

A LANGUAGE TEST IN KANNAOA FOR EXPRESSION
IN CHILDREN

Reg. No. 4

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A dissertation
submitted in part fulfilment for the Degree
of Master of Science (Speech and Hearing)

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Dedicated to:

MY PARENTS

CERTIFICATE

This is to certify that this dissertation titled
"A LANGUAGE TEST IN KANNADA FOR EXPRESSION IN CHILDREN"
is the bonafide work in part fulfilment for the Degree of
Master of Science (Speech and Hearing) of the student
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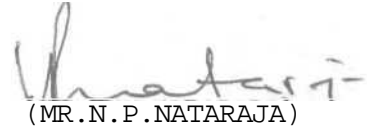
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C E R T I F I C A T E

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D E C L A R A T I O N

This Dissertation is the result of my own study undertaken under the guidance of Mr. N.P. Nataraja, Reader and Head of the Department of Speech Sciences, All India Institute of Speech and Hearing, Mysore-570 006, and has not been submitted earlier at any University for any other Degree or Diploma.

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A C K N O W L E D G E M E N T S

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C H A P T E R - I

INTRODUCTION

Language is a system of phonological, semantic and syntactic rules which can be applied in an orderly manner for communicative purposes (Chomsky, 1965).

Communication is an essential aspect of human beings. Language is unique to man especially in the form of speech.

Language starts developing from birth through several years of life. The speech of the child changes with different stages of language acquisition. Child's expression through speech serves as an important avenue of language testing.

Developmental scales include items to check for expressive language. Eg: Denver Developmental Scale (Frankenberg, Dodds and Fandal, 1960) elicits verbal responses to pictures or objects and the child's responses are evaluated for age appropriateness.

Screening language tests are available. Fluharty's (1974) screening test for expression requires the child to imitate the sentence. Extensive tests for particular aspects of language eg; Syntax like North Western Syntax Screening Test (Lee, 1969) are available.

1.2

Most often child's expression is tested by using his responses to questions, stimulus pictures, story telling, and sentence completion tasks.

Many studies available in India have focussed on language acquisition (Roopa, 1981; Sudha, 1981; Venugopal, 1981, Madhuri, 1982). In Kannada, studies on language acquisition are available (Sreedevi, 1976; Kumudavalli, 1973; Prema, 1979, Subramanyah, 1978). Vijayalakshmi (1981) has developed a Test for acquisition of Syntax in Kannada for children upto 5 years of age. It is a comprehensive test. It gives language profiles for different ages and identifies specific areas of syntactic deficits in language disordered children. It is a test for comprehension as well as expression and has 19 subtests.

Information is scanty regarding older age group children. Subramanyah (1978) has tested some morphological concepts, in 5-8 year old group children.

The speech and language clinicians do not have information regarding the acquisition or use of various 'concepts' by the children of different age groups, particularly with reference to Kannada language. Therefore, it is difficult for the speech and language clinician to select specific concepts from the environment to teach language to delayed speech and language cases.

Further, it becomes difficult to evaluate the language ability of child, as there is no information regarding the normal acquisition of Kannada language (in older age group). So the present study has been planned to note the concepts that the child acquires regarding daily activities.

Thirty normal children between 5-8 years of age whose mother tongue was Kannada were taken for the study. 30 picture cards depicting daily activities were used as stimuli. Each child's responses were recorded. Later they were transcribed and analysed. 6 hearing impaired children and 2 mentally retarded children were also tested. Following were the hypothesis formed and tested for:

Hypothesis I. There is no significant difference in the use of 'concepts' between different age groups of male children.

Auxiliary hypotheses: There is no significant difference in

- I(a) the use of 'objects' between different age groups of male children.
- I(b) the use of 'verbs' between different age groups of male children.
- I(c) the use of 'numbers' between different age groups of male children.
- I(d) the use of 'genders' between different age groups of male children.

- I(e) the use of 'tenses' between different age groups of male children.
- I(f) the use of 'place markers' between different age groups of male children.
- I(g) the use of 'persons' between different age groups of male children.

Hypothesis II: There is no significant difference between different age groups of female children.

There is no significant difference in

- II(a) the use of 'objects' between different age groups of female children.
- II(b) the use of 'verbs' between different age groups of female children.
- II(c) the use of 'numbers' between the different age groups of female children.
- II(d) the use of 'genders' between the different age groups of female children.
- II(e) the use of 'tenses' between the different age groups of female children.
- II(f) the use of 'place markers' between the different age groups of female children.
- II(g) the use of 'persons' between the different age groups of female children.

Bypothesis III: There is no significant difference in the use of 'concepts' between males and females of the same age groups.

There is no significant difference in

III(a) the use of 'objects' between males and females of same age group.

III(b) the use of 'verbs' between males and females of same age group.

III(c) the use of 'numbers' between males and females of same age groups.

III(d) the use of 'genders' between males and females of same age group.

III(e) the use of 'tenses' between males and females of same age groups.

III(f) the use of 'place markers' between males and females of same age groups.

III(g) the use of 'persons' between males and females of same age groups.

Hypothesis IV - There is no significant difference in the use of various 'concepts' between normal and hearing impaired children.

Hypothesis V - There is no significant difference in the use of various 'concepts' between normal and mentally retarded children.

Hypothesis VI - There is no significant difference in the use of various 'concepts' between hearing impaired and mentally retarded children.

1.6

Definitions:

Objects: A noun or noun equivalent denoting that as or toward which the action of a verb is directed.

Verb: A word expressing an action performed by the subject, or a state experienced by the subject, and having the force of a predicate.

Number: Distinction of word form to denote reference to one, or more than one.

Gender: Form of a noun or form of the noun as a mark of the noun's membership in a distinct class.

Tense: Distinctive form in a verb for the expression of distinction as to time; an inflectional form or phrase thus expressive of a time distinction.

Locative (Place Marker): :Pertaining to or designating a case denoting place or the place where or wherein.

Persons: Any of the 3 relations (that of the speaker, one spoken to, and that of another person or thing spoken of and called the first, second, and third person) underlying discourse, distinguished by certain pronouns. (Webster, 1951).

The study has implications in terms of diagnosis and therapy. It can be used to check certain concepts and their usage in normal

children in the age range of 5-8 years.

With the norms established, comparative studies can be done with hearing impaired and mentally retarded children.

It can serve as a therapeutic tool to set goals in language teaching.

Limitations of the study:

1. Children between a limited age range are taken.
2. Sample of clinical population is small.
3. In clinical population, the amount of hearing loss, duration of therapy, degree of retardation were not matched.
4. Testing limited itself to only certain concepts in language behaviour i.e., to the pictures depicting the daily activity that a child would come across usually.

C H A P T E R - I I

REVIEW OF LITERATURE

Introduction:

Language is the knowledge of a code for representing ideas about the world through a conventional system of arbitrary signals for communication (Bloom and Lahey, 1978).

Language expressed in the spoken form is unique to man.

Speech is a medium that employs a linguistic code, oral and/or visible by which we are able to express feelings and communicate thoughts to others with comparable capacities (Eisenson, 1971).

Language acquisition takes place in different stages. Knowledge of language acquisition is essential to differentiate normal from deviant language. It also helps in language testing and in planning therapy.

The study of language acquisition has gained a lot of importance. It has been studied from the point of view of phonology, vocabulary or lexicon (semantics), morphology or syntax and pragmatics.

Many studies have been conducted to note the acquisition of various aspects of language (Truby, Bosma and Kind, 1965; Carrol, 1961; Gesseland Thompson, 1934; Halliday, 1975; Dore et al, 1976).

2.2

Many stages in language acquisition have been identified.

In the first stage, the vocalization, crying, cooing and other nondescriptive sounds are observed. This stage is from zero to six months. Utterances in this period seem to be primarily a reflection of child's increasing ability to control various parts of his vocal mechanism (Truby, Bosma and Kind, 1965) - cited in Stark, 1979.

The second stage termed as 'Babbling' is from six to eight months. During this the production of series of consonant vowel syllables is prominent. It is more phonetically diversified type of random vocalization (Carrol, 1961). The period from 8-10 months and later is known as 'expressive jargon stage'. Now there are evidences of understanding and recognition of certain symbolic gestures, intonations and words. By 9 months, adult like "intonation patterns" have been noted (Gessel and Thompson, 1934) - cited in Stark, 1979. Children produce strings of utterances marked by intonation and stress.

The single words start appearing by the child's first year. These words are meaningful. Single word utterances are considered as important in language acquisition (Helliday, 1975; Dore et al, 1976).

Around 18 months of age the child starts using two-word

utterances. Some studies have explained them with 'pivot grammar' (Braine, 1968; Mc Neill, 1966).

Bloom (1970) and others explain them using semantic approach.

