A *TEST OF WORD-FINDING ABILITIES IN CHILDREN [HINDI]*

[TWAC-H]

REGISTER NUMBER M-9018

A *DISSERTATION SUBMITTED IN PART FULFILMENT FOR THE DEGREE OF* *M.SC.(SPEECH & HEARING) TO THE UNIVERSITY OF MYSORE.*

ALL INDIA INSTITUTE OF SPEECH AND HEARING, MYSORE 570 006 *1992*

DEDICATION

Dear   Parents,

        I *am   because of you*

        I *am for   you.*

N   ovina,

    Life's   *battles   don't always, go*

    To   the   strongest or   the   fastest   one

    But sooner or *later   the   man   who wins*

    is the   man   who   thinks   he   can.

CERTIFICATE

This is to certify that the Dissertation entitled "A TEST WOERD-FINDING ABILITIES IN CHILDREN [HINDI] {TWAC-H}" is bonafide work in part fulfilment for the Degree of master science (Speech and Hearing), of the student with the regis Number M.9018.

MYSORE
1992

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CERTIFICATE

This is to certify that this Dissertation entitled a **TEST OF W0RD-FINDING ABILITIES IN CHILDREN** *[HINDI]* {TWAC-H} *"has been prepared under my supervision and guidance.*

MYSORE
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DECLARATION

This Dissertation titled **A TEST OF WORD-FINDING ABILITIES IN CHILDREN** *[H1ND1] [TWAC-H }"is the result of my own study* under *the guidance of Dr. Prathibha Katanth, head of the Department of Speech Pathology, All India. institute of Speech and Hearing, Mysore and has not been submitted earlier at any university for*

any other Diploma or Degree.

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7992

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TABLE OF CONTENTS

INTRODUCTION

Researchers have recommended a variety of naming formats and task requirements that should be employed when assessing word finding skills i.e. confrontation naming, sentence completion, naming rapid automatic naming, description naming, word association and spontaneous language samples (Wiig & Becker-Caplan 1984). However no formal standardised tests have been developed. Except for two subtests [producing names on confrontation and producing word association] on the Clinical Evaluation of Language Functions [CELF] test (Semel & Wiig 1980) professionals have relied on various other naming measures to meet these assessment recommendations. These tests or subtests have been either designed for children such as Northwestern Word Latency Test (Rutherford & Telsen 1971) and the Rapid Automatic Naming Test (Denkla & Rude 1974) or for adults such as the Boston Naming Test (Kaplan, Goodglass & Weintraub 1976). Subtests from tests of intelligence and learning have been used to measure naming but have certain limitation. The Detroit Test of Learning Aptitudes (Baker & Leland 1935, 59, 67) has old norms. The verbal fluency subtests of McCarthy Scales of Children's Abilities (McCarthy 1972) has norms which terminate at 8 1/2 years. The word naming subtest of Stanford-Binet Intelligence Scale (Terman & Merrill 1972) cite only a passing criteria for children 10 years of age and older.

Although these diagnostic measures have proved to be sensitive in identifying word finding disorders in children and

have contributed significantly to the understanding of word-finding deficits/ such measures have lacked the necessary reliability, validity, and normative data. In addition, the subtests from other assessment tools (Woodcock 1978, Kaufman & Kaufman 1983) which contain tasks that put demands on a child's retrieval system and various assessment measures designed to assess expressive vocabulary (Gardner 1981, Jargensen, Barret Huisingh & Zachman 1981) have been employed to identify word finding problems in children.

The Test of Word Finding developed by National College of Education (German 1984) is considered as the first step in a comprehensive evaluation of the child's word finding skills. Through careful and correct administration an examiner can obtain much insight into a child's abilities on naming tasks. The results obtained from the test aids the examiner in forming hypotheses about a child's expressive language which can be examined in follow-up informal observations. Use of Test of Word Finding to direct and complement diagnostic procedures in word finding provides the examiner with helpful guidance in overall assessment of childrens word finding skills.

This test is thus an overall diagnostic test which gives a detailed view of a child's word finding skills and is a big help to the speech and language pathologists, learning disability professionals and other school professionals since it overcomes all the drawbacks of subtests and tests which have attempted to

assess a child's word-finding skills in formal and informal manners.

Considering the Indian set-up, we require a test, urgently which is helpful to assess the Indian child's word-finding skills. As of now, there is no such test in any Indian language which is able to formally or informally assess word finding skills. A major reason that can be given for the absence of such a test is the lack of extensive resources and know-how required for test development pose additional problems in India. However the need for such tests is unquestioned both in clinical and academic setups.

Attempts, herewith, have been made to construct a test of word finding abilities in children in Hindi language, on the lines of the Test of Word Finding Skills in children using the word finding assessment model described later.

CHAPTER-II

REVIEW OF LITERATURE

The ability to find names for things seen or described is central to everyday communication. Disturbances of naming and word-finding are common after insult to immature, adult and aging brain (Dennis 1980; Goodglass 1980; Luria 1970 & Obler & Albert 1981; Rochford 1971).

The likelihood of a name being produced varies according to word-frequency (Wepman, Bock, Jones & VanPelt, 1956); form class (Marshall & Newcombe, 1966); picturability (Goodglass, Hyde & Blumstein,1969); Semantic category (Goodglass, Klien, Carry & Jones 1966); Operativitiy (Gardner 1966); Sensory modality (Goodglass, Barton & Kaplan,1968) and the type of cue (Pease & Goodglass,1978).

Explanations principally concern whether disordered naming is due to a disruption of the mechanism for retrieving lexical information (Weigel-Crump & Koenigskhecht 1973); a disruption of automatic reflex like processing (Milberg & Blumstein 1981) or instead to a more basic disruption of the manner in which semantic information is represented (Carramazza & Berndt,1978); Goodglass & Baker,1976; Whitehouse, Carramazza & Zurif,1978; Zurif,1983).

Children with language learning disabilities have been
described as having problems recalling specific words to
communicate an idea or to answer a question. Because specific
words may totally elude the child, the child experiences delays
in recalling the desired word. She/he may resort to gestures,
make non-speech noises exhibit long response latencies or exhibit
stalling behaviours (Denckla & Rudel 1976a; Johnson &
Myklebust,1967).

If a word is recalled it may be in error. Typical examples
include producing an antonym or synonym, phonologically similar
word or perseveration of a previous response (Wiig & Semel 1984).
Other language disorders children produce the word in its
entirity (Johnson & Myklebust,1967; Wiig & Semel,1984). This
general phenomenon is called anomia (Johnson & Myklebust 1967;
Mattis, French & Rapin,1975); dysnomia (Wiig, Lapointe &
Semel,1977); wordfinding deficits (German,1979; Wiig &
Semel,1984); word-retrieval deficits (Denckla & Rudel,1976a,
1976b; ISrael,1984, Leonard, Nippold, Kail & Hale,1983) and
verbal or word-fluency problems (Goodglass & Kaplan,1972a, 1972b,
1983a, 1983b, Kertesz ,1980, McCarthy,1972). The specific problem
involving the vague remembering of sounds or syllables of a word
has been called the Feeling Of Knowing [FOK] (Hart,1965) or Tip
of the Tongue Phenomenon [TOT] (Brown & McNeil,1966).

Regardless of the term used the word-finding skill is so
basic to language use, that it has been examined repeatedly in an

effort to understand normal and disordered language behaviour.

Word-finding skills have been disordered in various language disordered populations. Wiig, Semel & Nystromf1982) reported that language-learning disabled children take longer to name pictures and produce more errors than their academically achieving peers. Dyslexic children also perform poorer on naming tasks than normally developing children with regard to naming accuracy and response latencies (Denckla & Rudel 1976a, 1976b). Leonard Nippold, Kail & Hale(1983) demonstrated that language impaired children name pictures slower than their age matched peers but faster than language matched controls. Fried-Oken & Menyuk(198 3a) and Fried-Oken(1984) showed that children with otherwise intact cognitive skills differ significantly from the normal patterns of naming acquisition. Their development of naming skills differs significantly from the normal pattern of naming acquisition. While normally developing children between the ages of 4-9 years rely heavily on semantic and perceptual properties of an object to recall a name, the language impaired youngsters do not appear to identify the salient features of an object to retrieve labels. German(1982) and German & Fried-Oken (1984) identified naming errors that are more prevelant among language impaired and learning disabled than normal children indicating these children use deviant naming strategies for word recall.

The naming and word-finding abilities of the normal children and adults are of interest not only in their own right but also as a reference point for individuals with language pathology and as a source of hypotheses about the mechanisms by which we learn to use names. Tests exist that tap many significant aspects of naming operation.

Based on the experimental results and clinical observations of language disorders, it is evident that any comprehensive diagnostic battery of language behaviour must include an assessment of naming skills. A need exists for identifying the existance of word-finding problems during language screening procedures. It would be useful to have a clinical test of naming and word finding, that is suitable in form and content for both children and older individual with language pathologies that compares the different forms of lexical access for the same set of words that measures both accuracy and speed of naming; that permits and presents statistical, age reference information about normal performance over school years.

Five techniques are discussed in literature which purport to describe or access word finding difficulties in adult aphasics and children:

1> Observation of conversational speech
2> Observation of seriatum speech
3> Auditory condition

4> Confrontation naming and Rapid Automatized naming

5> Free and controlled association

1> OBSERVATION OF CONVERSATIONAL SPEECH

Johnson & Myklebust suggested that observation of the way a child attempts to convey ideas are important in development of appropriate educational procedures for children with reauditorisation deficits. Goodglass & Kaplan(1972b, 1983b) developed a 7 point word-finding scale (Rating scale profile) as a part of their Boston's Diagnostic Aphasia Examination(BDAE). The authors state that observations of conversational speech would allow a clinical decision about whether the word finding difficulties was a significant aspect of the aphasics speech pattern. Wiig & Semel(1984) attempted to formulate such observation by specifying rules for analysis of a spontaneous language sample which lead to qualitative and quantitative analysis.

2> OBSERVATION OF SERIATUM SPEECH

The ability to rapidly name automatic sequential series of words such as counting, listing of alphabet, days of week and months of the year have been utilized by Eisenson(1954) & Terman Merrill(1972). However the authors are unaware of research uses of this technique beyond clinical assessment.

3> AUDITORY CONDITION

Barton, Maruszeuski & Urrea(1969) developed this assessment technique.   It requires two tasks (a) naming the word needed to complete an open sentence (b) naming the word that is implied by a description.

This technique has also been used by German(1979), Rudel, Denkla, Broman & Hirsh(1980).

4> CONFRONTATION NAMING AND RAPID AUTOMATIZED NAMING

This task involves naming of common pictures or objects as soon as possible after the stimulus item is exposed. Using a variety of stimuli, this technique has been used with both adults and children in a variety of research studies (Goodglass & Kaplan 1973b, 1983b, Kertesz 1980), Porsch 1967, Porsch 1974, Rutherford & Telsen,1967; Schuell ,1967; Semel & Wiig,1980; Spreen & Benson,1969).   The other confrontation tasks are visual confrontation naming of common objects (Kertesz,1980; Newcombe Oldfield & Wingfield,1965); Object drawings (Newcombe, Oldfield, Rat-cliff & Wingfield,1971); Symbols (Gardner 1974) or symbolic material like colors (Denckla & Rudel,1974).

A modification of these tasks, Rapid Automatic Naming which involves a repeated presentations and naming of a very limited number of stimuli was initially reported by Denckla & Rudel(1974, 1976a, 1976b) and subsequently used by Wiig, Semel & Nystrom(1982).

5> FREE AND CONTROLLED ASSOCIATION

This task requires the spontaneous generation of words within specific time period. Assessment instruments that have incorporated this procedures are the Detroit Tests of Learning Aptitude (Baker & Leland 1935, 1958, 1967), Neurosensory Center Comprehensive Examination for Aphasia (Spreen & Benton 1969) BDAE (Goodglass & Kaplan 1972a, 1983b) McCarthy Scales of Children's Abilities (McCarthy 1972) Stanford-Binet Intelligence Scale (Terman & Merrill 1972) Western Aphasia Buttery (Kertesz 1980) and Clinical Evaluation of Language Function (Semel & Wiig 1980).

Other than tests based on these five techniques, there are age referenced tests that study the use of semantic information in word finding as opposed to picture or object. These tests introduce the semantic information as a cue to prompt production of an otherwise inaccessible picture names (Kindlon & Garrison 1984) in which case its role in normal word finding is difficult to judge. These tests are otherwise used to elicit the description of a word rather than its name (Pajorkova Orr, Rourke & Finalayson 1972) thus bearing on the issue of how lexical information is integrated to discover a speaker's meaning rather than on the naming operation as such. Tests that compare confrontation naming of pictures and word finding in response to a semantic description for the same (Barton & Maruszewski & Urrea 1969) or different set of words (Goodglass & Kaplan 1972; Goodglass & Stuss 1979) provide no age norms.

Of the techniques just described', the free and controlled association tasks seemed to present a method of attempting to identify word-finding problems in a screening context, since the tasks are of short duration, simple to administer, simple to score and require a minimal number of test materials. The other four techniques were thought to be inappropriate for various reasons. The observations of conversational speech seemed time consuming to gather and analyse the required speech sample, the stimuli often used in observation of seriatum speech (days of week & months of year) seemed inappropriate for lower elementary students; the auditory condition seemed to require numerous stimuli and therefore would be too lengthy to administer during a screening. Confrontation naming required use of pictures and analysistive random automatized naming also required materials. The development of appropriate stimuli to tap a range of various age groups was also a problem for the last three techniques.

