject groups.

Table A - The MWS and standard deviations for the samples of normal hearing and hearing impaired groups.

	Normal Hearing	Hearing Impaired
MWS	5.5	4.6
S.D.	0.69	0.62

The normal hearing students use sentences with longer MWS an their samples than do their handicapped counterparts. The standard deviation of the MWS in each group was also calculated. This indicates that both groups ahow similar uniformity, with tne normals being slightly more heterogenous than the hearing impaired. This slight difference is due to the higher variability in sentence lengths used by them.

A further finding is that the normal hearing students tended to use many complex sentences of small lengths as well as very long sentences. Complex sentences were rare in the hearing impaired group, for though they used long sentences, these were restricted to simple structures.

The overall MWS however, was found longer in the normal hearing group. The hearing impaired use shorter and simpler sentences.

(2) Grammatical Units -

Nouns, verbs and syntactic markers were taken as the three major grammatical units in this section. In this study, syntactic markers include the syntax markers like /-yalli/ (in____) and the functors like /matte/ (and). Thus, both bound morphemes and free morphemes which were not classified under nouns or verbs were counted as syntax markers.

The output of the normal hearing and hearing impaired students in each of these grammatical units was expressed as a percentage of the total output of each subject group. Apart from this, the mean output for nouns, verbs and syntax markers along with the total output for the two groups, in terms of the actual quantity of words used by each subject group, within each category of grammar was recorded, as shown in Table B.

	Normal Hearing		Hearing Impaired	
	Quantity	S.D.	Quantity	S.D.
Total Output	413.2	55.7	250	59.3
Nouns	199.6	25.2	156.1	31.7
Verbs	60	20.0	58.8	18.7
Syntax markers	133.6	27.0	35.1	15.0

Table B - Mean output in terms of actual quantity of words in normal hearing and hearing impaired students.

It can be seen from the table that overall, the hearing impaired definitely use less number of words than do the normal hearing. The normal hearing students outstrip their handicapped peers in all the three different grammatical units as well.

It can be further noted that the samples of the two groups are similarly diverse when we look into the total word output. The hearing impaired are just slightly more heterogenous than the normal group.

In terms of nouns too, the hearing impaired as a group give more diverse outputs than the normal hearing group. Thus, some hearing impaired students used a large number of nouns in their samples, while others used verbsfew.

Verbs were used more efficiently by normal hearing students than by the hearing impaired, who used a lower number of verbs. This is probably one reason why, with a larger number of verbs used in various ways, that the normal hearing students prove to be more heterogenous than the handicapped, in the use of verbs.

The hearing impaired also used fewer syntax markers when compared to the normal hearing students. Their use of these unite was limited as well. Thus, the handicapped students turn out to be mare homogenous a group than the normals who use a larger number and variety of syntax markers..

Table C gives the nouns, verbs and syntax markers used, as percentages of the total output, of each of tho two groups of subjects.

Table C - Mean performances of normal hearing and hearing impaired in each of the different categories of grammar. In terms of percentages.

	Nonmal Hearing	Hearing Impaired
Nouna	48.4	62.4
Verba	19.3	23.5
Syntax markera	32.3	14.1

It Appears that nouna form the largeat proportion of grammatical units used in both the groups. In the hearing impaired group however, nouns make up third of the total output, whese as in the normal hearing students, nouns make up only about one half. Another difference is seen in the pattern of occurrence. In the normal hearing group, nouna form the largest proportion, followed by syntax markers and then by verbs. Nouns still dominate the output of the hearing impaired, but they are followed by verbs and then by syntax markers. Syntax markers form a limited 14.1 % of the total in the hearing impaired, while they form one third of the output of normal hearing students.

This difference in percentage of occurrence of the syntax Barkers in the two groups could be explained by the higher efficiency in handling these grammatical units by the normal group. Because of their lack of proficiency in using symtax markers, the hearing impaired tend to use them sparsely. Thus, the verbs and nouns tend to dominate their samples and form larger percentages. Hence the larger proportions of verbs in the hearing impaired.

All this is not to say that the hearing impaired students use a larger variety of words than their normal hearing peers. In reality, the variety of words within each grammatical unit used by them is very much limited, but these are used repeatedly. The frequency of appearance of certain words like /mara/ (tree), /mane/ (house), and /channagide/ (-is nice) and /nōdu/ (see), is extremely high compared to the rest of the words used.

Of the syntax margers, conjunctions were very seldom seen in the samples of the hearing impaired. The samples of the normal hearing students contain more conjunctions which are of various kinds - /-u/, /matte/, /hāgu/, /ādare/, etc. Only /matte/ was seen in the samples of the hearing impaired and this occurred very rarely. The postpositions were the most easily classified as a group, among all the postpositions, determiners, conjunctions, and other'function' words known as the symtax markers. They made up the major percentage of syntax markers in both subject groups.

Table D - Percentage of syntax markers classified as postpositions in the overall output of the normal hearing and the hearing impaired groups.

	Normal hearing	Hearing Impaired
Syntax markers (total)	100 %	100 %
Postpositions	81.3%	92.5 %
Others	18.7 %	7.5 %

The samples of the hearing impaired showed a higher proportion of postpositions in the unit of syntax markers than the normal hearing. This is because the normal hearing students use a larger variety of syntax markers apart from postpositions. The hearing impaired, on the other hand, do not use other syntax markers very much. Thus, the higher proportion of syntax markers which are labelled aa postpositions in the housing impaired group.