After about 2 years of age, the child uses 3 or more word utterances. Usually the combination includes agent-action-object or agent-action-location. Rapid development in language takes place from now on.

Child starts comprehending and using all types of grammatical categories. He acquires different types of sentences. By 5 years of age, the child's speech is similar to that of an adult.

Language development continues later in the form of vocabulary increase, grammatical complexity.

Studies in language acquisition (in India);

Tirumalai (1972) studied Tamil phonology in a child above 4 years of age.

Kumudavalli (1973) has investigated the relationship between articulation and discrimination in Kannada sounds in 4-8 years old children.

Sreedevi (1976) has studied aspects or acquisition of Kannada in children Between 2-3 years or age. Important findings or the study were:

1. Children acquired the basic types of sentence patterns i.e., nominal and verbal very early.
2. The acquire distinction between noun and verb very early.
3. Among pronouns first person singular, second person singular and third person neuter singular are acquired earlier than others.
4. Transitive and intransitive verbs are acquired earlier than reflexive and causative ones.
5. Present and past tense forms are acquired earlier than future tense forms.
6. First the expression of case relation is done without the using explicit case markers.
7. Discourses consist of a maximum of 3 sentences in this age group.
8. Negative transformations/ilia/, /beda/ are acquired earlier than others.
9. No difference between sexes was found in acquisition of grammar.

Tasneem Banu (197Y) studied the acquisition of articulation in Kannada.

Subramanya (1978) has studied the development of some morphological categories in Kannada in children between 6-8 years of age. Thirty two children were tested to see for the application of morphological rules for 3 items - plural, gender and tense. It was concluded that

1. /gaḷu/ allomorph was mostly used as plural, /aru/ and /andiru/ were not acquired in these children. Order of acquisition is /gaḷu/, /aru/ and /andiru/.
2. In gender allomorphs, /-i/ and /aḷu/ were predominantly used by children. They had not acquired /-gitti/ allomorph. The order of acquisition is /-i/, /aḷu/, /-e/ and /-gitti/.
3. In case of tense allomorphs, children showed the ability to use future and past tense allomorphs. Rules for using them were not generalised in the age range studied.

Prema (1979) has studied some aspects of development in 5-6 year old Kannada speaking children. Findings of the study are:

1. Structure of basic sentences resemble that of adult syntax.
Noun phrase of children is simplified.
2. Free negative markers /alla/, /illa/, /beda/ are found in children's speech.
3. Transformational rules to derive negative sentences are still in the process of acquisition.

4. All basic interrogative markers in Yes/No and wh-type questions are found in childrens' speech.
5. All NP and VP conjunctions are not acquired by 5-6 year old children.
6. Pronomialized sentences are used by these children.
7. Lender and number markers are not yet stabilized.

Roosa (1980) has studied some of syntactic development in 4-5 year old Hindi speaking children. Sudha (1981) studied syntax in 2-5 year old Tamil speaking children. Venugopal (1981) studied the production of certain syntactic elements like negation, interrogation, imperative, co-ordination, pronominalization and relativization in Tamil speaking children in the age of 5-6 years.

Vijaya Lakshmi (1981) has developed a test for acquisition of syntax in Kannada speaking children upto 5 years of age. The performance of 85 children on TASK has led to following conclusions in syntax acquisition.

- The process of acquisition of syntax shows systematic development in acquiring more and more grammatical structures and sentence types as age progresses.
- Comprehension of language is better than expression when children begin to speak and this difference exists only till the children are around 3-6 years of age.

- Comprehension of language starts early and develops faster than expression till the age of about 3-6 years. The expressive ability picks up faster and competes closely with that of comprehension after the age of 3-6 years.
- Girls perform better than the boys in the age range of 2.0 to 3.0 years. From 3.0 years onwards, boys pick up faster. Around the age of 5 years, both perform similarly.
- There is a universality in the process of syntax acquisition, as seen from the general agreement with the reports of other language.

Madhuri (1982) has studied some aspects of syntactic development in Marathi speaking children aged 2½ to 3 years.

But none of the studies have indicated the size of vocabulary or the identifying and naming ability of the children. Particularly no such information was available to the investigators in Kannada (in the age range of five and above).

Language Testing:

Importance of language testing is well known. In the present context, mainly studies and tests of expressive language are reviewed.

Recently language assessment has been syntactically, semantically oriented. Even pragmatic behavior has been used to assess child language development (Rom and Bliss, 1981).

The syntax of a language is the subset of rules that specify well formed sentences. These rules are reflected in the surface structure of a sentence by means of the order in which words occur, the use of bound morphemes and the use of free morphemes.

Child's expressive use of grammatical rules has often been judged by his responses to questions, repetition, stimulus pictures, or story telling (Lee, 1970).

Siegel (1975) suggests that "the more completely and adequately samples of everyday language behavior can be incorporated into a given environment, the more useful it is. A test will thus serve to provide a representation of behavior in question."

Different measures used in language assessment are: Mean length of utterance, mean length of response, structure complexity score, developmental sentence scoring, sentence pattern.

Berko's (1958) method for investigating morphological development requires a child to add appropriate endings to nonsense words (cited in Lee, 1970).

The Grammatical closure subtest of ITPA (Kirk, Mc Garthy and Kirk, 1968) uses a procedure in which test items are in a developmental

progression and real words are used, (cited in Siegel and Broen, 1978).

Menyuk (1969) investigated the ability of preschool and kindergarten children to repeat sentences involving transformational structures, and verb forms.. Analysis of the children's errors showed the grammatical rules under which they were operating.

But this task has only partial value in language handicapped children. Usually these children have good grammatical competence, while handicapping conditions interfere with their expressive use of grammatical rules.

The Imitation, Comprehension, Production (ICP) Test of Fraser, Bellugi and Brown (1963) used the technique of contrasting sentence with pairs as a means of eliciting both receptive and expressive performance with whole sentences.

Language Tests:

The picture Articulation and Language Screening Test (Rogers, 1972) includes articulatory and expressive language tasks, only for 6 year old children - cited in Fluharty, 1974.

The North Western Syntax Screening Test (Lee, 1969) consists of twenty sentence pairs to be identified receptively by picture

selection and twenty similar sentence pairs to be produced in response to stimulus pictures. It was devised to identify 3-8 year old children for whom detailed language evaluations were necessary. Tasks covered grammatical features such as prepositions, personal pronouns, negatives, plurals, reflexive pronouns, verb tenses, subject-object identification, possessives, wh-questions, yes-no questions, passives and indirect objects.

The Grammatical Closure Subtest of ITPA (Kirk, Mc Garthy and Kirk, 1968) concentrates on redundant aspects of syntactic skills. The items in this provide a frame work in which the response is specified both pictorially and by the syntactic form of the question. Applicable to children from 2-10 years of age.

The Developmental Sentence Screening Test (DSST) - Lee, 1974) - cited in Siegel and Borben, 1978, is an analysis of a sample of spontaneous speech of fifty sentences. Eight syntactic categories are considered. There are twenty pronouns, verb tenses, conjunction, wh-Questions, interrogative reversals, negatives, preposition, plurals, possessives, passive and indirect objects, Yes-No Questions. Developmental sentence score (OSS) is obtained.

The Carrow Elicited Language Inventory Procedures (Carrow, 1974) requires the child to imitate sentences.

A Language Assessment, Remediation and Screening Procedure (LARSP) was developed by Crystal, Fletcher and Carman (1976).

Fluharty (1974) has described a speech and language screening test (for vocabulary, articulation, receptive and expressive language) for children in 3-5 year range.

Monsees and German (1968) have described another one requiring telling one's name, age, picture story, naming, identifying body parts and following directions.

The Boehm Test of Basic Concepts (Boehm, 1971) assesses the mastery of concepts commonly found in preschool and primary grade; instructional, material and essential to understanding and communication. It is helpful in assessing the basic level of conceptual thinking in language handicapped children.

Westby (1980) has given a symbolic-play language scale which describes ten stages in the development of symbolic play abilities and relates the language concepts and structures associated with each developmental stage.

Khan, Laila and Jame (1980) give a descriptive assessment of child's production of grammatical structures by collecting an initial language sample (i.e., taping the child talking in several different situations) and then calculating the MLU, which is given by the total number of morpheme in all utterances divided by Total number of utterances. It can be used for ongoing assessment in

therapy, (especially for children whose MLU falls between 2.0 and 5.0 morphemes).

Bliss, Allen and Wrasse (1977) used story completion task to test grammatical structures. 120 normal children were tested and the age range was 4-7 years. Twentyeight stories were used. Significant differences in total number of correct responses were found between four and five year olds and between five and six year old. Simple structures were accurately produced by younger age groups while more advanced ones were used by older subjects.