However the four published subtests reporting information of children's performances on free or controlled associations also presented problems. The normative data on the Free Association Subtest of the Detroit Test of Learning Aptitudes (Baker & Leland 1935, 1959, 1967) are old norms for verbal fluency. Subtests of the McCarthy Scales of Children's Abilities (McCarthy 1972) terminate at 8 1/2 years and are not thought by the authors to adequately span the school-age range. The word-naming subtest of Stanford-Binet Intelligence Scale (Terman & Merill 1972) cite

only a passing criteria, not norms, for children 10 years of age and older. The Producing Word Association Subtest of Clinical Evaluation of Language Functions (Semel & Wiig 1980) appears to have psychometric problems because of the small number and heterogeneity of the subjects in the original standardisation sample and the manner in which the initial criterion scores were developed (Muma 1984; Speckman & Roth 1984). A subtest developed for adult aphasics fluency in controlled association in the BDAE (Goodglass & Kaplan 1972a, 1983a) seemed to have promise. The test authors indicated that the animal naming subtest of this battery has a performance level of 12 animal names as the norm for 10 year old children. Although the method by which the standard was achieved is not detailed it indicates that the task is usable with children. However Wiig, Lapointe & Semel(1977) found the animal category to be the least discriminating category used in their study of normals and language disordered adoloscents. The results may have been obscured by the low number of subjects(32) in each group and/or the exclusive use of students in the adolescent age range.

The stimuli chosen for naming (word-finding tests) are often based on word frequencing counts. Test items range from words that are used commonly to only words that are used rarely in spoken or written language. Many test designers derive their stimulus lists from the Thorndike or Lorge word frequency counts (Thorndike & Lorge 1944) Gardner 1979 in Expressive One-word

Picture Vocabulary Test used selected words from lists supplied by 435 parents of children ranging in age from 18 months to 2 years to pick test stimuli. Semel and Wiig (1980) in the Clinical Evaluation of Language Functions [CELF] and Denckla & Rudel(1976a) in the Rapid Automatized Naming Test [RANT] include stimuli that are colors, geometric shapes and letters in addition to objects.

The tests generally assess naming accuracy. A child receives a point every time a correct name is supplied until a ceiling is reached or a test is completed. An accuracy score can be computed which supplies information about how many pictures are named correctly by a client. Normative data often relate the accuracy score to a naming age equivalent.

There are TWO PROBLEMS inherent to naming tests:
[1] The tests do not attempt to differentiate word recall problems from the expressive vocabulary problems in children. It is difficult to ascertain whether children demonstrate naming problems because (a) they have never learned the names and therefore cannot retrieve the labels (b) they have reduced expressive lexicon from which to retrieve names (c) they are in the process of learning names and might supply incorrect labels because of retrieval problems. Thus a child who receives a low score on a visual confrontation naming test might be displaying an expressive vocabulary problem rather than word retrieval difficulties. Kail et al(1984) discuss a Storage-Elaborate

Hypothesis to explain these different naming problems in language impaired children. The Storage Elaboration Hhypothesis refers to difficulty accessing words when they are needed because the words are not yet established in the children's lexicons or are represented in a less elaborate form. The retrieval hypothesis suggests that the language impaired children's lexicon is comparable to that of normally developing children, but the language impaired child uses less efficient algorithms for retrieving word names so that the child is more likely to have deficient algorthms for retrieving the names from memory when needed. At the 1984 ASHA convention, Leonard et al (1983) and Newoff et al(1984) suggested a number of informal language tasks which may help to differentiate the various naming disorders.

[2] The second problem inherent to most naming tasks concern the lack of qualitative information that is obtained from the diagnostic instruments. Few tasks provide information about the nature of naming problem. The final result of most tests is an accuracy score which does not tell the clinician what the child is doing to retrieve names. It simply indicates the child's success rate with naming. There are exceptions - The Boston Naming Test (Kaplan, Goodglass and Weintraub 1983) introduces semantic and phonemic cues to elicit correct labels after pictures have been misnamed. The clinician can tell whether semantic and/or phonemic cues assist the child in correct recall. The CELF(Semel & Wiig 1980) measures the type of errors made by

the child and provides a more detailed description of naming skills for the clinician.

The Test of Word Finding (German 1984) provides facilitating cues in form of sentence completion and description naming tasks. A modification technique can be used which involves the standard administration which is supplemented with the presentation of four cuing levels to elicit previously unaccessible names. The technique has been presented to a number of language impaired children and has assisted clinicians in successfully describing disordered naming behaviour. This modification was provided by Fried-Oken(1987).

Four major variables have been cited and discussed in literature that appear to influence the naming performance in children and adults:

1. The characteristics of the referent to be named

2. The characteristics of the referent's named

3. The type of stimulus presentation

4. Facilitating cues

An integrated understanding of the manner in which these factors may affect naming performances is essential for speech and language clinician involved in the rehabilitation of learning disabled children and aphasic patients. Only through such an understanding is it possible for the clinician to develop therapeutic techniques that are efficient and systematic.

I. CHARACTERISTICS OF THE REFERENT TO BE NAMED:

[a] OPERATIVITY: Utilizing concepts from Piaget's cognitive theory, Gardner(1973, 1974) suggested that an aimportant contribution to naming performance is the operativity of the element to be named. An operative element (Eg. dog) is defined as one that is clearly separate from its surroundings and can be manipulated and "operated on" in a variety of ways and through a variety of sensory modalities. In contrast, figurative elements (Eg. Cloud) are in samy way "continous" with their surroundings difficult to manipulate physically and are conceptualized primarily through visual modality.

Gardner (1974) found that numbers were significantly easier to name than animals i.e. it was easier for the child to name numbers (1,2,3,...) than name animals (cat, dog, lion, etc.)

[b] SEMANTIC CATEGORY Naming may also be a function of semantic category of the object or symbol to be named. Goodglass et al(1966) examined the hierarchy of aphasic patient's naming difficulties across a variety of categories including objects and letters. The most striking result was that although naming was disturbed to some extent across all categories, objects were the most difficult categories to name while the letters were most often the easiset, intermediate in difficulty were numbers and colors.

Many other descriptions and investigations of word-finding problems of adult aphasics have focused on the nature of words which the adult is unable to retrieve. (Head 1926, Goldstein 1948, Neilsen 1962, Yamadorist & Albert 1973, Gardner 1974, LeJuene 1974, William & Wright 1985).

Child studies of both normal achieving children and children with learning problems have also indicated differences in naming of various semantic categories (Denckla & Rudel,1974; German,1985) In general, naming of different semantic categories in Rapid Automatic Naming Tasks have been reported to be more difficult for children with dyslexia (Denckla & Rudel,1976b); with reading problems (Eakin & Douglas,1971) and with learning problems (Blumenthal,1980, Garnett & Fliescher,1983). These child studies indicate that children vary in their ability to name different categories of words and thus emphasize the need to consider target words used when assessing children's word finding skills and to include items representing target words across several caterogies.

[c] STIMULUS UNCERTAINITY: Uncertainity is defined as the consistency with which particular name was used by normal subjects to label a stimulus (Mills et.al-,1979) For eg. a stimulus would represent low uncertainity item if at all normal individuals labelled it with the same name (a picture of cup). Stimulus uncertainity had no significant effect on

the naming error rates and response latencies of the aphasic patients (Mills 1979). However the precise strength of the relationship between word frequency and uncertainity value has not been determined.

II. CHARACTERISTICS OF THE REFERENT'S NAME:

[a] The frequency of occurance:The frequency with which words occur in the language is probably the most documented influence on naming bahaviour in both normals and aphasic patients and has been found to correlate significantly with the age at which children acquire those words findings from numerous investigations have indicated that the frequency of occurance of the target word is a significant variable influencing word-finding skills of normal adults (Oldfield & Wingfield,1965) adult aphasics (Wepman et al,1956, Newcombe et al 1965, Rochford & Williams 1965) and in comparative studies between , children and adults (Rochford & Williams,1962). Adult studies appear to indicate that low frequency words are more difficult to retrieve than high frequency words.

Unlike adult studies, investigations analysing the frequency variable in children with fluency problem (Boysen & Cullinan,1971; Telser,1971); reading problem (Denckla & Rudel,1976; Wolf,1980); language problem (Wiig, Semel & Nystrom,1982; Leonard et al,1983; Fried-Oken,1984) and learning problems (German 1979,1984) have resulted in

conflicting results. But for most part of it appears that target word frequency may be an important variable to consider when assessing children's word-finding skills. In particular it would seem necessary in assessment to use target words which although within the child's vocabulary are challenging. Therefore target word frequency should be considered in selecting target words.

[b] LENGTH: Word length and frequency of occurance are not wholly independent. Because of this when considering the effect of word length on children's naming performance word frequency must be held constant (Williams,1988) when frequency of occurance is held constant as word length increases response latencies also increase and misnaming becomes more frequent (Venus 1975) Word length effect may indicate that additional time is required for organisation formulation, execution of the neuromotor processes involved in the production of longer words (Venus 1975).

Goodglasset al(1976) found that when word frequency was controlled, naming failure rates increased with increasing syllable length.

[c] DIFFICULTY CONTEXT: A child's success or failure is naming specific items appears to be related to whether or not the preceeding items were successfully named Research obtained by Brookshire(1972) revealed that when aphasic patients were

first asked to name pictures that on a pretest had been difficult to name, they performed worse than expected on subsequent items that were easily named on pretesting. Similar findings have been reported by Gardiner & Brookshire (1972).

III.THE TYPE OF STIMULUS PRESENTATION

[a] METHOD OF ELICITING THE TARGET WORD: The particular method or stimulus context used to elicit the production of a name appears to affect the performance. Children behind in reading (decoding) named fewer objects and named them more slowly than did learning disabled children who could read (Denckla & Rudel 1976a) Dyslexic children are the equal of normal readers in learning to associate pairs of pictures but not pairs of words (Vellutino, Steger, Harding & Phillips 1975). On rapid repetitive naming of pictured objects, letters and numbers (Denckla & Rudel 1976b) they are slower than their age peers.

Impairment of their word retreival has been shown not to be specific to visual stimuli. Dyslexic children learned fewer letter names of Braille configuration or of auditory Morse code signals by paired association methods than did children who could read (Rudel, Denckla and Spatten 1976). In a study done by Barton, Baruszweski & Urrea(1969) on aphasics, word-finding performance turned out not to be dependent on modality are of the two auditory conditions

being the easiest (sentence completion) and the other the most difficult (response to a spoken definition). Naming of pictured objects was of intermediate difficulty.

[b] VARYING THE STIMULUS CONTEXT: affects the level of naming response accuracy and speed (Rudel et al 1980). For those between 6-10 years completing a sentence with a noun (auditory) yielded the lowest error scores, naming objects in response to definition (auditory) the highest scores while responding with names to pictured objects (visual) was of intermediate difficulty. Children under 6 years were most accurate in naming palpated objects while by age 11 years, the object naming accuracy did not appear to be affected by modality or stimulus context. Speed of response was related to accuracy only to auditory mode. Sentence completion which yielded the most rapid as well as the most accurate responses (after age 5 years) visual naming and naming to definition were of intermediate latency while naming palpaled objects took longest.

In a study done by Rudel, Denckla and Broman(1981), it was found that only on the sentence completion task which has been found to be the simplest response mode, were the dyslexic subjects selectively less accurate than non-dyslexic learning disabled relative to the control group. The non-dyslexic learning disabled group responded more rapidly than either the dyslexic subjects or controls and made more perceptual errors.
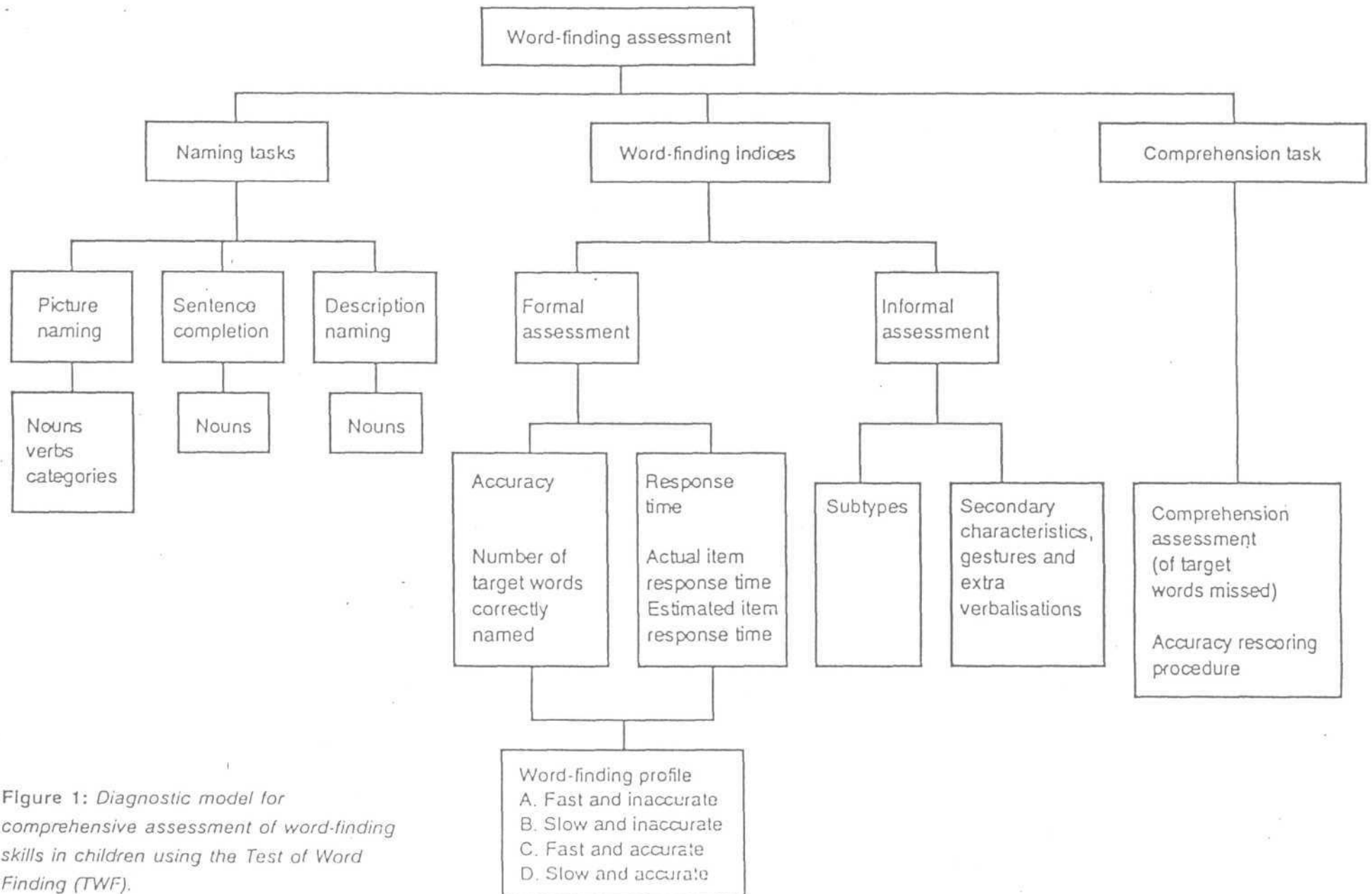
Figure 1: *Diagnostic model for comprehensive assessment of word-finding skills in children using the Test of Word Finding (TWF).*

