AN ADAPTATION OF EARLY READING SKILLS (ERS) IN HINDI (ERS-H)

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I
INTRODUCTION

Language is a code of rules. Language learning is similar across cultures and children exposed to different languages follow similar developmental paths. Reading is holistic and more difficult than speaking, as awareness of the sound structure is required to break the alphabetic code. The basis of scaffolding written language and oral language is phonologic awareness (Fletcher, Shaywitz, Shankweiler, Katz, Liberman, Stuebing, Francis, Fowler, & Shaywitz, 1998). Children benefit the most from formal reading instruction on school entry called pre-reading or emergent literacy skills, which are acquired in early childhood and have a high correlation with later reading ability (Scarborough, 1989). Knowledge about books and recognition of alphabet are the two emergent literacy skills that are highly predictive of reading ability. Learning to name the letters i.e. the sounds they represent, leads to an understanding of the alphabetic principle which is considered the single most important concept for learning to read (Adams, 1990).

Reading comprehension is composed of two equally important components:

i. Decoding is the ability to translate text into speech and the elements supporting it are:
    - *Cipher Knowledge*: Certain conventions which loosely govern spelling and pronunciation are collectively known as the cipher. Reading improves spelling and spelling improves reading (Goswami & Bryant, 1990).
    - *Lexical knowledge*
    - *Phoneme Awareness*: Phonemic awareness is the understanding that speech can be segmented or broken into individual sounds which differ in meaning. Phonics is the understanding that segmented units of speech can be represented by printed forms (Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998).
    - *Knowledge of the Alphabetic Principle*
    - *Letter knowledge*
    - *Concepts about print*

ii. Language comprehension is the ability to understand spoken language. The elements supporting language comprehension are:
    - *Background Knowledge*: It is used as a reference for interpreting new information.
    - *Linguistic Knowledge*: Reading is superimposed on language (Maltin, 1995) and language proficiency makes the comprehension of matter that is read possible.

The process of making meaning from text is called reading comprehension. In order to understand the text in a meaningful way, readers integrate the meanings of successive sentences to establish local coherence and also try to establish how the information fits together as a whole, that is, global coherence. There are four categories or levels of comprehension:

- *Literal or text-explicit comprehension*: The reader processes information that is explicitly stated in the text, and thus requires a lower level of thinking skills.
- *Interpretive or text-implicit comprehension:* The reader processes ideas based on what was not explicitly stated in the text.
- *Critical or applied comprehension:* The reader integrates their thinking with the facts from the text.
- *Creative comprehension:* The readers develop original ideas and use divergent thinking skills.

Reading is a psycho-linguistic process (Scot and Clinton, 2002). It is socially mediated language learning. The reader depends on three kinds of information for adequate reading: graphic information, semantic information and syntactic information. Other factors include purpose (which focuses the readers' attention and helps them understand the text), being an active reader, the type of text used, the quality of literacy instruction, interest and independent practice.

Reading development is a language-based process (Catts & Kamhi, 1999) that begins at birth and continues through the lifespan (Wolf, 2007). Central to this definition is the idea that the language (s) in which children learns to read determines the different patterns of strengths and weaknesses children bring to the learning task. Perfetti (2003) illustrates this same notion

through the language constraint on reading. Accordingly, the connection that readers make between a graphic form and meaning is mediated through language. Therefore, the idea that learning to read is predicated on a foundation of oral language means that both the speech that children hear, and the language they use to construct meaning from their everyday experiences are implicated in reading development.

Reading development is constrained by the orthographic transparency and the degree of grapheme-phoneme correspondence in the language (s). The degree of consistency between sound/letter in orthographies slows down or facilitates reading acquisition (Ziegler & Goswami, 2005). While reading in different languages, there are differences in cognitive demands which are explained by the orthographic depth hypothesis (Frost, 2005). Reading acquisition thus differs according to the orthography which is referred to as the 'Orthographic Depth Hypothesis' (Lukatela, Carello, Shankweiler & Liberman, 1995).

India has various written languages. The extremely opaque English and the transparent Hindi orthography are used by the same group of children. Orthographies have graphemes representing only one phoneme are called 'Shallow' or 'transparent', and those with individual graphemes representing a number of different phonemes are called 'deep' or 'opaque' orthographies (Spencer & Hanley, 2003). Hindi has a transparent orthography, i.e. grapheme to phoneme mapping is largely consistent, with complex graphemic features. The letters in Hindi are classified by place of articulation and the alphabet arrangement is phonetic (Bright, 1996). The script has syllabic and alphabetic properties. According to Vaid and Gupta (2002), Hindi resembles a syllabary. Hindi is a SOV (subject-object-verb) language, wherein the verb agrees (in gender, number and person) with the subject of the sentence and this information appears on the verb as suffixes or auxiliaries. The distance between the verb and the subject is greater than English. Hindi makes extensive use of post-positions and suffixes to mark the grammatical/thematic roles of nouns in a sentence. It has a rich system of inflectional morphology and the word classes in Hindi are noun, number, pronoun, adjective, verb, and adverb.

The characteristics of the child (age, gender, etc.), the school (type, facilities available, teacher characteristics, etc.), and the household (parents' education, household income, etc.) along with the child's innate ability, affects reading skills. It is thus necessary to cater instruction to the individual strengths of each child as they come with diverse backgrounds and skills. The assessment areas vary depending on when they are administered. The various tasks to measure phonemes awareness are sound comparison tasks, phoneme segmentation tasks, phoneme blending tasks, etc. As the cognitive processes contributing to reading comprehension are covert and complex, therefore it cannot be directly observed or measured. Tests of reading comprehension vary in terms of the nature of text and the response format.

Standardized tests are low cost appropriate tools that are often used to detect reading writing difficulties. As a majority of these tests are usually available in English, it is always necessary to translate to the native language when used in non-English speaking communities. However, there are difficulties in the process of proper translation, and the lack of a local language version can become a barrier in assessing and reporting such deficits. Translated versions are needed in detecting health problems that will also allow cross-countries and as well as cross-cultural comparisons (Hunt, Alonso, Bucquet, Niero, Wiklund, McKenna, 1991).

I.1 Need for the Study

- Performance norms of most reading assessments available in India have been developed with populations of children in other countries. The level of performance on reading tests depends largely on reading curricula and programs, thus, some discrepanciesmay be present between the average Indian reader and the average reader represented in the norms established in other countries (Misra, Sahoo, &Puhan, 1997). A review of the Indian studies also points towards the lack of an adequate assessment tool to identify children with reading disability.

- In a multilingual country like India, it is imperative to develop and standardize tests in all languages. With the availability of variety of such tools the speech language pathologist can obtain complete profile of reading disabled, to make or confirm diagnosis so that

directives for reading intervention can be determined early.

- Differences may exist among average readers in different Indian provinces or languages (Indo-Aryan and Dravidian). The review highlights the paucity of appropriate tools in Hindi to identify children with reading disability. A reliable basis for interpreting test scores and guiding educational decisions and actions can be achieved by research on the development of reading performance norms relevant to Hindi speaking Indian children.

- Most of the Indian children start to learn Hindi at home. But their sequential acquisition of Hindi reading skills remains unexplored. As reading is an individualized process and varies with language dialect and instruction, an urgent need has been felt to obtain normative data on Hindi Reading Tests for Indian population.

- Earlier tools for reading assessment, e.g.: Diagnostic Reading Test in Kannada (Purushothama, 1992) have concentrated on assessing skills like reading speed, reading accuracy, reading efficiency, etc, and also they usually assessed children in higher grades. Presently, there is no assessment tool for measuring reading-related skills in school going children of primary to secondary grades in Hindi.

- The number of children enrolled in English-medium schools from Classes I to VIII has shown a 27.4% rise since 2003-04 (NUEPA, 2011).Differences in development of reading in children with different languages as medium of instruction (mother tongue and English) needs to be investigated.

- In the Indian scenario, wherein the schooling system is organized differently in terms of government and/or private enterprises, it is important to investigate the influence on reading skills, if any, of this characteristic feature of the Indian educational system.

- There is a need to examine the relationships of various reading and reading related skills to reading performance for disadvantaged (lower Socio Economic Status) children.

- The presence of reading disability cases in our schools is a serious problem at all levels of academic ladder. Especially in Indian society where public awareness is minimal, the instances of reading disabled children remains in oblivion, and as a consequence the child goes through emotional trauma. Thus there is a need for diagnostic instruments which can identify reading disabled as efficiently as possible.

Therefore, this project attempted to address the above mentioned areas and tried to find out certain observations and facts related to these problems which are much needed.

I.2 Aims & Objectives of the study:

The present study was aimed to translate and adapt Early Reading Skills proposed by Rae & Potter (1973, 2nd edition in 1981) in the book titled "Informal Reading Diagnosis: A Practical Guide for the Classroom Teacher" in Hindi language. The present study also considered and incorporated the suggestions reported in "Descriptive Analysis of the Sequential Progression of English Reading Skills among Indian Children" by Monika Loomba (Unpublished Masters dissertation, 1995), later edited by Jayaram, Prema and Savithri (2003) as a publication of All India Institute of Speech and Hearing, Mysore. Further it is also aimed that this adapted tool serve as a measure to assess the sequential acquisition of the continuum of Hindi reading skills in children of Grades I to VIII. Accordingly, the study aimed to investigate and explain the presence of literary deficits in Hindi speaking children with Learning Disability.

Organization of Remaining Chapters

In Chapter Two, the literature was reviewed, and key thoughts were brought to the forefront. Chapter Three encompassed a detailed description of the research methods and how the study was set into motion. Results of the data analysis were synthesized and discussed in Chapter Four. Last, the study was summarized in Chapter Five with a review of further implications for research.

CHAPTER II
REVIEW OF LITERATURE

II.1 Literacy

Literacy is a human right as well as a tool for empowerment, personal fulfillment, and education (UNESCO, 2008). Literacy is considered the key for socio-economic progress in the Indian scenario. The literacy rate in India has grown from 12% at the end of British rule in 1947 to 75.06% in 2011 (Nayaka & Nurullah, 1974; Census of India, 2011). In the age group of 6-14 years, 95.7% of children were enrolled in some form of elementary school (Annual Status of Education Report, ASER, 2008). 80% of schools in India are government schools (DISE, 2005).According to ASER (2005), the performance of government schools in the State in reading and math was better than that of private schools. But in 2008 the performance of children from the latter almost equaled. The predominant perception is that privately funded schools provide a better quality education primarily because of better teacher attendance and an English medium of instruction, which leads to better job prospects. Children of classes 1-5 who could read at least a class 1 level text, was 43.6% in government schools and 52.2% in private schools (ASER, 2009). Among students of Grades 1 to 8, only 41% were able to read simple stories in both government and private schools. On an all India basis, private schools continue to maintain a marginally higher level than the government schools. Differentiated or quality demand is generally met by private schools, therefore attracting children from higher-income and advantaged social groups (Tilak, Jandhyala and Sudarshan, 2001).

II.2 Reading

Reading is the "gatekeeper to academic success" (Snow, Porche, Tablors, & Harris, 2007). It can be viewed as a two level process. Level one comprises of *foundation skills* of word recognition, decoding, fluency, and vocabulary knowledge and level two comprises *higher order reading processes*. These procedures are used to make connections among words and between existing knowledge and text information (Pressley, 2000).

The following three groups of skill sets are involved in reading (Chall, 1967): prerequisite reading skills, model building skills and applied comprehension. While prerequisite reading skills are needed to understand print including oral reading fluency, word recognition, and decoding (Vellutino, Tunmer, Jaccard& Chen, 2007); model building skills are necessary to construct meaning from either decoded text or spoken language. Integrating information from multiple documents (Goldman, 2004), critical thinking (Graesser, Wiley, Goldman, O'Reilly, & McDaniel, 2007) and the work on explanation and question asking (Graesser, & Person, 1994) is a part of applied comprehension.

II.2.1 *Reading Acquisition*

There exists a developmental continuum which facilitates the development of reading skills. Early reading skills and reading competency are the two skill sets which are closely interrelated and have a mutual effect (Yopp, 1992). There are two major stages of reading development as identified by Chall (1983): period when children "learn to read" (grades 1, 2, and 3) and period when children "read to learn" (grades 4 and beyond). The standard model of reading acquisition was proposed by Frith (1986). The first l*ogographic (logo means picture/symbol)* stage when the child processes words like visual object or symbol. In the a*lphabetic* stage the child represents ordered sequences of letters and in the o*rthographic (spelling) lexicon* the child stores whole-word grapheme sequences. Goswami and Bryant (1992) assert that knowledge of spelling helps the ability to spell. Ehri's (1992) four stages of reading development: in the *Pre-Alphabetic Stage* the reader uses visual clues of the printed word to identify the word as no appreciation of the alphabetic principle exists. In the *Partial Alphabetic Stage*the reader focuses on specific and easily identifiable parts of the word. In the *Fully Alphabetic Stage* the words are memorized as a unit known by sight. In the *Consolidated Alphabetic Stage* the readers store letter patterns across different words after repeated encounters with the words. A six phase acquisition of reading was described by Spear-Swerling and Sternberg (1996).

II.2.2 *Factors Influencing Reading*

i. Cognitive There are some specific cognitive abilities (Fletcher, Foorman, Shaywitz, & Shaywitz, 1999) which discriminate good readers from poor readers. Successful readers have better cognitive skills (Lonigan, Anthony, Bloomfield, Dyer, &Samwel, 1999).

ii. Phonological Skills: Phonology plays a fundamental role in reading development (Goswami& Bryant, 1990). Considerable research across many languages has centered on the phonological aspects of language as strong predictors of reading outcomes (Ziegler & Goswami, 2005). Phonology is universal, because it has been found to be predictive of developmental outcomes in reading across languages that differ in their orthographic transparency (Ziegler & Goswami, 2005). Phonological skills having an important role in reading are: phonological processing ability and phonological sensitivity. Poor readers generally lack phonological awareness (Share, Jorm, MacLean, & Matthews, 1984).

iii. Role of Morphology: The role of morphology in reading has been central across languages such as English (Singson, Mahoney, & Mann, 2000). In a recent study, Kieffer and Lesaux (2008) found that morphology was related to reading comprehension and consequently necessary for understanding how reading develops and for predicting reading comprehension (Carlisle, 2000). This ability is considered essential for predicting reading outcomes both at the word reading level and the reading comprehension level (Ku & Anderson, 2003).

iv. Effect of Oral Language: Nation and Snowling (2004) found that language variables of semantic skills, listening comprehension and vocabulary accounted for a large variance in reading comprehension skill at age 8.5. Recently, mounting evidence underscores the importance of other aspects of oral language, namely morphology and semantics, in predicting reading outcomes (Cain & Oakhill, 2007). Researchers have conceptualized reading as a language-based activity (Wolf &Vellutino, 1993).

According to Perfetti (2003), the close relationship between oral language and reading is attributable to the Universal Language Principle, which posits that the written form of any language must map onto its oral form. Oral language skills can predict reading comprehension and other literacy skills (Mehta, Foorman, Branum-Martin, & Taylor, 2005).

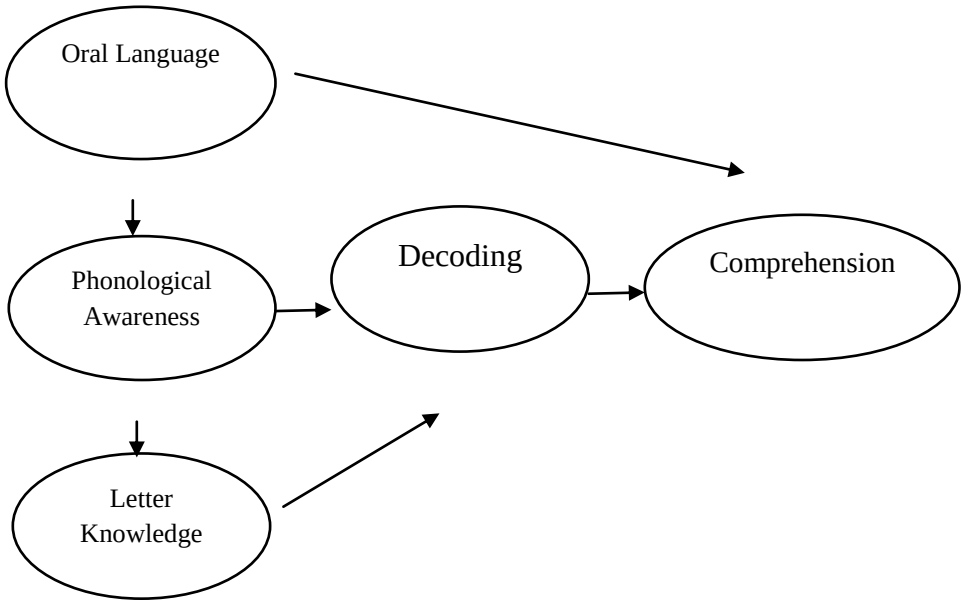


Figure 1. A diagramatic representation of the relational model of oral language to reading comprehension as conceptualized by Perfetti (2003).

v. Effect of Orthography on Reading: Transparency plays an important role in reading development in children across languages (Zielger&Goswami, 2005). The transparency of orthography has a direct effect on reading development (Wimmer & Goswami, 1994). A highly transparent orthography, has easier to detect and use grapheme-phoneme correspondences; causing an early mastery of phonological processing skills (Wimmer & Goswami, 1994). A less transparent orthography such as English has one-to-many grapheme-to-phoneme correspondence and the mastery of phonological processing skills occurs later in the early school years (Ziegler & Goswami, 2005).

vi. Influence of Cultural and Socioeconomic Status: Reading and classroom instruction is a cognitive as well as social behavioral activity (Pressley 2002). Students differ in reading because of the varying social and cultural environments (Dickinson, 2004). Self-perceptions and motivation are directly and indirectly influenced by all social and cultural activities (Pressley 2002). Experiential and instructional factors are the result of most early reading difficulties (Vellutino, Fletcher, Snowling, & Scanlon, 2004).

vii. Socioeconomic status (SES) plays an important role in reading development. Word knowledge of the children entering school differ socioeconomic status (SES) and experiences at home (Hart & Risley, 1995). The pace of reading development is differentially impact by socioeconomic status (SES; Duncan & Seymour, 2000), home literacy (Burgess, Hecht & Lonigan, 2002) and instruction styles. Community SES and child development (physical and psychological health, cognitive and linguistic development) was related to early literacy scores (letter, word recognition and phonological awareness) of kindergarteners (Lesaux, Hertzman, Siegel, &Vukovic, 2006).

II.2.3 *Reading Comprehension*

Comprehension involves the ability to break the code (Adams, 1990) and extract meaning (Vellutino et al., 2007). Three levels of complex processes are involved in successfully comprehending a text (Van Dijk & Kintsch, 1983): Linguistic level, (word decoding and recognition), text base level (extracting explicit meaning) and dynamic mental representation (Kintsch, 1998).

Variables impacting comprehension:

i. Walberg and Tsai's (1983) term "Matthew Effect," —"the rich get richer and the poor get poorer", has been adapted by Stanovich (1986).It describes the concept that the "rich" (students with a well-developed vocabulary) read more and learns more words. The link between vocabulary and reading comprehension accounts for both word reading and text comprehension (Cain & Oakhill, 2007).

ii. Comprehension ability is highly predicted by decoding ability and word recognition skills (Perfetti & Hart, 2001). Poor accuracy of word-reading has negative influences on reading comprehension and fluency (Mastropieri, Leinart, & Scruggs, 1999).

iii. Working memory correlates positively with reading comprehension level (Cain, Oakhill & Bryant, 2004). It determines the number of connections a reader can make between concepts presented in a text (Kintsch, 2005). Reading-disabled individuals have difficulty with working memory (Chiappe, Hasher, & Siegel, 2000) and are found to have a generalized difficulty with working memory regardless of language background. Radvansky and Copeland (2004) pointed out that working memory span might be a good measure of lower levels of comprehension (e.g., text level), but may not be so good at higher levels of comprehension (e.g., mental models).

II.3 State of Reading Research in India

Mohanty (1990) investigated the degree of relationship between reading comprehension and various measures of metalinguistic skills and found that the good readers were better able to use words flexibly and in a context free manner, and could differentiate words based on their salient characteristics. Gokani (1992) compared the extent of relationship between phonological awareness and orthographic features in learning to read in Gujarati; using tests of listening comprehension, word reading, and word recognition and speech segmentation. Rhyme recognition and syllable stripping scores were similar, phoneme stripping was better for English medium children, and word reading and speech segmentation ability were poorly correlated in Gujarati medium children. This shows that phoneme level tasks are sensitive to orthographic variations.