Test of Syntactic Abilities (Quigley et al, 1978) is an elaborate test of syntactic structures. It consists of a battery of twenty diagnostic tests, each containing seventy multiple choice items. A screening form of test is also available. The individual tests cover nine of the major structures of English i.e., Negation, conjunction, determiners, question formations, verb processes, pronominalization, relativization, complementation and nominalization.

Michigan Picture Language Inventory (Lerea, 1958) tests vocabulary as well as structure (Syntax). It is applicable to children between 3-9 years of age. Vocabulary part contains forty-nine items and structure inventory uses seventy-five picture items. It was administered to 140 children. Findings indicated that expression vocabulary rises progressively with increasing age, while vocabulary

comprehension seems to reach a ceiling at age of eight.

Shriner and Sherman (1967) collected samples of language from the speech of 200 children (2½ to 12 years of age) to obtain an equation for predicting the degree of language development as measured by psychological scale values.

They selected four measures - mean of five longest responses, number of one-word responses, number of different words and structural complexity score and gave an equation.

Language Tests in India (for Children):

Syntax screening test in Tamil for children between 2-5 years of age has been developed by Sudha (1981).

Vijayalakshmi (1981) has developed a test for Acquisition of Syntax in Kannada for children in the age range of 1.5-5 years. It is a power test of verbal comprehension and expression. It comprises of nineteen subtests. Questionnaire (with fourteen items and tests both comprehension and expression), personal pronouns, case, adjective, definite determiners, tense and gender, post positions, determiner-indefinite, plural forms, wh-questions, embedded sentences, Yes-No type questions, negation, co-ordinator /u/, /athava/, /-o/, /llide: idre/, combination of co-ordinators, and narration are items

tested. It was administered to eightfive children and normative data is given. It is a comprehensive test.

Subramaniah (1978) has adopted Berko's method for testing few morphological items in Kannada.

Language Impairment

Lenneberg (1967) after weighing evidences from anatomy, physiology, genetics, psychology, neurology, embryology and linguistics, concluded that the processes by which natural languages came about are deeply rooted in man's unique biology.

Important biologic determinants include vocal tract determinants, neurologic determinants, intellectual determinants and environmental determinants. Any factor affecting the above can lead to language impairment.

Marge (1972) classifies the language disabilities as (i) failure to acquire any language, (ii) delayed language acquisition and (iii) acquired language disability.

The first category includes children with profound mental retardation, some emotionally disturbed children or congenitally deaf children may show little language.

Second and largest group includes mentally retarded or hard of hearing or emotionally disturbed children. Also children with learning disabilities, hyperactivity, environmental deprivation are included here.

Third group includes children with aphasia or neurological impairments due to trauma or illness.

Many studies have compared the syntactic abilities of normal and linguistically deviant children. (Lerea, 1958; Menyuk, 1964; Lee, 1966; Morehead and Ingram, 1973; Liles et al, 1977; Rom and Bliss, 1981; Vijayalakshmi, 1981).

Menyuk (1964) found that linguistically deviant children used fewer transformations and produced more restricted or ungrammatical forms than did the normal group.

Lee (1966) designed four levels of developmental sentence types to compare the syntactic growth in normal (8 year old) and deviant (4½ years old) children. Levels were - Two-word combinations, Noun phrase, constructions and sentences. Only qualitative differences were seen.

Morehead and Ingram (1973) compared the development of base syntax in fifteen normal and fifteen linguistically deviant children

They concluded that linguistically deviant children also develop similar language system as that of normals with a marked delay in onset and acquisition time.

Liles et al (1977) made a comparative study of judgements of grammaticality by fifteen normal and fifteen language disordered children. The two groups differed significantly in judging grammatical errors of syntactic agreement and word order. Also they (language disordered group) could not correct the errors.

Rom and Bliss (1981) found that linguistically impaired children are able to use a variety of speech acts, but they appear to be delayed in their pragmatic development.

Lerea (1958) in picture vocabulary test and structure inventory found that brain damaged and aphasoid children were handicapped in their ability to comprehend as well as to express vocabulary and structure.

Language impairment in childhood aphasics depends on the type of aphasia. A disorder of inner language has been proposed in case of Global or central Aphasia (Myklebust, 1964). In receptive aphasia, characteristic syntactic errors (Wrong use of tense, word ending, omission of key words) is seen. Broca's/aphasia or

expressive aphasia shows difficulty in expression or it may be totally absent. Otherwise speech is sparse, telegraphic and grammatical structure is poorly differentiated. (Myklebust, 1973).

In minimal brain dysfunction most commonly slow development of speech is seen. Articulation disorders, reading and writing difficulties, concept formation and abstraction are found to be difficult for them (Clements, 1966 - cited in Allen, 1972).

Vijayalakshmi (1981), by administering TASK found a marked developmental delay in expression for hearing impaired children. In retarded children, performance on comprehension and expression tasks was equally delayed. Aphasic child showed deficits on specific subtests.

Autism: Autistic child has impaired language. From 6 months to two or three years, language development may seem retarded. But later, there is aberrant development of language i.e., in syntax and semantics (large vocabulary and good spelling ability).

Three courses of language development have been recognized in autistics. Early speech and language retardation, apparently normally developing speech and language, there is a regression and an accelerated development of speech and language with precocious use. (Swisher, Reichler & Short, 1976). It has been indicated that

only half of autistic children use speech but other half remain mute.

Autistic language includes affirmation by repetition, pronomial reversals, echolalia, stereotyped utterances, metaphorical usage (Rimland, 1964).

Abnormalities of grammatical construction like dropping out propositions, conjunctions and pronouns from phrases or incorrect use is reported (Rutter, 1965). A tendency for contraction of phrases, prosodic alteration are lacking in their speed has been observed. They are restricted in the range and conversation. They are unable to comprehend and react meaningfully to spoken language of others (Wing, 1969). They are also impaired in use and understanding of gesture and written language. (Bartak et al, 1976). (Swisher, Reichler and Short, 1976; Rimland, 1964; Rutter, 1965; Wing, 1969; Bartak et al, 1976) - cited in Rutter and Schooler, 1978.

In childhood Schizophrenia arrested speech and language development is very common. These children fail to use speech in normal communication. Echolalic speech is common. Defective phonemic production seen, failures in prosody have also been reported (Wener & Kaplan, 1969).

Semantic errors at word level include (1) limitations in handling multiple word meaning, (2) Inadequate differentiation between

word meanings within a grammatical class, (3) Word finding difficulty
(4) Neologisms, (5) Responding literally to words.

They show inadequate ability to handle abstraction. Some features of their speech include: Tangentiality, Sequentiality, Overinclusion of details, Excessive questioning, Topic-comment mismatch. (Wener and Kaplan, 1967; Goldfarb et al, 1972; Rutter, 1966; Wing, 1966) - cited in Yuokovitz, 1976.

Language in Hearing Impaired Children:

The role of audition has been well established in the acquisition of language. A basic deprivation of profound congenital deafness is not just deprivation of sounds, but deprivation of language. Research on language acquisition of deaf has not been given the same degree of importance as in normals (Geffner and Freeman, 1980).

Studies about sentence length, sentence quality (Coda, 1959), types of sentences (Waldon, 1963) have shown lower performance of hearing impaired in comparison with normals - cited in Brannen and Murry, 1967.

Goda (1964) studied syntactical structure in the speech of normal, deaf and retarded adolescents. In response to sixteen pictures depicting everyday activities. Normals and retarded yielded twenty word samples while deaf yielded only thirteen. Also they used more verbs and adjectives and fewer function words than the retarded.

Gaffney (1977) tested deaf and normally hearing children aged 5-7 years on oral and/or manually presented syntax test. It was found that children were acquiring the syntactic structures tested in much the same order as normals, but they were doing so at a slower rate (cited in Geffner and Freeman, 1980).

Presnell (1973) tested hearing impaired children's comprehension and production of syntax in oral language. Fortyseven hearing impaired children (5-13 years of age range) were tested on NSST and compared with normals.

In terms of expression, older hearing impaired group performed better than younger group. A greater change was noted between the ages 5-9 years. But the improvement was not as great as that of normals.

Brannon and Murry (1967) compared thirty normals and thirty hearing impaired children (12 to 18.5 years age range) in terms of total output and syntactical accuracy. Fourteen coloured pictures depicting daily activities were the stimuli. Minimum of 50 words were obtained in response to the pictures. Considering the error classification system of word addition, word substitution, word omission and word order errors, a total score of structural accuracy was obtained.

The hard of hearing group resembled the control group in its total output of words, but the deaf were lower in this. Differences between syntax scores were significant among all three groups, A moderate correlation was found between average hearing loss and total words uttered.