IV. FACILITATING CUES:

Specific cues which facilitate word recall and word retrieval have been identified in the normal adult literature (Tulving & Pearlstone 1966, Tulving 1974) and in investigation analysing using behaviour in adult aphasics (Berman & Peelle 1967, Wiig & Glosus 1971) Naming cues such as phonetic or semantic prompts have been used in the assessment of word-finding skills in adult aphasics (Boston's Naming Test - Kaplan et al 1976) and cuing techniques have been suggested for assessment (Fried-Oken 1984) and remediation (Wiig & Semel 1984) of word finding skills in children.

The development of National College of Education Test of Word Finding (German 1989) was an attempt to overcome the drawbacks mentioned earlier. The Test of Word Finding is a nationally standardised diagnostic instrument designed to provide professionals with an opportunity to observe systematically children's word finding skills in a set of psychometrically sound naming tasks.

It has considered all the variables discussed earlier for eliciting naming task. This test is based on the word finding assessment/diagnostic model (See FIG-1).

This 3-component model employs naming section, incorporates indices traditionally used to define word finding problems in adults and chidlren and provides for a comprehensive assessment

of target word naming errors. This model has been drawn from both child and adult literature. Both formal and informal indices employed as being suggested in the literature as being appropriate for the assessment of word finding disorders in adults and children. All target word errors are checked for comprehension to aid the examiner in differentiating naming errors due to lack of word knowledge from naming errors due to word finding deficience.

The test of word finding skills based on the diagnostic model fulfills the following assumptions.

- Children's word-finding skills can best be evaluated when they are asked to find words in multiple naming formats which put demands on the retrieval system.

  Children's word finding skills can be observed when they are asked to name words of various syntactic and semantic categories.

  Children's word finding skills can be characterised according to accuracy, speed, response types and presence of gestures and extraverbalisations.

  Children's knowledge of target words need to be established before naming errors can be considered as word finding errors

The Test of Word Finding is thus an overall diagnostic test which overcomes all the drawbacks of all the other subtests

described earlier i.e. absence of norms, age limitations, presence of only a passing criteria and other psychometric problems.

CONCLUSION:

Word-finding skills - a known deficit in the acquired language disorders has recently drawn attention as a possible means of measuring language skills in children and identifying language disordered children. Various terms have been used to describe the disorder of word finding skill. Researchers have tried to find out the word finding difficulty in various types of language disordered children.

Tests to tap the many significant aspects of naming operation have been formulated which have been of interest with respect to normal adults and normal children.

The five techniques that have been discussed which describe or assess word finding skills are:

1. Observation of conversational speech
2. Observation of seriatum speech
3. Auditory comprehension
4. Confrontation naming and Rapid automatised naming
5. Free and controlled association

There have been various tests and subtests published for assessing word finding ability in a child but most have problems. The two inherent problems in naming test are:

1. The tests do not attempt to differentiate word recall problems from expressive problems in children.
2. Lack of qualitative information that is obtained from the diagnostic instruments.

    Four major variables have been cited and discussed in literature that appear to influence naming performance:
1. Characteristics of referent to be named
2. Characteristics of referent's named
3. Type of stimulus presentation
4. Facilitating cues

    The Test of Word Finding (German, 1989) has overcome all these drawbacks and incorporates all the variables that influence naming performance. With its formalised pattern based on the diagnostic model of word finding it bridges the diagnostic gap in assessment of word-finding disorders in children which has been particularly evident to professionals responsible for providing diagnostic and remedial services to children with linguistic disorders.

    Hence, this Test of Word Finding becomes an evident choice as the basis of the current study.

    Since we do not have parallel tests of word-finding in Indian languages an attempt is made here to develop a Test of Word Finding in Hindi on the lines of the Test of Word Finding described above.

CHAPTER III

METHODOLOGY

The Test of Word-Finding Abilities in Children (Hindi)[TWAC-H] was formulated based on the Test of Word Finding Skills (German 1989)The Test of Word Finding(German,1989) consists of 5 subtests i.e.1) Picture naming - nouns 2) Sentence completion 3) Descrip-tion naming 4) Picture naming verbs 5) Picture naming - categories. However the test presented here could not incorporate the 5th subtest where in the child is asked to name the implied category word for three subordinate or basic level words pictured. In the Test of Word Finding (German,1989) the 16 category words were drawn from two sources: Rosch's(1975) word list of semantic categories and basic object level memebers and Battig and Montague's(1969) category norms for verbal items in 56 categories. Lack of such precise norms or word list in Hindi language was responsible for the deletion of this subtest in the present Test of Word Finding Abilities in children. However there were certain changes made in the test. This test consisted of four subtests which are as follows:

1. Picture naming - nouns

2. Sentence completion

3. Description naming

4. Picture naming - verbs

1. PICTURE NAMING - NOUNS:

This section was designed to assess speed (item & response time) and accuracy (standard score and percentile rank) when naming pictorial referents of one-to-four-syllable noun traget words of different semantic categories. The pictures are black and white drawings drawn on cards with dimensions 6.5' x 4.5' .

Vocabulary selection was structured according to five variables identified to influence word-finding skills in children and adults: syntax, target word frequency, syllabication and semantic categories. Representation of each of these variables in this section is as follows:

SYNTAX	NOUNS	100%
Target word frequency	Low	50.0%
	Mid	37.5%
	High	12.5%
Syllabication	Bisyllables	50.0%
	Three Syllables	40.0%
	4 or more Syllables	10.0%
Semantic categories	Useful instruments	25.0%
	Body parts	12.5%
	Clothing	15.0%
	Animals	12.5%
	Food	7.5%
	Outdoor structures	15.0%
	Plants	10.0%

There are a total of 40 items in this section.

2. SENTENCE COMPLETION:

This section was designed to assess accuracy and speech when naming target words in an intra-sensory, auditory closed format

presentation. The child is asked to complete the sentence by filling in the target word, a format proved useful in identifying children with word-finding problems (German.1979, 1984) and reading disorders (Rudel, Denckla & Broman,1981) . There are 20 items in this subtest all using declarative present tense sentences.

Vocabulary selection for this section was structured according to syntax, target word frequency and syllabication. The final distribution of target words with respect to these variables is

SYNTAX	NOUNS	100%
Target word frequency	Low	55.0%
	Mid	40.0%
	High	5.0%
Syllabication	Bisyllabic	55.0%
	Three syllables	35.0%
	4 or more syllables	10.0%

3. DESCRIPTION NAMING:

This section is designed to assess speed and naming accuracy in an intrasensory auditory synthesis task where the subject is required to name a target word implied by 2-3 attributes. There are 20 descriptions in this subtest.

Vocabulary selection for this stimulus context was structured according to syntax, target word frequency and syllabication.

1) Syntax - nouns - 100%

2) Target word frequency -> low frequency   -   60%
                               mid frequency   -   35%
                               high frequency -   5%

3) Syllabication   -   Bisyllables   -   45%
                        Three syllables   -   10%
                        4 or more syllables - 45%

4. PICTURE NAMING VERBS:

    This section is designed to assess accuracy and speed in
namingaction target words.   The child is asked to label the
action in the picture. There are 20 pictorial representations in
this subtest representation of the vocabulary selection variables
is as follows:

    SYNTAX   VERBS   100%

    Target word frequency   Low   47.0%
                            Mid   38.0%
                            High   15.0%

    Syllabication   Bisyllabic   25.0%
                            Three syllable   65.0%
                            4 or more syllable   10.0%

THE ENTIRE TEST IS GIVEN IN APPENDIX-I

    Having formulated this test it was administered to the
following population in a public school in New Delhi.

N   = 100 divided into 5 groups of 20 children in each
                  group.
Age range   = 5-10 years
5 groups   = 5-6 years,
                  6-7 years,
                  7-8 years,
                  8-9 years,
                  9-10 years.
Mother tongue = Hindi

Random selection of the students was done from each class and the test was administered in conducive conditions. The responses were noted down immediately on a test format given in APPENDIX-II.

CRITERIA FOR TEST INTERPRETATION

1. ACCURACY: This was determined with the help of two paradigms that is

Correct - Response item answered is correct

Incorrect - Response item answered is incorrect

Accuracy was tested for all the subtests.

2. SPEED: Two paradigms were again taken into consideration

Fast : Gave the response within 5 sees.

Slow : Gave the response between 5-10secs.

3. CUEING: Two types of cues were given to a child who was unable to give a response within 10 sees. They were

PHONETIC CUE: When the child is unable to respond within 10 seconds a phonetic cue is given i.e. the first syllable or first phoneme of the word is given for Eg. for [dlpak] the phonetic cue will be [dl].

SEMANTIC CUE: When the child is unable to respond within 3 seconds even if the phonetic cue is given a semantic cue which describes the word further is given. This cue was given usually in subtest I & IV i.e. picture naming- noun and picture naming-verbs.

ACCURACY AND TIME PROFILES: The accuracy and time indices can be employed concurrently to establish profiles of children's word finding behaviours.   Children's naming performance can be classified in one of the following four accuracy/time profiles.

Profile A -> Fast and accurate. Correct response within 5secs

Profile B -> Fast and inaccurate. Incorrect response within
              5-10secs.

Profile C -> Slow & accurate.Correct response within 5-10 seconds

Profile D -> Slow & inaccurate.Incorrect response with 5-10
              seconds.

CHAPTER-IV

RESULTS AND DISCUSSION

The Test of Word Finding Abilities in Children(Hindi) [TWAC-H] was constructed and the data for establishing norms was obtained on 100 normal children, all of whom had Hindi as their mother tongue and ranged in age from 5 years to 10 years. Five age groups at one year interval were made and 20 children (10 boys and 10 girls) were tested within each age group.

The data obtained was analysed using statistical procedures. The results of which are presented and discussed here.

1. RAW SCORES : The whole test consists of 100 items totally. Depending on the raw score each child's accuracy index could be determined. This was done by giving 1 credit point to each correct response and '0' to an incorrect response. This index was irrespective of the speed of the child i.e. whether he have a response within 5 seconds or later than that. It was also irrespective of the semantic or phonetic cue given to the child when he was unable to respond within 5 seconds. Hence the raw score depended entirely on the correctness of the response to the target word.

For speed index, the scores were divided into responses which were given within 5 seconds of the stimulus (Fast Response) and responses which took longer than 5 seconds (Slow Response).

As stated earlier the Accuracy Index and Speed Index are independent of each other.

The phonetic cues and semantic cues were also counted for the entire test.

These raw scores were then totalled up and were out of 100 (100 test items). They were then used to determine the mean, standard deviation and percentile ranks of each age group.

2. MEAN SCORES **AND STANDARD DEVIATION:**

TABLE-I gives the mean standard deviation and standard error of mean for correct responses and incorrect responses across all age groups.

TABLE-I

AGE RANGE	CORRECT **RESPONSES**			INCORRECT RESPONSES		
	MEAN	S.D.	STD.ERROR OF MEAN	MEAN	S.D.	STD. ERROR OF MEAN
5-6yrs	67.75	6.33	1.415	32.25	6.33	1.415
6-7yrs	74.70	8.07	1.805	25.30	7.87	1.761
7-8yrs	84.85	4.60	1.029	15.15	4.60	1.029
8-9yrs	87.40	5.00	1.120	12.60	5.00	1.120
9-10yrs	89.95	7.21	1.612	10.05	3.82	0.856

As can be seen from the above Table the mean scores show a linearity with the age groups i.e. as the age increases the number of correct responses increases and hence the number of incorrect responses decreases.