Prema (1997) profiled acquisition of reading and writing skills in Kannada and found a developmental change in reading, writing, knowledge of orthographic principles, and reading comprehension across the 5 grades. Mullimani (1997) and Anne (2000) found a moderate correlation between reading and listening comprehension among Grade III and IV children. Akhila (2000) found a significant relationship between phonological awareness and

orthographic skills in Tamil speaking children of Grade III and IV. Iyer (2000) found that reading skills and phonemic/syllabic segmentation skills improve over the grades in Malayalam speaking children of Grades I to IV. Sonali Nag (2007) found that early reading of 5–10-year-olds (a) took longer for akshara knowledge acquisition and (b) slower to emergence of phoneme awareness than English.

Phoneme is the critical unit involved in reading development in alphabetic languages (Seymour et al., 2003). Hindi has a transparent orthography and predominantly uses alphabetic strategy (Wimmer& Hummer, 1990). Smythe, Everatt and Salter (2004) argued against relying solely on phonological awareness and proposed considering the transparency (the extent to which graphemes of a language map onto its phonemes) of a given language in reading acquisition and how transparency could differentially predict reading outcomes. Jamal and Monga (2010) found that reading accuracy in case of words as well as non-words to be significantly greater in Hindi than in English. These findings are similar to the findings of Seymour et al. (2003). Orthographically transparent Hindi dyslexic readers read by using phonological strategies (grapheme-phoneme conversion rules), and orthographically opaque English dyslexic readers read by a combination of phonological and visual strategies (Zoccolotti, DeLuca, DiPace et al.,1999). Gupta (2003) indicated that children were reading in Hindi by attempting to follow GPC rules and in English, by making use of partial visual analysis to produce a response. A study by Gupta and Jamal (2006) was also in accordance with the linguistic interdependence hypothesis.

II.4 Assessment of Reading Skills

Early Identification of reading problems constitutes the first step in reducing its incidence or severity. Early identification research is based on the strength of correlations between pre-literacy skills and reading ability in kindergarten or first grade.

II.4.1 *Reading Assessment Components*

i. Perceptual Skills: It is essential for beginning readers of any orthography, to visually differentiate and remember various orthographic shapes, spoken words, phrases, and sentences. Many children with delayed language and reading development have auditory processing difficulties (Macaruso and Hook, 2001). These perceptual skills are acquired in early childhood before the beginning of formal learning. The authors have also associated it with Piaget's sensory motor period, where concepts are built and expanded based on the child's interaction with his/her world. This includes the following tasks:

- ✓ Auditory identification
- ✓ Auditory recall: Knowledge of letter names is linked with reading skill. The ability to label an object helps children store it in memory, recognize letters quickly and automatically.
- ✓ Auditory discrimination: It is well correlated with reading ability.
- ✓ Visual discrimination: A visual perceptual skill referring to the ability to differentiate one object from another visually in terms of color, foreground-background, form, shape, pattern, size, and position in space.

ii. *Phoneme Grapheme Correspondence:* Phonemes in spoken are represented by graphemes in written. Past research studies indicate reliability estimates exceeding 0.90 (Satz, Taylor, Friel, & Fletcher, 1978). Measures of phonological awareness include matching tasks, representational tasks, production tasks, deletion tasks, broad phonological awareness tasks (rhyme judgment, rhyme generation), fine-grained phonemic awareness tasks (spoonerism and phoneme deletion). Breaking spoken words into parts, blending parts of a word into one word, (Wren, 2004), etc. are some assessment measures to test phonemic awareness skills.

iii. *Structural Analysis:* Structural elements of words follow predictable patterns and the process of interpreting word parts that make up a word is called structural analysis. Readers combine phonics letter–sound patterns into large, multi-letter chunks due to

an increased awareness of phonetic and structural patterns in words, thus developing spelling consciousness, and leading to improved encoding accuracy.

iv. *Blending*: A key skill taught to beginners as it mimics the process readers go through to sound out a word. Smooth blending, the foundation for proficient reading, is critical for the development of independent word attack skills.

v. *Reading Comprehension:* It is a combination of decoding of words and the attachment of meaning to those words. Oral reading allows us to directly observe the children applying their acquired reading skills. Comprehension, a complex higher level skill, means acquiring meaning from the text. Different types of reading comprehension assessments are: reading an appropriate level passage and then answering factual questions, inferential questions, filling in missing words from a passage or retelling the story in own words (Wren 2004).

II.4.2 *Assessment Selection Considerations*

Specific tasks useful in distinguishing children exhibiting RD, depends on the timing of the screening. Screening later than kindergarten reduces the over-identification (Torgesen, Burgess, Wagner, & Rashotte, 1996) while identification before receiving reading instruction over predicts RD (O'Connor & Jenkins, 1999). Researchers also suggest use of a layered approach for screening and intervention, so that prediction is interfaced over time (Simmons, Kuykendall, King, Cornachione, & Kame'enui, 2000). Vocabulary measures or concepts about print also lead to under prediction of RD.

II.5 *Tests Available For Assessment in Different Indian Languages*

- Oral reading test in Kannada (Bai, 1958) is a screening test to identify children at risk for reading disability.
- Reading Readiness Test in Kannada (Devi, 1978) assesses auditory discrimination, visual discrimination and vocabulary and can be administered on children from 3 years to 6.5years.

- Reading comprehension test in Kannada (Ramaa, 1985) is both for diagnosis and remediation of dyslexia. The test assesses auditory reception, visual reception, visual verbal association, word recognition, letter recognition, aural comprehension word analysis, reading comprehension and academic achievement inventory.
- Graded reading comprehension test in Oriya (Mohanty and Sahoo, 1985).
- Diagnostic Reading Test in Kannada (Purushothama, 1991) helps to identify good readers from poor readers on the basis of the factors of automaticity rules of orthography and sequential processing.
- Shipra (1992) developed a test of word finding abilities in children in Hindi language and found this skill showing a developmental trend.
- Yashoda (1994) developed a tool to assess the acquisition of writing and found that children studying in Kannada medium schools did not fully develop writing skills till the age of 7-8 years.
- Loomba (1995) administered the informal reading diagnosis by Rae & Patter (1975) on Indian children studying in class I to VIII with Hindi as their mother tongue and English exposure since start of schooling. The results showed that the sequence of progression of reading skills was in consonance with acquisition of reading by native speakers of English, but with a lag as English reading instruction and exposure began only in school.
- Checklist for screening language based reading disabilities (Che-SLR) was developed by Swaroopa (2001) in Malayalam and rhyming, alliteration, rapid naming, language expression, listening skills, and non verbal imitation were identified as potential predictor variables.
- Seetha (2002) profiled V to VII graders on various parameters of reading, metaphonological skills in Malayalam.
- Jayashree (2003) developed a tool for screening children with writing difficulties (TOSC-WD).
- Shilpashri (2004) developed a Remedial Manual of Metaphonological Skills (Kannada).

CHAPTER III
METHOD

The aim of the present study was to translate and adapt the tool named, 'Early Reading Skills' (ERS), proposed by Rae & Potter (1973) in Hindi language. It also considered and incorporated the suggestions reported by Monika Loomba (Unpublished Masters dissertation, 1995).This chapter describes the method used to investigate this aim of the study.

Early Reading Skills (ERS), proposed by Rae and Potter (1973) in the book titled "Informal Reading Diagnosis: A Practical Guide for the Classroom Teacher" published in the year 1981, is a test devised to assess the developmental progression of English reading skills in school going children. It is an informal test that gives information on immediate learning objectives and provides specific information on each child in relation to an explicit criterion, therefore acting mainly as a profiling tool. Though this test was primarily designed to provide teachers with diagnostic instruments in major skill areas of reading, it was chosen for this study as it provides an assessment of a wide range of reading related skills of children ranging from initial perceptual discrimination skills to the more complex structural analysis of words. It also constitutes metaphonological skills as a part of phonics and decoding process assessment. In short, almost all the essential spheres of reading have been included in this test as an aid to teachers for an educational assessment of reading disabled children. The test materials are also simple and provide adequate information to recognize any obvious reading deficit and also specific pupil need.

The adaptation of Early Reading Skills (ERS) in Hindi language was done in five phases:

- Phase I – Translation of the Test Material
- Phase II: Pilot Testing
- Phase III: Administration of the test onTypically Developing Children (TDC)
- Phase IV: – Checking Reliability and Validity of the Test

Phase I – Translation of the Test Material

The test items of ERS (Rae and Potter, 1973) were translated into Hindi in the first phase of the study. Baraha, a Unicode text editor for Indian languages, was used for typing in the Hindi font. A review of the available literature on sequential reading acquisition skills were made by referring to books, journals and web based sources and existing tools in India. After preparation of the final test, it was submitted to a linguist, to judge appropriateness of the content of the items to the sub-processes to be measured. On the basis of the comments, items were modified, added and deleted when necessary, from the test.

Phase II: Pilot Testing

The second draft of the test was subjected to Pilot Testing. The pilot study was carried out as a preliminary try out and for familiarization of administration. Prior to data collection, a pilot study was conducted to evaluate aspects of the data collection procedures.

The primary aim of this pilot study was to determine if the test battery made and procedures selected were appropriate and would meet the aims of the study. Its other objectives were:

- To determine the time period required for the administration of the full test battery
- To establish whether the instructions used for tasks required modification
- To determine if the number of items included were adequate
- To determine if any of the test items required any modification
- To determine if the methodology was adequate

Testing was done on a total of 16 children (two of each grade) who were not included in the final sample. After the pilot study, the following modifications were made regarding the test battery and the data collection procedures:

- Instructions were largely adequate, though examples were required for many sections. In order to maintain the consistency of instructions and examples, examples were added as a part of the test battery for all sections.

- There were some typographical and formatting errors which were corrected.
- Certain words were observed to be unfamiliar to the students, and were replaced by more familiar words.
- The performance of the children on the section assessing syllabication was found to be very poor. Even children belonging to higher grades found it difficult to comprehend the instructions and perform appropriately. This section was then removed from the final version of the test.
- The Level I passage was found to be too difficult for the participants of Ist Standard and thus was replaced by another reading text for Ist Standard.
- Number of test items of the section assessing perceptual skills was reduced, as even the younger participants performed well.
- In order to control for educational background, and to some extent, socioeconomic status, it was decided that data collection would be done from a single locality.
- The pilot showed a possibility that the test battery, if validated only on English medium students, could give false positives for students from a Hindi medium. Therefore, the data set was divided into two equal groups in order to accommodate an equal number of participants from both Hindi medium State Government school children (Lower SES) and English medium public/private school children (Middle SES), so that test items specifically sensitive to differences across both the group of participants could be revealed.

The Hindi adaptation of Early Reading Skills, originally developed by Rae & Potter (1973), had suitable modifications incorporated. As the complete profile of informal reading diagnosis is very lengthy and time consuming, the sections of receptive and generative language skill, assessment of silent reading and close reading were omitted. The final draft was subjected to scrutiny by a speech language pathologist and a linguist.

Table 1: Summary of the Subsections of the Hindi Adaptation of Early Reading Skills

Sections	Subsections	Levels	Notations	Maximum Score
Perceptual Discrimination Skills	Auditory Identification Level	-	AIL	26
	Auditory Recall Level	-	ARL	26
	Auditory Discrimination	-	AD	30
	Auditory Perceptual	-	AUD	82
	Visual Discrimination	1	VD1	17
		2	VD2	17
	Visual Perceptual	-	VIS	34
Phoneme/syllable Grapheme/letter Correspondence	Beginning Consonant	1	PGCT1BC	18
	Ending Consonant		PGCT1EC	15
	Consonant Blends		PGCT1CB	20
	Vowel Sounds		PGCT1VS	10
	Beginning Consonant	2	PGCT2BC	30
	Ending Consonant		PGCT2EC	30
	Vowel Sounds		PGCT2VS	10
Blending Test	-	1	BT1	12
	-	2	BT2	8
Structural Analysis Test	-	1	SAT1	10
	-	2	SAT2	10
	-	3	SAT3	24
Reading Passages	-	1	RP1	4
	-	2	RP2	4
	-	3	RP3	4
	-	4	RP4	4

After pilot testing and modification of the second draft, a final draft of the test was administered on 160 typically developing children (TDC).

Phase IV: Administration of the test on a normal population

This study had participants with only Hindi as their and their parents' native language. A total of 160 participants between the ages of 6-13 years studying in any Standard between I to VIII, 20 children (10 males and 10 females) from each grade participated in this study. All the participants were typically developing children (TDC), without any speech and language deficits and delayed milestones and with no present/past history of any neurological, psychological problems and/or sensory deficits. It was required that participants should not have repeated a grade at any point in their school career, and should have completed all their schooling, thus far in an ordinary school. In addition, their last school report had to indicate at least 60% marks (fourth grade/B2/Good with a grade point of 7) for the language and literacy areas. These criteria were included to avoid the possibility of including children with subtle, previously undetected language disorders. Participants were selected from a single locality in order to control for ethnical background.

Selection Criteria for Schools: Participants were from local Government and Private schools and tuition centers. Several schools in the city of Delhi were contacted to obtain permission for the same. The study was discussed verbally with each principal and an authorization letter from All India Institute of Speech & Hearing (AIISH, Mysore) was provided. The letter outlined the purpose and the value of the study; what they were asked to do; and identified possible benefits. Six schools located in the same neighborhood were approached, but two of them did not consent for the study. Finally four schools (two private and two government) were finalized for the study. Once the principal consented to the study, staff members at the school were asked to identify candidates.

The private schools in Delhi are primarily English medium or teach English earlier than the government schools (ASER, 2009). Children were thus divided into two groups according to the medium of instruction in the respective schools: TDC who were being educated in a Hindi

medium school (TDCH) or TDC who were being educated in an English medium school (TDCE). Each group had 80 TDC belonging to I to VIII standard.

Selection Criteria for TDC studying in a Hindi medium school (TDCH): TDCH children came from Hindi speaking homes with Hindi being their medium of instruction at school also since the start of their schooling. These children had very limited exposure to a second language at school (30 min per day maximum) or at home. TDCH belonged to Government schools under the administration of the Delhi Government.

Selection Criteria for TDC studying in an English medium school (TDCE): TDCE children came from predominantly Hindi speaking homes with English being their medium of instruction at school since the start of their schooling. TDCE were from Private schools and were exposed to Hindi and English since the start of their schooling and spoke both the languages on a daily basis. Children who spoke languages other than Hindi and English were not included.

Participants were mainly from low to middle socioeconomic status (SES), but no specific information about SES could be collected because schools as well as parents refused to divulge facts about household income status. Private school enrolment has been clearly associated with higher income and education of the household (ASER, 2008). Since previous research does predict a predominantly higher SES opting for private education (Tilak, Jandhyala and Sudarshan, 2001), the two groups of TDCH and TDCE can be to a certain extent assumed to represent a lower and a higher SES respectively. In order to control for SES to some extent, approximately equal numbers of participants from each group attended government and private schools. In order to ensure that participants were as homogeneous as possible in terms of socio-demographic variables, schools within the same geographic area in Delhi were selected.

Table 2: Participant Selection Criteria

Participant Selection Criteria		TDC	
		TDCH	TDCE
General Criteria	Age	6-13 years	
	Native Language	Hindi	
	Number of Participants	Eighty (10 of each grade)	
	Gender	40 boys and 40 girls	
	Medium Of Instruction	Hindi	English
	Socio-economic Status	Primarily Lower SES Families	Predominantly Higher SES
Language	Language Status	At least 60% marks (fourth grade/B2/Good with a grade point of 7) in the language and literacy areas.	
Academics	Academic Status	No repetition of a grade at any point in the school career, and all schooling in an ordinary school.	
Exclusionary Criteria	Intelligence	Average intelligence with no formal/informal reports of any degree of mental retardation	
	Medical status	Normal	
	Speech	Exclude voice and fluency disorders.	
	Oral Structure and Function	Exclude marked abnormalities of oral structure and function	
	Social interaction	No marked severe restrictions of social interaction	

Procedure of administration: To eliminate the effects of the tester's bias, the investigator personally administered the test on the children, scored and analyzed the data. To maintain consistency in administration, the instructions were read out from the booklet to the participants. Care was taken to make the participants feel comfortable before and during the testing. The

duration of administration was 30 minutes, depending on the motivation and cooperation of the child. The study was explained verbally to the participants. Each participant was given a copy of the test along with a pen/pencil. The audio video recordings of the sessions were carried out while administering the test. Each participant was given reasonable amount of time to respond. If required stimulus word or instructions were repeated again. When the correct response was obtained, verbal reinforcement was given to maintain motivation level. Before testing rapport was established and after testing appropriate rewards were given to the child. The following were the section specific administration instructions:

Section I: Perceptual Skills- Testing of perceptual skills included:

- Auditory Identification Level: The test has 26 items. e.g.: point to the letter A along that row.
- Auditory Recall level: This test requires the child to read the underlined letters in each row. There are 26 items in this test. e.g.: tell the name of the letter underlined N.
- Visual discrimination test: This test begins with items that are dramatically different from each other. There are both letters and shapes. It consists of matching to given sample items. In each problem, a figure, letter, or letter group is given first and a series of items appear to its right. The test is administered in two parts: Level I (geometric shapes and individual letters) & Level II (words and nonsense syllables). There are 17 items each in both levels.
- Auditory discrimination test: The test contains 30 word pairs, 21 of the pair are dissimilar (7 varying in the beginning, 7 in the ending and 7 in the medial position). The other 9 are identical pairs to ensure that the child is not responding by rote. e.g.: pat – pan

Section II: Phoneme/Syllable - Grapheme/Letter Correspondence Test- Phoneme-grapheme correspondence test does not necessarily require knowledge of spelling, but rather an understanding of the letters is related to particular sounds in words. It is assessed in two levels:

Level 1: This level assesses the ability to write the correct letter from a word clue.

- Beginning consonant: It consists of 18 words and the child is asked to identify initial consonant sound of the words. e.g.: write the beginning letter of dog - d
- Ending consonant: In this identification of single consonants at the end of words are tested

using a list of 15 words. e.g.: write the letter at the end of dog - g

- Consonant blends: This part deals with identification of the letters constituting a blend. The child is instructed to write the two letters that form the blend sound at the beginning of the word said by the tester. It consists of 20 blends. e.g.: write the two letters t the beginning of blast - bl
- Vowel sounds: This part tests the student's ability to recognize vowel sounds: both long and short single vowel sounds that appear in the middle of the word in the consonant vowel configuration. The child is provided by a list of the vowels in Hindi and asked to identify the vowel in the word named by the tester. The test has 10 words. e.g.: hen - e

Level 2: This tests the identification of the initial/final consonant of a word, when a target consonant is provided before starting the test. The child is instructed to put a (✓) mark in the box beside the number of the word on the answer sheet, if the word said by the tester begins/ends with the sound of the target consonant.

- Beginning consonant: It consists of a list of 30 words, testing 6 consonants at the initial position.

  e.g.: b. 1. bat 2. cat 3. big 4. beautiful

  b. 1. ✓ 2. ✘ 3. ✓ 4. ✓

Ending consonant: It consists of a list of 30 words, testing 6 consonants at the final position.

e.g.: t. 1. get 2. come 3. fat 4. forget

t. 1. ✓ 2. ✘ 3. ✓ 4. ✓

- Vowel sounds: This tests the identification of medial vowels. The examiner says three words, out of which two have the same middle sound. The child is asked to tell the two words which have the same middle sound. e.g.: "bet mess bill" --- bet & mess have same middle sound. (Since Hindi is a semi-syllabic/syllabic language, an adjustment for this test was done where the prominent consonant or vowel of the syllable/semi-syllable was considered for the test).

Section III: Structural Analysis Test - It is also tested in different levels:

Level 1: It deals with the earlier set of regular and irregular inflectional endings within contexts.

It has 10 fill-in-the-blank sentences with 3 options for each.
e.g.: The boy was _____ the horse. (ride/riding/rided)

Level 2: It deals with a series of affixes and requires identification of words according to meaning of affix. It has 8 items with three items in each set.
Circle the word which indicates plural: baby babies baby's babied

Level 3: It deals with the child's ability to identify roots within words. The test had four rows of words each out of which three have a common root. The fourth word looks as if the root could be the same, but the meaning and/or pronunciation identify it as being different from others. The child must cross out the word that doesn't belong to the group.
e.g.: underline the root word: recount country counties uncounted

Section III: Blending Test - It is assessed in two levels:

Level 1: It uses picture clues in Rebus style and is meant for less mature children. It has 12 items.
e.g.: t +  = train

Level 2: It requires more reading skills but uses the identification level for answers. It has eight items. e.g.: str+ite str+ide str+eed

Section IV: Oral Reading - This test included four short passages. The passages were arranged in the order of decreasing level of cohesion and increasing level of complexity. All the first three passages are narrative while the last one is an expository text. The passages contained the following number of words: Passage 1 (44 words), Passage 2 (227 words), Passage 3 (357 words) and Passage 4 (522 words).