Wilcox and Tobin (1974) employed a repetition task to investigate syntactic patterns of hard of hearing children (with mean age of 10 years). Mainly verb constructions were tested. The task was (1) repetition with visual stimuli (drawings) (2) recall from pictures and (3) repetition without visual stimuli.

Both normals and herd of hearing tended to use grammatical constructions rather than non-grammatical approximations. Hard of hearing subjects obtained lower scores and tended to substitute simpler forms. The results showed that the difference was only a matter of degree.

Quigley, Power and Steinkamp (1977) did a longitudinal study for six years about syntactic structures in the language of deaf children aged 10-18 years. Test of syntactic abilities containing 22 subtests was used to evaluate the children's knowledge of major syntactic structures in English. Different aspects tested were negation, question formation, conjunction, pronominalization, relativization, complementation and verb system. 450 profoundly

deaf children were studied. Their performance was compared with sixty normals. Important findings of the study were:

- the order of difficulty of syntactic structures for deaf subjects was same as that for normals.
- syntactic rules were not well established even among 18 year old deaf students except for simple transformations.
- syntactic structures develop similarly (with respect to developmental stages and syntactic rules) for deaf and hearing subjects.
- there was a strong tendency for deaf subjects to impose a S-V-0 pattern on sentences. Another was to connect nearest N.P. to V.P. They often had a number of rule generated structures not found in English.

Geffner and Freeman (1980) administered ACLC and a syntax screening test to 65 (6 year old) deaf children. The syntax screening test contained items for checking negation, plurality, word order, answers for Yes/No questions, wh-questions. The tests were administered in preferred mode of communication (manually or orally)

Results on ACLC suggested that deaf children were comparable to children of younger age level.

In items on negation, plurality and word order, 44% correct

responses were obtained (while a 5 year old normal child would have got a perfect score).

In response to questions, though the performance was poor (43% correct) the order of difficulty was similar to that seen in normals, i.e., Yes/No Questions were easier than Wh-type.

Vijayalakshmi (1981) found a wide gap between comprehension and expression performance with hard of hearing children using Test of Syntactic Abilities in Kannada.

Savage et al (1976), in their study, found that deaf children showed relative ease with noun, main verb, and articles. But relative difficulty with all other classes, especially adverbs, auxiliary verbs, prepositions and conjunctions.

Language in Mentally Retarded

Delay in development of speech in retarded has been consistently reported. Studies have shown that the quality of language produced by the retarded is constantly inferior to that of non-retarded.

The sentences used by the retarded are often shorter and the syntax is usually below age expectancies (Carlton and Carlton, 1945; cited in Jordon, 1967).

Lyles (1961) found the retarded to be inferior to normals in terms of grammatical abilities and on measures of grammatical complexity of speech. On extensive tests of their single word vocabulary, (both recognition and naming), they were equal to or better than normals. Perhaps a mentally retarded child spends a long time on one word stage - cited in Ryan, 1975.

Sievens and Essa (1961) examined the language structure of retarded children and found that use of pronouns, verbs and prepositions increased with advancing age, while the proportion of nouns dropped. This progressive drop in nouns is found even in normals - cited in Jordon, 1967.

Luria (1963) did an experiment to see the retarded children's comprehension of verbal instructions and their ability to generalize statements/instructions. He concluded that "the inability to make use of knowledge obtained in the course of speech communication, the inability to assimilate speech instruction in a generalized form, and the inability to use speech as a means of independent thinking are characteristic of mentally retarded children".

Number of studies have described the morphological development of retarded children. Results have suggested that such children's spontaneous speech (outside the test situation yields more advanced levels of performance than test results do. Morphological inflections

were learned in the same sequence by both retarded and normals, but the performance of retarded was poorer than normals matched for mental age (Dever, 1972) - cited in Ryan, 1975.

Naremore (1975) compared the language performance of educable mentally retarded and normals at M.A. levels 6-10 years. Results indicated language performance differences between the two groups with the primary discrimination being hesitation phenomena (False starts, filled pauses and repetition) and casual constructions (relative and subordinate clauses) resulting in a higher sentence elaboration level for normal children.

Ryan (1975) compared retarded and normal children who were matched on average length of utterances. No differences were found in the proportion of complete (NP + UP) sentences, incomplete sentences, stereotype utterances, and no difference in the range or variety of verb transformations. Errors of both groups were similar. However the mental age was not matched (i.e., retarded with higher M.A. were compared to normals).

Lackner (1968) analyzed speech samples of normal and retarded children. He concluded that the rules used by retarded were same as those found in adult model and the grammar became more complex as mental age (M.A) increased. Results suggested that the

language behavior of normal and retarded children are not qualitatively different, that both groups follow similar developmental trends - cited in Ryan, 1975.

Morehead (1972) has noted that the mentally retarded child fails to develop at a normal rate - a rich repertoire of utterances reflecting expanding grammatical and semantic relations. The pragmatic components of retarded's language is impaired or restricted. - cited in Lackner, 1976.

Studies available in India are usually restricted to the age of 5 years. Also the different studies on syntactical aspects have dealt with specific items.

It is often found, in/case of hearing impaired children, that they acquire concepts. But these are not incorporated to make complete sentences. So it was decided to see how their sentences will be with regard to the use of the grammatical concepts. The speech and language pathologists have the responsibility of providing speech and language stimulation to cases of delayed speech and language. The speech and language pathologists faces the problem of choosing suitable material or the concepts to be provided to these cases, as the information regarding the normal development of speech in specific

languages and with the reference to other variables involved in language development are not available. This is more so regarding Kannada language. Therefore, the present study has been planned to note the concepts that the child develops with age, the sequence in which they are acquired.

It is a known fact that the child starts learning about the surroundings in which it lives i.e., the child acquires 'concepts' that are present in the immediate vicinity. Therefore, it was decided to use the picture cards depicting the daily activities of a child, and to note the concepts that are acquired by children of different age groups.

Thus there is a need for the study of development of 'concepts' in children speaking Kannada. Therefore the present is intended.

C H A P T E R - III

METHODOLOGY

Method of Testing:

Child's expressive use of grammatical concepts has often been judged by his responses to questions, repetition, stimulus pictures, or story telling (Lee, 1970).

Many language tests have made use of picture stimulus. Eg: Denver Developmental Screening Test (Frankenberg, Dodds and Fandal, 1970). The Picture Articulation and Language Screening Test (Rogers, 1972), the Michigan Picture Language Inventory (Lerea, 1958), the North Western Syntax Screening Test (Lee, 1969).

In testing language impaired children some methods used in case of normals such as repetition may not hold good. Usually these children have good grammatical competence, while handicapping conditions interfere with their expressive use of grammatical rules (Menyuk, 1964).

Siegel (1975) recommends the use of material which will provide samples of everyday language behaviour.

Picture stimuli have been used to test the language in hearing

loss as well as in normal children (Eg: Goda, 1964; Brannan & Murry, 1967; Vijayalakshmi, 1981).

In the present study picture cards depicting everyday activities are used as the stimuli to study the ability of children to use the concepts that would occur in their daily activities.

Test Material: It consisted of 30 picture cards showing different daily activities. All were coloured cards. Cards contained the following elements:

1. A boy sleeping.
2. A boy and a girl getting up from sleep.
3. A girl writing.
4. A boy eating.
5. A boy brushing his teeth.
6. A girl playing with ball.
7. A boy taking bath.
8. A girl with flowers smiling.
9. Children playing different games.
10. A boy seeing a book.
11. A man washing the clothes.
12. Children at classroom with the teacher.
13. A boy running.
14. Children going to school.
15. A family at dining table.
16. A boy and a dog playing in water.
17. A boy and a girl reading.
18. A doctor testing a boy.
19. A girl in swing
20. One boy sitting on other.

3.3

Few cards depicted different versions of activities. Eg; Children at school. Some picture cards used in the study are shown in the appendix.

Pilot Study:

40 picture cards were used. They were presented to five Kannada speaking children (both males and females) in the age range of 5-8 years. They were school going children. Pilot study was done to see if the children can respond and how they respond.

It was found that they could describe the pictures easily. All of them described the pictures in complete sentences, (one sentence per picture card). There were some cards which yielded no response, ambiguous responses or repetition of responses. Such cards were eliminated and thus the number of cards was reduced to 30.

Subjects:

Thirty normal school going children served as the subjects for the study. Criteria for selection were (1) all children must be having Kannada as their mother tongue. (2) the medium of instruction at school must be Kannada. Following table shows the age groups, number of males and females in each group and the class they were studying in.