The above table shows the developmental trend in word finding abilities i.e. as the age of the child increases his word finding abilities improves.(See GRAPH-1)

The standard deviation is rather large in all age groups showing a wide variability of performance within each age group.
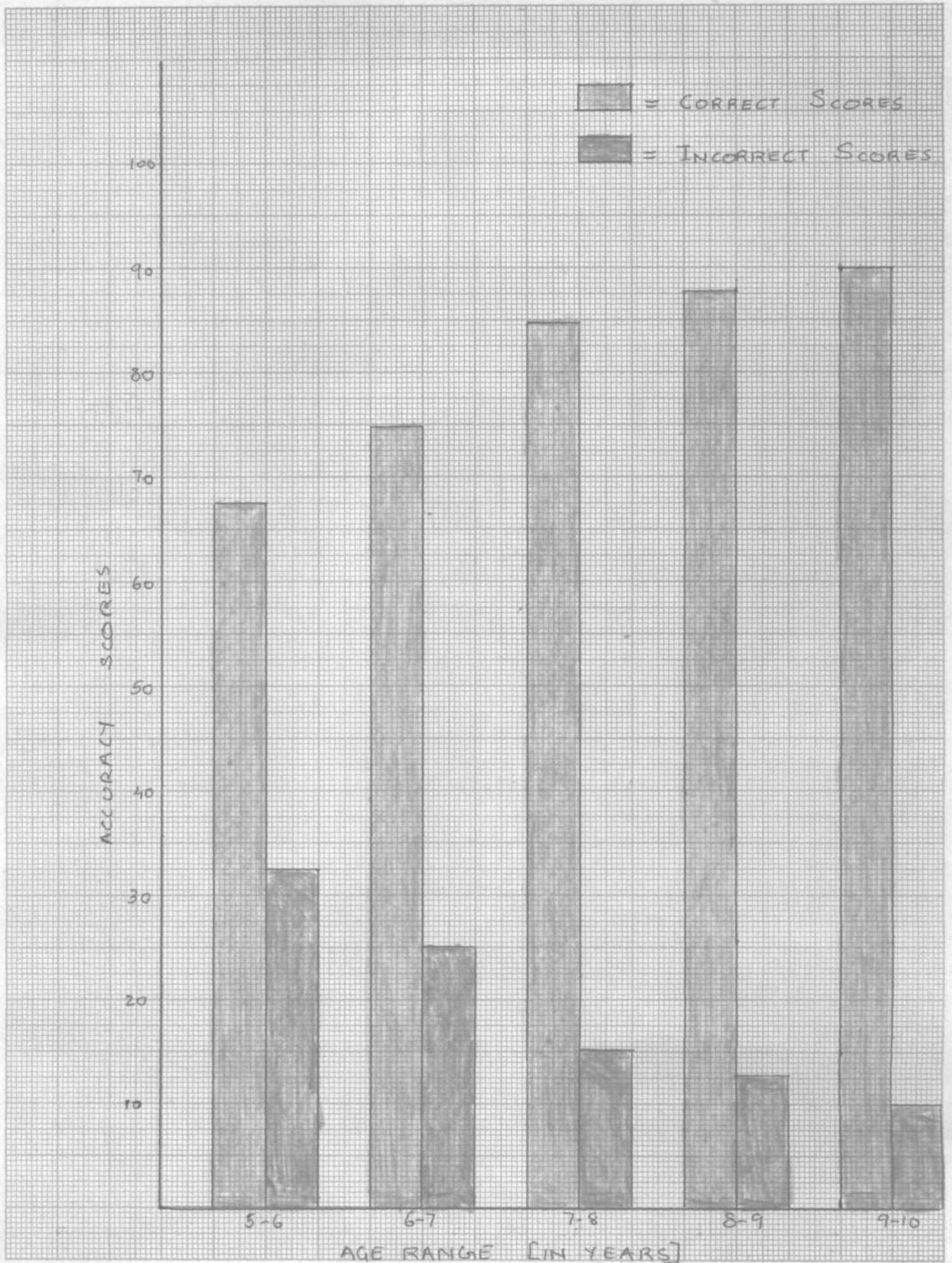
GRAPH -I : MEAN SCORES OF CORRECT AND INCORRECT RESPONSES ACROSS AGE RANGE 5 - 10 YEARS.

Table-II shows the mean standard deviation and standard error of mean for response within 5 seconds and responses between 5-10 sees.

TABLE-II

	RESPONSES WITHIN 5 SECS.			RESPONSES BETWEEN 5-10 SECS		
AGE RANGE	MEAN	S.D.	STD. ERROR OF MEAN	MEAN	S.D.	STD. ERROR OF MEAN
5-6yrs	52.40	6.74	1.508	47.6	6.74	1.508
6-7yrs	70.15	11.22	2.509	29.5	11.22	2.509
7-8yrs	81.80	9.57	2.140	17.1	9.84	2.200
8-9yrs	90.00	3.17	0.709	9.7	4.36	0.976
9-10yrs	86.23	7.21	1.612	13.75	7.21	1.612

It can be seen from the above table that as age group increases the number of responses within 5 seconds increases. This shows that as the child grows up his efficiency with respond to time increase and he performs quicker on a word finding task.

The age group 9-10 years however has lower scores as compared to 8-9 years. This might be because of high variability within the group suggested by the large S.D. (See Graph II)
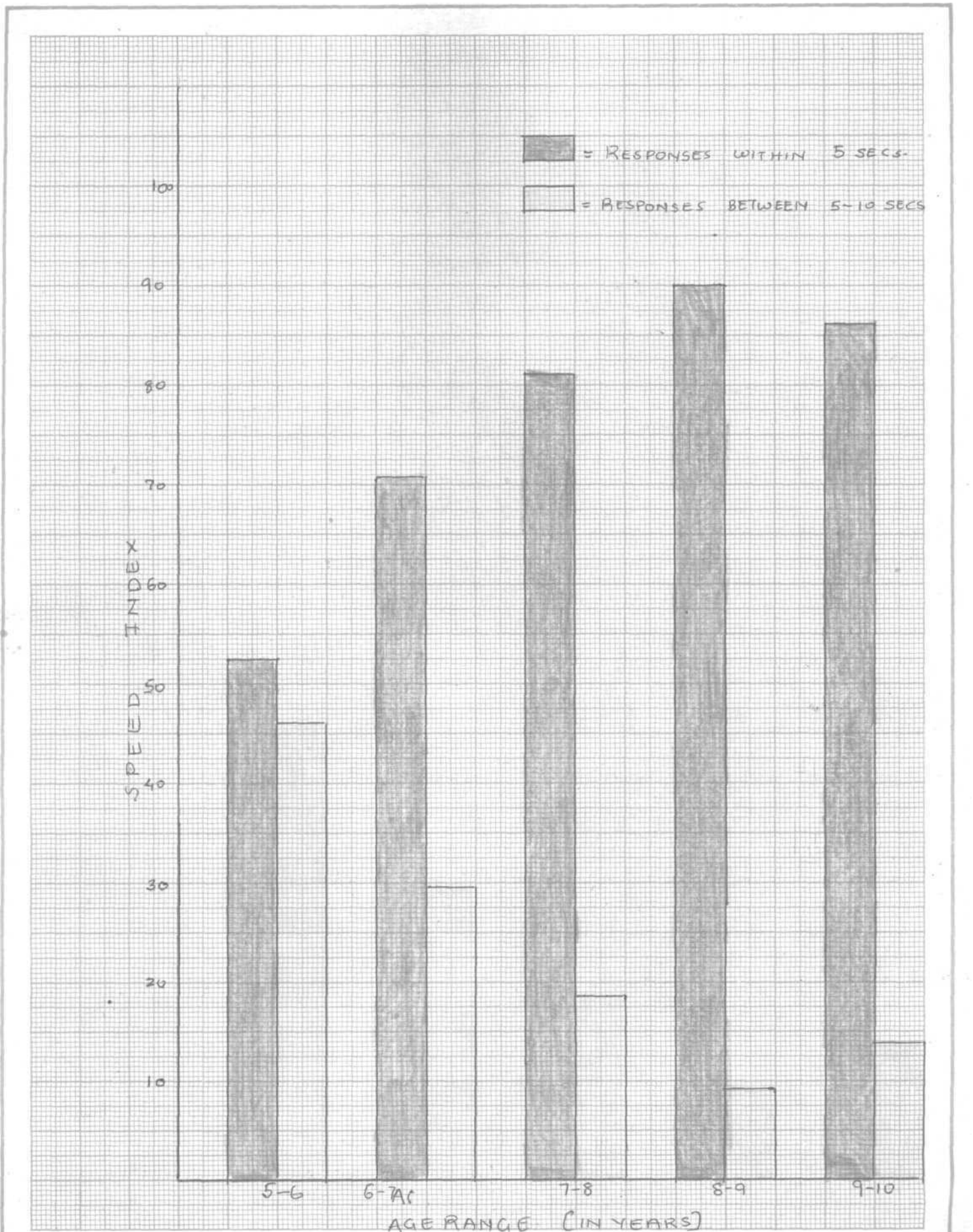
GRAPH -II : MEAN SCORES OF RESPONSES WITHIN 5 SECONDS AND
BETWEEN 5-10 SECONDS ACROSS THE AGE RANGE 5-10 YEARS

Table-III shows the mean, S.D. and standard error of mean for response with phonetic and semantic cues respectively.

TABLE-III

	RESPONSES WITH PHONETIC CUE			RESPONSES WITH SEMANTIC CUE		
AGE RANGE	MEAN	S.D.	STD.ERROR OF MEAN	MEAN	S.D.	STD. ERROR OF MEAN
5-6yrs	19.10	4.01	0.897	11.70	3.24	0.723
6-7yrs	10.95	3.69	0.825	6.20	3.33	0.745
7-8yrs	10.30	3.18	0.711	5.55	1.70	0.386
8-9yrs	5.65	2.36	0.529	3.35	2.08	0.466
9-10yrs	7.90	2.19	0.491	3.30	1.83	0.411

As can be seen from the above table the number of phonetic cues and semantic cues decreases with increase in age, i.e. as the child grows up his need for a phonetic cue or semantic cue for word-finding, decreases.

It can also be observed that the number of semantic cues are less than the number of phonetic cues. This is probably because of the method of administration. When the child is unable to respond to the test stimuli he is given the phonetic cue first. It was observed that the child was able to give the response with phonetic cue itself and that the semantic cue (which isgiven only when the phonetic cue has failed) is not required. Therefore the number of phonetic cues are more than the number of semantic cues often thus reducing the score on semantic cues. (See Graph III).
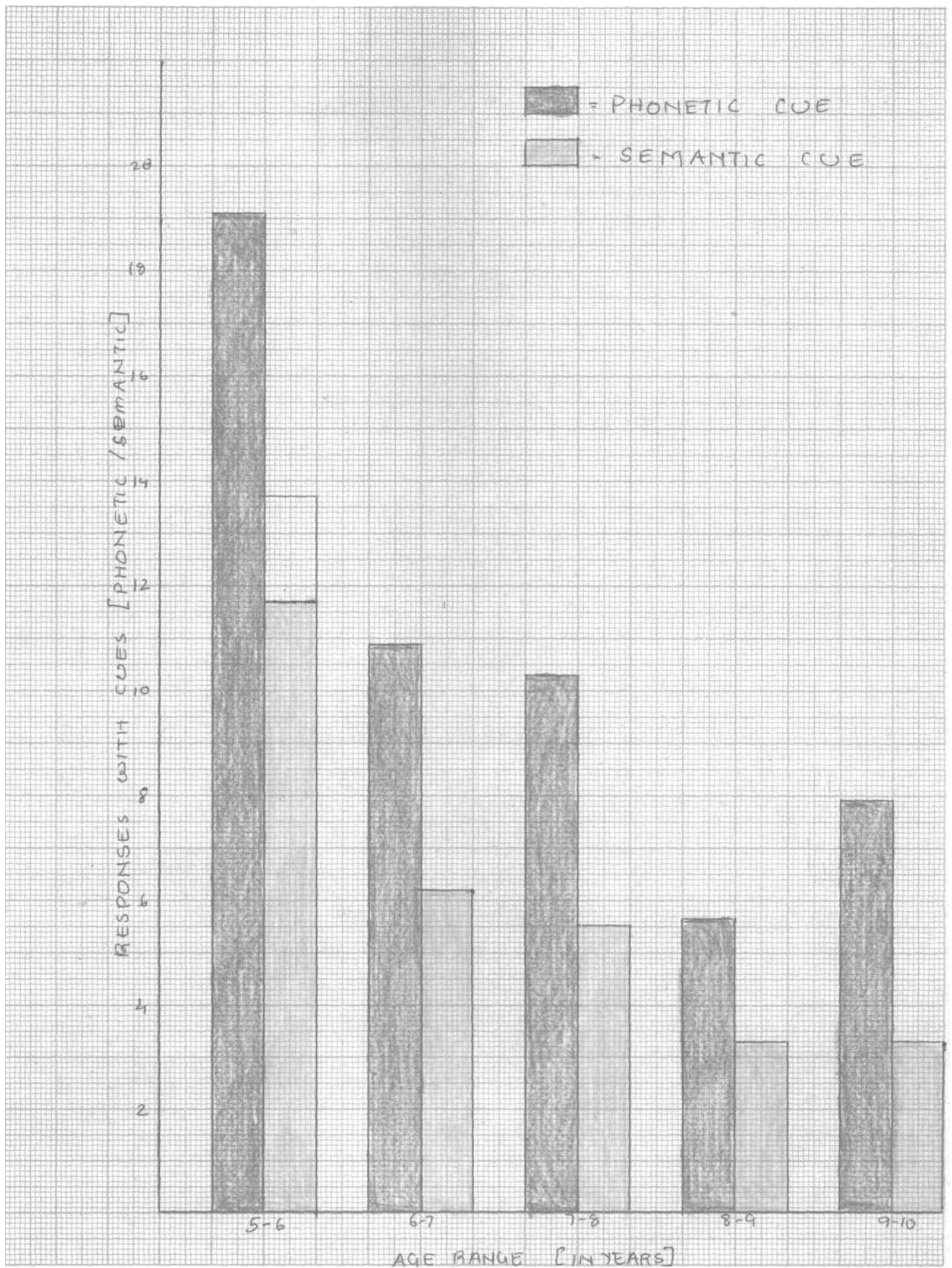
GRAPH III : MEAN SCORES OF PHONETIC CUES AND SEMANTIC CUES
USED , ACROSS AGE RANGE 5-10 YEARS .