Items: Four questions were created for each passage, which also vary from simple to complex (requiring inferential skill).

Scoring: A common scoring system was used for all the subtests. A score of 1 was given for each item answered correctly. Therefore, the maximum score for each subset varied according to the number of items in it. The method for scoring for identification of medial vowels was slightly different. Here the score of 1 was given if the participant answered both the questions correctly. If 1 question was answered, then half point was given.

Group Administration: A group of five students were selected randomly for a group administration of the test in order to test the feasibility of the test in a classroom setting. The student group testing took place in a spare room of the school. Free from ample distracting stimuli, it provided a more comfortable environment. The group administration was recorded and the session continued for 30 minutes.

Phase IV: – Checking Reliability and Validity of the Test Material

Reliability refers to the extent to which assessments are consistent. Internal consistency refers to the degree of confidence one can have in the precision of scores from a single measurement. The inter judge reliability were carried out. The data was audio video recorded, out of which 10% was retested by another SLP.

Validity refers to the accuracy of an assessment -- whether or not it measures what it is supposed to measure. About 10% of students were randomly selected from the original sample and were used to provide evidence of the validity of the adaptation. The test was also administered on sixteen children with learning disability (CLD). All the children in the CLD group were studying in schools located in central Delhi and lived in areas which were considered equivalent from a socio-economic point of view. Consent from parents to participate was obtained for all participants. The diagnosis of learning disability (dyslexia) had been given by a multidisciplinary team comprising of pediatrician, clinical psychologist, speech language pathologist and special educator.

Table 3: Participant Selection Criteria of CLD

Participant Selection Criteria		**Children With LD (CLD)**
General Criteria	Age	6-13 years
	Native Language	Hindi
	Number of Participants	Sixteen (2 of each grade)
	Gender	12 boys, and 4 girls
	Medium Of Instruction	English
	Socio-economic Status	Predominantly Higher SES
Language	Language Status	Diagnosis of LD by a multidisciplinary team of pediatrician, clinical psychologist, speech language pathologist and special educator.
Academics	Academic Status	Poor academic skills, but no grade retention. Placement in ordinary school
Exclusionary Criteria	Intelligence	Average intelligence with no formal/informal reports of any degree of mental retardation
	Medical status	All children had normal vision and hearing; they had no gross neurological abnormalities, or severe emotional disturbances or behavior disorders; No otitis media externa in last six months.
	Speech	No voice and fluency disorders.
	Oral Structure and Function	No marked abnormalities of oral structure and function.
	Social interaction	No marked severe restrictions of social interaction.

Data compilation and analysis of results: Obtained scores were tabulated and appropriate statistical analysis was carried out. Data was analyzed with SPSS 17.0. The performance of children was also qualitatively analyzed and discussed.

CHAPTER IV
RESULTS

The aim of the present study was to translate and adapt Early Reading Skills proposed by Rae & Potter (1973**)** in Hindi language**.** After pilot testing and modification of the test, a final draft of the test was administered on 160 typically developing participants (TDC) from Grade I to Grade VIII separately. The descriptive analysis of the data has been dealt with both test section wise as well as grouped according to the medium of instruction.

Table 4: Summary of the Subsections of the Hindi Adaptation of Early Reading Skills

Sections	Subsections	Levels	Notations	Maximum Score
Perceptual Discrimination Skills	Auditory Identification Level	-	AIL	26
	Auditory Recall Level	-	ARL	26
	Auditory Discrimination	-	AD	30
	Auditory Perceptual	-	AUD	82
	Visual Discrimination	1	VD1	17
		2	VD2	17
	Visual Perceptual	-	VIS	34
Phoneme/Syllable Grapheme/Letter Correspondence	Beginning Consonant	1	PGCT1BC	18
	Ending Consonant		PGCT1EC	15
	Consonant Blends		PGCT1CB	20
	Vowel Sounds		PGCT1VS	10
	Beginning Consonant	2	PGCT2BC	30
	Ending Consonant		PGCT2EC	30
	Vowel Sounds		PGCT2VS	10
Blending Test	-	1	BT1	12
	-	2	BT2	8
Structural	-	1	SAT1	10

Analysis Test	-	2	SAT2	10
	-	3	SAT3	24
Reading Passages	-	1	RP1	4
	-	2	RP2	4
	-	3	RP3	4
	-	4	RP4	4

The mean and standard deviation was deduced for each task. The mean score was then converted into percentage score. These percentage scores were used to graphically represent percentage performance of each class across different subtests. Qualitative analysis of the data was done to evaluate the pattern of errors exhibited in each task at each level.

Table 5: Performance of the eight classes on the test

Test Sub-sections	Max Score	Obtained Scores	Scores Across Grades							
			I	II	III	IV	V	VI	VII	VIII
AIL	26	Mean	24.60	25.55	25.90	25.90	26.00	26.00	26.00	26.00
		S.D.	2.19	1.00	0.45	0.31	0.00	0.00	0.00	0.00
ARL	26	Mean	25.55	25.70	26.00	26.00	26.00	26.00	26.00	26.00
		S.D.	0.76	0.73	0.00	0.00	0.00	0.00	0.00	0.00
AD	30	Mean	29.30	29.65	30.00	30.00	30.00	30.00	30.00	30.00
		S.D.	1.26	0.88	0.00	0.00	0.00	0.00	0.00	0.00
AUD	82	Mean	79.45	80.90	81.90	81.90	82.00	82.00	82.00	82.00
		S.D.	3.46	2.45	0.45	0.31	0.00	0.00	0.00	0.00
VD1	17	Mean	14.35	15.40	16.80	17.00	17.00	16.90	17.00	17.00
		S.D.	1.79	1.76	0.52	0.00	0.00	0.45	0.00	0.00
VD2	17	Mean	14.20	15.60	16.45	17.00	17.00	16.40	17.00	17.00
		S.D.	1.32	1.54	1.10	0.00	0.00	1.23	0.00	0.00
VIS	34	Mean	28.55	31.00	33.25	34.00	34.00	33.30	34.00	34.00
		S.D.	2.67	2.85	1.37	0.00	0.00	1.42	0.00	0.00

PS	116	Mean	108.0	111.9	115.2	115.9	116.0	115.3	116.0	116.0
		S.D.	4.97	4.77	1.66	0.31	0.00	1.42	0.00	0.00
PGCT1BC	18	Mean	15.90	16.95	17.60	17.85	17.35	17.55	18.00	18.00
		S.D.	1.21	1.47	0.94	0.37	0.81	0.61	0.00	0.00
PGCT1EC	15	Mean	12.40	13.00	14.10	14.85	15.00	15.00	15.00	15.00
		S.D.	1.35	1.38	1.33	0.37	0.00	0.00	0.00	0.00
PGCT1CB	20	Mean	1.95	7.85	13.00	15.35	15.80	16.15	18.05	18.05
		S.D.	1.70	4.78	3.33	3.35	2.17	2.60	1.50	1.91
PGCT1VS	10	Mean	2.40	3.70	4.00	4.85	5.35	5.80	6.35	6.65
		S.D.	2.26	2.32	1.62	1.79	1.73	1.88	1.66	2.16
PGCT1	63	Mean	32.65	41.50	48.70	52.90	53.50	54.50	57.40	56.80
		S.D.	3.70	7.12	4.94	3.21	2.82	3.53	2.48	5.80
PGCT2BC	30	Mean	25.85	27.80	29.70	30.00	30.00	30.00	30.00	30.00
		S.D.	5.73	3.49	0.73	0.00	0.00	0.00	0.00	0.00
PGCT2EC	30	Mean	21.65	26.10	26.45	26.65	28.40	29.00	29.30	29.55
		S.D.	6.53	5.40	4.97	3.63	2.30	1.59	1.17	1.23
PGCT2VS	10	Mean	0.00	0.65	1.65	5.90	6.10	7.25	8.20	8.95
		S.D.	0.00	1.04	2.03	2.69	2.90	2.45	1.64	1.28
PGCT2	70	Mean	48.80	54.55	57.80	62.55	64.50	66.25	67.50	68.50
		S.D.	14.30	6.77	4.18	5.87	4.41	3.29	2.40	2.12
BT1	12	Mean	0.00	3.60	4.25	9.50	9.90	12.15	12.80	13.25
		S.D.	0.00	4.62	4.52	3.65	3.39	2.08	1.47	1.68
BT2	8	Mean	0.00	0.00	0.00	4.40	6.25	6.50	6.50	7.25
		S.D.	0.00	0.00	0.00	1.90	1.45	1.36	1.10	0.91
BTT	20	Mean	0.00	3.60	4.25	13.90	16.15	18.65	19.30	20.50
		S.D.	0.00	4.62	4.52	5.17	4.10	2.74	1.53	1.61
SAT1	10	Mean	0.00	3.60	5.90	6.90	8.40	8.45	9.30	9.45
		S.D.	0.00	3.30	2.27	2.59	1.82	1.67	0.73	1.05

SAT2	10	Mean	0.00	1.05	1.95	3.90	14.55	17.70	18.60	19.85
		S.D.	0.00	1.47	1.61	2.08	5.52	3.83	3.09	2.60
SAT3	24	Mean	0.00	0.00	0.00	7.35	9.15	9.20	9.40	9.40
		S.D.	0.00	0.00	0.00	2.11	0.99	0.89	0.82	0.82
SATT	44	Mean	0.00	4.65	7.85	18.15	32.10	35.35	37.30	38.70
		S.D.	0.00	4.59	3.36	4.44	6.63	4.73	3.34	3.66
RP1	4	Mean	1.65	2.25	3.55	3.80	4.00	4.00	4.00	4.00
		S.D.	1.63	1.80	0.89	0.41	0.00	0.00	0.00	0.00
RP2	4	Mean	0.20	0.75	1.40	2.38	3.70	3.80	4.00	4.00
		S.D.	0.52	0.91	1.19	0.92	0.57	0.50	0.00	0.00
RP3	4	Mean	0.00	0.05	0.25	0.60	2.25	2.98	3.78	3.83
		S.D.	0.00	0.22	0.55	0.82	1.19	1.38	0.62	0.37
RP4	4	Mean	0.00	0.00	0.00	0.00	0.38	1.28	2.75	2.88
		S.D.	0.00	0.00	0.00	0.00	0.76	1.43	0.95	1.20
RP	16	Mean	1.85	3.05	5.20	6.78	10.33	12.05	14.13	14.70
		S.D.	1.98	2.67	2.17	1.76	2.03	2.62	2.38	1.41

The above table contains the mean scores and their standard deviations of the eight grades of participants across the reading tasks. This provides us with valuable information which can be used for comparing participants suspected of reading deficits. The scores showed that performance on each task varied with grade level and showed a developmental sequence. It is essential to compare the Hindi reading performance of Indian participants with Indian norms. The mean scores obtained here can be used to evaluate the performance of the child in comparison with his peers. However one should bear in mind that

application of these scores is relevant to participants whose mother tongue is Hindi and have had no significant exposure to any other language.

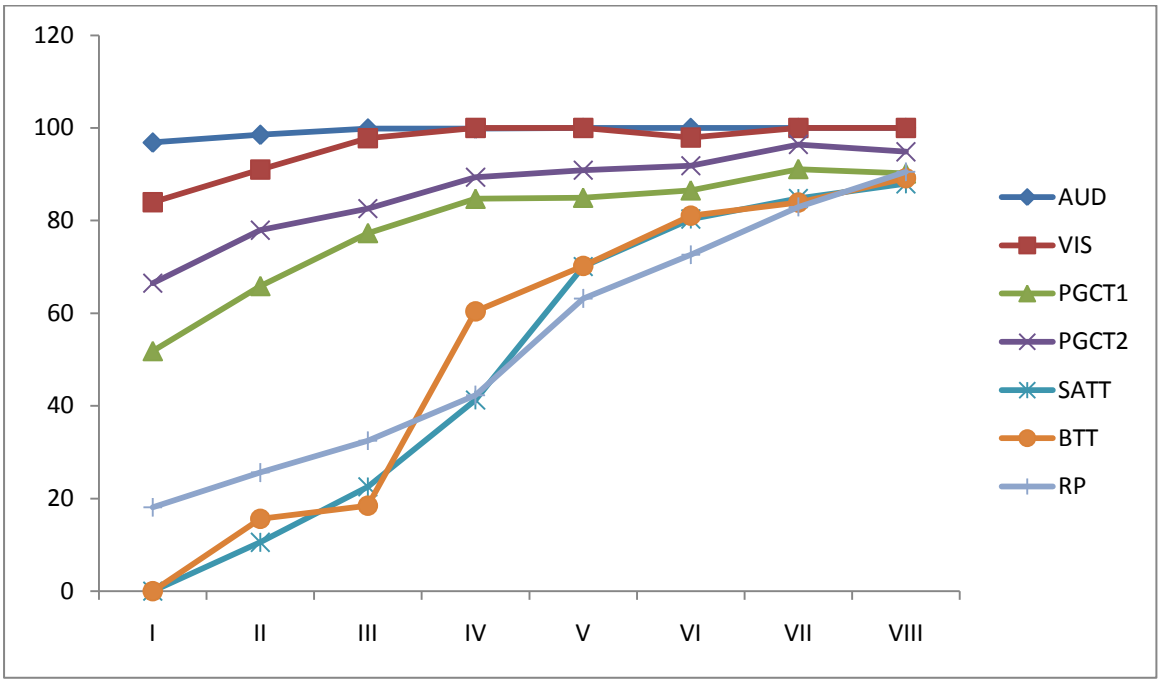


Figure 2: Percentage Scores on Reading Tasks across Grades

The above figure depicts the percentage scores for the sections of auditory and visual perceptual skills, phoneme grapheme correspondence, structural analysis, blending and reading passages. It can be clearly observed that while earlier tasks such as perceptual skills (auditory and visual discrimination and identification), phoneme grapheme correspondence (alphabet test, identification of beginning and final consonants, etc.) and reading passage comprehension were attempted by all of the classes, tasks of blending and structural analysis (identification of root words, etc) could be attempted by participants studying in grades higher than Grade I. The overall performance of higher classes was better than the rest, although in complex tasks such as structural analysis, blending, etc. hundred percent performance wasn't obtained even by the Grade VIII participants. The following sections deal with the results of the analysis in a section wise manner:

Section I: Perceptual Skills

The perceptual skill assessment section tested both auditory and visual perceptual skills of the participants. As observed in Figure 3, the scores of the perceptual skill section

increased gradually from Grade I to Grade VIII, with participants performing relatively better in auditory perceptual skill section than visual perceptual skill section. While performance on visual perceptual tasks showed a steep rise till Grade IV when it reaches the full score mark, auditory perceptual tasks were relatively well performed by participants of earlier grades also and reaches plateau a grade earlier.

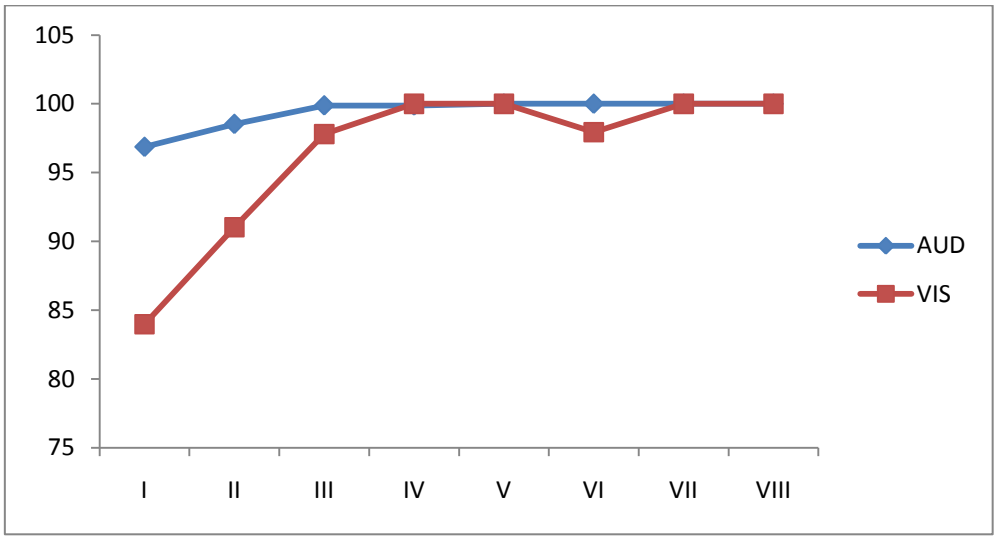


Figure 3: Percentage Scores of Perceptual Skill Section across Grades

Figure 4 below shows the relation between the subsections of auditory identification, auditory recall and auditory discrimination. Auditory identification was the most difficult task among the auditory perceptual skills assessed and it was only from Grade V onwards that participants reached the full score mark. Auditory recall was slightly better than auditory discrimination in Grade I participants, but was scored at level with each other by all the participants of higher grades and reached full score mark, together at Grade III.

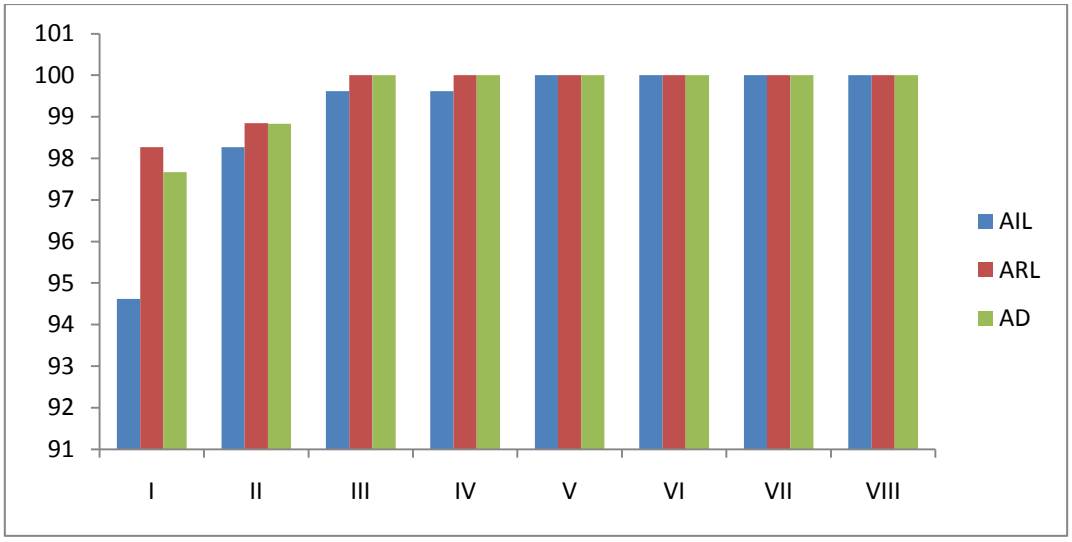


Figure 4: Percentage Scores across Grades in Subsections of Auditory Perceptual Skills

A qualitative analysis of the perceptual section showed that errors in the perceptual section were shown predominantly by participants of first three grades. They had problems in maintaining line orientation while attempting the items of this section and had to be prompted to use an external marker. Auditory recall of some letters was done by verbally associating it with a word starting with that letter, e.g.: the child recalled aloud /mətʃʰəli/ and then parsed it in order to recall /m/. Errors were observed for visually similar letters and sounds differing in only one distinctive feature. Some letters showed higher degree of inaccuracy. Consonants were identified and recalled with a higher accuracy than vowels. In the auditory discrimination task, difficulty with final consonant minimal distinctive pair (e.g.: /khat-khal/) and difficulty with medial vowel minimal distinctive pair (e.g.: /hal-hIl/ were the primary error patterns observed. Some participants showed difficulty in recognizing similar words (e.g.: /sara-sara/).