Among the postpositions themselves, it is found that all, except two, of the postpositions normally used by the nonhandicapped students, are also used by the hearing impaired, at least once. Along with these however, are seen syllables used as postpositions, but not found in normal usage of Kannada. Table E shows the distribution of syntax markers in both the student groups. Those syllables marked with an asterisk refers to those items not seen in normal Kannada usage.

Table E - The mean frequency of occurrence of the various postpositions used by normal hearing and hearing impaired students, expressed in percentages of the total postpositions seen.

Postpositions	Normal hearing	Hearing Impaired
-ಲ್ಲಿ /-lli/	21.6	34.0
-ಗಳ /-gaḷa/	16.7	26.1
-ನು /-nu/	14.7	16.2
-ಯ /-ya/	27.6	5.2
-ಗೆ /-ge/	8.2	4.3
-ಇಂದ /-inda/	1.4	4.3
-ದ /-da/	3.4	3.1
-ನ /-na/	2.3	0.8
-ಕೆ /-ke/	0.4	0.8
-ರು /-ru/	0.4	2.1
-ನು /-nu/, -ಳು /-ḷu/	2.1	1.0
-ಲ್ಲ /-lla/	0.4	0.6
-ಗಡೆ /-gaḍe/	0.5	-
-ಯಂದರೆ/-yandare/	0.2	-
*-ಕ /-ka/	-	1.0
*-ವ/-va/, -ತ /-tu/, & -ಯರಿ/-yari/	-	0.2

Among those postpositions used by both the subject groups, it may be noted that those popular among the normal hearing, like /-ya/, and /-ge/, are seldom seen in the writings of hearing impaired students, while those not ao frequently used by normals, like /-inda/ and /-ru/, are more frequently seen among the hearing impaired students. There are many postpositions which are used equally by both groups like /-lli/, /-gala/, /-nu/, /-da/ and /-lla/. This indicates that the hearing impaired are indeed familiar with the postposltions, but may be having difficulties in implementing them appropriately in various contexts.

The syllables uaed as postpositions which are not seen in the samples of the normal hearing, but which are quite frequent in the samples of the handicapped students, may be substitutions for the actual postpositions due to the perceptual problems faced by these students.

Output of Task vs Task II :

Further, the written samples of the hearing impaired students differed from thoae of the normal hearing students, in relation to the nature of the task.

As mentioned earlier, the firat task was the picture description task, Task I, while the second was a combination of the story narration and essay writing tasks, Taak II.

This distinction was made on the basis of differences found in the responses to the two tasks. No particular differences were seen between the story narration and essay writing tasks, so these were clubbed together.

The picture description test, Task I, is of a more concrete nature than the other two tests of Task II. Thus, it was easier for the hearing impaired, as compared to the more abstract and difficult nature of the story narration and essay writing problems of Task II.

In this section too, the MWS is discussed first, followed by the results found in analysing the outputs of the different grammatical units.

(1) Mean Words per Sentence -

The table below shows that for both groups of subjects, the Task II had bigger MWS values than Task I.

Table F - Mean Words per Sentence for Task.I and Task II for nomal hearing and hearing impaired students.

	Normal Hearing		Hearing Impaired	
	Task I	Task II	Task I	Task II
MWS	5.0	6.0	4.5	4.7
S.D.	0.9	0.8	0.8	0.6

The reason for the difference in MWS is that Task I was not as complex as Task II and did not require lengthy sentences. It was enough for the students to construct simple short sentences to describe what they saw in the picture. For example, most students used the same format such as "/ondu mane ide/" (One house is there), for all the sentences, changing only the underlined words. In Task II however, a higher amount of, and more varied type of syntactical complexity was required.

The normal hearing students were a more heterogenous group compared to the hearing impaired in both tasks. Their sentence construction, being more complex consist of short sentences as well as very long conjoined sentences which range from being of simple structures to complex sentences.

The hearing impaired students showed greater differences in terms of intergroup variations of MWS in Task I as compared to Task II. This could be becauae the Task I gives more clues as to what to write and they have thus, been able to write more number of complex sentences in this task. It could also be due to the manner in which the words per sentence was calculated for the hearing impaired. As there were many words which could be deciphered and sentence construction as well as punctuation were used poorly, sentences were marked off using subjective judgements. This was especially so in Task II. Henoe the smaller variation in MWS an Taak II in the handicapped.

(2) Grammatical Units -

The following table, Table C, gives the frequency of occurrence of the three grammatical units in the two subject groups.

Table 6 - Mean output in Task I and Task II for normal hearing and hearing impaired students, expressed as the actual quantity.

		Normal Hearing		Hearing Impaired	
		Taak I	Taak II	Taak I	Task II
Nouns	Mean	60.61	135.2	55.3	95.4
	3.D.	8.4	18.6	21.0	25.0
Verbs	Mean	21.9	66.6	20.9	36.7
	S.D.	3.2	13.2	9.8	12.0
Syntax aarkera	Mean	44.7	74.5	10.4	28.6
	S.D.	14.1	16.5	7.3	14.2
Total Output	Mean	130.5	282.5	87.5	162.8
	S.D.	22.8	39.4	22.9	35.2

Task II being a combination of two separate tests, naturally yielded a larger output than Task I, overall as well as within each grammatical unit. In this more abatract test, it was found that the normal hearing students had more to write than in Task I. The reverse was true for the hearing impaired.