NORMS: In order to establish the norms for the Test of Word-Finding Abilities in Children (Hindi)[TWAC-H] the test was administered to 100 children ranging from 5-10 years of age.

The 25th, 50th, 75th, 90th, & 100th percentile ranks for each age group was determined across the following indices:
- correct responses
- responses within 5 seconds
- responses with phonetic cues
- response with semantic cues

Table IV shows the percentile ranks for correct responses for different age groups.

TABLE IV

| AGE RANGE | PERCENTILES | | | | |
	25 TH	50 TH	75 TH	90 TH	100 TH
5-6yrs	62	68	72.5	73.5	84
6-7yrs	67.5	75.5	80.5	85.5	86
7-8yrs	81	84.5	89.5	91	92
8-9yrs	84.5	89	91.5	92	93
9-10yrs	84.5	87.5	90.5	94.5	95

The above table can be used in order to determine the performance level in a particular child with respect to correct responses. He can be placed in an age group based on the scores.

Table V shows the percentiles for responses given within 5 seconds

TABLE V

| AGE RANGE | PERCENTILES | | | | |
	25TH	50TH	75Til	90TII	100TH
5-6yrs	47	51.5	56.5	63	66
6-7yrs	64	74	78	81.3	89
7-8yrs	79	83	88	90.5	92
8-9yrs	89	91.5	93	94.5	95
9-10yrs	84.5	87.5	90.5	94.5	95

The above table is helpful in determining which percentile the child falls into based on his speed ofresponse i.e. within 5 seconds.   This can then be used in placing the child into a particular profile.

Table VI shows the percentile (25th, 50th, 75th, 90th, & 100th) ranks of the phonetic and semantic cues required for responses.

TABLE VI

	PERCENTILES									
AGE RANGE	PHONETIC CUES					SEMANTIC CUES				
	25TH	50TH	75TH	90TH	100TH	25TH	50TH	75TH	90TH	100TH
5-6yrs	15.5	19.5	22	24	27	9.5	10	15	16	17
6-7yrs	9	10	12	17	20	5	5	7	12	15
7-8yrs.	7	10.5	12.5	14	17	5	6	7	7	7
8-9yrs	4.5	5	6.5	7	14	2	3	4	5.5	10
9-10yrs	6	8	10	10.5	11	2	3	4	7	7

Based on the mean scores and the percentile ranks the child can be placed in the following four profiles.

PROFILE -A : Fast and Accurate:- Here the child responds within 5secs without any phonetic or semantic cuing and his response is correct.

PROFILE-B : Fast and Inaccurate:- Here the child responds within 5 sees without an phonetic or semantic cuing however his response is incorrect.

PROFILE-C : Slow and Accurate:- Here the child responds between 5-10 seconds or beyond with phonetic or semantic cuing but inspite of the time taken his response is correct.

PROFILE-D : Slow and Inaccurate:- Here the child shows a delay in responding i.e. takes more than 5 sees and inspite of the time taken,the phonetic or semantic cue given, he is unable to provide the correct response.

Table VII and Graph IV shows the number of children who could be placed into each of the profiles described above.

AGE		PROFILES		
RANGE	A	B	C	D
5-6yrs	16	18	20	46
6-7yrs	19	20	29	32
7-8yrs	21	25	28	26
8-9yrs	45	19	25	11
9-10yrs	56	10	17	17

Based on the data above it can be interpreted that more children of the age groups 5-6 years and 6-7 years fall in the Profiles C & D and the older age group children are more in the Profile A & C category. This shows that as the age of the child increases, because of his increased accuracy and speed he falls into the Profile A.

Observing the Graph-IV the age group 9-10 years shows some differences. According to the trend seen in other age groups, there should be a decrease in the children belonging to Profile-D i.e. slow inaccurate. However this is not observed in this age group which shows that there can be some abnormalities in
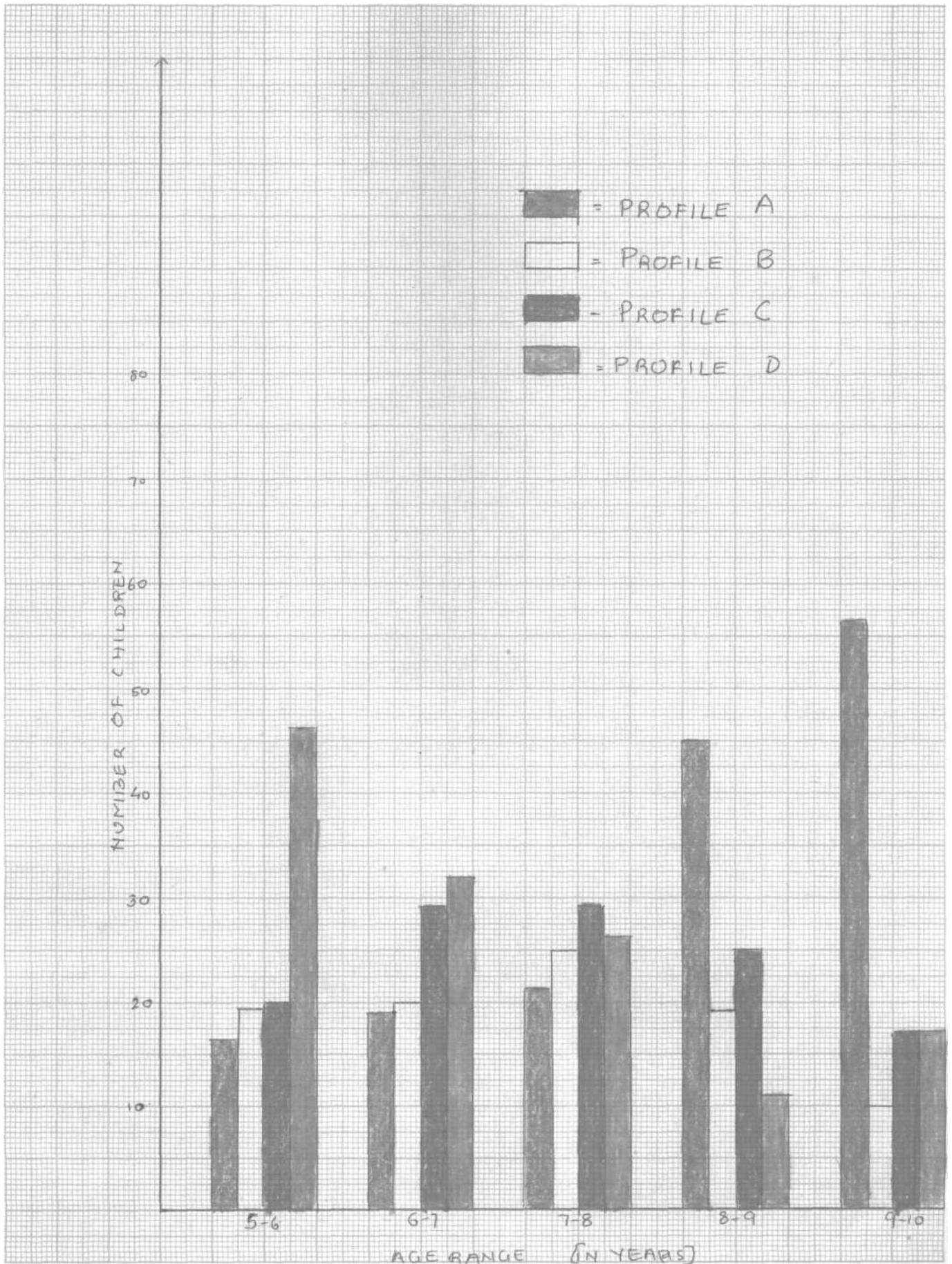
GRAPH IV : NUMBER OF CHILDREN IN EACH PROFILE ie: A, 3. C, £>
ALROSS AGE RANGE 5-6 YEARS.

perforraance of this group. It can be attributed to the heterogenity of this age group (High Standard deviation seen).

In order to understand the profiles better the following examples can be used.

CASE NO.A: Age 5 years. On the test he scores a total of 65/100 i.e. Accuracy index is 65. His speed Index is of the value 35 i.e. he could respond only 35 times within 5 seconds and he needed 15 phonetic cues. Referring to Table IV of percentile scores for Age group 5-6 years, Case A can be placed in the normal range. However he is slow (Table V) compared to his other group-mates. Hence he can be given the profile C i.e. slow and accurate.

CASE NO.B: Age 8.5 years. Total score is 89/100 i.e. the Accuracy Index. The Speed Index is 87 and use of phonetic cue was done only 5 times in the entire test . Based on Table IV and V, this child is placed in the Profile A.

RESPONSE ANALYSIS:

An informal evaluation which is useful in the identification of children with word-finding problems is the analysis of the types of substitutes they manifest when they are having difficulty naming target words. This analysis provides insights into the semantic structure and semantic processing and

frequenctly indicates to the examiner the child's general knowledge about a target word he or she is unable to name (German 1984). Substitution types have been identified in the residual speech of adult aphasics (Rinnert & Whitaker,1973; Coughlan & Warrington,1978) and error analyses have been clinically useful in the identification of types of adult aphasia (Barton et al,1969; Williams & Canter,1982; Kahn & Goodglass,1983) and types of adult word-finding disorders (Geschwind,1967; Rochford,1971). Investigations analysing children's responses during word lapses have also indicated unique naming patterns in dyslexics (Denckla & Rudel 1976a), learning disabled children (German,1987) and children with language disorders (Fried-Oken 1984). These investigations have indicated that analysis of children's naming substitutions when they are manifesting word-finding difficulties may be helpful in understanding their word-finding disorders.

The responses obtained from the population in the subtests 1,2,3, could be placed under the following categories.

RESPONSE CATEGORY	CODE	DESCRIPTION	EXAMPLE
1] Super ordinate	SUP	Target word substitutions which names the semantic class in which the target word belongs	ऑरव → मुँह , चेहरा
2] Co-ordinate	CO	Target word substitution which are at the basic level and for in the same semantic class as the target word.	चूल्हा → अंगीठी
3] Sub-ordinate	SUB	Target word substitution which represent a sub-group of the target word	साईकल → पहिया
4] Functional Attribute	FA	Target word substitute which attend to the e*£es of a target word	तांगा → जिसमें बैठते हैं।
5] Locative Attribute	LA	Target word substitution which indicate the loca-tion of the target word	ईंट → मकान
6] CompositionalL Attribute	CA	Target word substitution which indicate the material of which the target word is composed	कोट → कपड़ा
7] Unspecified Nouns	UN	Target word substitution which are nonspecific and provide little information	आंदोलन – बंध
8] Circum locutions	C	Multiword substitutes for target words that either describe the target word with respect to function visual attributes its location	पटरी –जिसपर रेल्ग चलती है।
9] Substitutions +Self correction	SC	Target word substitution is any of categories above followed by correct response	पंरव – पत्ता ---- नहीं पंरव
10] No Response	NR	No response within 25 sees time period.	

When the Response Analysis was done on the data, it was found that younger age group used more of circum locution, locative attributes and compositional attributes. Older age group i.e. 8-10 years used more of co-ordinates and subordinates. Very few children used substitutions and self corrections.

SECONDARY CHARACTERISTICS

They include those behaviours which accompany efforts to verbalise target words in constrained or spontaneous naming situations. Two types of secondary characteristics, gestures and extraverbalisations may be present when a child is manifesting word-finding difficulties. Barten(1979) has studied the development of gestures in children and identified five gesture types diectic, instrumental, expressive, enactive & depictive.

Johnson & Myklebust(1967) made clinical observations of use of these gesture types along with extra verbalisations when children with learning disabilities are having difficulties retrieving words. They state that younger children may use acoustic representation of the target word and still others may use message. Wiig & Semel (1984) indicate that learning disabled children may produce idosyncratic hand movements or manifest 'facial grimaces' or hit the table .... when they are struggling to find a word to express their thought. Fried-Oken (1984) categorised these behaviours as "errortypes' and labelled gestures as nonverbal circumlocutions and comments as noninformative responses.

German(1980) classifying these behaviours as secondary characteristics of word finding difficulties, conducted analyses on the frequency of occurance of gestures and extra verbalisations in the naming behaviour of language-impaired children with learning disabilities. She reported that children with word-finding problems manifested significantly more gestures and extraverbalisations on those naming tasks where their performance showed more errors and longer response times while not manifesting these behaviours to any great degree on those naming tasks in which their performance was similar to that of their normal language-learning counterparts.

Extraverbalisations appear to aid children in their search for target words as well as indicating the child's knowledge of target, word (I know it but I can't think of it) the gestural behaviour gives a nonverbal support to word finding process. For example in the present test one child mimed out the process of ploughing the field when he could not get the word (ploughing) another child made gestures of sthethoscope and injection when he could not get the word "doctor".

Extraverbalisation and gestures were very rarely seen in older age group children, more often in young age group children especially along with circumlocutions and when using compositional or locative attributes.

Thus   this test also provides the examiner with an   informal observation   procedure   to note systematically   the   presence   of these secondary word finding characteristics during naming tasks.

The   Test   of   Word Finding Abilities   in   children   (Hindi) (TWAC-II)   was administered to 10 mentally defecient children   and 10 learning disabled children.

One case presentation is done from each abnormality type and is shown as to how a child with a disorder can be differentiated from a normal child on word finding ability based on TWAC-H

CASE-I: Name   : A

       Age   : 10 yrs/M

       Mother Tongue   : Hindi

       Provisional Diagnosis : Learning disability

       Highlighting features : Problems   seen   in   spatial

                              relationship,word-finding,

                              calculations and abstraction.