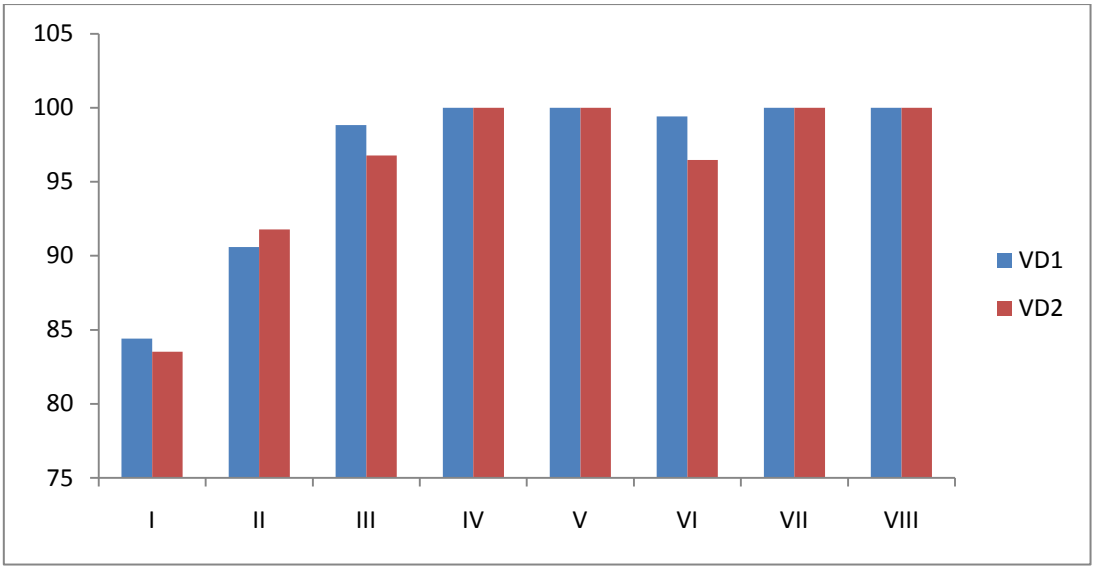


Figure 5: Percentage Scores across Grades in Subsections of Visual Perceptual Skills

Figure 5 above shows the relation between the two levels (Level 1 dealing with discrimination of shapes/sizes and Level 2 with visual discrimination between similar looking letters) of visual discrimination. Scores on both levels increased gradually and reached the plateau of full score together from Grade IV onwards. Level 2 was found more difficult by participants of all grades except Grade II, where scores on level 2 were higher than Level 1. There was a sudden dip in scores of Grade VI participants in both the levels of the visual perceptual section.

The qualitative analysis of the visual perceptual skills section showed many different patterns of errors; however the frequency of the occurrence of these errors was more in the first three grades. Orientation error and visually similar letter confusion error were most commonly found. The discrimination of shapes was relatively better in all the classes, although few participants of Grade I presented selected scattered errors in few shape patterns.

Section II: Phoneme Grapheme Correspondence

The phoneme grapheme correspondence assessment was done in two levels: Level 1 assessed the ability to write the correct letter from a word clue and Level 2 tested the identification of the initial/final consonant of a word, when a target consonant was provided before starting the test. As observed in the Figure 6, the scores of this section increased gradually from Grade I to Grade VIII, with participants scoring consistently better in Level 2 than Level 1. Though participants of higher grades scored better, but full score was not

obtained on either level by participants of any grade.

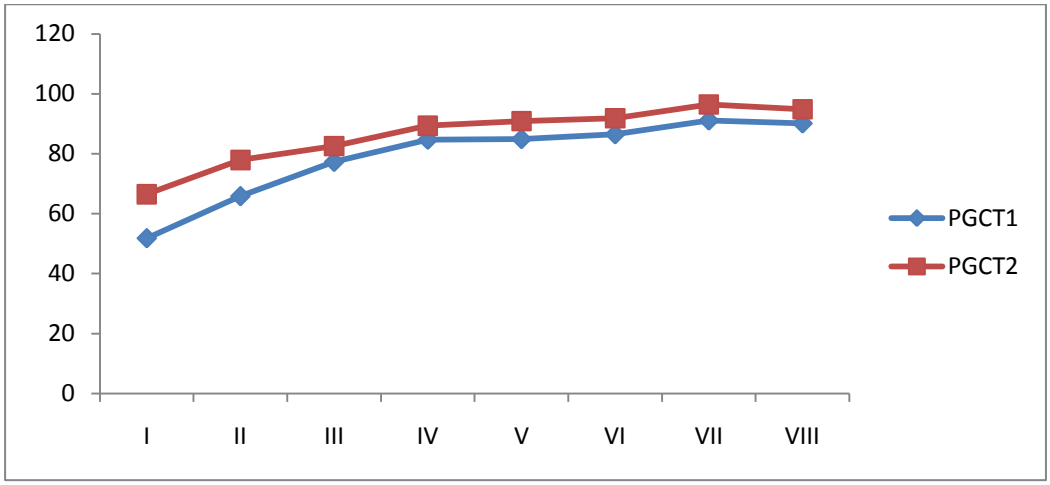


Figure 6: Percentage Scores of Phoneme Grapheme Correspondenceacross Grades

Figure 7 below shows the relation between the subsections assessing identification of beginning consonant, ending consonant, consonant blends and medial vowels. Identification of consonants constituting blends and identification of medial vowels were the most difficult tasks and while participants of lower grades didn't even score 50% on these tasks, the highest grade participants also failed to a score a 100% on this task. Among Grade I participants the performance varied greatly between these two subsections, with very poor scores in identifying blends. But from Grade II onwards vowel identification was relatively more difficult and even the higher grades performed poorly. Identification of final consonants was relatively poorer till Grade III, after which the participants of higher grades obtained full scores in both the subsections assessing identification of final and initial consonants. Grade V and Grade VI showed a slight drop in scores in the section assessing identification of initial consonants.

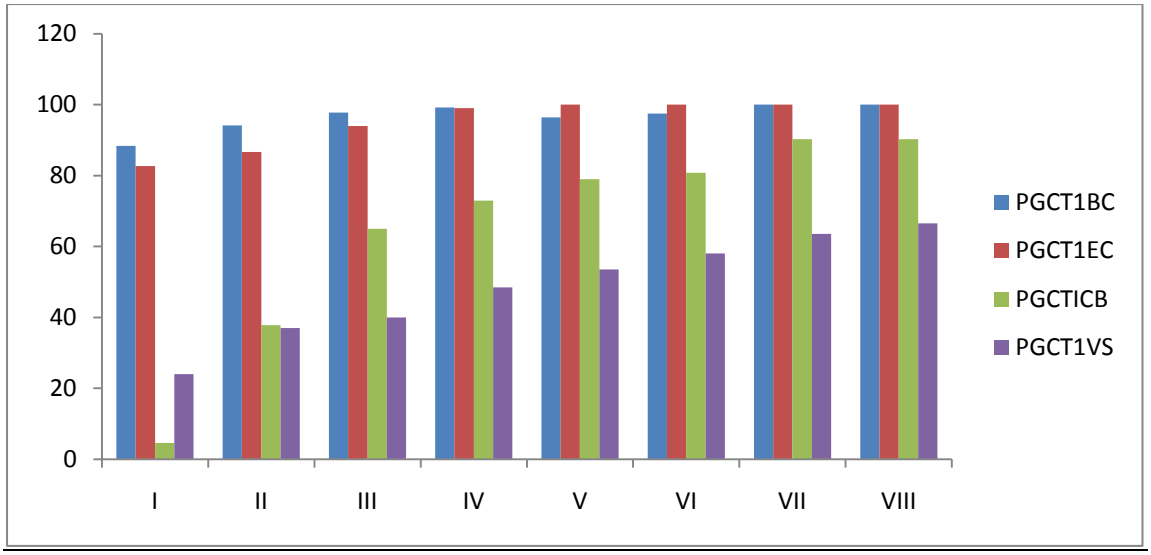


Figure 7: Percentage Scores across Grades in Subsections of Phoneme Grapheme Correspondence (Level 1)

The error analysis of this section showed that most of the participants had difficulty in identification of initial consonants in words with a similar sounding initial and final consonant (e.g.: /d̪Ət̪/) and words beginning with aspirates (e.g.: /ch^{h}Ət̪ərI/). Maximum numbers of errors were observed for words like: /vidzəj/, /jarI/. A similar pattern of errors was observed in the section assessing final consonant identification, i.e.: difficulty in identification of final consonants in words with a similar sounding initial and final consonant and words ending with aspirates (e.g.: /saf/). Maximum numbers of errors were observed for words like: /tʃaj/. A majority of the participants had aspirated-unaspirated confusion in the phoneme grapheme correspondence section. There were several instances in which though the child could name the required initial/final consonant but had difficulty in recalling the orthographic form of the first/last letter of words. Consonant blends were correctly identified most successfully when the blend consisted of the consonant /r/ (e.g.: /b^{h}rəm/) followed by blends consisting of the consonant /l/ (e.g.: /kleʃ/) and consonant /s/ (e.g.: /svər/). Almost all the participants attempting this section showed error in correctly identifying the blend in words like: /bəlla/. Many participants also showed a tendency to add vowels in front of blends. Vowel identification was highly erroneous with confusions primarily between long and short vowels of /e/, /o/ and /u/. Many younger participants could verbalize the vowel occurring in the CV combination, but failed to correctly identify the corresponding orthographic representation. The vowel identified most accurately was /a/ (e.g.: /d̪an/) and the vowel identified most inaccurately was /ɔ/ (e.g.: /kɔn/). The identification of long vowels was

better compared to short vowels across all the grades.

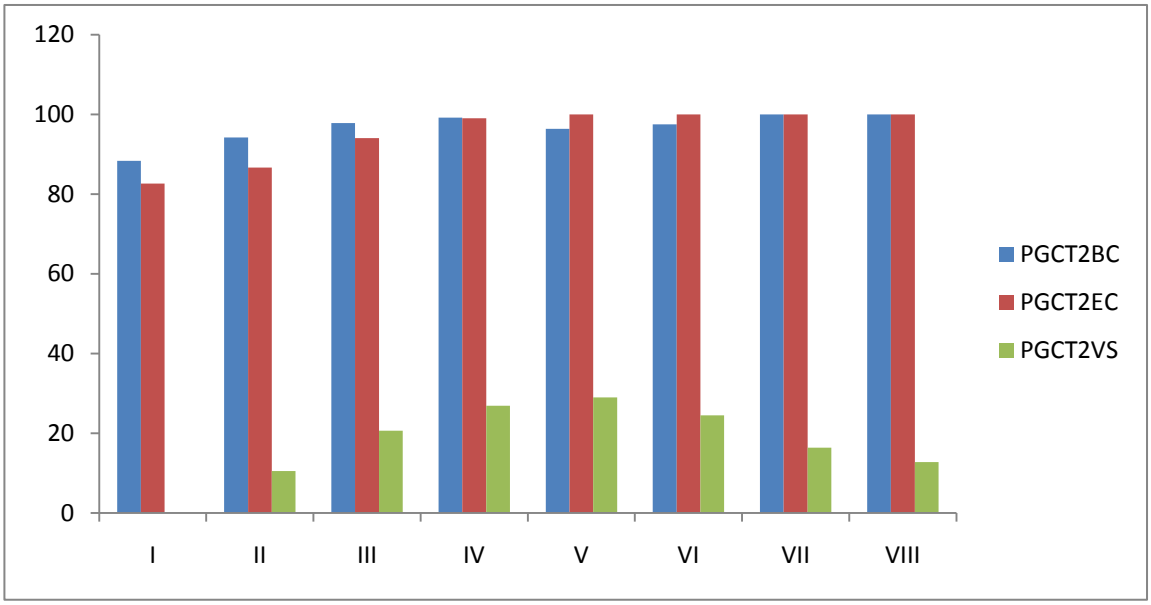


Figure 8: Percentage Scores across Grades in Subsections of Phoneme Grapheme Correspondence (Level 2)

Figure 8 above shows that even in Level 2 vowel identification scores were the poorest. The participants of middle grades (Grade IV, V and VI) performed relatively better than the higher grade participants in vowel identification. The sections assessing the identification of initial and final consonants showed a constant increase in scores with identification of initial consonant proving to be easier than identification of final consonant, till they reach the same level at Grade IV. Grade V onwards, participants scored full in identification of ending consonant, but full scores in initial consonant identification were not achieved till Grade VII.

The qualitative analysis of Level 2 of phoneme grapheme correspondence section showed that it was performed with relative ease as compared to Level 1. Errors were observed mostly in the form of false positives when the given consonant occurred in any position other than the one required according to section instructions, i.e. false identification of /m/ as beginning consonant when it actually occurs in final position (e.g.: /ælәbәm/). Other errors observed were aspirate/unaspirated confusions and the most number of erroneous identification of words beginning with /v/ and /d/. A word ending with the consonant /z/ was consistently identified as ending with consonant /s/ (e.g.: /roz/) by participants of grades up to Grade IV. Participants were frequently found to mark the beginning consonant even in the

final consonant identification section and instructions had to be repeated. Most of the participants across all the grades found it difficult to comprehend the instructions correctly for the identification of two words out of the three options which had a common medial vowel. The item where the medial vowel to be identified was /ɔ/ (e.g.: /gadʒər/, /kɔn/, /chɔk^{h}ət/) had the most number of wrong attempts. Even in items where the two options had the same initial consonant were wrongly identified as having the same medial vowel too (e.g.: /dʒap/, /k^{h}e̤t/, /dʒel/). Another type of error was observed in medial vowel identification: difficulty in distinguishing words which differ in terms of long and short middle vowels (e.g.:/k^{h}Un/, /dʒ^{h}Ut^{h}/, /k^{h}uʃ/).

Section III: Structural Analysis

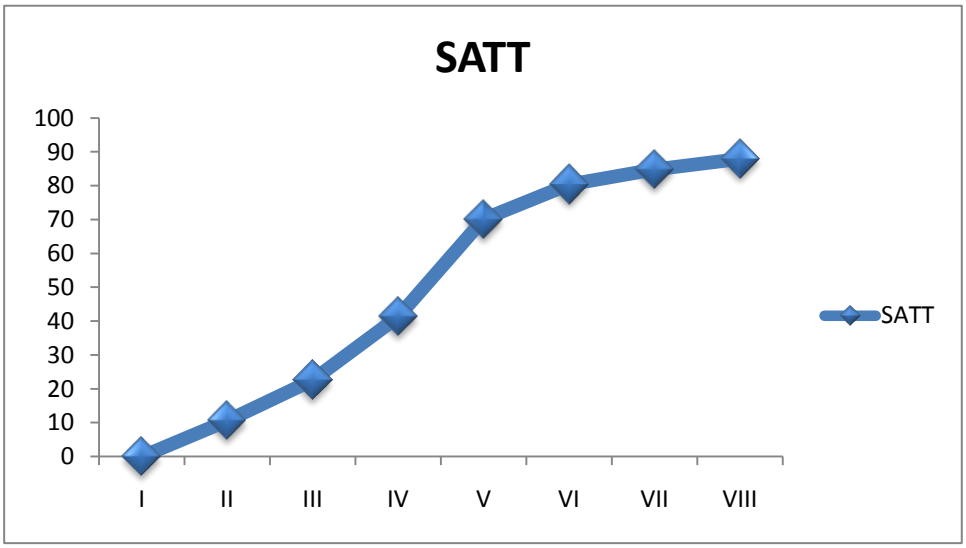


Figure 9: Percentage Scores of Structural Analysis across Grades

Structural analysis section was scored by participants of Grade II onwards. A gradual rise was observed across the grades, but the hundred percent score was not obtained by even higher grade participants. This was one of the most difficult tasks. Participants of Grade I onwards could attempt Level 1 (dealing with the earlier set of regular and irregular inflectional endings within contexts) and Level 2 (dealing with a series of affixes and requiring identification of words according to meaning of affix) successfully. Level 3 (dealing with the ability to identify roots within words) could be attempted successfully after Grade III. In all the three levels, 100% scores were not obtained in any.

Figure 10 below shows that among the three levels, Level 2 was the most difficult,

with performance on this consistently below all the other levels. While participants in Grade I couldn't attempt this section at all, Grade II and III participants scored on the first two levels, but Level III could be attempted from Grade IV onwards only. Performance on Level 1 and Level 2 showed a gradual rise from Grade II till Grade VIII. Level 3 could be attempted by Grade IV participants only and the scores reached plateau soon, without any one reaching the full score mark at any grade level.

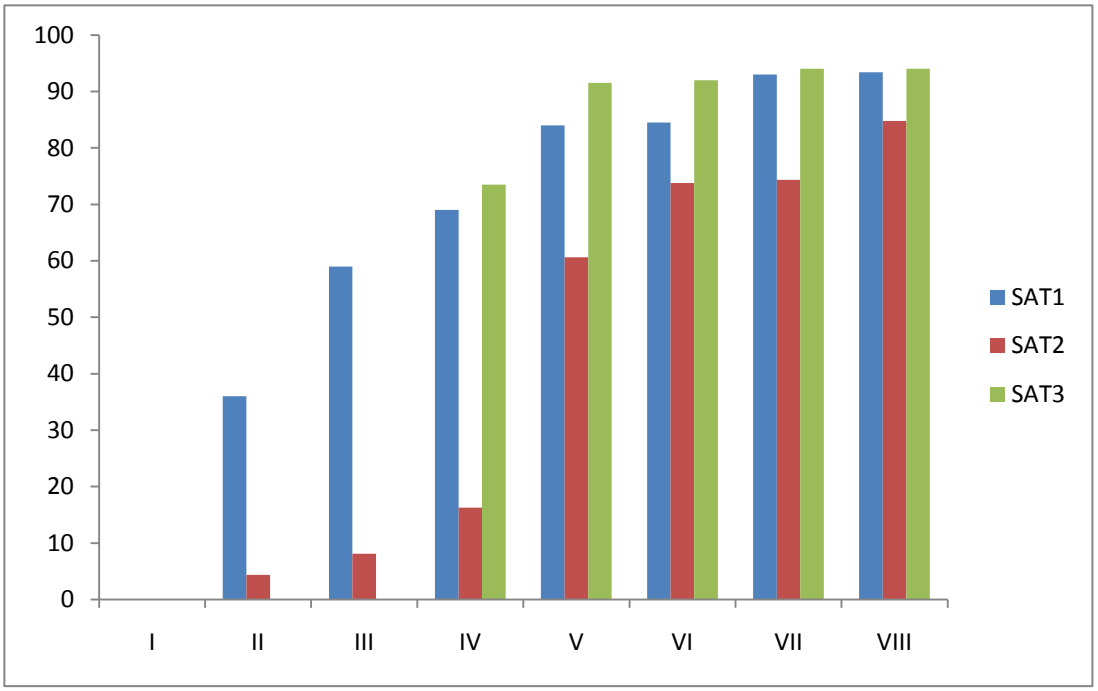


Figure 10: Percentage Scores across Grades in Subsections of Structural Analysis

In Level 1 participants of Grade II and III showed difficulty in person, tense, number, gender markers and comparatives, while participants from Grade IV to VI, had more difficulty in choice of past tense marker, comparatives and plural markers. Confusions were observed mostly in subject-verb agreement and substitutions of future tense markers in place of past tense markers. Participants of Grade VII and Grade VIII performed better, with errors made only in unfamiliar past tense markers and comparatives.

Performance on Level II showed that the affixes for plurality and tense markers were first to appear and they were stabilized by Grade IV. Errors were observed in the plural marker for mass nouns (e.g.: /vichar/) and for past tense marker substitution by future tense marker. Tense marker errors were observed more in unfamiliar/irregular words. Comparatives were not identified till class IV, and their stabilization was not observed till

class VIII. Errors shown were the inability to identify abstract comparatives and generalization of markers of comparatives to non comparative words. The response for negative markers was obtained only after Grade III and by Grade VI, all participants could identify negative markers. Identification of affixes for '– again' (/pun:/), '-without'(/ni/) and '–before'(pUrv) was obtained by participants of Grade V first and stabilized in the majority of participants by Grade VIII. Identification of words with the affix '–with' (/dʒənək/) showed poorest scores even among the participants of senior grades. Level III was a difficult section and could be administered only on participants from Grade IV onwards. The younger participants couldn't perform even when examples were given.Most of the participants had difficulty in identification of root and non root words, especially in the last item of this level.

Section IV: Blending Test

Scores on blending test couldn't be obtained until Grade II onwards and even the highest grade participants couldn't achieve full scores. While Grade II and Grade III participants performed almost uniformly, Grade IV participants' scores showed a sudden jump and the rise in scores continued till the highest grade.