Comparing the variations in performances within the hearing impaired group with the variations among the normal hearing showe that both groups seem to be similarly diverse. The responses for Task II arm more diverse in terms of total output, as oompared to those for Task I. Thin may be again because the more concrete Task I was less demanding than the more abstract Task II, resulting in a more uniform output for the former. This is also true of the outputs of each grammatical unit considered separately.

The hearing impaired performed more heterogenously in the use of nouns for both tasks when compared to the normal hearing students. The same is seen for the output of verbs in Task I. The reason for this is that some hearing impaired students could be repeating some selective nouns more frequently than the other students, thus giving a more varied output. In Task II, the output of verbs within the group in the hearing impaired, is leas heterogenous than that of the normal hearing students. Again the Task II, being more abstract, offers few clues to the student and results in the hearing impaired students limiting their use of versa, and appear more homogenous as a group.

The percentages of the grammatical units in the two tasks are given overleaf in Table H, for both groups of students.

Table H - Mean outputs of the different grammatical units in the Tasks I and II, for normal hearing and hearing impaired students, expressed as percentages of the total output for each group.

-	Normal Hearing		Hearing Impaired	
	Task I	Task II	Task I	Task II
Nouns	46.5	50.2	64.7	60.0
Verbs	17.0	21.7	23.9	23.1
Syntax markers	36.5	28.1	11.2	16.9

The percentages shown indicate a higher value for nouns and verbs in Task II compared to Task I, for the normal hearing students. The opposite occurs in the samples of the hearing impaired. The reason for this may be that the natures of the tasks are different in terms of concreteness and abstractness. Syntax markers form a higher percentage in Task I for normals, and in Task II for the hearing impaired. This could be because the hearing impaired have tried harder to form correct sentences using syntax markers, in Task II, while in Task I, they gave more importance to writing nouns and verbs to describe the picture. Following this notion, the normal students should have used more syntax markers in Task II. They however, used more of nouns and verbs in Task II, most probably to give more information. The information load in Task I would be comparatively less and they use more syntax markers to give more colourful sentences.

Within these syntax markers, the quantitative output of postpositions, in the two tasks was seen to differe between the normal hearing and the hearing impaired, when regarded as percentages of the total number of syntax markers used.

Table J - Quantity of postpositions used in the Task I and Task II by normal hearing and hearing impaired students, expressed as percentages of the total syntax markers used by each group, in each task.

	Normal Hearing	Rearing Impaired
Task I	64.6	92.5
Task II	78.0	92.5

The normal hearing students used a higher percentage of postpositions in Task I as against Task II. This is due to the larger variety of syntax markers used by them in Task II, at a result of which, the postpositions form a smaller proportion of the output of syntax markers.

The hearing impaired students do not show any differences in the percentages of postpositions found in either task. The syntax markers they use are of limited variety apart from the postpositions, unlike the variety found inthe samples of the normals. Alomg with this, the variety of syntax markers used in Task II is more than in Task I. These two factors may be responsible for the results shown in the Table J, for the hearing impaired.

Error Analysis :

Errors were found aplenty in the samples of the normal hearing as well as the hearing impaired s students.

In this study, an error was said to occur if any one of the following faults took place.

(1) An inappropriate noun or verb was used in the sentence despite its possible relatedness to the word it has substituted, for example, an error in the tense.
(2) An inappropriate syntax marker was used in the sentence.
(3) The addition of unnecessary words or omissions of the necessary ones occur.
(4) The construction of sentences is inappropriate.
(5) Incomplete sentences are found.
(6) The meaning of the sentence does not coincide with the context of the paragraph or precious phrases.
(7) Mistakes in spelling occur. Each mistake ia treated as a separate error.
(8) Unidentifiable words occur, which cannot be explained by any of the above.

Considering all these errors together, the Table K on the next page, gives the actual number of errors made by each subject group totally as well as within the two tasks, along with the percentage of errors made in the total outputs of either group, in bach task.

Table K - Mean number of errors made by normal hearing and hearing impaired students in Task I and Task II, expressed As the quantity and as percentages of the total outputs of each group.

	Normal Hearing		Hearing Impaired	
	Quantity	%	Quantity	%
Task I	163	9.6	190	14.5
Task II	270	7.4	346	14.2
Total	433	17.0	536	28.7

These errors exclude those made in sentence construction and inappropriate contextual meanings, as very few sentences in the samples of the hearing impaired could be called as grammatically correct, and a very high percentage of words and sentences were not appropriate for the context.

Despite the omissions of these two types of errors, it can be seen that overall, errors are made almost twice as often by the hearing impaired than among the normal hearing students. Keeping in mind that the qu quantity of words was far less in the hearing impaired, in the overall output, it should be noted that the number of errors made totally by them, exceed the number of errors made by the normal hearing students, in both the tasks as well.

Details are given below for the separate types of errors made. Each type is dealt with one at a time, with error scores given for each. The error score is expressed as a percentage of the total number of errors made, quantity of errors.