3.4

Class	AGE-Range	Males	Females
I Std.	5-6 years	5	5
II Std.	6-7 years	5	5
III Std.	7-8 years	5	5

The clinical group of subjects consisted of 6 hearing impaired children, 2 mentally retarded children (within the age range of 5-8 years). All of them were attending therapy at AIISH. It was a heterogeneous group, as the degree of hearing loss, IQ, duration of therapy, level of language were not considered. Main criteria for selection was that these children should be speaking at least 2 word utterances.

Following tables show age range and sex distribution of the subjects:

Hearing impaired group

Age range	Males	Females
6-7 years	1	1
7-8 years	3	1

Mentally retarded group:

Age range	Males	Females
5-6 years	0	2

Method of Testing:

The normal children were tested at the school only. A classroom which was away from noisy environment of the school was selected. The clinical group was tested at AIISH clinic, in a therapy room.

Each child was tested individually. It took approximately 10 minutes for testing each child. A portable tape recorder (National Panasonic RQ 2157) was used to record each one's responses.

Instructions were given orally for each child.

“ ಈಗ ನಾನು ಕೆಲವು ಚಿತ್ರಗಳನ್ನು ತೋರಿಸುತ್ತೇನೆ.
 ಪ್ರತಿಯೊಂದು ಚಿತ್ರದಲ್ಲೂ ಏನೇನಾಗುತ್ತದೆಂಬುದನ್ನು ವಿವರವಾಗಿ
 ಹೇಳಬೇಕು. ಪ್ರತಿ ಚಿತ್ರದಲ್ಲೂ ಉತ್ತರಿಸಬೇಕು.”

"I will show you some pictures one-by-one. You tell me what is happening in each one. If you feel like telling more, you can. Try to answer in complete sentences."

In addition to instructions, gestures, writing and repetition were used with hearing impaired and retarded children.

Each picture card was held in front of the subject and subject was asked to describe the pictures and the responses were recorded.

Processing the data:

The tape recorded speech was analyzed and written transcriptions were obtained by the experimenter. Responses were analysed. It was by listing the words used by each subject in describing the picture and further classifying into grammatical categories, (i.e., place, number, gender, tense, verbs, object and person).

Statistical methods were made use of to find out the differences between

- (1) Males' and females' performance.
- (2) performance across the age in males and in females.
- (3) Normals and clinical groups.
- (4) Among the clinical groups.

C H A P T E R - I V

RESULTS AND DISCUSSION

The subjects' speech in response to picture cards which were recorded were transcribed. Analysis of the results was mainly regarding acquisition of concepts. The questions to be answered were:

- (1) How different concepts develop (in the age range considered in the study).
- (2) Is there any hierarchy?
- (3) How the concepts are expressed in the sentences they use?
How different grammatical concepts develop in different age group?
- (4) Is there a difference in the types of markers used as it is only quantitative?
- (5) Is there difference between males and females in terms of performance?
- (6) Do the hearing impaired and mentally retarded children differ in concept acquisition -
 - (a) When compared to normals?
 - (b) Within the two groups?

Mann-Whitney U Test was applied to find out the statistical significance of the subjects' performances.

4.2

Table 1-7 show the use of different 'concepts' by normal children of the three age groups studied.

Objects:

Table 1

Table 1(a) (for 5-6 years)

/kudure/, /pustakal/, /ni:ru/, /hallu/, /Uyyale/, /battel/ /o:tal/
/mi:nu/ /ba:lu/ /gida/ /hu:vu/ /ba:i/ /tindi/ /c^htra/ /na:i/
/a:ne/ /kai/, /mara/ /hagga/

Table 1(b) (for 6-7 years)

Table 1(a) + /kaddi/, /annal/, /baṭṭalu/ /se:bu/ /mane/

Table 1(c) (for 7-8 years)

Table 1(b) + /sletu/ /nadi/ /hazsige/ /tanti/ /nalli/ /tale/
/pa:t^ha/ /ka:pi/ /klasu/ /skw:lu/

As it can be made out by comparison of Table 1 (a) (b) and (c), showing the objects named by children, there are differences between the age groups 5-6, 6-7 and 7-8 years i.e., the number of objects identified in pictures shown have increased with age.

Table I-A (for objects)

Age Range	U value	P Value	Acceptance/ rejection of Ho
5-6 and 6-7 years	8	.008	Rejected
6-7 and 7-8 years	0	.008	Rejected

4.3

However the Table I-A shows that there is statistically significant difference between the males of different age groups in the use of objects, i.e., between the males of 5-6 and 6-7 years, and 6-7 and 7-8 years in the use of objects.

Table I-B (for objects)

Age Range	U. Value	P. Value	Acceptance/ Rejection of Ho
5-6 and 6-7 years	13	1.158	Accepted
6-7 and 7-8 years	6	0.222	Rejected

The results displayed in Table I-B, the ability of females to use objects between different age groups shows that there is no significant difference between the age groups 5-6 and 6-7 years and there is significant difference between 6-7 and 7-8 years.

Table I-C (for objects)

Age Range	U.Value	P. Value	Acceptance/ Rejection of Ho
5-6 years	11	0.842	Accepted
6-7 years	2	0.032	Rejected
7-8 years	3	0.056	Rejected

A comparison of performance of males and females of different age groups shown in Table I-C shows that there is no significant difference

between females and males in the age group 5-6 years but there is difference at 6-7 and 7-8 years of age.

Thus the hypothesis (I-a) that there is no significant difference between different age groups of male children in the use of "objects" is accepted.

Further, the hypothesis (II-a) that there is no significant difference between the different age groups of female children in the use of 'objects' is partly accepted and partly rejected.

As there is no significant differences between males and females of the age groups 5-6 years and there is significant difference between the sex at the age levels 6-7 years and 7-8 years the hypothesis (III-a) between the males and females in the use of 'objects' is partly accepted and partly rejected, females performing better at a later age, than males.

Thus it can be concluded that the children show increased use of objects and females are better than males in this aspect.

Table 2: (Verbs)

Table 2(a) (5-6 years): /odisu/ /hidi/ /bari/ /malagu/ /o:du/
 /a:du/ /kai mugi/ /kutko/ /ha:kko/ /ujju/ /o:du/
 /ogi/ /bi:lu/ /badisu/ /i:ju/ /ma:du/ /tegi/ /ettu/
 /esi/ /no:du/ /eddu/ /ha:ru/ /etko/ /baggisu/ /he:lu/

/baggu/ /he:lisu/ /ho:gu/ /ki;lu/ /nintko/ /hodi/
 /amuku/ /tS:pu/ /ba:/ /bidu/ /he:lkoðu/ /hinganko/
 /tSek/ /test/

Table 2(b) - (6-7 years) 2(a) +

/idu/ /o:disu/ /nagu/ /nellu/ /itko/ /ɕogo/ /ni:du/
 /nuggu/ /katSu/ /ɕirugu/ /to:risu/

Table 2(c) - (7-8 years) 2(a) +

/kiritSu/ /bidisu/ /kudi/ /ba:tSu/

The inspection of the Tables 2(a), (b) and (c) showing the verbs used by children of different age groups indicate that with age there is a greater use of verbs both quantitatively and qualitatively, i.e., children of 7-8 years age group have used more number of verbs and more complex than children of 6-7 years and similarly, children of 6-7 years have shown better performance than children of 5-6 years, both qualitatively and quantitatively.

Table II-A (for verbs)

Age Range	U Value	P Value	Acceptance/ rejection of Ho
5-6 and 6-7 years	0	.008	rejected
6-7 and 7-8 years	0	.008	rejected

The statistical analysis to find out the difference between the age groups among males, shown in table II-A, confirms that there is a significant difference between the age groups 5-6 and 6-7 years and 6-7 and 7-8 years, in the use of verbs, i.e., older males have used more number of verbs than the younger males. Thus the hypothesis (I-b) that there is no significant difference between the males of different age groups in the use of verbs is rejected.

Table II-B

Age range	U Value	P Value	Acceptance/ rejection of Ho
5-6 and 6-7 years	10	.690	accepted.
6-7 and 7-8 years	7	.310	rejected.

It is interesting to note that the statistical treatment with reference to the performance of females, Table II-B, indicates no significant difference between the lower age groups i.e., between 5-6 and 6-7 years but a significant difference exists between 6-7 and 7-8 years age groups. Thus the hypothesis (II-b) that there is no significant difference between the females of different age groups is partly accepted and partly rejected.

Table II-C

Age Range	U value	P Value	Acceptance/ Rejection of Ho
5-6 years	8	.420	rejected
6-7 years	4	.096	rejected
7-8 years	4	.096	rejected

A comparison of performance of males and females of different age groups in the use of verbs in the present study is given in Table II_C. Statistically significant difference has been found between males and females of the same age groups throughout the age range studied i.e., 5-6, 6-7 and 7-8 years of age. Here also females have shown better performance than the males. Therefore the hypothesis III(b) that There is no significant difference between males and females of different age groups in the use of verbs get rejected.