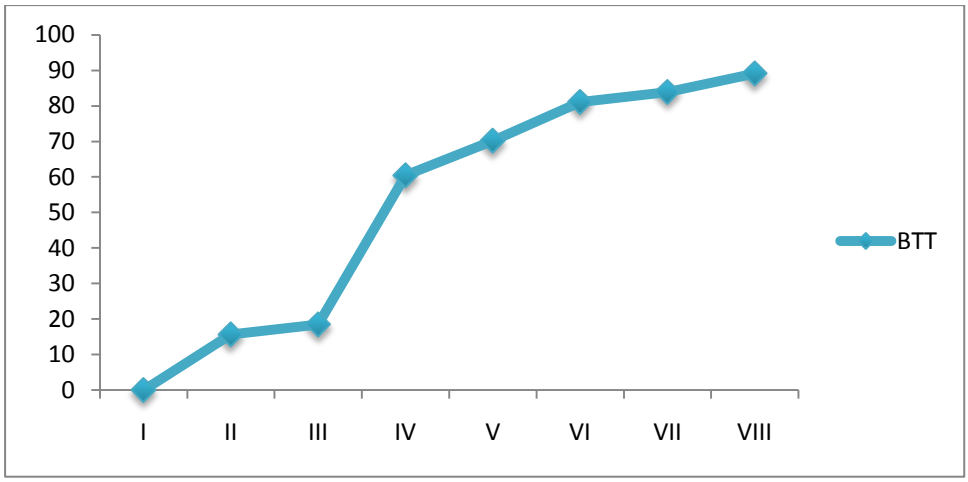


Figure 11: Percentage Scores of Blending Test across Grades

Figure 12 below clearly shows that participants of all grades except Grade V and Grade VIII performed better on Level 1 of blending test. Level 1 could be attempted only by participants of Grade II onwards and showed a sudden increase in scores in Grade IV, after which they steadily increased till Grade VIII. Level 2 proved difficult and could be attempted Grade IV onwards only. Though scores on blending test showed a gradual rise, but even the highest scorer couldn't obtain the maximum marks.

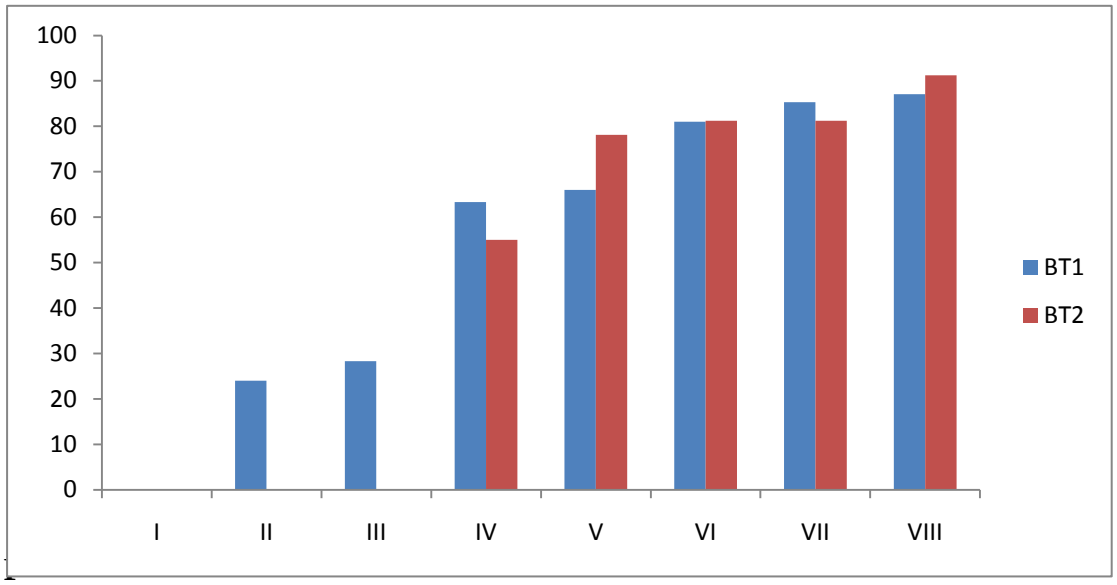


Figure 12: Percentage Scores across Grades in Subsections of Blending Test

The common error across all the grades was in identification of words created by blending pictures with a single consonant or CV combination. Most of the participants in this section had difficulty in blending picture and syllables to form words, especially the trisyllabic word. The difficulty encountered was relatively more when the picture formed the initial part of the word. In Level 2, the scores were poorer in items wherein all the three options had the same word segmented differently (e.g.: /ʈəhə+kI+kaʈ/, /ʈəhəkI+kaʈ/, /ʈ+həkI+kaʈ/). Participants in lower grades had confusions in items wherein two options had aspirated-unaspirated minimal pairs as initial consonant as (e.g.: /chət+pəta/, /ch^{h}ət+pəta/).

Section V: Oral Passages / Reading Passage (RP)

The figure 13 below shows that there is a gradual progression of performance in oral passage comprehension scores of participants across Grades I to Grade VIII. Even the highest grade participants didn't score full on this section. Reading thus followed a gradual upward course with increase in educational level.

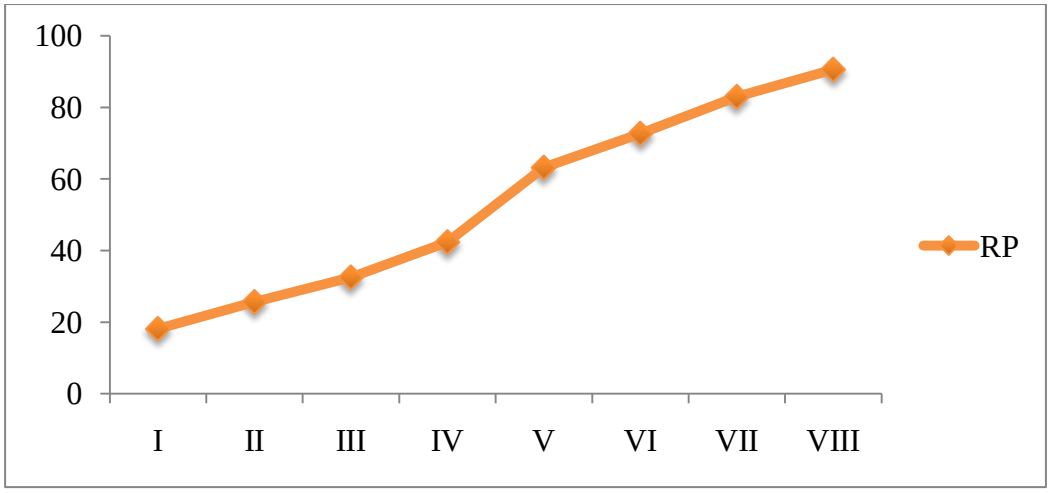


Figure 13: Percentage Scores of Reading Passage across Grades

Figure 14 below shows that performance on the four reading passages followed the same pattern in all the participants across all the grades, i.e.: scores decreased as the passages increased in complexity from reading passage 1 to reading passage 4. While the first two passages were attempted by participants of first two grades, passage 3 was attempted by Grade II onwards and passage 4 by Grade V onwards. Scores of the passage 1 reached the hundred percentage mark in Grade V and scores of passage 2 reached full scores in Grade VII. The performance on the other two passages though improved steadily across the grades, failed to reach the full score mark. Passage 4 was scored best by participants of Grade VI, even better than participants of higher grades.

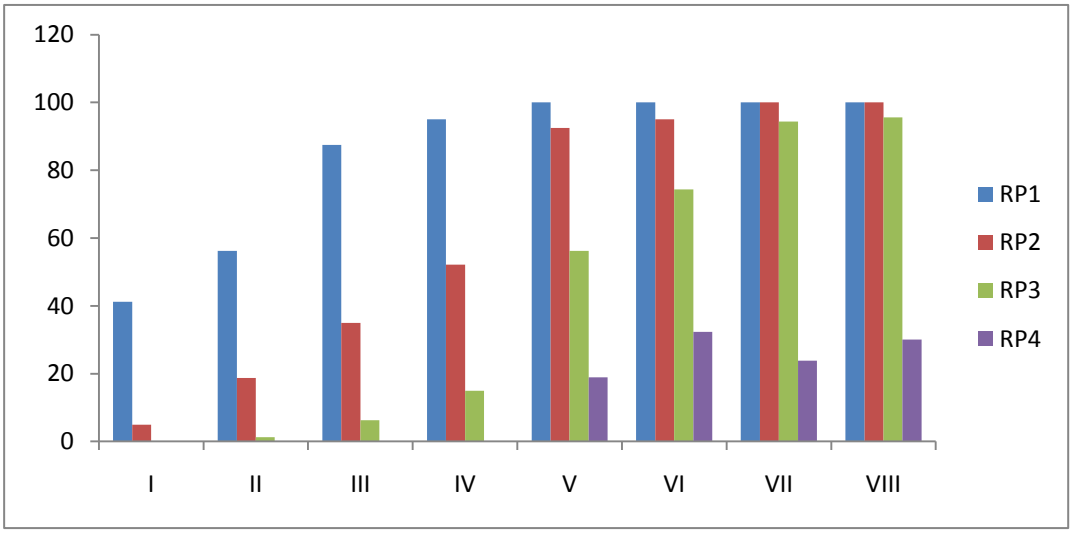


Figure 14: Percentage Scores across Grades in Subsections of Oral Reading

Participants of Grade I could read passage 1 and passage 2. However there was considerable difference between the performances across these two passages. Letter by letter reading was accurate for most of the words of passage 1, but they had difficulty in reading the multisyllabic words of passage 1. Greater difficulty was observed in reading words with CV combinations in which the vowel was not the schwa vowel. They could answer only the very simple oral questions from this passage. While the majority had to refer back to the passage to answer the questions, few could recall the questions from memory. In case of passage 2, Grade I participants had poor oral reading fluency and read most words in a letter-by-letter fashion. Frequently they just omitted the words of the passage. They couldn't join letters to from words except for the simple words. They had a poor comprehension of the passage as well as of the questions asked. Only few participants attempted to answer the questions after a lot of prompting. Most of the Grade I participants just copied phrases of the question for the answer and very few were able to answer the initial setting inference question and the one requiring either an affirmation/negation as an answer. Problems in maintaining line orientation were also observed.

Grade II participants could read passage 1 with good fluency and had to resort to letter-by-letter reading for multisyllabic and unfamiliar words of passage 2. But comprehension still remained poor especially for questions requiring inferencing and "why" questions. Silent reading was also found present in few Grade II participants. Passage 2 was read word-by-word and the reading thus sounded choppy without any intonational contours. They read by putting stress on each word, and were unaware of punctuation markers. Mispronunciations were also plenty and some showed a tendency to skip words. Inspite of oral reading shortcomings, comprehension was found to be fairly good and they could answer questions at least by pointing to the line concerning the answer. Passage 3 could be attempted by a select few only.

Grade III participants obtained good scores in passage 1 and only the last question was found difficult by few of them. Passage 2 was read silently and was interspersed with lots of mispronunciation on unfamiliar words like: /mæ dək/, /chəttan/;but as all the questions following this passage required more than one line as an answer, most of them answered incompletely. The last question of this passage was tricky, as the reader had to detect the lie of one of the characters of the story, but almost all of them failed to understand the truth value of the statement. Word reading was present for passage 3 and they skipped difficult

multisyllabic words. Longer words were read letter-by-letter, but the participants could grasp the overall meaning. This passage had a greater proportion of "why" questions which caused a lot of confusions and the last question required higher level inferencing skills of the mental state of one of the characters, which was maximally attempted unsuccessfully.

Participants from Grade IV performed little better than their pervious grade counterparts. They could answer most of the questions of the first two passages and at least two from passage III, in spite of number or oral reading errors. Most of them read all three passages silently, except few who lip read the passages. Many participants of this grade adopted an efficient strategy of reading, in which they read the questions first and scanned the text for answers, thus saving time. Almost all of the Grade IV participants answered the questions from memory after they had read the questions.

By Grade V they could answer all questions from passage 1 and answered just one or two questions incompletely of passage 2 and 3. In this Grade passage 4 was attempted for the first time and a few could even answer at least one question from passage 4. As observed in earlier classes answers were mostly given by reading the lines concerning the answer without any attempt to formulate them. Oral reading, especially of passage 4 was full of mispronunciations. But the rest of the passages were read silently and fluently.

Performance of Grade VI participants followed a similar trend as Grade V participants, but with significant gains in marks obtained in passage 3 and passage 4. While oral reading was fluent for even the more complex passages, inferencing questions were still inaccurately answered. They had fairly good oral reading except mispronunciation of multisyllabic, difficult new words like /kIɻəməkɔɻe/, /ləkəɻbəg^{h}g^{h}e/.

Grade VII participants scored full on the first two passages and even questions of passage 3 were answered completely, except the more complex inferencing questions. Comprehension had significantly improved and they could answer more questions in a relatively lesser time. Even reading speed increased and almost all the participants read the questions first and scanned the passage for the relevant text. The grammatical formulation of answers also appeared first in Grade VII participants.

Oral reading of oldest Grade VIII participants was fairly fluent. But they exhibited

tendency to falter at few multisyllabic and unfamiliar words. They had inability to expand on or elaborate the answer beyond what's given in the passage. They required minimum instructions and read the questions first. Answers were well formulated, complete and were given from memory.

Performance of TDC of Hindi Medium (TDCH) v/s TDC of English Medium (TDCE)

Performance was compared across the two groups of TDC, i.e.: TDCH and TDCE across all the sections and subsections of the Hindi validation of ERS.

Section 1: Perceptual Skills

Both auditory and visual perceptual skills showed a marginal difference between the performance across TDCH (indicated in red colour) and TDCE (indicated in blue colour) during the early grades, with participants studying in an English medium school performing just slightly better than their Hindi medium counterparts. The performance across these two groups in auditory perceptual skills merged in Grade V and in visual perceptual skills merged in Grade IV. The difference in mean scores among TDCE and TDCH was observed more on auditory perceptual tasks than visual perceptual ones.

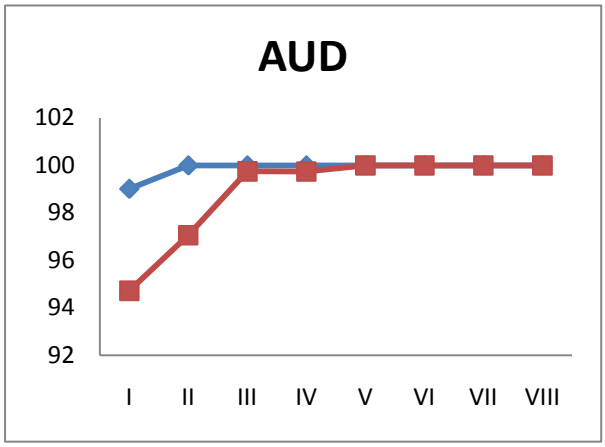


Figure 15 a

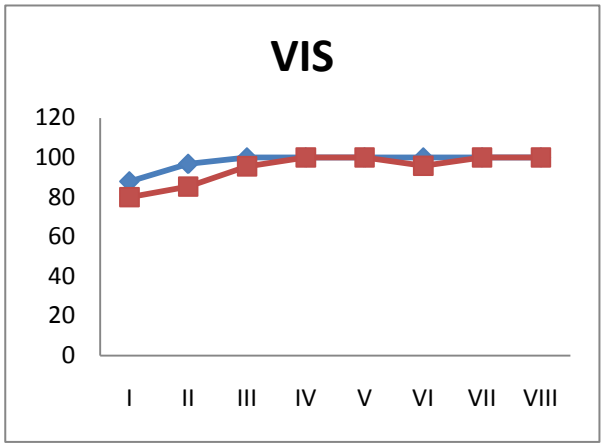


Figure 15 b

Figure 15: Percentage Scores across Grades in Perceptual Skills

A detailed viewing of the mean scores in each subsection of perceptual skills across all the grades and across TDCH and TDCE, showed that in all the tasks of auditory perceptual section, the TDCE group performed better than TDCH in the earlier grades and the scores on all the tasks of various subsections merged in Grade III.

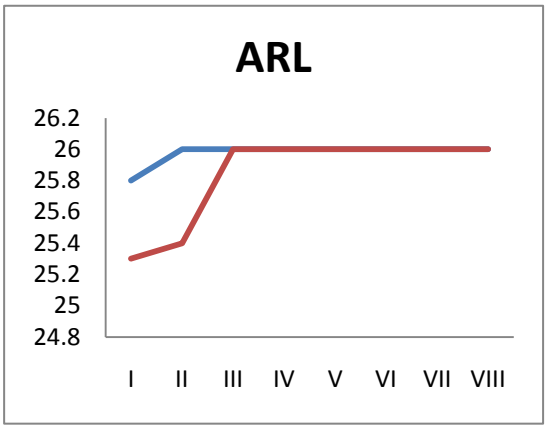


Figure 16 a

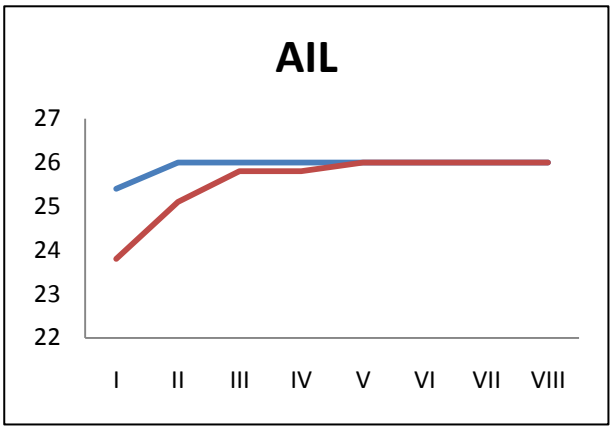


Figure 16 b

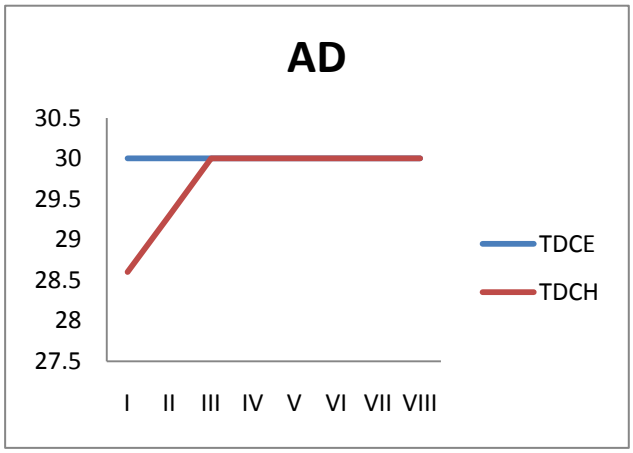
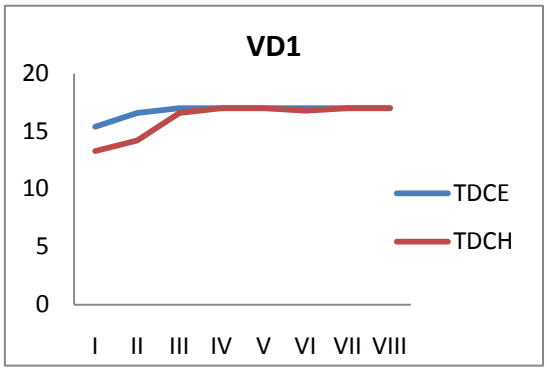


Figure 16 c

Figure 16: Mean Scores across Grades in Subsections of Auditory Perceptual Skills

An anlysis of the scores obtained by the two groups of typically developing participants (TDC) showed that TDCE performed marginally well in both the levels of visual discrimination section, the difference being more prominent in the early grades and merging later on in participants of higher grades (Grade III in case of Level 1 and Grade IV in case of Level 2). a small drop in scores was observed in participants of TDCH of Grade VI.



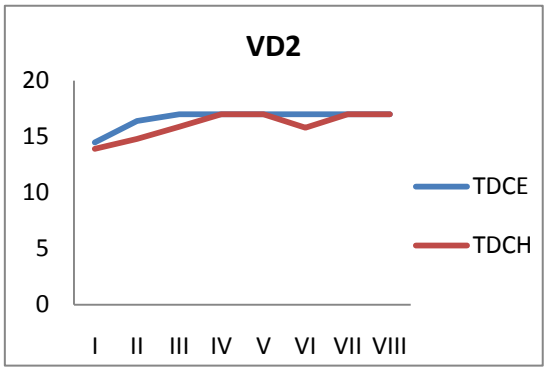
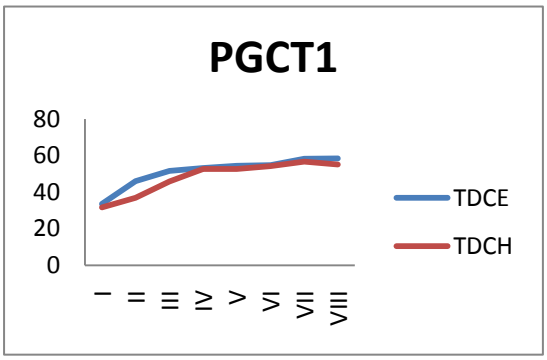


Figure 17 a Figure 17 b

Figure 17: Mean Scores across Grades in Subsections of Visual Perceptual Skills

Section 2: Phoneme Grapheme Correspondence

This skill was assessed in two separate subsections and TDCE showed a consistently better performance across all the grades and in both the subsections. While in case of Section 1 of phoneme grapheme correspondence, the difference in the mean scores between TDCE and TDCH merge only in Grade IV participants, TDCE participants scored better across all the grades in Section 2 of phoneme grapheme correspondence.