(1) Nouns and Verbs -

Errors made on nouns and verbs refer to the kind of error mentioned earlier as (1). The table below gives the error score for errors made on nouns and verbs by the two subject groups in the various tasks.

Table L - Mean error scores for nouns and verbs in Task I and Task II, of normal hearing and hearing impaired students.

	Normal Hearing		Hearing Impaired	
	Task I	Task II	Task I	Task II
Nouns	0	1.1	0	2.0
Verbs	5.5	3.0	2.1	2.0
Total	5.5	4.1	2.2	4.0

Overall, there were more errors made on verbs than on nouns, especially due to wrong tense usage. The normal hearing students how a higher error score on both task types compared to the hearing impaired group, for errors of nouns and verbs.

The reason for normal hearing students showing a higher error score for noun and verb usage, can be explained thus. The normal Rearing students tend to use and experiment with a wide variety of words and tenses, unlike the hearing impaired who use the few verbs they are familiar with, but on a large number of occassions.

The higher error score in Task I in the normal hearing is due to the high frequency of errors made by one particular student in the group.

(2) Syntax markers :

All the errors made in this word class were on postpositions. No errors were found on any of the other syntax markers. The error scores for either task by the subject groups for syntax markers ire given in Table M.

Table M - Mean error scores for syntax markers in Task I and Task II, for normal hearing and hearing impaired students.

	Normal Hearing	Hearing Impaired
Task I	19.0	15.8
Task II	7.8	22.5

It can be seen that normal hearing students did show more errors in the use of syntax markers than the handicapped, in Task I. They did better than the hearing impaired students in Task II, however. The types of errors made by both groups though, were observed to be different.

The types of errors made by both the groups were observed to be different..Normal hearing students made mistakes by using related though inappropriate postpositions with certain words. For example, some students used the locative marker /-yalli/ with the noun /ni:ru/ (water), to get /ni:ryalli/ which is wrong. The word should have been /ni:ralli/ or /ni:rinalli/ (in the water).

The hearing impaired however, did not seem to give importance to the postpositions. Thus, as shown previously, although they used nearly all the postpositions used by the normal hearing students, a few were used excessively, while the rest were rarely used. There were also those syllables which seem to take the place of postpositions, but do not appear in the language at all. Even those postpositions used often by the handicapped students are not always used correctly by them. Sentences like /ajjiyalli no:dugaḷu/ ("in the grandmother will see"; feminine gender /ḷu/; and substitution of /ga/ for /va/)

It would seem that hearing impaired students have the notion that there are syntax markers like postpositions present in the grammatical structure which must be used. What they lack however, are the rules by which these postpositions should be used. Hence the inappropriate usage. It could also be that due to faulty hearing abilities, some postpositions have been misperceived by the handicapped. Thus, they use syllables not generally used by normal hearing speakers of Kannada.

(3) Unidentifiable words

The perventages of unidentifiable words in the two tasks for normal hearing and hearing impaired students are given below in Table N.

Table N - Mean error scores for unidentifiable words in Task I and Task II for normal hearing and hearing impaired students, expressed ae percentages of the total errors made by both groups, in either task.

	Normal Hearing	Hearing Impaired
Task I	1.8	30.7
Task II	5.2	17.3

A larger percentage of words were termed unidentifiable in the samples of the hearing impaired, as compared totthat of normal hearing students, in both the tasks. This was especially seen in Task I, despite the availability of clues on what to write provided by the picture. This cannot be explained on the basis of the simpler nature of Task I as against the aore difficult and abstract Task II, as there were fewer clues given in Task II, but fewer unidentifiable words, too.

In normals, the higher percentage of unidentifiable words in Task II could be because there were lees clues here than in the picture description task, where the picture provided a clue to the examiner, against poor handwriting, spelling mistakes, etc.

(4) <u>Contextual errors</u> -

A contextual error ia aaid to occur if a word or sentence can be identified, despite possible spelling errors, but its relationship to the other words or sentences is inappropriate to the context.

In the samples of the normal hearing students, who totalled 13, only about 9 errors of context were found. These were usually due to the inappropriate placement of a verb. The hearing impaired student however, uses a large number of words which are not at all appropriate to the context. The grammatical classes used most inappropriately are the adjectives,
eg. /santho: a/ (happy) and /channagi/(nice);
some verbs, eg. /no:du/ (see) and /bari/ (write); and the postpositions /gaḷu/ (plural marker) and /yalli/ (place marker).

Some of these words appear in syntactically correct sentences, but are inappropriate in terms of contextual meaning. All of them are used extensively, without discrimination. The verbs noted above especially, are used without any regard to the context. A possible explanation for this may be the instruction given by the teacher prior to the task, when the teacher repeated the words quire often to get the attention of the students as well as instruct them on the task. The appearance of sentences like /katge no:du/ and /peiparalli bari/, ie (see the crow) and (write in the paper) are thus explained.

The postpositions have been explained earlier. These two have especially been used with almost every verb, in some samples (i.e. the postpositions /gaḷu/ and /yalli/). Tha adjectives mentioned earlier are also used in various contexts by all the students in the hearing impaired group, and sometimes contradict the statement. For example,

/ ka;ge dukʰa santo: a vaitu/

(crow sad happy became).