Thus it can be concluded that the ability to use more verbs increases with age both in case of males and females and further females perform better than males counter parts of the same age.

Table 3 (Numbers)

Table 3(a) for 5-6 years

/-ne/, /-le/, /-e/, /-re/ eg: /ida:ne/ /ida:le/ /ida:re/ /ide/

3(b) for 6-7 years

/-ne/, /-le/, /-e/, /-te/, /-re/ eg: /ida:ne/ /ida:le/ /ida:re/
/ide/ /idutte/

3(c) for 7-8 years

/-e/, /-ne/, /-le/, /-re/ eg: /ide/, /ida:ne/ /ida:le/ /ida:re/

The number markers used by different age groups are given in Table III. A cursory look at the table indicates that there is no difference between the different age groups, in the use of number markers.

Table III-A

Age range	U Value	p Value	Acceptance/ Rejection of Ho
5-6 and 6-7 years	8	.420	rejected
6-7 and 7-8 years	15	.690.	accepted

The comparison of performance of males of different age groups, using statistical methods shows that (Table III A) there is a significant difference between the age groups 5-6 and 6-7 years and there is no significant difference between the males of 6-7 years and 7-8 years. Therefore the hypothesis I(c) that there is no significant difference between the different age groups in the use of number markers among males is partly rejected and partly accepted.

Table III-B

Age range	U Value	P Value	Acceptance/ rejection of Ho
6-6 and 6-7 years	9	.330	rejected
6-7 and 7-8 years	10	1.158	accepted.

A similar tendency is seen in case of females in the use of number markers, (shown in Table III-B) i.e., there is a statistically

significant difference between the females of 5-6 years and 6-7 years whereas there is no significant difference between the age groups 6-7 and 7-8 years. Hence the hypothesis II(c) that there is no significant difference between the females of different age groups in the use of number markers gets rejected partly and partly accepted.

Table III-C

Age Range	U Value	P Value	acceptance/ rejection of Ho
5-6 years	10	.690	accepted
6-7 years	5	.150	rejected
7-8 years	12	-	rejected

The hypothesis (III-C) that there is no significant difference between the males and females of the same age group in the use of number marker is accepted with reference to age group 6-7 years and 7-8 years i.e., there is no difference in the use of number markers by the males and females of the age group 5-6 years and there is a difference in the use of the same between males and females at later age groups, females performing better than males.

Thus it can be concluded that the use of number markers increase with age i.e., 6-7 years and females show more use of number markers than males.

Table 4:; Genders

4(a) 5-6 years

/huduga/ /obba/ /ivanu/ /ivalu/ /avanu/ /aualu/
 /hudugi/ /idu/ /abbanu/

4(b) 6-7 years

/huduga/ /obba/ /ivanu/ /iualu/ /avanu/ /avalu/
 /hudugi/ /idu/ /obbalu/

4(c) 7-8 years

/huduga/ /obba/ /ivanu/ /ivalu/ /hudugi/ /idu/
 /maga/ /magalu/

The study of Table 4 (a-c) shows, that there is no difference in the use of genders, by the subjects of different age groups of the present study.

Table IV-A

Age range	U Value	P Value	Acceptance/ Rejection of Ho
5-6 and 6-7 years	5	.150	rejected
6-7 and 7-8 years	9	.548	accepted

However, the statistical analysis indicates the difference. The male subjects of the age group 5-6 years performed differently

when compared to males of 6-7 years on this aspect, whereas no difference has been found between 6-7 and 7-8 years (Table IV-A). Thus the hypothesis (I-d) that there is no significant difference between the males of different age groups in the use of genders is partly accepted and partly rejected.

Table IV-B

Age range	U Value	P Value	Acceptance/ Rejection of Ho
5-6 and 6-7 years	13	1.158	accepted
6-7 and 7-8 years	7	0.310	rejected

Contrary to the performance of males, females of 5-6 years have shown no significant difference with reference to females of 6-7 years and females of 6-7 years have performed differently when compared with females of 7-8 years, which is statistically significant (Table IV-B). Hence the hypothesis (II-d) that there is no significant difference between the females of different age groups with reference to the use of genders gets partly accepted and partly rejected.

Table IV-C

Age range	U Value	P Value	Acceptance/ rejection of Ho
5-6 years	10	.690	accepted
6-7 years	5	.150	rejected
7-8 years	12	-	rejected

Further, the comparison of performance of males and females of different age groups (5-6 years, 6-7 years, and 7-8 years) by applying the statistical analysis, as shown in Table IV-C, indicates that there is no significant difference between the males and females of the age group 5-6 years, in terms of use of genders, but statistically significant difference is observed in the performance of males and females of the upper age groups studied i.e., 6-7 years and 7-8 years.

The results, thus reject the hypothesis (III-d) that there is no significant difference between males and females in the use of genders, partly and accept the same partly that regarding the lower age group (5-6 years).

,Therefore, it can be concluded that use of gender increases with age and females perform better than the males in the use of genders.

Table 5: (Tenses)

Table 5(a) - 5-6 years

/-ta/ eg: /ma:dta/ /bari:ta/ -/-idane/ eg: /ku:tida:ne/
 /malagida:ne;/ /-ide/ eg: /ku:tide/ /baggide/
 /-ida:re/ eg: /ku;tida:re/ /Nintida:re/

Table 5(b) - 6-7 years

/-te/ eg: /idutte/
 /-ida:ne/ /-ida:le/ eg: /ittidaile/ /baggida:ne/
 /-ide/ eg: /bidda:gide/
 /-a:re/, /-a:ne/ eg: /odisutta:ne/ eg: /nintakota/re/
 /-ta/ eg: /ma:dta/ /a:dta/

Table 5(c) - 7-8 years

/-ida:le/ eg: /malakkondida:le/
 /-ide/ eg: /sikkide/
 /-a/, /-u/ eg: /bidbitta/ /edbittu/
 /-a:ne/ eg: /ho:gtane/
 /-ta/ eg: /ho:igta/ /bari:ta/

The performance of the children of the age groups 5-6 years, 6-7 years and 7-8 years with reference to the use of 'tense' is given in Table V (a-c). As it can be made out from the Table V there is increase in the use of tense with age, both in terms of quantity and quality, i.e, the children of the age group 7-8 years have used more tenses and which are also complex when compared to the lower age group

Table U-A

Age range	U Value	P Value	Acceptance/ rejection of Ho
5-6 and 6-7 years	4	.096	rejected
6-7 and 7-8 years	11	.842	accepted

In order to verify the conclusions drawn, the results of statistical analysis of the performance of different age groups of both the sex are considered here. Table V-A, which displays the results of statistical analysis of performance of males of different age groups indicates no significant difference between the age groups 6-7 and 7-8 years whereas a difference is indicated between the subjects of 5-6 and 6-7 years. Hence the hypothesis (I-e), that there is no difference between the males of different age group in the use of tense gets rejected partly and accepted partly.

Table V-8

Age range	U Value	P Value	Acceptance/ rejection of Ho
5-6 and 6-7 years	12	1.00	accepted
6-7 and 7-8 years	12	1.00	accepted

It is interesting to note that there is no significant difference in the performance of females of different age groups, with regard to tenses i.e., the results of the statistical analysis of the performance of females of different age groups, in the use of tenses (shown in Table V-B) shows no significant difference between the age groups 5-6 and 6-7 years, and 6-7 and 7-8 years.

Thus the results warrant the acceptance of the hypothesis (II-e) that there is no significant difference between the females of different age groups in the use of tense.

Table V-C

Age range	U value	P value	Acceptance/ rejection of Ho
5-6 years	7	.310	rejected
6-7 years	6	.222	rejected
7-8 years	5	.150	rejected

The females of all the age groups have shown better performance than their counterparts in all the age groups. This difference has also been found to be statistically significant, as depicted in the Table V-C. The hypothesis (III-e) that there is no significant difference between the males and females of different age groups in the use of tense gets rejected. This it can be concluded that there is a tendency to use more tenses with increasing age in case of males and females have a better facility than the males.

Table 6 (Place markers)Table 6(a) 5-6 years

eg:

/illi/ /alii/ /-alli/ /ni:ralli/ /holeli/ /-ge/;Eg: /(s:lege/

Table 6(b) 6-7 years

/illi/ /-inda/. /me;linda/ / /-alli,^/sko:lalli/
 /kudureyinda/ /ro:malli/ /ni:ralli/ /hu:valli/ /kudreli/
 /klasalli/ /madyadalli/

Table 6(c) 7-8 years

/illi/ /-inda/ Eg: /nalliyinda/ /ha:sigeyinda/
 /me:linda/ /kudreli/ /na^inalli/Eg:/-ge/sko:lige/
 /totadalli/ /pustakadalli/ -/-alii/

The analysis of results regarding the place markers given in Table VI(a-c) shows not much difference among the different age groups.