However very good performance in clay work and drawing and neat work.

       Accuracy Index   : 72/100

       Speed Index   : 66/100 - within 5 secs.

       Phonetic cues   : 17

       Semantic cues   : 7

       Response Analysis   : Circumlocution : 10

                          Functional attributes : 15

                          Compositional attributes : 3

                          Substitutions &

                          Self corrections: 17

Several times used extraverbalisations like uh/umm! and hesitation on the initial syllables used.

Based on the qualitative analysis and quantitative analysis the following interpretation can be made.

Profile given to the case: Slow an Inaccurate i.e. PROFILE-D
    Based on the percentile rank: The child compales with the age group of 5-6 years age.

Case I: Name   : B

         Age   : 9 years

         Provisional diagnosis   : Moderately mentally retarded

         Accuracy Index   : 41/100

         Speed Index   : 32/100

         Phonetic cues   : 15

         Semantic cues   : 11

         No response   : 38/100

Based on the quantitative and qualitative analysis the following interpretation can be made.

Profile given: Slow & Inaccurate i.e. Profile D.

    The child's performance is lower than that of a 5 year old child on a word-finding task based on the percentiles given.
    Hence this test is significantly useful in detecting the normal from abnormal performance in a word-finding task.

CHAPTER V

SUMMARY AND CONCLUSIONS

There has been a dianostic gap in the assessment of word-finding disorders in children. Although professionals have long been aware of this expressive language disorders in children (Johnson & Myklebust 1967; Denckla & Rudel.,1974; Wiig & Semel,1976), until recently there has been no standardised diagnostic measure and assessment. This gap has been particularly evident to professionals responsible for providing diagnostic and remedial services to children with linguistic disorders. As Weigel-Grump & Dennis(1986) state -

"It would be useful to have a clinical test of naming and word-finding .... that compares different forms of lexical access for the same set of words, that measures both accuracy and speed of naming; that permits an analysis of error patterns and that presents statistical age-represents information about normal performance over the school years(1986)

Lack of standardised procedures for assessment prompted the development of the National College of Education Test of Word Finding, which is a nationally standardised diagnostic instrument designed to provide professionals with an opportunity to observe systematically children's word-finding skills in a set of psychometrically sound naming task and which is based on the diagnostic model for the assessment of word finding skills.

Considering the sound statistical properties and diagnostic value of this test of word finding and the lack of any test of word-finding abilities in India, the TWF was the ideal and evident choice as a model for the Test of Word Finding Abilities in Children (Hindi)[TWAC-II] presented here.

The Test of Word Finding Abilities in Children(Hindi) [TWAC-H] was constructed using almost identical methodology used in TWF and was administered to 100 normal children all of whom had Hindi as mother tongue. Using the mean and standard deviation scores, the Accuracy Index and Speed Index of each child could be determined and based on this their profiles could also be noted. Percentile ranks for each age group was also calculated which can be used to detect as to what is the performance level of a child with respect to his age group.

Response analysis was done by giving response categories to each error made and by noting down the secondary characteristics of the child gestures and extra verbalisations.

Both qualitative and quantitative analysis led to following interpretations:

1. As age increases the number of correct responses increases. Hence as the age of the child increases his word finding abilities improve, thus showing a developmental trend.

2. As age of the child increases his effeciency with respect to time increases and he performs quicker on a word-finding task.

3. As the age of the child increases his need for a phonetic cue or a semantic cue for a word-finding task decreases.

4. More of circumlocution, locative attributes and compositional attributes are used by the children of younger age groups (5-7 yrs).

5. More of co-ordinates, subordinates and Super-ordinate errors made by the older age group children (8-10 years).

6. Secondary characteristics i.e. extraverbalisation and gestures were shown more by children of younger age groups (5-7years).

Thus the presented Test of Word Finding Abilities in Children (Hindi) [TWAC-H] becomes a helpful tool for the speech and language pathologist, learning disabilities professionals and other school personnel as a first step in a comprehensive evaluation of a child's word finding skills. Through careful and correct administration an exminer can obtain much insight into a child's abilities on the naming tasks. This information will aid the examiner in forming hypothesis about a child's expressive language which can be examined in follow up informal observations. Use of TWAC-H to direct and complement diagnostic procedures in word finding will provide the examiner with helpful guidance in the overall assessment of children's word-finding skills.

9957

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APPENDIX - I

THE TEST OF WORD-FINDING ABILITIES IN CHILDREN (HINDI)

[T W A C]