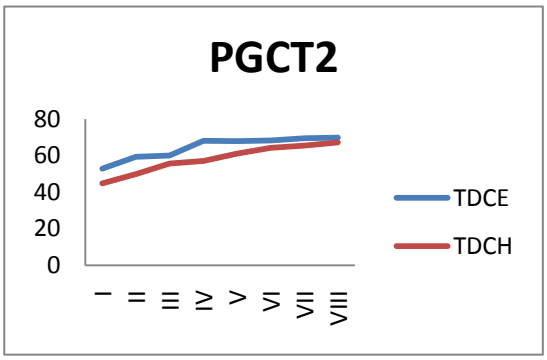


Figure 18 a Figure 18 b

Figure 18: Percentage Scores in Subsections of Phoneme Grapheme Correspondence

An analysis of the specific tasks in Phoneme Grapheme Correspondence – Section 1 showed that TDCE scored better than TDCH in all the tasks of this section. While in tasks of identification of beginning and ending consonant scores merged in Grade IV, they again dip down in participants of TDCH and achieve at par performance with TDCE only again in

Grade VII. Identification of consonant blends was scored equally by TDCE and TDCH only Grade VII onwards, while in that task of identification of vowel sounds TDCE scored consistently better across all the grades

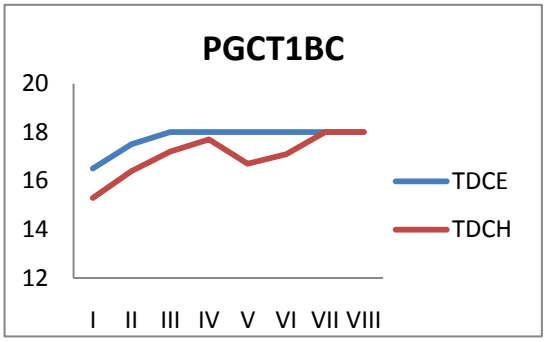


Figure 19 a

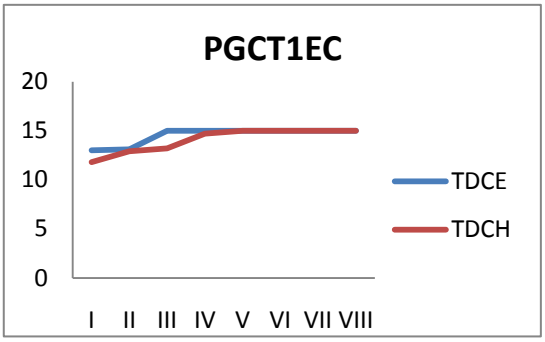


Figure 19 b

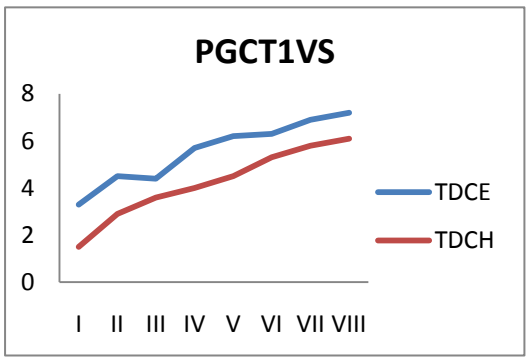


Figure 19 c

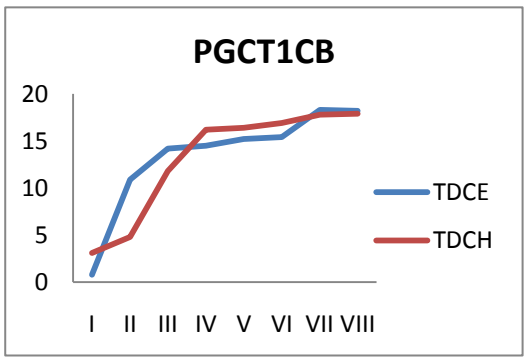


Figure 19 d

Figure 19: Mean Scores in Subsections of Phoneme Grapheme Correspondence-I

Section 2 of Phoneme Grapheme Correspondence showed the same pattern as Section1, and TDCE scores were better in the tasks of identification of beginning consonant and ending consonant. While scores merge on Grade IV in initial consonant identification task, the difference between TDCE and TDCH scores remained across all the grades in final consonant identification. Vowel sound identification is one task in which TDCH scored better than TDCE till Grade III, but after this TDCE participants showed a sudden jump of scores from Grade IV onwards.

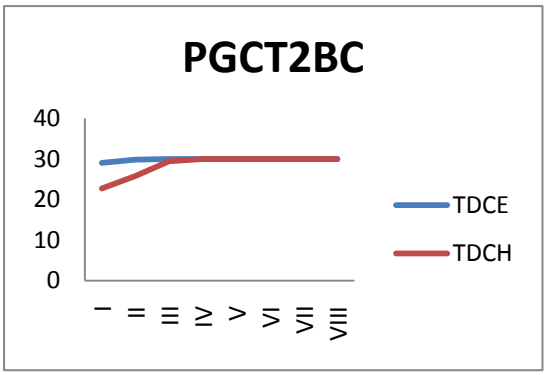


Figure 20 a

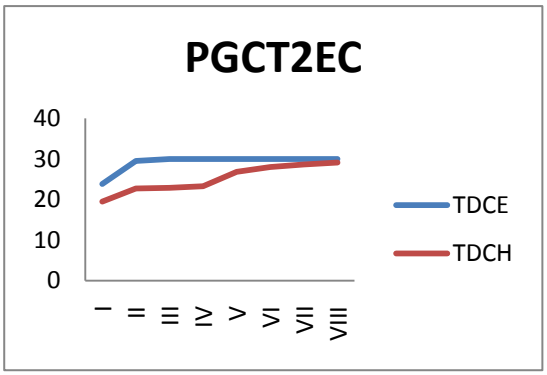


Figure 20 b

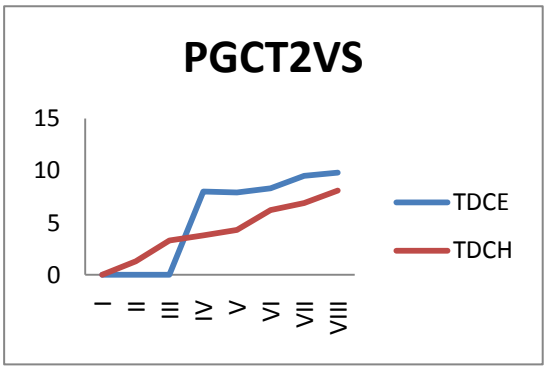


Figure 20 c

Figure 20: Mean Scores in Subsections of Phoneme Grapheme Correspondence-II

Section III: Structural Analysis

Grade I participants were unable to obtain positive scores in this section and Grade II onwards, TDCE scored consistently better than TDCH.

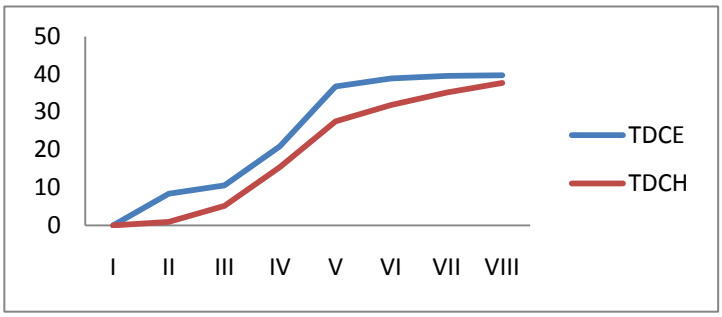


Figure 21: Percentage Scores on Structural Analysis

Structural analysis section was scored only by Grade II onwards and the subsection 3 of this section could be attempted only by participants of Grade IV onwards. Across all the tasks and grades, TDCE performed better than TDCH. Scores of TDCE on the first task of this section progressed unevenly with dips in scores of Grade IV and Grade VI participants.

Difference in the mean scores between TDCE and TDCH was greater in earlier grades in the first task and in the middle grades on the second and third tasks of this section. The last task showed minimum difference in scores across the two groups of TDCE and TDCH.

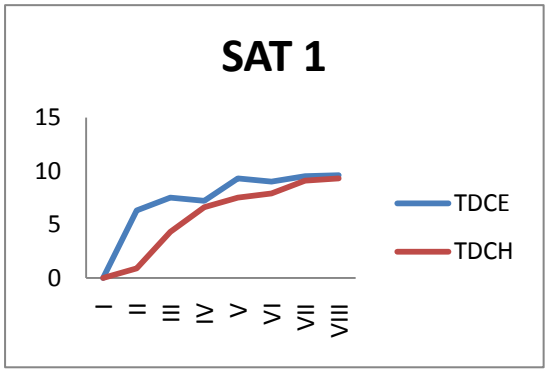


Figure 22 a

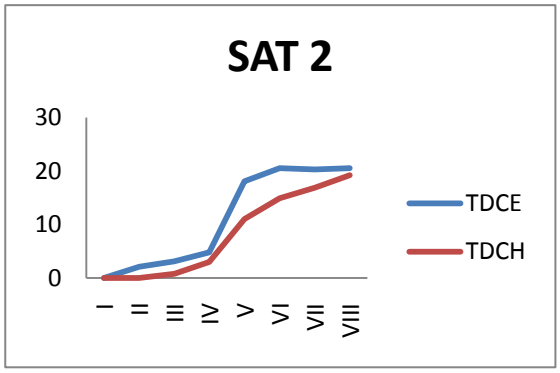


Figure 22 b

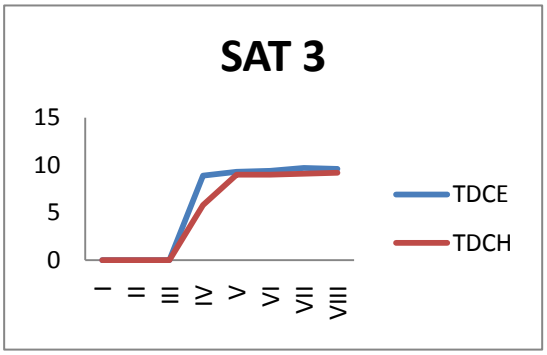


Figure 22 c

Figure 22: Mean Scores in Subsections of Structural Analysis

Section III: Blending Test

In this section, TDCE and TDCH showed significant differences; with TDCE scoring Grade II onwards while TDCH could attempt this section only Grade IV onwards.

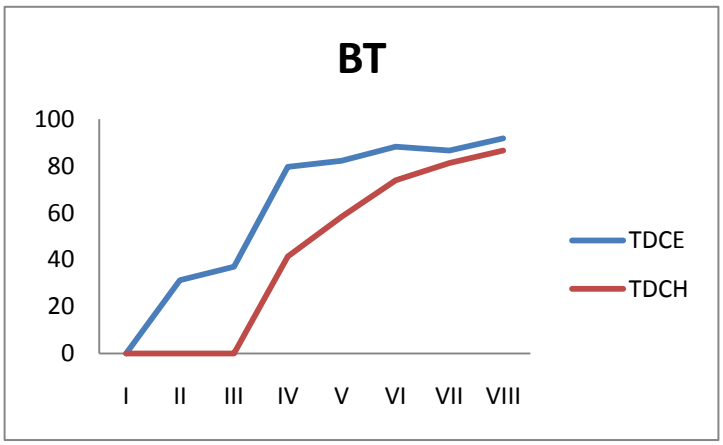


Figure 23: Percentage Scores on Blending Test

Level 2 of Blending test was scored quite uniformly by participants of both the groups of TDCE and TDCH, but Level 1 of this section could be scored positively by TDCH only Grade IV onwards. TDCE in this level 1 showed an irregular pattern of performance with dips in scores in Grade III and Grade V.

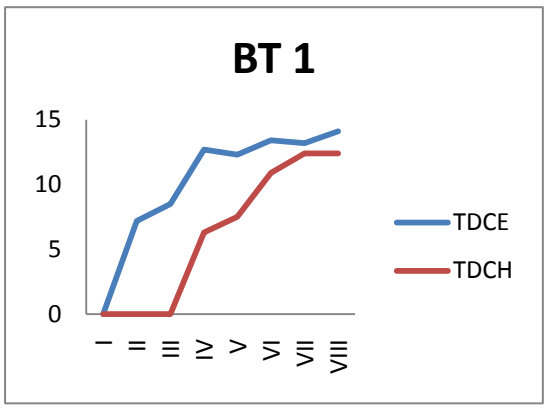


Figure 24 a

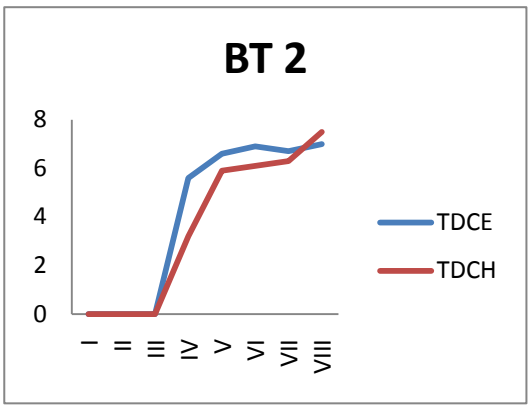


Figure 24 b

Figure 24: Mean Scores on Subsections of Blending Test

Section IV: Oral Reading

Oral reading was scored consistently well by TDCE, with a significant difference in scores, except in Grade IV, where the scores were approximately equal. Scores on this section of TDCE showed a slight fall in Grade III.

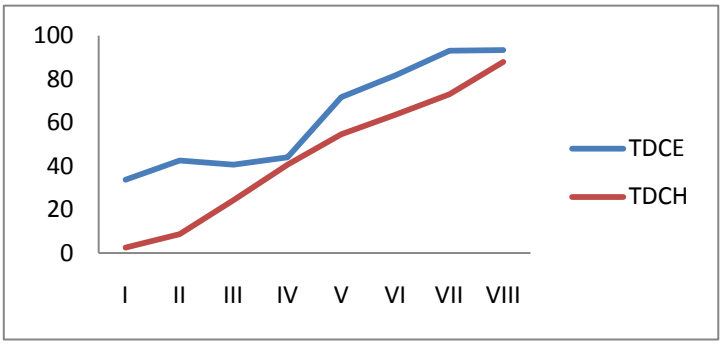


Figure 25: Percentage Scores on Reading Passage

TDCE group scored better than TDCH in all the levels of the reading comprehension tasks. The difference in scores was more in early grades for reading passage 1, in early and middle grades for reading passage 2, middle grades in reading passage 3, and middle and higher grades for the reading passage 4. Full scores on Level 1 were achieved by both groups simultaneously in Grade V, though TDCE group achieved full score in Grade III too, before

dipping in Grade IV. TDCE and TDCH had approximately equal scores in Level 2 and finally equal scores Grade VII onwards. TDCE achieved full scores in Grade V only. Passage 3 was not attempted by TDCH before Grade IV, while TDCE started scoring positively on it from Grade II onwards. Scores on passage 3 and 4 were never equal and passage 4 could be attempted by TDCH a grade later than TDCE (i.e.: Grade VI onwards).

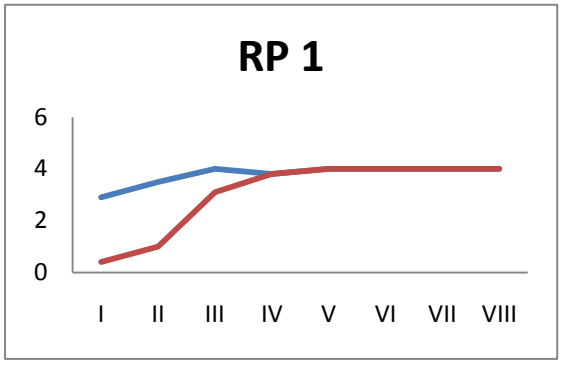


Figure 26 a

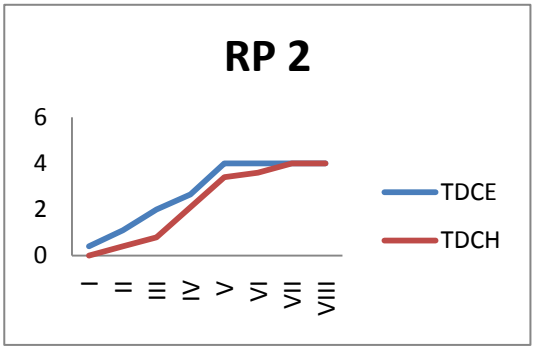


Figure 26 b

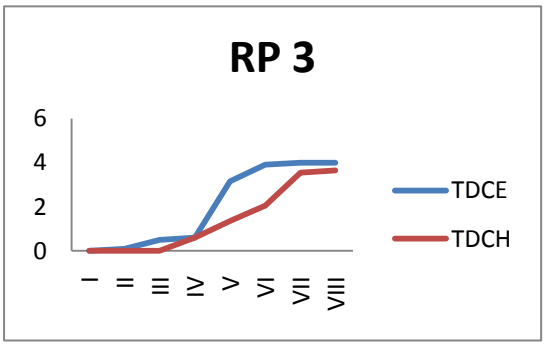


Figure 26 c

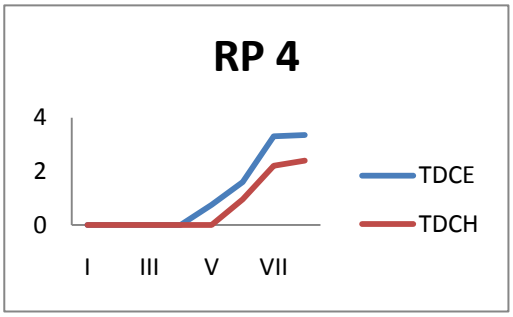


Figure 26 d

Figure 26: Mean Scores on Subsections of Oral Reading

The current data set had medium of instruction, grade and gender as independent variables (IVs) and all the parameters of the test as dependent variables (DVs). A multivariate analysis was thus used to analyze it. A p value < .005 indicates that the interaction is statistically significant. MANOVA results indicated that medium of instruction [Wilks' Lambda = .872, *F* (3, 126) = 6.138] and grade significantly showed main effect [Wilks' Lambda =.567, *F* (21, 362.354) = 3.768] on the combined dependent variables of the test parameters. Since there was a statistically significant difference, further follow up tests were done.

Table 6: MANOVA Values of Variables Tested

IVs	Wilks' Lambda	*F*	*p*	Hypothesis df	Error df
Medium	0.87	6.14	0.00	3.00	126.00
Grade	0.57	3.77	0.00	21.00	362.35
Gender	0.97	1.49	0.22	3.00	126.00

- *Results of The Test of Between-Subjects*

In case of perceptual skill section the test of between-subjects revealed that medium of instruction and grade significantly affected the perceptual parameters of Auditory Identification Level (AIL), Auditory Discrimination (AD) and Visual Discrimination Levels one and two (VD1 & VD2). But Auditory Recall Level (ARL) was not affected by the medium of instruction of the participant. In the phoneme grapheme correspondence section, all the subsections were significantly affected by the independent variable of medium of instruction and Grade in school. But identification of consonant blends in Level 1 was unaffected by the medium of instruction of the participant. Scores of all the subsections of structural analysis, blending test and all the four oral reading passages were affected significantly by medium of instruction and grade of the participant. Thus, a test of between-subjects on the total scores of each section showed that while medium of instruction and grade of the child significantly affected the performance, gender was found to be an insignificant variable.

- *Results Of The Univariate Analyses (Repeated Measure ANOVA) For Medium Of Instruction*

Univariate analyses for medium of instruction revealed that AIL, AD and both the visual perceptual tests (VD1 and VD2) main effect in case of both Hindi and English medium of instruction, while ARL was not affected by this variable. Analyses for the combined auditory perceptual tests scores (ARL, AIL and AD) and combined visual perceptual tests scores (VD1 and VD2) revealed both Hindi and English medium of instruction affected both the perceptual scores. Other than the task assessing identification of consonant blends, all the other tasks of phoneme grapheme correspondence section were significantly affected in both TDCE and TDCH groups. All the subsections of structural analysis, blending test and all the four oral reading passages were significantly affected in both the Hindi and English medium of instruction groups. Thus, a univariate analysis of the total scores of each section showed that scores were affected in both TDCE and TDCH groups.