The hearing impaired student seems to use words indiscriminately for the sake of filling up space. When the appropriate word is not available to them. Sometimes, the word used is related in meaning to the word it substitutes, eg. using the word /sna:na/ (bath) for /toṭi/ (tank). Many a time, strings of words are written which have absolutely no connection whatsoever with the task at hand,however.

For example, one student with hearing impairment listed the days of the week in response to the essay writing task (i.e. Task II). Thia could be due to the lack of having something to write. Also, many students wrote a letter to their parents in the same task, after briefly writing a few things about their house. In other students, the words used by the teacher when instructing or narrating the story, have been incorporated in the samples.

(5) Erroneous Sentence Construction -

An interrelation between the subject, the verb and the object of a sentence was deemed a necessity in the analysis of sentence construction. Absence of this interrelationship was treated as an error.

The normal hearing students showed a general S-O-V type of sentence structure with the constituents being interlinked by the syntax markers. They showed a high number of simple sentences and conjoined sentences. Complex sentences were fewer, nevertheless, correctly constructed and placed in the context. The direct speech form was used much more than the indirect speech form.

There were some errors produced by the incompletion of some sentences and by the incorrect sequencing of words, especially between nouns and adjectives.

The handicapped children also showed a tendency to use the S-O-V structure in simple sentences. This clearly indicates that they do know the basic structure for sentence construction. This was observed in the Task I where short sentences were produced. It was not so apparent in Task II mainly because of the faulty use or absence of, fullstops in many places.

Strings of nouns are commonly seen to occur, ending abruptly in a verb or a string of verbs. Due to the absence of the proper usage of punctuation marks, sentences were marked using subjective judgement, by the examiner. This involved looking at the meanings of the words and searching for possible relationships between adjacent words. In doing this, many sentences were found to have no verb, and were designated incomplete.

It is possible that some of the nouns used towards the end of each possible sentence, may in fact have been meant as a verb. Due to the absence of inflections, the word may have been misinterpreted by the examiner, as a noun. For example, the use of /u:ṭa/ (food) for the verbs is eating', 'ate', or 'will eat'.

It may also be that the verb was not available and a noun which was related to it in meaning, was used instead. For example, the noun /angadi/ (shop) was used instead of the verb 'selling', 'to sell', etc.

The semantic relation between senteces was also analysed. Intersentential cohesion was very clearly present in the samples of the normal hearing, except for abrupt changes in meaning from paragraph to paragraph. This was completely absent in the samples of the hearing impaired, however, except for a few occassions when an idea needed a few sentences to be conveyed.

It was obvious however, that these students did underat and the tasks at hand, and had an idea to be conveyed, hence the high relation between most of the words used with the topic of the task given. It is the hearing impaired students' performance that is faulty.

(6) Errors in spelling

The table below showa th* actual number of spelling mistakes made along with the error score, which is the percentage of spelling mistakes made of the total errors made; in both tasks and by the two groups of subjects.

Table P - Mean quantity and error scores for normal hearing and hearing impaired students in Task I and Task II.

	Noraal Hearing		Hearing Impaired	
	Taak I	Taak II	Taak I	Taak II
Quantity	94	203	95	194
Error Score	57.7	75.2	46.5	56.1

From the table, it can be seen that the normal hearing students made more mistakes than the handicapped students in terms of spelling. In both groups, there is a tendency to make more spelling errors in Task II as compared to Task 1. , probably since Task II was more complex than Task I.

In Task I, various nouns needed only to be linked with the present tense verb /ide/, whereas in teras of the other task, other forms of verbs needed to be used as well as words in general, which are not used very often. .

In Task I, normals show a higher error score than the hearing impaired. This can be attributed to the hearing impaired students making many more other types of errors besides spelling errors, and so, showing a smaller error score. The normal hearing, on the other hand, make fewer types of errors, so the spelling errors come across as forming a higher proportion of the total errors, i.e. a higher error score.

This same rationale can be applied to the error score in Task II. The normals do show a higher number of errors in this task. Apart from the fact that they have used a larger number of words than the hearing impaired, this can be explained by the point that they use many types of words, many of which may be unfamiliar to them in daily usage. Some students spelt the way they spoke the word, resulting in making an error. The hearing impaired students seem to have a tendency to use those words familiar to them, and vommonly used in class. Thus, they make comparatively less mistakes because they experiment less.

The hearing impaired have also made errors on familiar and frequently used words. These may have been the result of their sensory deprivation which causes a fault in the perception of sounds of spoken words. Spelling errors, being more common at the and of words or sentences in the samples of the hearing impaired, serves only to emphasize the result of their hearing impairment. Using speechreading to compensate does not help very much, since only one third of all. the sounds spoken can be deciphered through lipreading.

(7) Punctuation Errors -

Punctuation marks taken into account were fullstops, commas, quotation markers and exclamation marks, when present.

Errors were counted when these punctuation marks were absent where they should have been present. Ho error score was calculated for quotative markers as only two students, with normal hearing, used these. Other students from both groups, who used direct speech, failed to use the quotative markers. Exclamation markers too, were used by only one student, who had normal hearing, so these also were not computed for the error score.

None of the hearing impaired students used commas unlike their normal peers, who used commas appropriately, except for a few instances when they were overlooked.