Table VI-A

Age range	U value	P value	acceptance/ rejection of Ho
5-6 and 6-7 years	1	.016	rejected
6-7 and 7-8 years	6	.222	rejected

Table VI-A indicates the results of statistical analysis of the performance of males of different age groups with the refernce to place markers. According to the statistical analysis, there is a significant difference in the use of place markers between the age groups i.e, between 5-6 years and 6-7 years and between 6-7 and 7-8 years.

Thus the hypothesis (I-f) that there is no significant difference between males of different age groups in the use of place markers gets rejected.

Table VI-B

Age range	U value	P value	acceptance/ rejection of Ho
5-6 and 6-7 years	10	.690	accepted
6-7 and 7-8 years	10	.690	accepted

Table VI-B reveals the performance of females in different age groups regarding the use of place markers. Accordingly, there is no significant difference between the females across different age groups. Hence the null hypothesis (II-f) that there is no significant difference between the use of place markers is accepted.

Table VI-C

Age range	U Value	P value	acceptance/ rejection of Ho
5-6 years	11	.842	accepted
6-7 years	3	.056	rejected
7-8 years	8	.420	rejected

A comparison of performance of males and females of different age groups shown in Table VI-C, reveals that there is no significant difference between the males and females in the age group 5-6 years. But difference is observed in the age groups 6-7 and 7-8 years. Thus the hypothesis (III-f) that there is no significant difference between males and females is partly accepted and partly rejected.

Thus it can be concluded that the use of place markers increase with age in case of males. A significant difference occurs in the use of place markers between the males and females in the age ranges 6-7 and 7-8 years, in the favour of females.

Table 7: (persons)

Table 7(a) 5-6 years

/ti:tSarge/ /me:Strige/ /huduga/ /hudugi/ /hudugaru/
 /makkalu/ /magu/ /ibbaru/ /obba/ /obbalu/ /ivanu/
 /ivalu/ /avanu/ /avalu/ /da:ktar/ /a:nti/ /ellaru/

Table 7(b) 6-7 years

/a:nti/ /da:ktar/ /agasa/ /ta:yige/ /devarige/
 /ivarella/ /makkalugalella/ /ammange/ /obbanige/
 /amma/ /hudugiyaru/ /ivaru/ /obba/ /obbalu/ /ivalu/

Table 7(c) 7-8 years

/huduga/ /hudugi/ /ivanu/, /ivalu/ /tande/ /ta:i/
 /avaribbaru/ /ivaribbaru/ /mis/ /a:nti/ /obba/
 /ta:yige/ /maga/ /magalu/ /devarige/ /ammange/
 /makkalu/ /innobba/ /obbanu/ /ivanige/ /ellaru/

Tables VII (A), (B), (C), showing the 'persons' used in the age groups 5-6, 6-7 and 7-8 years respectively show that the

number of 'persons' used increases from 6-7 to 7-8 years.

Table VII-A

Age range	U value	P value	Acceptance/ rejection of Ho
5-6 and 6-7 years	3	.056	rejected
6-7 and 7-8 years	9	.548	accepted

Table VII-A shows that there is no statistically significant difference between use of persons by males of 5-6 and 6-7 years. However, significant difference is seen in the age ranges 6-7 years to 7-8 years. Thus the hypothesis (I-g) that there is no significant difference between males of different age groups in the use of 'persons' is partly accepted and partly rejected.

Table VII-B

Age range	U value	P value	Acceptance/ rejection of Ho
5-6 and 6-7 years	8	.420	rejected
6-7 and 7-8 years	8	.420	rejected

Table VII-B reveals that in case of females there is no significant difference between the age groups 5-6 and 6-7 years and 6-7 and 7-8 years, in the use of persons. Thus the hypothesis (II-g) that there is no significant difference between females of different age groups in the use of 'persons' is accepted.

Table VII-C

Age range	U value	Pvalue	Acceptance/ rejection of Ho
5-6 years	4	.096	rejected
6-7 years	8	.420	rejected
7-8 years	9	.690	accepted

In Table VII-C, it is shown that there was significant difference between males and females in the age ranges 5-6 and 6-7 years in the use of 'persons'. However no difference was observed in the age range 7-8 years. Hence the hypothesis (III-g) that there is no significant difference between males and females of different age groups in the sue of 'persons' is partly accepted and partly rejected.

It can be concluded that there is not much increase in the use of person markers with age (especially in females) and both females and males perform equally well at later age groups.

The results of the study can be summarised as follows:

Performance of Males regarding the use of 'concepts'

	5-6 years	6-7 years	7-8 years
Objects	<		<
Verbs	<		<
Number	<		=
Gender	<		=
Tenses	<		=
Place marker	<		<
Persons	=		<

< less than

= equal to

Eg: Use of "objects" in 5-6 year group was less than that of 6-7 year group and this was less than that of 7-8 year age group.

performance of Females regarding the use of concepts

	5-6 years	6-7 years	7-8 years
Objects	=		<
Verbs	=		<
Number		<	=
Gender	=		<
Tenses		=	=
Place marker		=	=
Persons		=	=

< less than

= equal to

Eg: Use of objects by 5-6 year group was equal to that of 6-7 year group. This was less than that of 7-8 year group.

Comparison of Normals and Hearing Impaired;

Table VIII (Performance of hearing impaired children and Normal children in the age range 6-8 years)

	U value	Acceptance/ rejection of Ho	level of significance
Objects	11	Rejected	0.05 and 0.02
Verbs	3	Rejected	0.05 and 0.02
Number	4	Rejected	0.05 and 0.02
Gender	3	Rejected	0.05 and 0.02
Tense	0	Rejected	0.05 and 0.02
Place	4	Rejected	0.05 and 0.02
Person	65	Accepted	0.05 and 0.02

Table VIII, giving the difference between the two groups shows significant differences in all aspects except in the use of person markers. Normals performed better than the hearing impaired children in use of place, number, gender, tense, object and verbs. But no difference between two groups was found in the use of person marker. All these results were significant at 0.05 and 0.02 level.

Thus the hypothesis (IV) that there is no difference between normals and hearing impaired children in the use of language is rejected except with reference to person markers. Therefore, it can be concluded that the hearing impaired children do not use the language as efficiently as their peers with normal hearing.

Comparison of Mentally Retarded children with Normals:Table IX (Performance of Mentally Retarded and Normal children in the age range 5-6 years)

	U value	Acceptance/ rejection of Ho	level of significance
Objects	2	accepted	0.05
Verbs	4	accepted	0.05
Number	5	accepted	0.05
Gender	5	accepted	0.05
Tense	5	accepted	0.05
Place	0	rejected	0.05 and 0.02
Person	8	accepted	0.05

Table IX gives the values. Here no significant difference between two groups was noted except in the use of place markers. In that, normals did better than mentally retarded group. In the use of others (person, gender, number, object, tense, verbs) there was no difference between the two groups. The hypothesis (V) that there is no difference between the mentally retarded and the normals of the same age is accepted.

Thus it can be stated that mentally retarded are similar to their peers who are normal in terms of intelligence in the use of language. However, the retardation was only of mild degree.

Performance in Hearing loss children as compared to Mentally Retarded Children

Table X (Performance of hearing loss children (6-8 years) with mentally retarded children (5-6 years))

	Acceptance/ U Value	P value	rejection of Ho
Objects	4	0.642	accepted
Verbs	1	0.071	rejected
Number	2	0.142	rejected
Gender	3	0.428	rejected
Tense	0	0.036	rejected
Place	0	0.072	rejected
Person	4	0.642	accepted

Table X gives the P values and the acceptance or rejection of null hypothesis. It can be seen that the hypothesis is accepted in the use of objects and person markers, otherwise significant differences are found between the two groups. Thus the hypothesis (VI) that there is no difference between the mentally retarded and hearing impaired children in the use of language is rejected for place, number, gender, tense and verbs. Mentally Retarded children did better than the hearing impaired children, thus showing that the hearing plays a very important role in the acquisition of language.

It is evident from the above that the 'picture cards' used to elicit the responses are sufficient enough to study the language development in children from 5-8 years and it also discriminates the level of development of language and various aspects of language.

DISCUSSION:

Many studies have compared the syntactic abilities of normal and linguistically deviant children (Menyuk, 1964; Lee, 1966; Morehead and Ingram, 1973). These studies, in summary, indicate that linguistically deviant children do not develop linguistic systems that are quite different from normal children. They develop quite similar linguistic systems with a marked delay in onset and acquisition times.