- *Results Of The Univariate Analyses For Grade*

Univariate analyses for the effect of medium of instruction on grade in the perceptual section revealed that while all the auditory perceptual variables of AIL, ARL and AD showed main effect only in Grade I, both the visual perceptual tests showed main effect in Grade I and Grade II. Vowel identification task of Level 1 and final consonant identification of Level

2 of phoneme grapheme correspondence was affected by medium of instruction only in Grade I participants. Scores of Grade I and Grade II participants was significantly affected by medium of instruction in the task of beginning consonant identification (in both Level 1 and level 2). Along with Grade I and Grade II, even Grade III participants' scores on identification of final consonant and consonant blends in Level 1 were affected by medium of instruction. The medial vowel identification task in Level 2 was affected till Grade V. Scores on Level 1 and Level 3 of structural analysis were significantly affected by the medium of instruction till Grade IV and Level 2 till Grade V. Level 1 of blending test was affected by medium of instruction till Grade V and Level 2 of this section was affected till Grade IV. Scores of reading passage 1 were significantly affected only in Grade I and Grade II participants, while reading passage 2 scores were affected till Grade IV. Scores of participants till Grade VI were affected by medium of instruction for passage 3 and passage 4.

It was found that the combined auditory perceptual scores were affected by medium of instruction only in Grade I and combined visual perceptual scores (VIS) showed main effect in Grade I and Grade II. Phoneme grapheme correspondence scores were affected by medium of instruction till Grade III, structural analysis and blending test till Grade V and reading passage scores till Grade VI.

Table 7: Descriptive & Inferential statistics of ERS Sections

Dependent Variable		**Mean**	**S.D.**	**Sig.**
Parameter	**Medium**			
AIL	Hindi	25.56	.080	.002
	English	25.92	.080	.002
AD	Hindi	29.73	.050	.000
	English	30.00	.050	.000
ARL	Hindi	25.83	.037	.010
	English	25.97	.037	.010

VD1	Hindi	16.11	.082	.000
	English	16.75	.082	.000
VD2	Hindi	16.05	.091	.000
	English	16.61	.091	.000
PGCT1BC	Hindi	17.050	.079	.000
	English	17.750	.079	.000
PGCT1EC	Hindi	14.075	.084	.000
	English	14.513	.084	.000
PGCT1CB	Hindi	13.113	.276	.407
	English	13.437	.276	.407
PGCT1VS	Hindi	4.212	.208	.000
	English	5.562	.208	.000
PGCT2BC	Hindi	28.487	.203	.000
	English	29.850	.203	.000
PGCT2EC	Hindi	25.112	.359	.000
	English	29.163	.359	.000
PGCT2VS	Hindi	4.237	.161	.000
	English	5.437	.161	.000
SAT1	Hindi	5.700	.174	.000
	English	7.300	.174	.000
SAT2	Hindi	8.225	.255	.000
	English	11.175	.255	.000
SAT3	Hindi	5.262	.092	.000
	English	5.863	.092	.000

BT1	Hindi	6.187	.198	.000
	English	10.175	.198	.000
BT2	Hindi	3.625	.111	.003
	English	4.100	.111	.003
RP1	Hindi	3.037	.071	.000
	English	3.775	.071	.000
RP2	Hindi	2.287	.073	.000
	English	2.769	.073	.000
RP3	Hindi	1.400	.066	.000
	English	2.031	.066	.000
RP4	Hindi	.694	.080	.000
	English	1.125	.080	.000
AUD	Hindi	81.138	.131	.000
	English	81.900	.131	.000
VIS	Hindi	32.163	.136	.000
	English	33.363	.136	.000
PGCT1	Hindi	48.225	.452	.000
	English	51.262	.452	.000
PGCT2	Hindi	58.163	.605	.000
	English	64.450	.605	.000
SATT	Hindi	19.187	.340	.000
	English	24.337	.340	.000
BTT	Hindi	9.812	.233	.000
	English	14.275	.233	.000

RP	Hindi	7.319	.193	.000
	English	9.700	.193	.000

- Inter-rater reliability

Internal consistency was assessed by statistically analyzing the consistency of results across items within the test using the most common internal consistency measure of Cronbach's alpha. 0.7 is generally considered a satisfactory value of alpha (Nunnally, 1978).

Table 8: Reliability Statistics of ERS Sections

Test Subsections	Cronbach's Alpha
AIL	.887
AD	.824
ARL	.838
AUD	.823
VD1	.976
VD2	.934
VIS	.965
PS	.926
PGCT1BC	.860
PGCT1EC	.850
PGCT1CB	.984
PGCT1VS	.930
PGCT1	.986
PGCT2BC	.993
PGCT2EC	.991
PGCT2VS	.959
PGCT2	.994
SAT1	.986
SAT2	.997
SAT3	.993

SATT	.998
BT1	.996
BT2	.990
BTT	.997
RP1	.981
RP2	.970
RP3	.971
RP4	.920
RP	.967

The Cronbach's alpha is greater than 0.7 over all the subsections and therefore it showed that all the sections of the Hindi adaptation of ERS were internally consistent. These values indicate high agreement between the ratings by the two raters and thus suggest high reliability.

- Validity

Validity was assessed by analyzing the scores of 10% of the total population on which the normative values were determined. The mean of sixteen TDC was analyzed and it was found that the scores for each of the sections of ERS lay between the confidence interval as determined based on the normative data of 160 TDC.

Table 9: Descriptive Statistics of TDC and CLD

Test Subsections	**Grade**	**Confidence interval**		**TDC**	**LD**
		Upper Bound	**Lower bound**		
AIL	I	24.92	24.28	24.3	19
	II	25.87	25.23	25.4	24.5
	III	26.22	25.58	25.7	24.5
	IV	26.22	25.58	25.8	25
	V	26.32	25.68	26.1	26
	VI	26.32	25.68	26.2	25.5
	VII	26.32	25.68	26.2	23.5
	VIII	26.32	25.68	26.3	25.5

AD	I	29.50	29.10	29.2	26.5
	II	29.85	29.45	29.5	27.5
	III	30.20	29.80	29.9	29.5
	IV	30.20	29.80	30.1	28.5
	V	30.20	29.80	30.1	27
	VI	30.20	29.80	30.1	29.5
	VII	30.20	29.80	30.1	29
	VIII	30.20	29.80	30.1	28
ARL	I	25.70	25.40	25	23.5
	II	25.85	25.55	25.08	24.5
	III	26.15	25.85	25.4	24
	IV	26.15	25.85	25.9	24
	V	26.15	25.85	25.9	24.5
	VI	26.15	25.85	25.9	26
	VII	26.15	25.85	25.9	24.5
	VIII	26.15	25.85	25.9	25.5
VD1	I	14.68	14.02	14.3	12.5
	II	15.73	15.07	15.3	13
	III	17.13	16.47	16.7	14.5
	IV	17.33	16.67	17.1	16.5
	V	17.33	16.67	17.1	16
	VI	17.23	16.57	17.2	13
	VII	17.33	16.67	17.3	16.5
	VIII	17.33	16.67	17.3	17
VD2	I	14.56	13.84	13.9	12

	II	15.96	15.24	15.3	13.5
	III	16.81	16.09	16.4	15
	IV	17.36	16.64	16.7	15
	V	17.36	16.64	16.7	17
	VI	16.76	16.04	16.7	16.5
	VII	17.36	16.64	17.1	16
	VIII	17.36	16.64	17.3	17
PGCT1BC	I	16.21	15.59	15.6	12.5
	II	17.26	16.64	16.7	13.5
	III	17.91	17.29	17.3	14.5
	IV	18.16	17.54	17.6	15.5
	V	17.66	17.04	17.6	17
	VI	17.86	17.24	17. 6	17.5
	VII	18.31	17.69	17.7	16
	VIII	18.31	17.69	18.1	18
PGCT1EC	I	12.73	12.07	12.3	11
	II	13.33	12.67	12.7	12
	III	14.43	13.77	13.8	14
	IV	15.18	14.52	14.7	13
	V	15.33	14.67	14.8	15.5
	VI	15.33	14.67	14.9	13
	VII	15.33	14.67	15.1	15
	VIII	15.33	14.67	15.2	14
PGCT1CB	I	3.04	0.86	1.03	0
	II	8.94	6.76	7.01	0

	III	14.09	11.91	11.2	3
	IV	16.44	14.26	14.5	9
	V	16.89	14.71	14.8	12.5
	VI	17.24	15.06	15.5	14
	VII	19.14	16.96	17.3	13
	VIII	19.14	16.96	18.5	16
PGCT1VS	I	3.22	1.58	2.3	0
	II	4.52	2.88	3.2	0.5
	III	4.82	3.18	3.5	1.5
	IV	5.67	4.03	4.6	4.5
	V	6.17	4.53	4.8	2.5
	VI	6.62	4.98	5.3	5
	VII	7.17	5.53	5.7	6.5
	VIII	7.47	5.83	6.2	7.5
PGCT2BC	I	26.65	25.05	25.7	20
	II	28.60	27.00	27.6	18.5
	III	30.50	28.90	29.1	17.5
	IV	30.80	29.20	29.4	23.5
	V	30.80	29.20	29.6	24
	VI	30.80	29.20	29.7	27
	VII	30.80	29.20	30.1	28.5
	VIII	30.80	29.20	30.5	21
PGCT2EC	I	23.07	20.23	20.5	21
	II	27.52	24.68	24.8	23.5
	III	27.87	25.03	25.7	25

	IV	28.07	25.23	25.5	26
	V	29.82	26.98	27	22
	VI	30.42	27.58	27.8	27.5
	VII	30.72	27.88	27.9	27.5
	VIII	30.97	28.13	30.3	29.5
PGCT2VS	I	.64	-.64	0	0
	II	1.29	.01	1	0
	III	2.29	1.01	2	3.5
	IV	6.54	5.26	5.4	5
	V	6.74	5.46	6.5	8.5
	VI	7.89	6.61	6.9	6.5
	VII	8.84	7.56	7.4	6.5
	VIII	9.59	8.31	8.6	7
SAT1	I	.69	-.69	0	0
	II	4.29	2.91	3	0.5
	III	6.59	5.21	5.6	3.5
	IV	7.59	6.21	6.5	5
	V	9.09	7.71	7.9	4.5
	VI	9.14	7.76	8.5	7
	VII	9.99	8.61	8.8	6.5
	VIII	10.14	8.76	9	8
SAT2	I	1.01	-1.01	0	0
	II	2.06	.04	1	0
	III	2.96	.94	2.5	2.5
	IV	4.91	2.89	3.2	6

	V	15.56	13.54	14.5	14
	VI	18.71	16.69	17.4	13.5
	VII	19.61	17.59	18.6	16
	VIII	20.86	18.84	19.5	15
SAT3	I	.37	-.37	0	0
	II	.37	-.37	0	0
	III	.37	-.37	0	0
	IV	7.72	6.99	7	4
	V	9.52	8.79	9	4
	VI	9.57	8.84	9.2	7.5
	VII	9.77	9.04	9.3	5.5
	VIII	9.77	9.04	9.4	8
BT1	I	.79	-.79	0	0
	II	4.39	2.82	3	0
	III	5.04	3.47	4	2.5
	IV	10.29	8.72	9.3	6
	V	10.69	9.12	9.5	10.5
	VI	12.94	11.37	12.3	13.5
	VII	13.59	12.02	13.3	11.5
	VIII	14.04	12.47	14	13.5
BT2	I	.44	-.44	0	0
	II	.44	-.44	0	0
	III	.44	-.44	0	2.5
	IV	4.84	3.96	4.3	6.5
	V	6.69	5.81	6.3	5

	VI	6.94	6.06	6.5	8.5
	VII	6.94	6.06	6.6	6
	VIII	7.69	6.81	7.5	9.5
RP1	I	1.93	1.37	1.5	0
	II	2.53	1.97	2.3	0.5
	III	3.83	3.27	3.5	2.5
	IV	4.08	3.52	4	2.5
	V	4.28	3.72	4.1	4
	VI	4.28	3.72	4.1	3.5
	VII	4.28	3.72	4.2	3.25
	VIII	4.28	3.72	4.2	3.75
RP2	I	.49	-.09	0	0
	II	1.04	.46	1	0
	III	1.69	1.11	1	0
	IV	2.67	2.09	2	1.5
	V	3.99	3.41	3.6	2.25
	VI	4.09	3.51	4	2.75
	VII	4.29	3.71	4.1	3.25
	VIII	4.29	3.71	4.2	3.75
RP3	I	.26	-.26	0	0
	II	.31	-.21	0	0
	III	.51	-.01	0	0
	IV	.86	.34	0	0.5
	V	2.51	1.99	2	1.5
	VI	3.24	2.71	2.8	2.25

	VII	4.04	3.51	3.7	2.75
	VIII	4.09	3.56	4	2.75
RP4	I	.32	-.32	0	0
	II	.32	-.32	0	0
	III	.32	-.32	0	0
	IV	.32	-.32	0	0
	V	.69	.06	0	1
	VI	1.59	.96	1	1
	VII	3.07	2.44	2	2.5
	VIII	3.19	2.56	3	2.5

The mean and S.D. of the test scores of the sixteen LD participants were compared with the mean and S.D. of the 160 TDC participants and the results have been summarized section wise:

- Section I: The perceptual skills section scores were compared for auditory and visual dimensions separately. Auditory perceptual scores of CLD were significantly lower than TDC in the early four grades, i.e.: Grade I to Grade IV. In case of visual perceptual scores the scores were significantly poor only for the initial three grades (Grade I to Grade III). Thus overall the scores were affected only in the primary grades.

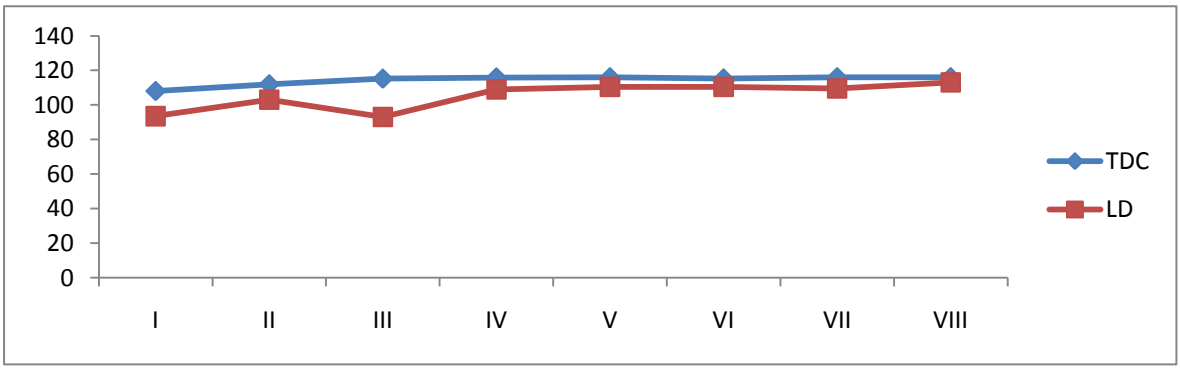
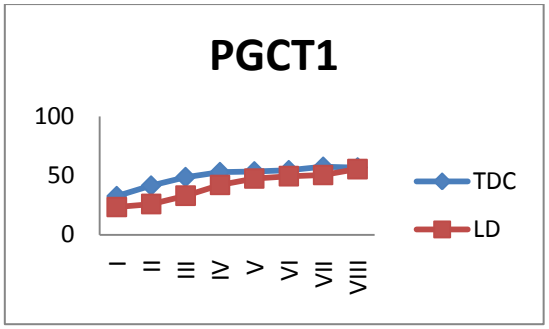


Figure 27: Mean Scores of TDC and LD on Perceptual Skill Section

- Section II: Phoneme grapheme correspondence was analyzed separately for the two levels. Poorer scores of CLD on Level 1were obtained till Grade V and on Level 2 were obtained even by the senior most grades, i.e.: till Grade VIII.



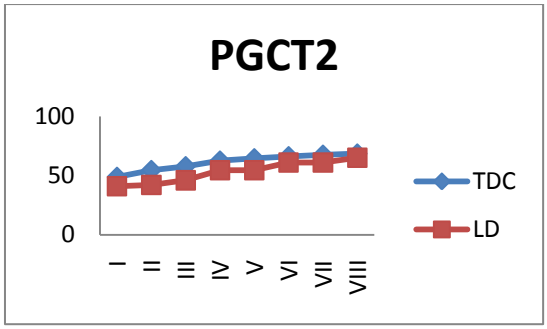


Figure 28 a Figure 28 b

Figure 28: Mean Scores of TDC and LD on Phoneme Grapheme Correspondence Section

- Section III: Structural analysis tasks were generally scored poorly by both TDC and LD participants of earlier grades, but CLD scored significantly poorer than TDC in the middle grades of Grade V to Grade VII.

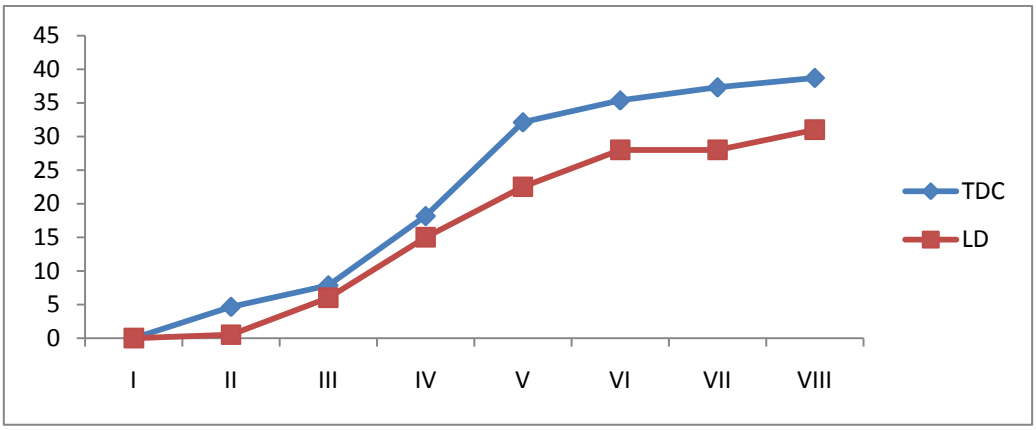


Figure 29: Mean Scores of TDC and LD on Structural Analysis Section

- Section IV: Blending tasks were scored poorly by TDC and CLD in all the early and middle grades. But CLD of senior grades, i.e.: Grade VI to Grade VIII, scored significantly poorer than TDC.

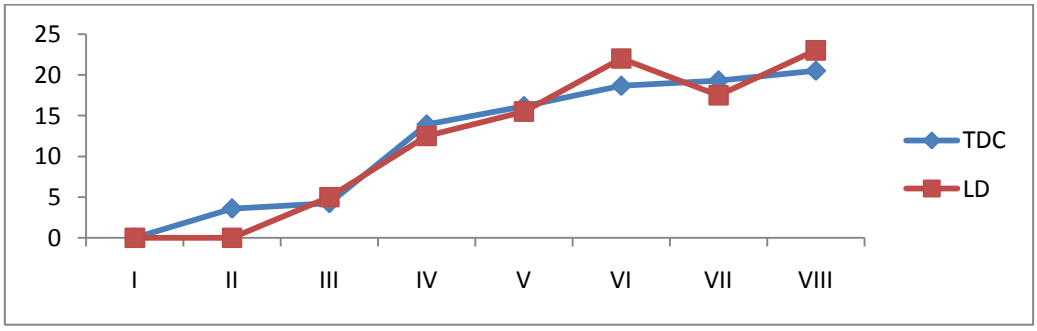


Figure 30: Mean Scores of TDC and LD on Blending Test

- Section V: Comprehension of reading passages was scored significantly poorer by CLD in all the grades. It was observed that reading passages 1 and 2 were scored poorer in early and middle grades (i.e.: Grade I to IV) and reading passages 3 and 4 were scored significantly poorer in middle and senior grades (i.e.: Grade IV to Grade VIII).