The error score for commas was not calculated however, because it was difficult to assess where they should have been placed in the samples of the hearing impaired. The improper use of fullstops and word classes are partly the reason for thia.

Error scores were not computed for the fullstops either, bucause of the reasons above mentioned. Hearing impaired students did not avoid using fullstops; in fact some of them used fullstops appropriately some of the time. Usually however, indiscriminate use of the punctuation mark was seen,for example, appearing: between reduplicated words, or between an adjective and a noun which obviously were related.

The absence of fullstops at the necessary places was equally common. These had to be subjectively judged aa correct ar redundant, by the examiner, in order to compute the mean words per sentence and describe other forms of errors.

Coup de grace :

All the results detailed above and in the preceding pages show that there is a definite disparity between the writing ability of the normal hearing and the hearing impaired students of the eighth standard. These results are summarised overleaf.

(1) The total output of the hearing impaired was very much lees than that of the normal hearing students.

(2) The mean number of words per sentence, or MWS, was found to be sherter in the written samples of the hearing impaired, as compared to the normal students.

(3) Both groups gave more output on the more abstract tasks of story narration and essay writing than on the more concrete task of picture description.

(4) Nouns made up a larger percentage of the total output of the hearing impaired than of the normal hearing students. Syntax markers were however, very few compared to the samples of the normal hearing students.

(5) The hearing impaired made a large number of errors in terms of correct usage of nouns, verbs and syntax markers than did the normal hearing students.

(6) Errors of inappropriate contextual usage of words and incorrect sentence construction were higher in the hearing impaired.

(7) There were a larger number of unidentifiable words in the samples of the hearing impaired students.

(8) The use of punctuation was either absent totally, or used indiscriminately by the hearing impaired students.

(9) Spelling errors were found to be more among the samples of the normal hearing students. This was accounted for by their use of unfamiliar words of Kannada and English.

SUMMARY

AND

CONCLUSIONS

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SUMMARY AND CONCLUSIONS

"HE gave man speech,
and speech created thought,
which is the measure of the Universe."
- Percy Bysshe Shelley.

The hearing impaired have a tough task ahead of them in terms of communication. Speech would be difficult because of their faulty perception of the speech sounds resulting in many defects of articulation as well as defects in the voice and resonance, which are the result of limited auditory feedback. The use of signs has often been advocated, but these are limited in flexibility as there are more people who do not understand signs than those who do, especially in India.

Hence, one of the most valuable modes of communication to the hearing impaired is writing, the one mode which ia read by large numbera of people. It is difficult for a child to jump to writing however, if he has not acquired the art of communicating through some other means, aa reported by several researchers. Teaching a child to directly read and write without his having internalised the rules of his language, results in difficulty with sentence construction. This is precisely what is being done in many places with the hearing impaired however, mainly from the point of view of the examinations these students have to sit for.

Little importance is carried out to see how much the hearing impaired can really implement writing for effective communication. This study was carried out to compare the ability of hearing impaired students, to handle writing in two different types of tasks, with the same ability in normal hearing students who have had the same amount of coaching.

The two types of tasks involved were picture description task (Task I) and a story narration task which was combined with an essay writing task as Task II. Task I was of a simpler nature than Task II. All responses were collected in the written form in Kannada.

Fifteen samples of the hearing impaired and thirteen of the normal hearing were finally considered for analysis. The results of either group of samples were then compared for overall performance, as well as outputs for each task. The results did show a difference between normal hearing and hearing impaired student, in the way they used written language.

The hearing impaired group gave a lower output than the normal hearing group, as predicted, both in terms of the total output as well as the output of nouns, verbs and syntax markers considered separately. This result is in accordance with the results of studies done earlier, by reaearchers in English, eg. Myklebust, Kretechmer and Kretsehmer, etc.

The mean words per sentence used by the hearing impaired is lower than that used by the normal hearing students, a possible consequence of the lower output of the handicapped students.

They also made a larger number of errors in the usage of the different word classes in terms of sentence construction, context and punctuation. Spelling mistakes however, were observed to occur more in the samples of the normal hearing, rather than the hearing impaired students.

The hearing impaired also performed more poorly on the relatively more abstract tasks of story narration and essay writing than on the more concrete task of picture description.

These show that the hearing impaired have a very large problem at hand in writing. One point however, should be mentioned in their favour. They are able to form short simple sentences of the S-O-V structure quite easily especially in Task I. Thus, as suggested by various studies done on syntax in written English, the hearing impaired do not write just a cantenation of words, but these may be the parts of a sentence which should have been interlinked by the syntax markers. These syntax markers are not stressed upon while speaking and are usually absent while signing, hence their not being used in the writing of hearing impaired.

This small ability of the hearing impaired is little comfort beside their failures. Due to these other difficulties, their academic performances are affected. They do communicate quite effectively with the signs and gestures used, but these are effective only within the school. Outside they are forced to use writing in order to express themselves, along with gestures. They are forced to limit themselves in communicating this way however, because of their poor writing skills.

Writing as a means of communication is different from speech and difficult because it involves making the visual and orthrographic mode the main mode through which communication is based. The true sense of communication is audition, which is not available to them. Yet, some hearing impaired students have been known to acquire adequate writing skills for effective communication.