In the present study performance of normals was better than that of clinical population. Mentally retarded children were closer to normals than hearing impaired children. They used complete sentences in describing the pictures that were presented. Hearing impaired children tended to give one word responses. However, the generalization cannot be made because of limited number of subjects.

Most frequently and correctly answered was "object" part of the sentence. It was followed by use of 'verbs'. Next was "tense".

Most used present continuous and some past tenses. Future tense usage was rarely seen. Place markers were least frequently occurring in all subjects' responses. Hearing impaired children used (more) highest number of person markers. They usually used proper nouns (their own, or their family members' names).

Number markers were appropriately used and in agreement with the 'subject'. However they were less in case of hearing loss children. The hearing loss group did use all of the grammatical concepts that were included but they were less in quantity.

It is widely agreed that the acquisition of syntax shows systematic development in acquiring more and more grammatical structures and sentence types as age progresses (Vijayalakshmi, 1981).

In the present study it was found that the seven concepts tested for were present in all the different age grouped children. But the frequency of these used varied in different age groups. This again was not increase in the usage as with increasing age. The use of some concepts declined in the age range of 6-7 years. May be the discrepancy is because this was only a corss-sectional study or the sample that was used.

The pattern of performance was steady in females (for five out of seven concepts) which was not regular in case of males.

Comparing male to female performance at 5-6 year level, no significant differences were found in the use of concepts - place, number, gender, object. However, females were better than males in using person marker, tense and verbs (It was only quantitative).

In the 6-7 years age group, no significant differences were found for the number concept. Otherwise for all other six concepts females performed better.

In the 7-8 year age range, no significant difference was seen for the concept of person and number markers. Otherwise again females' performance was superior to that of males.

On the whole females were better than males in the use of grammatical concepts, though the difference is only quantitative. This does not support the conclusion of Vijayalakshmi (1981) that by the age of 5 years, both (males and females) perform similarly. But the present study used 5 year + subjects.

Performance of females across the age revealed that only for person markers, there was increase in use with increase in age. For place and tense markers, no difference was seen across age. In numbers, the increase was noted from 5-6 to 6-7 years. Further increase in 7-8 year group was not noticed. For gender, verbs and

object no increase was noted from 5-6 to 6-7 years. But further increase was noted in next age range.

Performance of males across age revealed that for person, place, verb and object, an increase was noted with increase in age. But in case of Number, tense and gender, 6-7 year group was better than 5-6 year group. No further increase was noted in the next age group.

Study results agree with the following conclusions drawn by Prema (1979) that -

- (1) Structure of basic sentences resemble that of adult
- (2) Pronominalized sentences are used by 5-6 year old children.
- (3) Gender and number markers were erred sometimes.
- (4) No developmental order among the syntactic concepts is seen.

All were present in all aged groups of children (though quantitative differences were seen in some).

Sreedevi (1976) found that present and past tense forms are acquired earlier than future in 2 + year old children. Same holds good even with older aged children (as revealed by the present study).

Study by Subramanya (1979) showed that these children could use /aru/ as plural /andiru/ anyhow was not used.

In gender marker, again results agree with that of Subramanya's (1979) findings that /i/ was most used. With reference to tenses it can be again stated that the results are in agreement with the other study (Subramanya, 1979).

Comparison of performance of Hearing impaired with Normal children:-

Results reveal that normals perform better than hearing impaired children of the same age group. Thus the hypothesis (IV) had to be rejected. Only in the use of persons, did hearing impaired children performed like normals. They used more proper nouns in their sentences. The concepts were present in both the groups, but the difference was quantitative.

These results agree with the investigations of Quigley, Power and Steinkamp (1977) who found that the syntactic structures develop similarly for deaf and hearing children. However, their subjects were in the age range of 10-18 years.

Brannon and Murry (1967) employed Picture Cards as stimuli and compared the responses of thirty normal and thirty hearing impaired children. Their results are showed significant differences in (1) total number of words, (2) words per sentence. In the present study also similar findings were seen.

Geffner and Freeman (1980) in testing for specific syntactic items (word order, negations, plurality) found 6 year old deaf children

to be equal to 3 year old normals. It was concluded as a slower rate of acquisition of syntax. However the present study does not support this. Anyhow, negation was not tested in the present study.

Wilcox and Tobin's (1974) results in testing. Verb formation found the difference (between normals and hearing impaired) to be a matter of degree only.

Vijayalakshmi (1981) found an expression delay in case of hard of hearing children.

Goda (1959), Waldon (1963) found statistically significant lower scores for hard of hearing as compared to normals in terms of sentence length and sentence quality.

Gaffney (1977) found 5-7 year old deaf children to be acquiring the syntactic structures in the same order as normals but were doing so at a slower rate.

Savage et al (1982) found deaf children showing relative ease with nouns, main verbs and articles. But difficulty with other classes, especially adverbs, auxiliary verbs, prepositions and conjunctions.

Results of present study also revealed greater use of nouns and verbs by hearing impaired children and thus are in agreement with the results of above studies.

Comparison of the performance of Normals and Mentally Retarded Children:

Results showed that except in the use of place markers, mentally retarded children performed as well as normals.

Many investigators have found that the sentences used by retarded children are shorter and syntax is usually below age expectancies. (Carlton and Carlton, 1945; Goda, 1959; Mein and O'Connor, 1960).

Present study's findings do not agree with the above.

The Results of the present study also do not agree with that of Lyles (1961) who found that mentally retarded were inferior in grammatical abilities.

Performance of mentally retarded children in this study agree with the studies of Dever, 1972; Levell and Broadbury, 1967; Newfield and Schlarger, 1968. They found that morphological inflections were development in the same sequence by both retarded and normals.

Ryan (1975) found the retarded's syntactical knowledge to be similar to that of normal children. He found no differences in terms of the proportion of complete (NP + VP) sentences, incomplete sentences, stereotype utterances,.... Even errors of both

groups were similar. But the children were matched according to mean length of utterance.

Lackner (1968) also suggested that the language behavior of normal and retarded children are not qualitatively different and that both groups follow similar developmental trends.

Vijayalakshmi (1981) found the performance of mentally retarded children to be same in terms of expression as normals.

The results are thus in agreement with the above studies.

Comparison of Mentally Retarded and Hearing impaired Children:

It was found that except for the use of object and persons, mentally retarded child did better than hearing impaired children.

The results of the present study agree with that of Goda (1964). He used pictures depicting daily activities and calculated the number of words used by normals, retarded and hearing impaired children. He found that the retarded did better. They yield twenty different word samples while deaf yielded only thirteen.

Thus the results of the present are useful as they provide the words that are used by the children of 5-8 years, which can be used for planning therapy for cases of delayed speech and language.

Further, the study has also given the information regarding the acquisition of various grammatical 'concepts' and differences between males and females of different age groups and of the same age group. The present procedure has proved itself to be discriminative in terms of level of language among normals, hearing handicapped and mentally retarded.

Therefore, the picture cards of the present study can be used to find out acquisition of various language concepts and thus a test to determine the level of language within the limits. This will also be useful in evaluating therapy by administering this before and after therapy. Thus the present study has yielded the information which will be useful to speech and language clinicians in evaluating and treating their cases.

C H A P T E R - V

SUMMARY AND CONCLUSIONS

In this study an attempt was made at language testing (expression of 'concepts') in Kannada in children.

The testing material consisted of 30 picture cards, depicting daily activities. The cards were presented to 30 normal children (5-8 years in age range), 6 hearing impaired children and 2 mentally retarded children.

Each child was tested individually and the responses were tape recorded. Analysis of transcriptions was done. Mann Whitney U test was used to see the statistical significant of results. Following tentative conclusions could be drawn based on the results:

1) Children show increased use of 'objects' with age and females are better than males in this aspect.

2) Ability to use more 'verbs' increases with age both in case of males and females. Again females perform better than males.

3) Use of 'numbers' increases from 5-6 to 6-7 years. Females show more use of number markers than males in the same age groups.

4) Use of 'genders' increases with age and females perform better than males in the use of genders.

5) With reference to the use of 'tenses' there is a tendency to use more 'tenses' with increasing age in case of males. But females have a better facility than males.

6) Use of 'place markers' increases with age in case of males. Though it does not increase with age in females, females are better than males in the use of 'place markers'.

7) Regarding the use of 'persons', there is not much increase in the use of 'persons' with increase in age (especially in females). Both males and females perform equally well.

8) Normal children performed better than hearing impaired children in the use of place markers, numbers, gender, tense, objects and verbs. Only in the use of 'persons' the performance of hearing impaired children was similar to that of normals.

9) Performance of mentally retarded children was similar to that of normals, except for the use of 'place markers' in which they were poorer than normals.

10) Mentally retarded children performed better when compared to hearing impaired children. Both performed similarly in the use of 'objects' and 'person markers'.

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APPENDIX