Subtest I : Picture Naming : Nouns

Subtest II : Sentence Completion

Subtest III : Descridtion Naming

Subtest IV : Picture Namin : Verbs
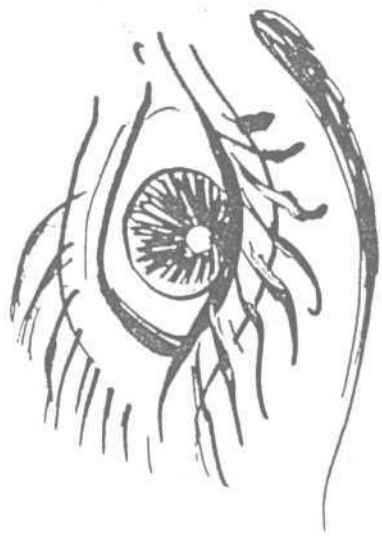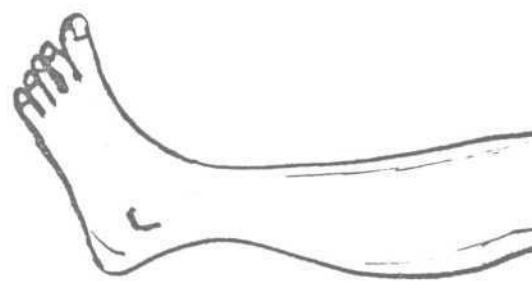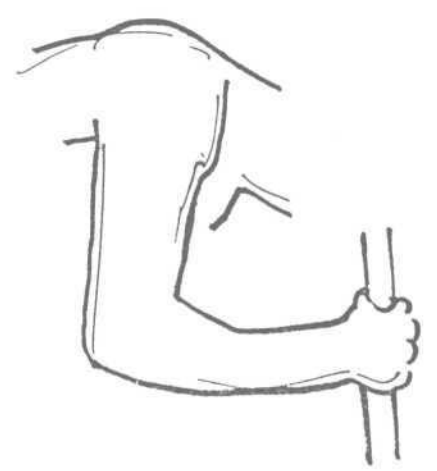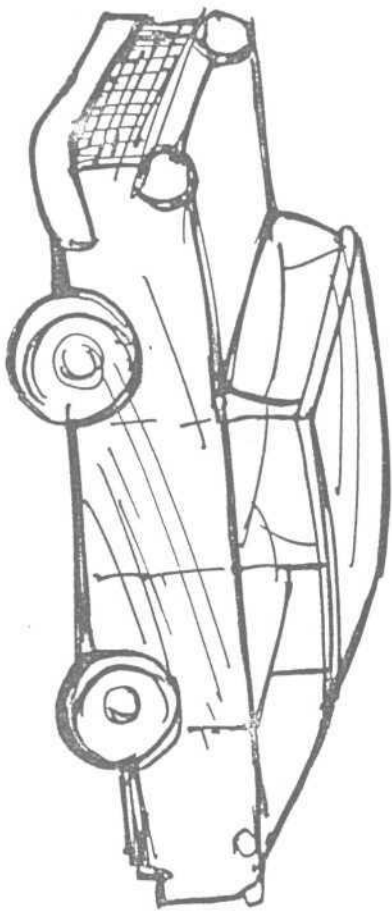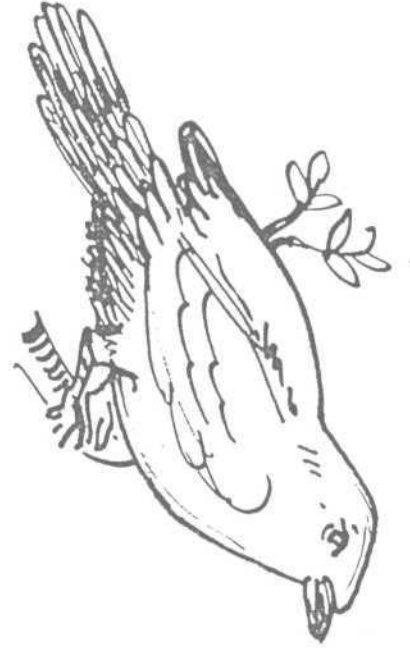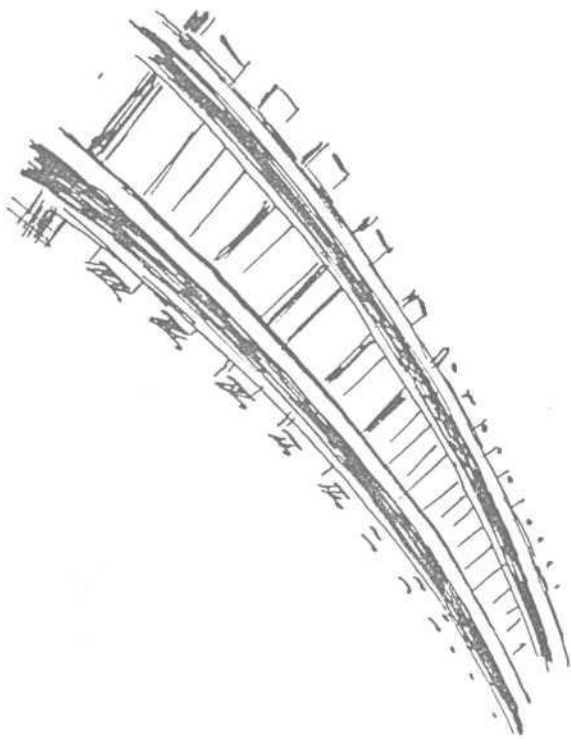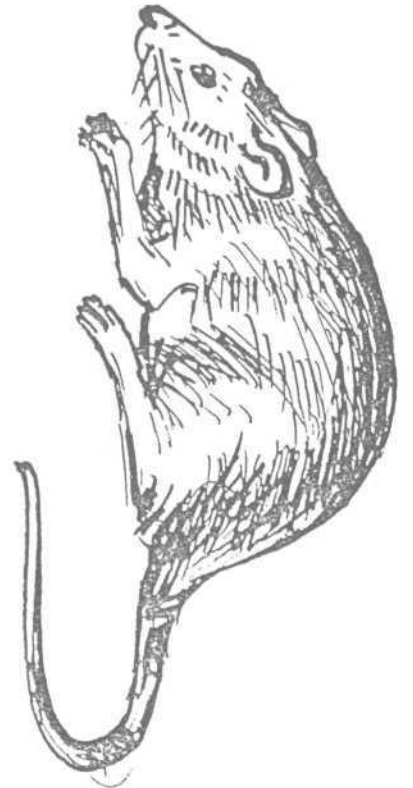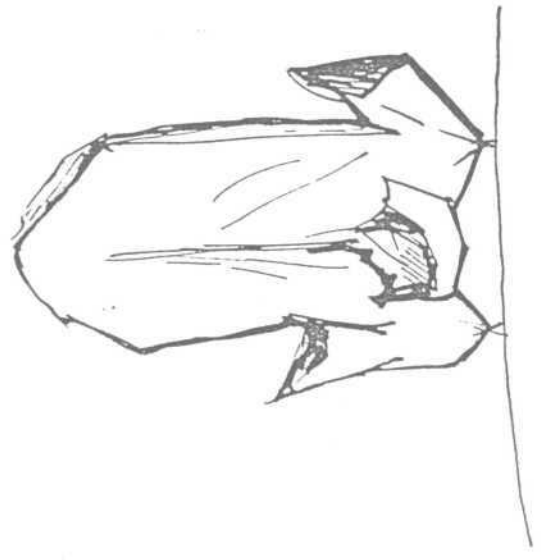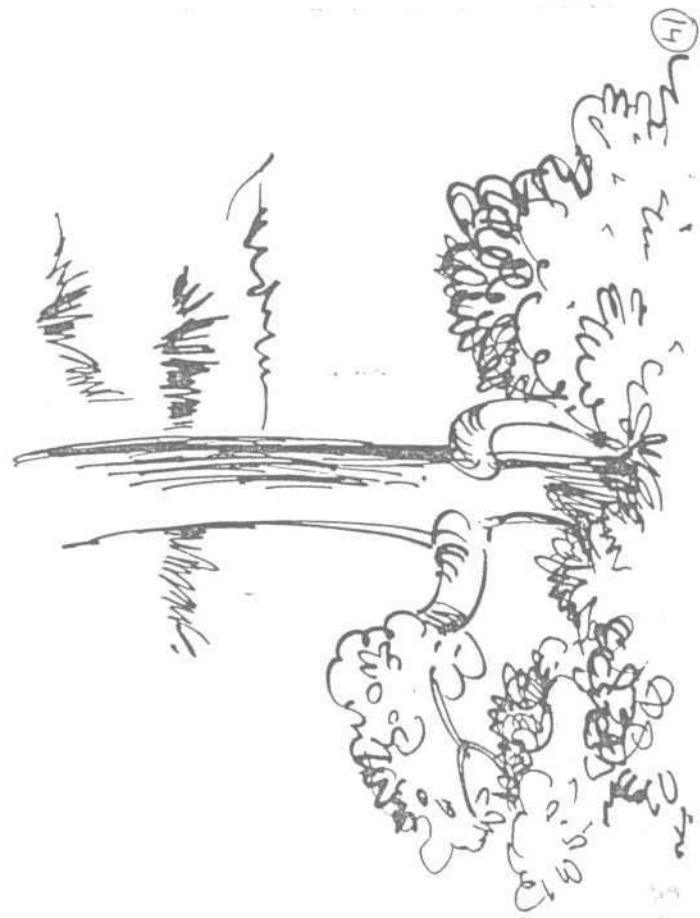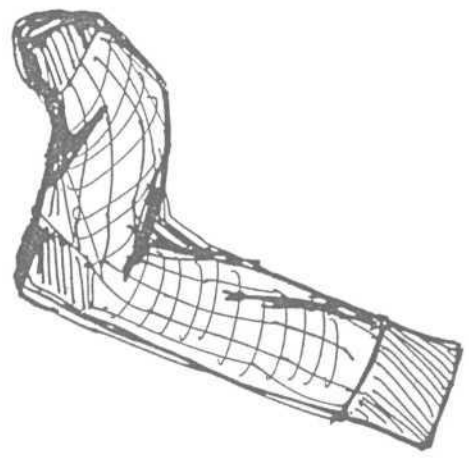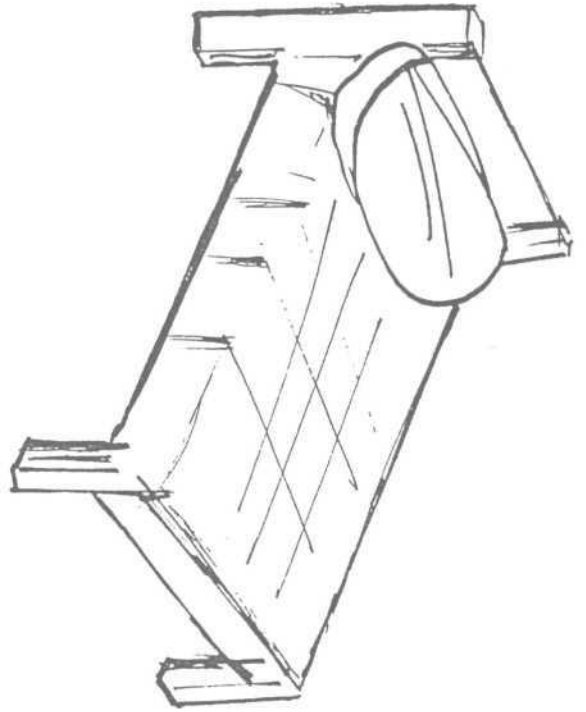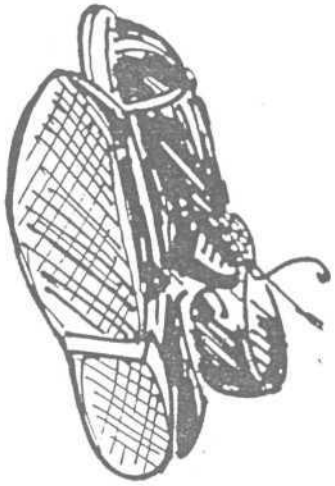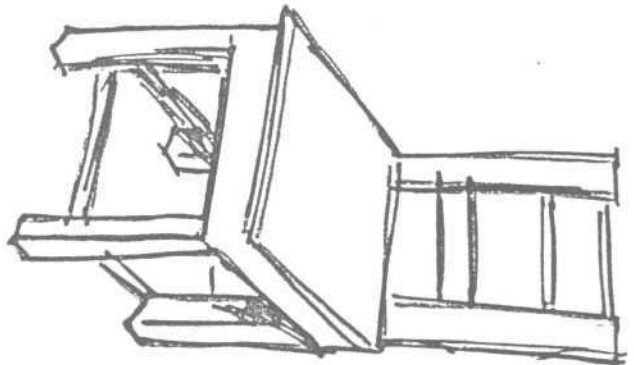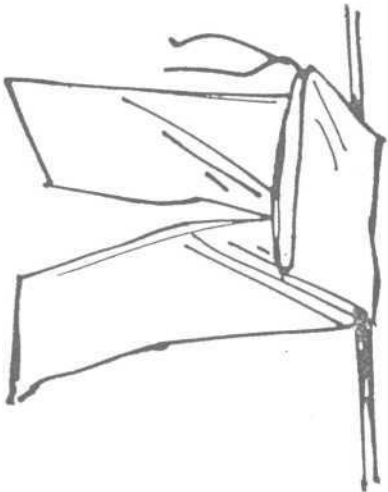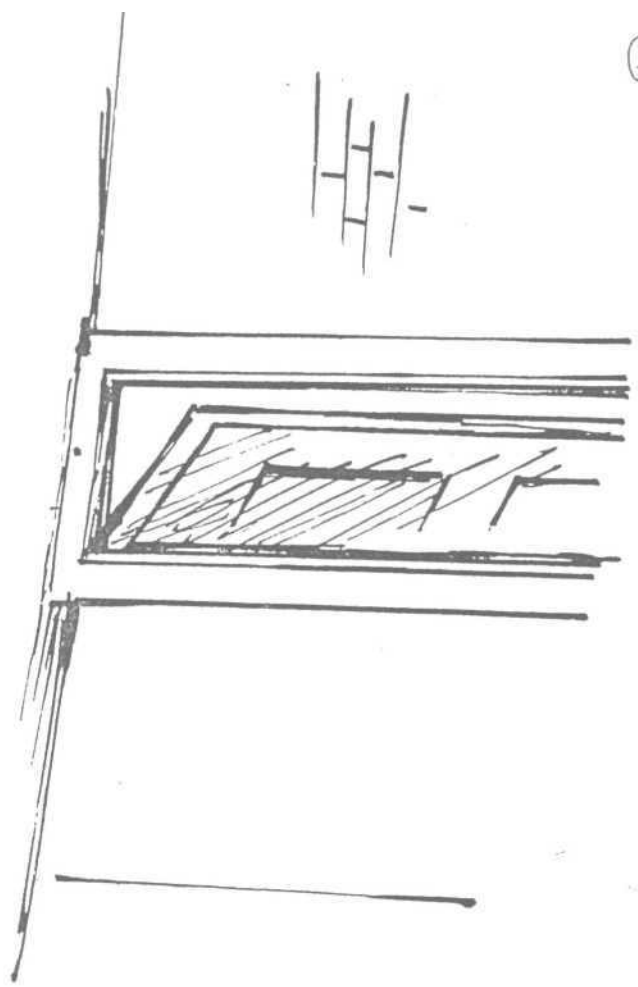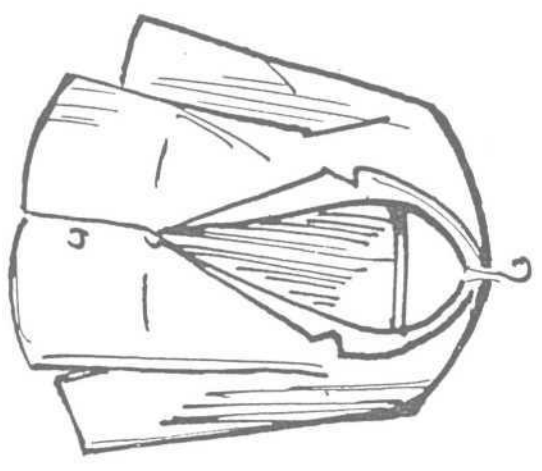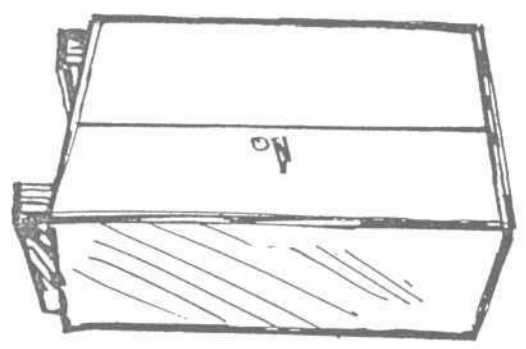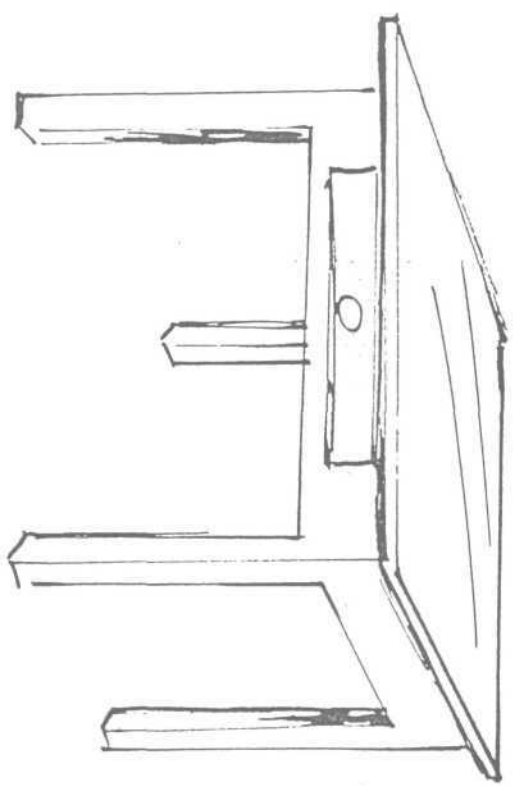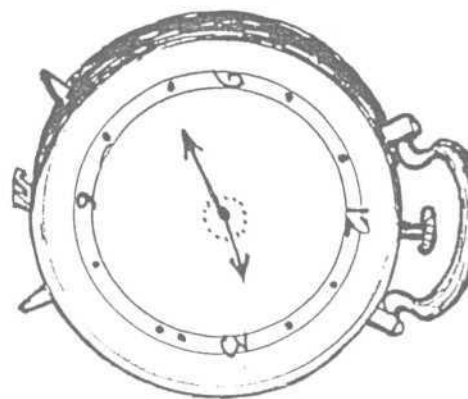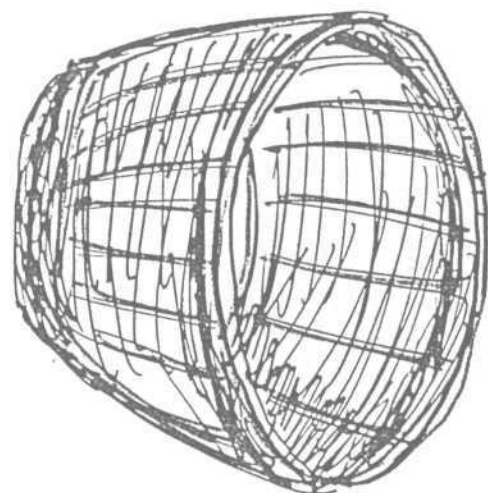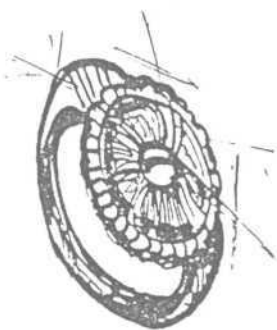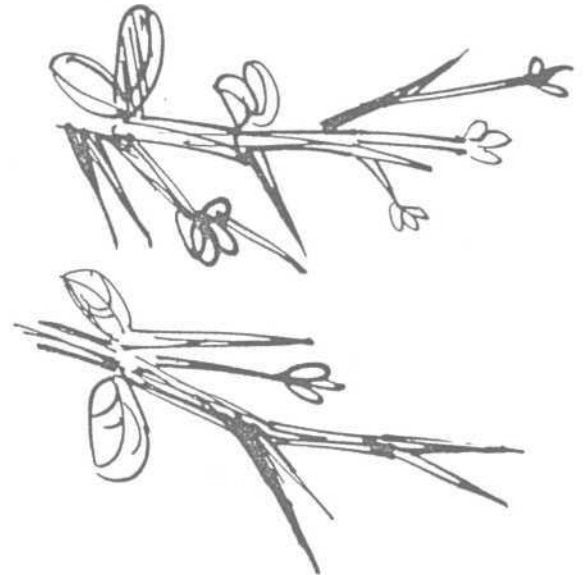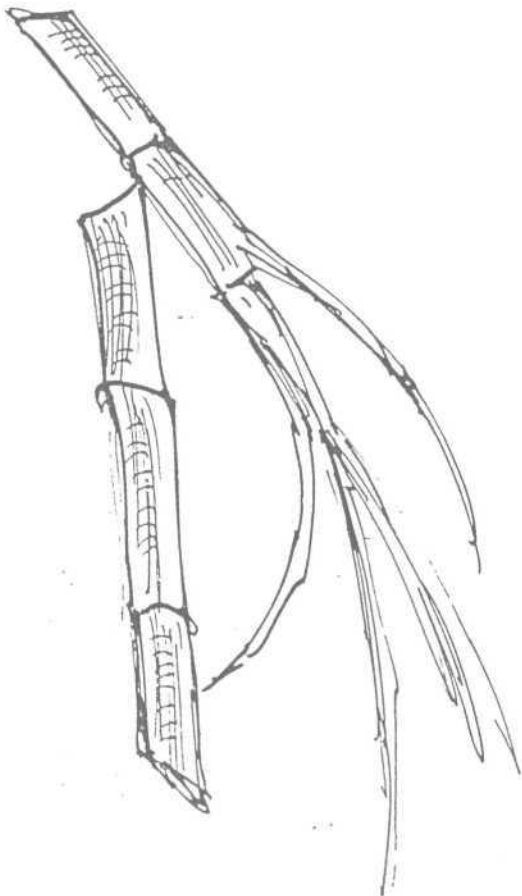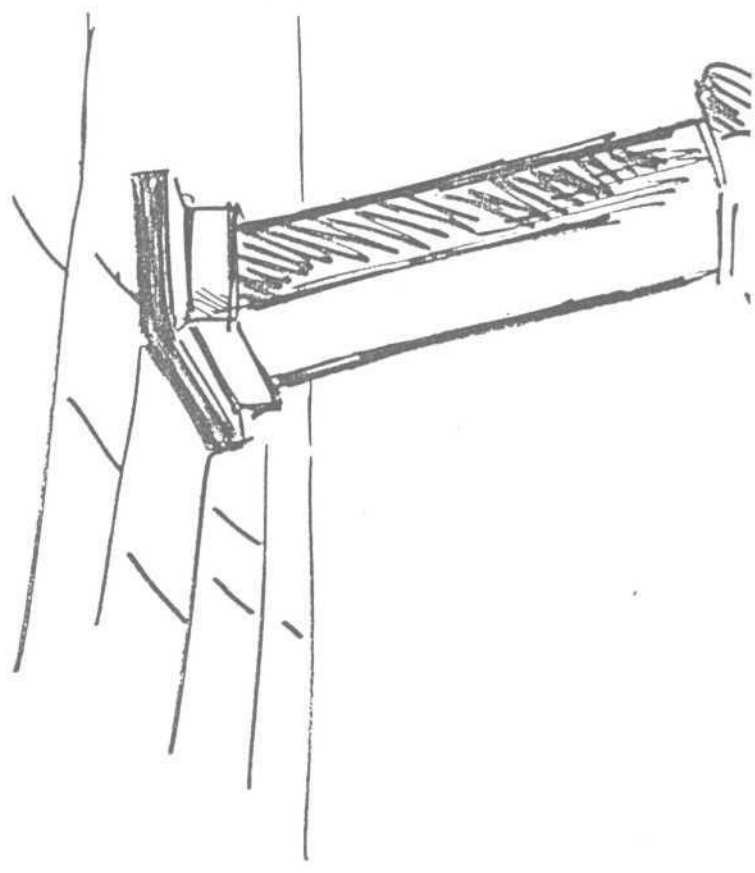
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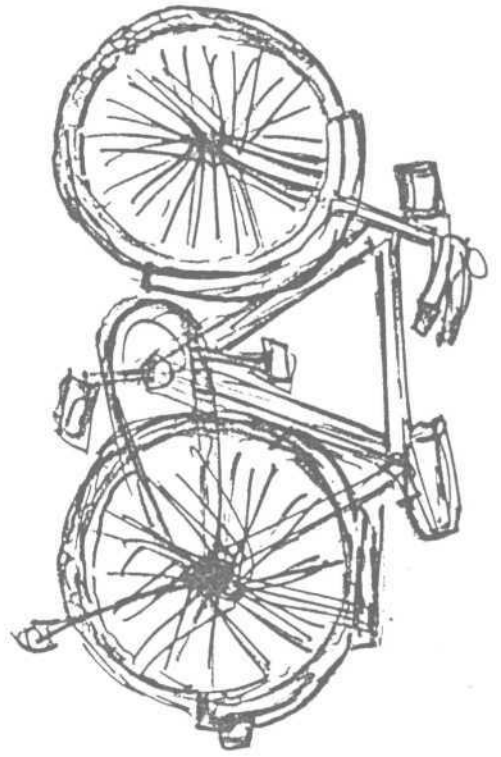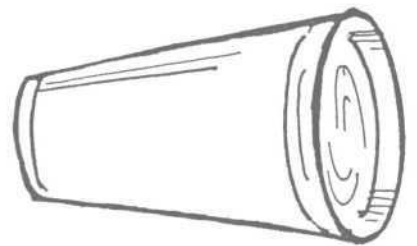
[TWAC-H] SENTENCE COMLETION (वाक्य पूरा करना ,वाक्य कोष्टक में है)