The reasons for the hearing impaired students of this study not being able to do as well as their normal hearing counterparts, are many, more than the basic reason given above. They could be the method of teaching adopted in the classroom which stresses on signs and gestures for communication and leaves writing only to answering examination questions. This in turn, is due to the rather lengthy syllabil given to the hearing impaired students. The teachers try to complete this syllabil, which is in reality meant for normal students, and are not left with sufficient time to teaching the rules of writing.

It would be interesting and important to identify all the major reasons for the above findings as these would help in providing better means for the hearing handicapped to communicate more effectively.

In the meanwhile however, it would be very beneficial to the handicapped as well as the people around them if certain steps were taken to combat this battle of lack of adequate writing skills. For one thing, the importance of writing to the hearing impaired must be recognised. Reasons for this has been given repeatedly by several researchers throughout the years. Given good writing skills, the handicapped are provided oppurtunities to come up more successfully in life.

It is important to start with training in writing early in life, just as it is so with speech. Keeping in mind that writing is one of the most essential tool for the hearing impaired child to do well academically, and that the child must learn is language through modes other than hearing and proper speech, an early onset in reading and writing is important. Adequate exposure to written material provides the child with information about the finer points of the language, eg. syntax markers, and this is especially needed, considering that half of what is said usually goes unnoticed by him. Thus, starting early with writing must be done. Sometimes, the child may even come out with fuller sentences while speaking, once he is using full sentences in writing.

Another essential commodity for builting up good writing skills is that of special emphasis on the visual and orthrographic mode being given for the hearing impaired. It is a known fact that even normals learn better with visual aids to supplement speech. In the case of the hearing impaired, visual aids are required as well, not as supplements, but as the main mode of information transfer. It is not at all advisable to rely on the students' abilities to lipread or comprehend signs and gestures.

Special attention muat also be given to t the specific parts and rules of writing. Leasons are required for the hearing impaired, with the sole interest of teaching them writing skills. For example, the use of syntax markers needs more help in implementation, so this should be dealt with in detail, in as many examples as is possible.

These recommendations may not give a 100 % guarentee to good writing skills among the hearing impaired, but implementation of these will go a long was in enabling them to go well academically, get along well financially, and most of all, communicate more effectively with the majority of the population around.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Arnold, P., Croasley. E., & Exley. S.- Deaf Children's Speaking, Writing and Comprehenaion of Sentences., Journal of Auditory Research, 22. (1902)
2. Baker. J.M. - An Assessment Of Written Language Ability in Children., Australian Journal of Human Communication Disorders, 11 (2). (1903)
3. Braden. J.. Booth. K.. Shaw. S.. Leach, J.M., & MacDonald. B. - The Effects of Microcomputer Tele-communication on Hearing Impaired Children's Literacy and Language., The Volta Review, 91(3). (1909)
4. Brown. J.B. - Examination of Grammatical Morphemes in the Language of Hard of Hearing Children., The Volta, Review, 6(4). (1904)
5. Clarke. B.R.. & Rogers. W.T. - Correlates of Syntactic Abilities in Hearing Impaired Students., Journal of Speech and Hearing Research, 26(1). (1905)
6. Crandall. K.F. - Reading and Writing Skills and the Deaf Adolescent., The Volta Review, 80((1970)
7. Dolman. D. - A Study of the Relationship Between Syntactic Development and Concrete Apparatus in Deaf Children., American Annals of the Deaf, 120(6). (1903)
8. Exley. S.. & Arnold, P. - Partially Hearing and Hearing Children's Speaking, Writing and Comprehension of Sentences., Journal of Communication Disorders, 20. (1907)
9. Fitzgerald. M.T. & Bess, F.H. - MonographS in Contem-porary Audiology., 3(3). (1902)

10. Gromley. K.. & Sarachan-Deily, A.B. - Evaluating Hearing Impaired Students' Writing; A Practical Approach., The Volta Review, 89(3). (1987)

11. Hayes-Scott. F.C. - Hearing Impaired College Students' Academic Motivation, College Degree Plans and Locus of Control - A Relationship ?, Journal of the Rehabilitation of the deaf, 21(1). (1987)

12. Ivimey. G.P. - The Written Syntax of an English Deaf Child: An Explanation in Method., British Journal of Disorders of Communication, 11(2).

13. Johnson. W. & Moeller. D. (Eds.)- Speech Handicapped School Children., 3rd Edition, Harper & Row, New York, (1967)

14. Kathayani, H.N. - A Language TesT in Kannada for Expression in Children., Master's Dissertation, Mysore. (1984)

15. KretSchmer. L.W. & Kretschmer Jr.. R.R. - Language Development and Intervention with the Hearing Impaired., University Park Press, Maryland, U.S.A. (1978)

16. Langacker. R.W. - Language and Structure - Some Fundamental Linguistic Concepts., 2nd Edition, Harcourt Brace Jovanich Inc., New York. (1973)

17. Liben. L.S. - Deaf Children: Developmental Perspectives., Academic Press Inc., New York. (1978)

18. Meadow. K.P. - Deafness and Child Development., Edward Amold(Publishers) Ltd., London. (1980)

19. Morgan. A.T.(Ed.) - Handbook of Quotations., Goyl Saab, Delhi. (1988)

20. Myklebust. H.R. - Development and Disorders of Written Language - Vol.2 - Studies of Normal and Exceptional Children., Grune and Stratton, New York. (1973)

21. Nayak. H.M. - Kannada - Literary and Colloquial - A Study of the Two Styles., Rao and Raghavan, Mysore. (1967)

22. Power. D.J. & Quigley, S.P. - Deaf Children's Acquisition of the Passive Voice., Journal of Speech and Hearing Research, 16(1). (1973)

23. Prema. K.S. - Some Aspects of Syntax of 5-6 year old Children - A Descriptive Study in Kannada., Master's Dissetation, Mysore. (1979)

24. Rangamani. G.H. - Aphasia and Multilingualism - Clinical Evidences Towards the Cerebral Organisation of Languages., Doctoral Thesis, Mysore. (1989)

25. Raimondo. P.. & Maxwell. M. - The M$des of Communication used in Junior and Senior High School Classrooms by Hearing Impaired Students, and Their Teachers and Peers., The Volta Review, 89(6). (1987)

26. Russel. W.K.. Quigley. S.P. & Power, D.J. - Trans forma—-tional Syntax and Its Application., The Alexander G. Bell Association for the Deaf Inc., 1st Edition. (1977)

27. Rutledge, Power, D.J. & Wilgus - Linguistic Complexity in the Written Language of Hearing Impaired Children., The Volta Review, 85(4). (1983)

28. Sarachan-Deily. A.B. - Written Narratives of Deaf and Hearing Students, Story Reaall and Inference., Journal of Speech and Hearing Research, 28(1). (1985)

29. Schilp. C. - Case Study: Correcting Grammatical Errors with MacWrite., The Volta Review, 91(3). (1989)

30. Spencer.H. - A Kannada Grammar with Graduated Exercises., Asian Educational Services, New Delhi. (1965)

31. Sreedevi, S.R. - The Aspects of Acquisition of Kannada by 2+ year old Children., Master's Dissertation, Mysore. (1976)

32. Strong. M. - Language, Learning and Deafness. Cambridge University Press, San Francisco. (1988)

33. Uma - Acquisition of Language. Ph.D Thesis (in preparation). (1989)

34. Vijayalakshmi. A.R. - Development of a Test in Kannada for Assessing Language Acquisition in Children., Ph.D . Thesis, Mysore. (1981)

35. Ward. R.D. & Rostron, A.B. - Computer Assisted Learning for the Hearing Impaired; an Interactive Written Language Environment., The Volta Review, 85(7). (1983)

36. Wilbur. R., Goodhart. W. & Fuller, D. - Comprehension of English Modals by Hearing Impaired Students., The Volta Review, 91(1). (1989)

37. Wolff. J.G. — Language, Brain and Hearing., Methuen & Co. Ltd., London. (1973)

38. Yoshinaga-Itano. C. & Snyder. L. - Form and Meaning in Written Language of Hearing Impaired Children in Learning to Write and Writing to Learn., The Volta Review, 87(5). (1985)

40. Albertini. J.A. & Bochner. J.H. - Language Varieties in the Deaf Population and their Acquiaition by Children and Adulta., Chapter 1. In Strong. K.(Ed.) - Language, Learning and Deafness., Cambridge University Preaa, San Franciaco. (1988)

41. Albertini. J.A. & Samar. V.J. - Early Inatruction of Object Complements to Hearing Impaired College Studenta., Journal of Applied Payeholinguistics, 4. (1983) In Strong. H.(Ed.) - Language, Learning and Deafness., Cambridge University Press, San Franciaco. (1988)

42. Berent. G.P. - Control Judgements of Deaf Adults and Second Language Learners., Language Learning, 33. (1983) In Strong. M.(Ed.) - Language, Learning and Deafness., Cambridge University Press, San Franciaco. (1988)

43. Bochner. J.H. - English in the Deaf Population., In Simma. B.C. Walter. G.6. & Whitehead. R.L.(Eds.) - Deafness and Communication- Asseastment and Training., Wilkins & Wilkins, Baltimore. (1982)

44. Cooper. R. - The Ability of Deaf and Hearing Children to Apply Morphological Rules., Journal of Speech and Hearing Research, 10(1). (1967) In Russel. W.K.. Qujgley. S.P. & Power. D.J. - Transformational Syntax and its Application., The Alexander G. Bell Association for the Deaf Inc., 1st Edition. (1977)

45. Heider. G. & Heider. F. - A Compariaon of Sentence Structure of Deaf and Hearing Children., Paychtloglcal Monographa, 52. (1940) In Russel. W.E.. Quigley. S.P. & Power. D.J. - Tranaformational Syntax and ita Application, The Alexander G. Bell Association for the Deaf Inc., 1st Edition. (1977)

46. Quigley. S. & Paul. P. - Language and Deafness., San Diego, College Hill Press. (1984)

47. Quigley. S.. Wilbur. N.B. & Montanelli. D.S. - Question Formation in the Language of Deaf Students., Journal of Speech and Hearing Research, 17(4). (1974)

48. Taylor. L. - A Language Analysis of the Writing of Deaf Children., Unpublished doctoral dissertation, Florida State University. (1969) In Russel. W.K.. Quigley. S.P. & Power. D.J. - Transformational Syntax and its Application., The Alexander G. Bell Association for the Deaf Inc., 1st Edition. (1977)