१ हम फल और सब्जियाँ-------- से काटते हैं। (चाकू)

२ जब आँख से कम दिखता है तो हम ------- पहनते हैं। (चश्मा)

३ हर सैनिक के पास एक --------- होती है। (बंदुक)

४ जब हम बीमार पड़ते हैं तो-------- पीते हैं। (दवा)

५ हम सुनते कान से हैं और सूँघते हैं-------- से। (नाक)

६ फुटबाल के खेल में खिलाड़ी------- को पैर से मारते हैं।(गेंद)

७ स्वेटर बनाने के लिए सलाई और------ की जरूरत पड़ती है।(ऊन)

८ जब हम घर से बाहर जाते हैं तो जूता या---- पहनते हैं।(चप्पल)

९ कोबरा एक जहरीला --------है। (साँप)

१० नदी पार करने के लिए हम ----- में जाते हैं।(नाव)

११ घर के पास कचरे का ----- रखने से गंदगी जमती है।(ढेर)

१२ माँ की गोद मे छोटा सा ------ सो रहा है। (बच्चा)

१३ बनारस गंगा नदी के ----- पर बसा शहर है।(तट)

१४ छोटे बच्चे आवाज करने वाले------ से ज्यादा खेलते हैं।(खिलौनो)

१५ कालिदास हिन्दी साहित्य के एक महान------थे।(कवि)

१६ छोटा बच्चा---- में सो रहा है और माँ उसे झुला रही है।(पालना)

१७ यदि हम कोई गलती करें तो हमें बड़ों से------- माँगनी
   चाहिए। (माफी)

१८ जो लेख लिखता है उसे-------- कहते हैं। (लेखक)

१९ सरकार द्वारा किए गए काम को--------कहते हैं।(सरकारी)

२० विद्यार्थी गण आरक्षण के विरोध में------कर रहे हैं। (आंदोलन)

TEST OF WORD FINDING ABILITIES IN CHILDREN (HINDI)

[TWAC-H] DESCRIPTION NAMING (परिभाषित शब्द कोष्टक में हैं)

१ वह क्या चीज है जिसमें धागा पिरो कर कपड़े सिले जाते हैं। (सुई)

2 जब हम बीमार पड़ते हैं तब कौन हमें देखता है और दवा देता है ? (डाक्टर)

३ वह कौन सा कपड़ा है जिसे हम सर्दी पड़ने पर पहनते हैं और वह
हमें गर्मी देता है। (स्वेटर)

४ घर का वह कौन सा कमरा है जिसमें माँ खाना बनाती है। (रसोई घर)

५ जब हम दुकान से कुछ खरीदते हैं तो दुकानदार को क्या देते हैं (रुपया)

६ वह कौन सी जगह है जहाँ रेलगाड़ियाँ रुकती हैं और यात्री अपना
सामान लेकर उतरते हैं ? (स्टेशन)

७ वो क्या है जो पहाड़ों से निकलती है और सागर में जा निल जाती है (नदी)

८ वह कौन सी जगह है जहाँ हिन्दू पूजा करने जाते हैं (मन्दिर)

९ वह कौन सा जानवर है जिसकी लम्बी सी सूँड़ और छोटी सी पूँछ होती है। (हाथी)

१० वह क्या है जिससे हम मकान की एक मंजिल से दुसरी मंजिल पर चढ़ते हैं (सीढ़ी)

११ वह कौन सी जगह है जहाँ मुकद्दमें लड़ जाते हैं । (कचहरी)

१२ वह कौन सी वस्तु है जिसे जोड़ जोड़ कर मकान बनाया जाता है । (ईंट)

१३ जो कला दिखाता है उसे क्या कहते हैं ? (कलाकार)

१४ वह कौन सी वस्तु है जिसे धनुष पर रख कर शिकार खेलते हैं। (तीर)

१५ जिसको दुकान होती है और जो दुकान में बैठकर सामान बेचता है उसे क्या कहते हैं (दुकानदार)

१६ किसी एक नगर में रहने वाले को वहाँ का क्या कहते हैं (नागरिक)

१७ उन्हें किस नाम से जाना जाता है जो मन्दिर में रहते और भगवान की पूजा करते हैं (पुजारी)

१८ जब हम बहुत दिनों से खाना नहीं खाए होते हैं तो हमें क्या लगती है ? (भूख)

१९ वह कौन सा समय होता है जब अंधेरा हो जाता है और हम सब सो जाते हैं? (रात)

२० वह क्या है जो सफेद होता है,गाय या भैंस से मिलता है
और उसे पीने से ताकत मिलती है? (दुध)

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)
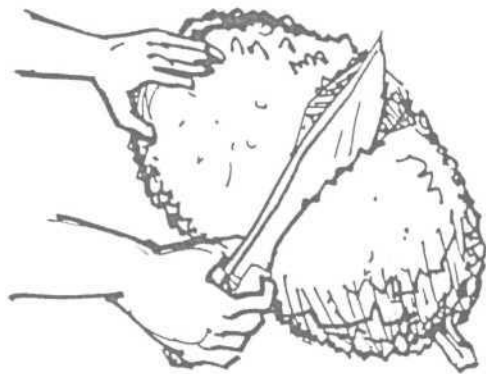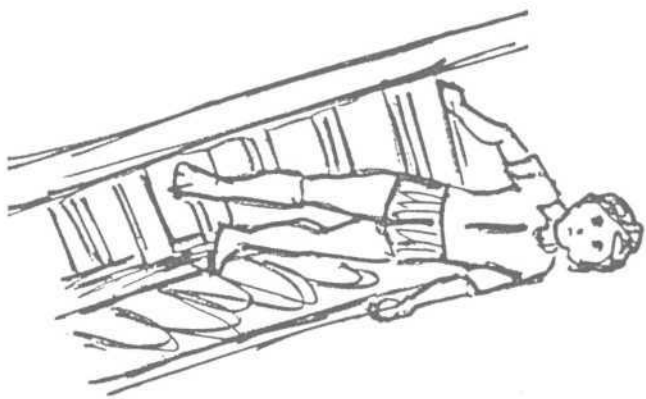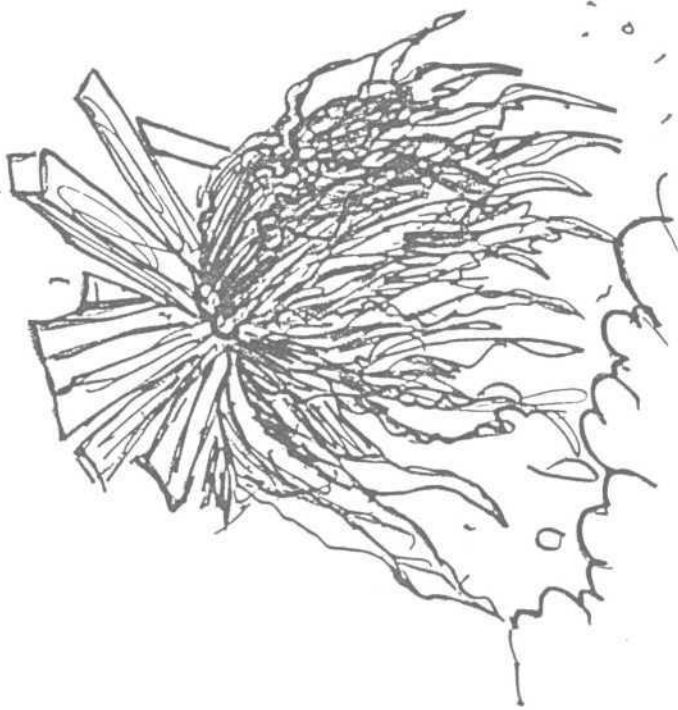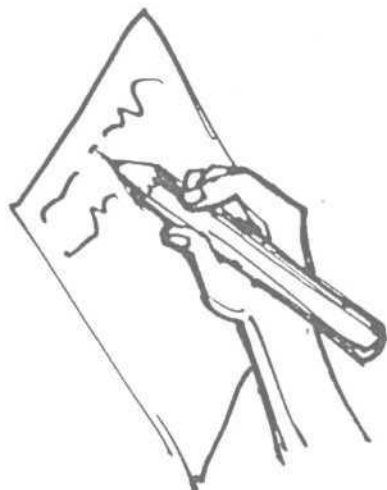
APPENDIX - II

THE SCORE SHEET

TEST OF WORD-FINDING ABILITIES IN CHILDREN (HINDI)

T W A C - H

NAME   :   AGE/SEX :

CLASS   :   ADDRESS :

| SECTION :1 | | | | | PICTURE NAMING : NOUNS | | | |
NO.	RESPONSE	TIME	CUE	CODE	NO.	RESPONSE	TIME	CUE	CODE
1					21				
2					22				
3					23				
4					24				
5					25				
6					26				
7					27				
8					2B				
9					29				
10					30				
11					31				
12					32				
13					33				
14					34				
15					35				
16					36				
17					37				
IS					38				
19					39				
20					40				

| TWAC-H | SECTION | :£ | | | SENTENCE | COMPLETION | : | | |

No.	RESPONSE	TIME	CUE	CODE	NO.	RESPONSE	TIME	CUE	CODE
1					11				
2					12				
3					13				
					14				
5					15				
6					16				
7					17				
8					18				
9					19				
10					20				

TWAC-H	SECTION	:3					DESCRIPTION		NAMING	
No.	RESPONSE	TIME	CUE	CODE	NO.	RESPONSE	TIME	CUE	CODE
1					11				
S					12				
3					13				
4					14				
5					15				
6					16				
7					17				
8					18				
9					19				
10					20				

No.	RESPONSE	TIME	CUE	CODE	NO.	RESPONSE	TIME	CUE	CODE
1					11				
2					12				
3					13				
4					14				
5					15				
6					16				
7					17				
B					18				
9					19				
10					20				

TWAC-H	SECTION :4				PICTURE NAMING: VERBS				
No.	RESPONSE	TIME	CUE	CODE	NO.	RESPONSE	TIME	CUE	CODE
1					11				
2					12				
3					13				
4					14				
5					15				
6					16				
7					17				
B					18				
9					19				
10					20				