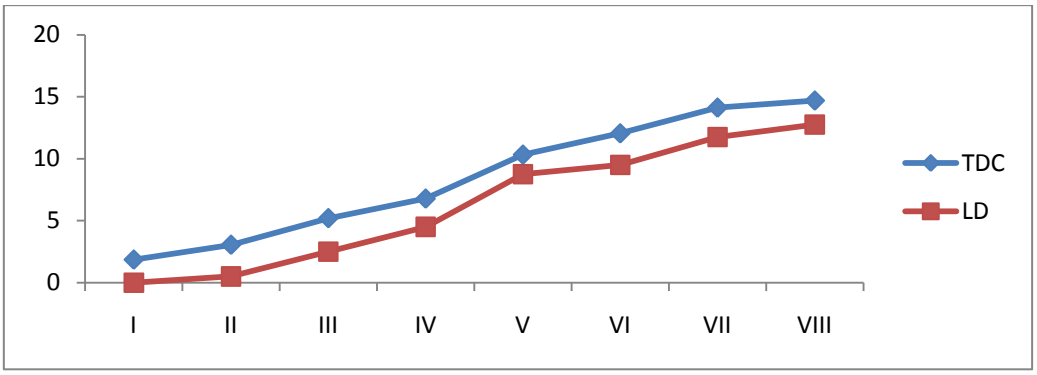


Figure 31: Mean Scores of TDC and LD on Reading Passage Section

CHAPTER V
DISCUSSION

Reading serves as the critical foundation skill for all school-based learning (Lyon, 1998). However no effective assessment instruments exist to aid in reading pedagogy, in a majority of the classrooms in India. The construction of a Hindi language reading assessment is one of the many necessary steps needed to address the reading difficulties. This study thus was an effort to make available an instrument designed to assess the early reading skills of participants with Hindi as their native language.

The present study was aimed to translate and adapt the widely used Early Reading Skills (ERS) proposed by Rae & Potter (1973) in Hindi language**.** The necessity for the development of such an instrument was recognized in order to investigate the vernacular reading abilities of students. It was generally assumed that the students can read in the vernacular since it was, after all, the language used at home, but there are hardly any standardized reading tests in existence for Hindi.

V.1 Translation and Adaptation of ERS in Hindi

Standardized tests are low cost appropriate tools that are often used to detect reading writing difficulties. As a majority of these tests are usually available in English, it is always necessary to translate to the native language when used in non-English speaking communities. Translated versions allow cross-country as well as cross-culture comparisons (Hunt, Alonso, Bucquet, Niero, Wiklund & McKenna, 1991). However, there are difficulties in the process of proper translation, and the lack of a local language version can become a barrier in assessing and reporting such deficits. It was felt that a Hindi translation of ERS would be very useful, since there are 207 million people, mostly in India, who speak Hindi, the fifth most commonly spoken language in the world (Grimes, 2000).The current study reported the process of the development of an appropriate Hindi version of the ERS in a study conducted in Delhi, India. The challenges faced and lessons learned during this translation process were felt to be of potential significance and benefit in the light of their relevance and applicability to similar situations in other cultures and countries.

There is a lack of literature documenting the process of translation of such tests that would enable their application in cross-cultural settings and standardization of the procedure. To achieve a good quality translated version of the test, use of multiple methods of translation such as forward translation, backward translation and committee translation are desirable whenever possible (Capitulo, Cornelio & Lenz, 2001). Committee translation takes some responsibilities of ensuring the equivalence of a test and thus has been used in this study to achieve a high quality translated version of the test. This study utilized the approach of committee translation, in which a group of experts consisting of a linguist, a speech language pathologist and another qualified speech language pathologist in the field of clinical services (both fluent in both Hindi and English, and with a recognized degree in their respective areas of specialization) checked the quality of the translated test instructions and items of the ERS from English into Hindi. The committee was involved in translating tests from source language to target language, emphasizing more importance on thematic translation in local languages rather than literal translation of a test (Peters & Passchier, 2006) because word-for word translation can often be inadequate in addressing linguistic and cultural differences (Hilton & Skrutkowski, 2002). Certain words were observed to be unfamiliar to the students, and were replaced by more culturally and socially familiar words (e.g.: bread was changed to /roti/).

Hambleton and Patsula (1999) listed five reasons for adapting tests. In thematic translation, alteration or modification of test is allowed which is called adaptation, to capture the linguistic and cultural values in the translation process (Kristjansson, Desrochers, Zumbo, 2003). In order to avoid cultural bias, adaptations were done for the accompanying verbal materials (i.e. examples were added for each task) and score interpretation (for e.g.: scoring of half marks was devised for the reading passage comprehension questions in order to quantify even incomplete answers). Western children have a relatively high level of test-wiseness (Malda, van de Vijver, Srinivasan, Transler, Sukumar & Rao, 2008). Thus, clarity of instructions was especially focused upon with examples added compulsorily for each task.

It was found in the pilot study that the performance of the children on the section assessing syllabication was very poor and even children belonging to higher grades found it difficult to comprehend the instructions and perform appropriately. This section was therefore removed from the final version of the test. In this study, in order to examine the cultural suitability of the translation and adaptation of ERS, a priori measures such as quality checks of translations, and pilot studies. Statistical procedures of reliability and validity tests were

carried out to identify and reduce the bias in collected data. This study applied a judgmental (qualitative) procedure for ERS adaptation which consisted of iterations of translating, piloting, modifying the instrument, administering on a normative sample of participants and finally checking the reliability and validity of the adapted test.

This study proposed and illustrated a systematic approach for adapting a widely used reading test. One of them was analyzing the participant group in terms of socioeconomic status, medium of instruction at school and mode of education (public v/s private.). In order to control for educational background, and to some extent, socioeconomic status, the data was collected from a single locality. The pilot showed a possibility that the test battery, if validated only on English medium students, could give false positives for students from a Hindi medium. Therefore, the data set was divided into two equal groups in order to accommodate an equal number of participants from both Hindi medium state government school participants (Lower SES) and English medium public/private school participants (Middle SES), so that test items specifically sensitive to differences across both the group of participants could be revealed.

The translated version of the test was piloted with 16 children of Grades I to VIII (two of each grade). The documentation of the translation process and the lessons learnt would be helpful in similar settings where tests need to be adapted for local use. The proposed procedure was applied to adapt the Early Reading Skills (ERS) for 6 to 13 year-old Hindi-speaking participants of Delhi, India. As no other Hindi language reading tests have been developed or are available, there was a need for an instrument to collect data on students' first language reading proficiency, and also as an assessment tool for LD. The administration of this test yielded general information for both research and education interests, which are summarized below.

V.2 Sequential Progression of Reading Skills across Grades

Prema and Jayaram (2002) found that there is a clear hierarchy of acquisition of reading skills according to age. A developmental sequence of gradual rise in performance was followed by TDC in all the tasks of ERS across all the grades in the present study as well. The early stages of reading is dealt by the initial sections of ERS and even the primary grade participants showed above average scores in this section. The scores across the sections of ERS showed that the perceptual section was scored first, followed by phoneme grapheme

correspondence and finally the structural analysis section lastly. These findings are in line with the progression in early reading skills (Molfese, Modglin, Walker & Neamon, 2004). Cognitive processes are significant in the development of reading skills (Siegel, 1993). The present study also found that the participants scoring well in the tasks assessing the above mentioned skills could only start scoring on the highest level task of reading comprehension. Grade II participants who scored poorly in visual discrimination or phoneme grapheme correspondence, performed poorly on the more complex reading skills also (Badian, 1998).

Receptive and expressive vocabulary is significantly related to pre-reading skills, such as phonological awareness, sound identification (Wise et al., 2007). This explains the rise in scores of the sections assessing these skills, as the child reaches higher grades causing expansion of vocabulary. Phoneme grapheme correspondence section scores of middle and higher grade participants of the present study also increased marginally (Bowey, 1995). Wilson and Rupley (1997) found that for children between second and fourth grades, mainly word reading drove reading comprehension. A parallel steep increase in scores was observed in the sections of phoneme grapheme correspondence and oral reading section between Grade II to Grade IV, supports the above claim. In line with the findings of Catts, Hogan, and Adolf (2005), the middle grade participants of the presents study also showed a simultaneous rise in scores of phoneme grapheme correspondence and reading comprehension, while in case of higher grades phoneme grapheme correspondence section scores stabilized and structural analysis section scores increased parallel with it. Thus, as children grow older, they became reliant increasingly on metalinguistic skills—the ability to reflect deliberately upon and manipulate the structural features (morphology and syntax) of spoken language—to aid their reading comprehension.

The transition from ‘learning to read’ to ‘reading to learn’ in later stages of primary education is thought to lead to what is referred to as the “fourth-grade slump” (Catts, Hogan & Adlof, 2005). This was weakly reflected in scores on almost all sections, as none showed a significant rise of scores from previous grade. A general consensus exists among researchers that limited vocabulary knowledge, word length and complexity (Stahl, 1999), lack of sophisticated decoding skills, and limited background knowledge contribute substantially to the fourth-grade slump (Chall & Jacobs, 2003). In all the sections of the present study, assessing these skill areas, the scores showed a steep rise after Grade IV only. This goes well with the findings of the above studies.

The data obtained is in consonance with normal development of reading skills. The subjects of the study show an early acquisition of perceptual discrimination skills, alphabet generation recall and identification of beginning and ending consonants. These are the most plausible results as in the initial experience with any language the learner becomes sensitive to the perceptual discriminative skills and alphabet system of the language. The visual and auditory discriminative skills are prerequisites to the reading and usually are acquired during early school years.

V.3 A Section Wise Analysis of Scores of TDC on ERS-Hindi

The present study also aimed that this adapted tool serve as a measure to assess the sequential acquisition of the continuum of Hindi reading skills in participants in the Grade range of I to VIII standard. An understanding of the performance on tasks of ERS in view of the Indian educational system can enhance the effectiveness of assessment and treatment of children with delayed literacy skills.

- *Perceptual Skills*

The descriptive analyses revealed that the data set was homogeneous in the pattern of acquisition of perceptual skills, i.e. the scores on both auditory and visual perceptual sections were poorest in the primary grades, showed a steady increase and finally achieved full scores by around grade IV. Familiarity with print, auditory and visual discrimination skills were characteristics of students that were related to success in learning to read (Bond & Dykstra, 1967). Thus, improvement in grade level led to increase in perceptual scores also. Perpetual section scores, especially auditory identification and recall showed the greatest improvement in performance form Grade I to Grade III, which was in line with the findings of Wolf, Bally, and Morris (1986). The subsections of auditory identification and recall showed a gradual rise in scores attained with increase in grade level which was in line with the findings of Scarborough (1998). King, Wood, and Faulkner (2007) had concluded that the discrimination of visual stimuli develops concurrently with the development of the alphabetic principle. A similar trend was observed in this study, as scores on sections of visual perception assessment and phoneme grapheme correspondence showed a parallel growth. The study showed that auditory and visual perceptual scores reach the plateau at Grade III, thus sensitivity of these

tasks to detecting poor readers is limited to the primary grades only.

- *Phoneme Grapheme Correspondence*

A fundamental role in reading development is played by speech skills (phonology) (Adams, 1990; Brady & Shankweiler, 1991; Goswami & Bryant, 1990; Liberman, 1973; Wagner & Torgesen, 1987). The scores of this section increase gradually across the grades as vocabulary expands with the child progressing to senior grades, which was in line with the findings of Hohn & Ehri (1983) and Ehri (1989); and as observed in this study also, scores of phoneme grapheme correspondence increase along with recognition and recall of alphabets. Segmenting tends to develop among typical readers during kindergarten and early first grade (Kaminski & Good, 1996; Vandervelden & Siegel, 1997). Thus, the section requiring the segmenting of words for identification of initial/final consonants or medial vowels, shows above fifty percentage scores even in Grade I and continues to show a steady increase after it also. The scores of this section reach a plateau only in the middle and higher grades as before variations are observed which is in line with the findings of the National Reading Panel (2000). Anthony, Lonigan, Driscoll, and Burgess (2003) found that children typically progress from combining phonemes to deleting or manipulating phonemes as they develop, presumably the result of the cognitive load that increases according to task difficulty (Anthony & Francis, 2005). Thus, Level 2 of this section requiring identification of correct word fulfilling the criteria of a particular initial/final consonant is scored poorer than Level 1 which entails segmenting one word per item.

The orthographic markings of Hindi vowels vary in length, which is the reason for maximum confusions in distinctions of short and long vowels (Gupta, 2003). Children need to learn the specific features of Hindi script in the course of reading acquisition, for example: consonant clusters may occur in word-initial and medial positions, which present a lot of difficulty to learners of Hindi. This explains the poorest scores in tasks involving identification of blends across participants of all the grades. Torgesen,Wagner, and Rashotte (1994) concluded that phonological skills were related to one another in development. All the subsections of phoneme grapheme correspondence section show a similar pattern of rise and fall in scores across grades.

- *Structural Analysis*

Duncan, Casalis, and Cole (2009) revealed that children's morphological judgment ability develops over time and relates to other factors such as vocabulary and years of instruction children receive. Thus, the gradual improvement in performance of structural analysis tasks across grades is supported by literature also. The difference in the pattern of scores across grades between the sections of phoneme grapheme correspondence and structural analysis is explained by the findings of Fowler and Liberman (1995). It has been found to show a steady increase in scores from Grade I to Grade V, in line with the study of Ku and Anderson (2003). Research has suggested that differences in this ability reflect individual differences in word reading.

Several studies suggest that children in the elementary grades vary significantly in their ability to manipulate morphologically complex words and these differences are often linked to the difficulty of the task (Mahoney, Singson, & Mann, 2000; Nagy, Berninger, & Abbott, 2006). This provides a reason for the poorer scores on Subsection 3 of structural analysis section which deals with identification of root/non root word. Study by Carlisle (2000) also indicated that children's performance on the different morphological awareness measures varied as a function of task difficulty.

The role of morphology in reading has been central across languages (Carlisle, 2000; Mahoney, Singson, & Mann, 2000). In a recent study, Kieffer and Lesaux (2008) found that morphology was related to reading comprehension in fourth- and fifth graders. This explains the parallelism of rise and fall in sections of structural analysis and reading comprehension in middle grade participants. Recently, mounting evidence underscores the importance of morphology and semantics, in predicting reading outcomes (Cain & Oakhill, 2007; Carlisle & Stone, 2005; Geva, 2008). Thus poorer scores in reading comprehension passages in earlier grades can be attributed to poor performance on tasks assessing structural analysis ability.

- *Blending Test*

When a word is divided into multi-letter parts, there are fewer units to blend than when analyzing a word into phonics letter patterns. This explains the poor performance on the items requiring greater number of units to blend, since with fewer units to blend word identification is faster. Variants of the sound-blending task include the child choosing from

two or three pictures the word that is represented by a series of phonemes. This explains the better scores on Level 2 of the blending test which assesses the same. The differences found in Level 1 and Level 2 of blending test can be accounted by studies done by Yopp (1988); Wagner, Torgesen, and Rashotte, (1994). Thus, the pattern of gradual rise across grades reaching almost equal scores in the senior most grades observed in this study is in line with other studies done by Hoien, et al., (1995); Stanovich, Cunningham, and Cramer (1984).

- *Reading Passages*

Individuals with inefficient word-reading skill (indicated by slow reading) must divide their attention between word identification and comprehension, and comprehension suffers. This is the case of participants of primary grades attempting passage 2 or 3, i.e.: though oral reading is fairly accurate yet scores on question answering was very poor. Tilstra, McMaster, Van den Broek, Kendeouand Rapp (2009) found that in beginning readers, word decoding is a significant impediment to reading comprehension and which explained the slow rate of increase in scores of the reading comprehension section. The contribution of decoding to variance in reading comprehension decreases with age (Willson & Rupley, 1997 and Rupley, Willson and Nichols, 1998). Thus the scores seemed to stabilize in the study population also.

Word recognition accounts for most of the variance in reading comprehension in second grade readers and by eighth grade, reading comprehension and listening comprehension in the same children were indistinguishable (Gernsbacher, 1990). This can explain the variability in scores of this section in earlier grades and relatively uniform scores across all the four passage in higher grades. In typical readers, once word recognition is relatively automatised, listening comprehension and reading comprehension levels are positively correlated (de Jong & van der Leij, 2002). Thus, in the senior grades efficient word recognition causes fluent reading and accurate comprehension of text. Jenkins et al. (2000) estimated that one new idea unit was introduced approximately every six running words and the difference in the temporal contiguity of ideas may have consequences for comprehension. Except for passage 4, rest all the passages reach almost equal scores in the senior most two grades of this study.

Reading comprehension scores were the first to drop among fourth graders (Chall,

1983), indicating that as the text concepts and language became more complex, contextual support was no longer sufficient to compensate for word-meaning weaknesses. Even in this study, Grade IV onwards, scores show a steep rise. Reading levels in elementary schools all over India, as highlighted by the Annual Status of Education Report (2008), showed that the percentage of children who could read a Std. II level text were 8.8% in class II, 56.2% in class V and 84.8% in class VIII. A trend similar to findings of ASER (2009) was observed in this study also. The plateau/dip in the scores of reading comprehension of children of Grade IV-VI can be explained by Leach et al. (2003). As the difficulty and unfamiliarity of expository texts makes the task difficult for participants of elementary grades and therefore precludes the author from assessing any differences due to learning. Reading passage 4 was an expository text and due to the reasons stated above this passage was found to be most difficult by participants across all grades.

Questions assessing literal content were scored more accurately than the inferential content ones. Young readers performed well on reading comprehension questions that relied more on word decoding, and had quite simple linguistic contents. The setting of the story and pieces of information vital to understanding the story are never explicitly stated in the passages. All the questions assessing inferencing from the passage were scored lesser than the rest of the explicit questions. Items requiring casual inferencing were scored relatively poorer as the reader needs to weave together each event or fact to previous information (van den Broek & Lorch, 1993). The scores for item 4 in reading passage 4, which scored poorest across participants of all grades, indicated greater difficulty when the information to be integrated is distally rather located (Bonitatibus & Beal, 1996; Ackerman, Jackson, & Sherill, 1991).

V.4 Issue of Public and Private Education

A lot of teacher factors and teaching practices also account for the differences in the performances of children studying in Government and private schools (Amit Varma, 2007). This fact can be used to explain the results of this study where the participants of private schools scored better in almost all the tasks of ERS. The results of this study show that except for participants of early grades, scores of participants of higher grades on almost all the tasks was uniform in participants from both the types of schools; which is in line with Sarangpani and Padma (2009). Findings of Wadhwa and Wilima (2009) can account for the marginal

difference between the two groups (TDCE and TDCH) across the tasks of ERS. Therefore, at least in the case of reading in the local language private schools perform no better (or worse) than government schools.

V.5 Effect of medium of instruction

Hindi is a language which is spread across several states in the north. English is the third most important language in India by the medium of instruction at upper primary level. A greater understanding is needed of how the medium of instruction relates to the development of reading skills and the prevalence of reading deficits in early school children**.** The participants of both Hindi and English medium schools were found to have better scores, on almost all the sections of ERS, as the grade level increased.

V.6 Influence of socioeconomic status

This study focused on a comparison of findings of the participants belonging to different socioeconomic groups. This was the picture of the results of the analyses of this study as participants from a relatively lower SES scored marginally poorer than the higher SES group. Children enter school with a wide range of word knowledge depending on their socioeconomic status (SES) and their experiences at home (Hart & Risley, 1995). The differences in scores across all ERS sections in primary grade TDC can be accounted by the vocabulary gap, associated with social class differences (Hart & Risley, 1995; Juel, Biancarosa, Coker & Deffes, 2003). All these factors explain the difference in aggregate early literacy scores (letter, word recognition and phonological awareness) of TDCE and TDCH. Findings of Noble, Farah & Mc Candliss (2006) can account for the lesser differences between the two groups of TDC (presumed to represent a relatively lower and higher SES) in phoneme grapheme sections, but increase in difference of scores for more complex tasks of structural analysis.

There is a substantial private school advantage over government schools, and the gains for students from lower SES were higher than those for upper SES students (Goldhaber, 1996). At upper income levels, the difference between private and government school narrows considerably which explains the variation in the results of some sections in which the scores of both the groups rise and fall irregularly. Droop and Verhoeven (2003) findings explains the equality of scores of all sections eventually in higher grades. The findings of

Morgan, Farkas, Hillemeier, and Maczuga (2009) can explain the difference observed across all the ERS parameters, with English medium higher SES participants scoring better than their Hindi medium lower SES counterparts. But most of these differences level out in higher grades. SES scores were consistently correlated with reading achievement of children only between the ages of 3 and 10, and not beyond that (Molfese, Molfese, & Modglin, 2003). Studies also suggest that initial reading competence of children is correlated with the literacy environment at home. Prema K.S. and Jayaram M. (2002) reported that children raised in poverty, those with limited proficiency in English, those from homes where the parents' reading levels and practices are low, and those with speech, language and hearing handicaps are at risk of reading failure. Children from low SES environments acquire the language skills more slowly, and are at risk for reading difficulties Aikens & Barbarin, 2008).

V.7 Deficits in Participants with Learning Disability (CLD)

The study also aimed to investigate the presence of literary deficits in Hindi speaking participants with Learning Disability. The test thus also helped to understand the nature of literary deficits in children with LD. CLD have problems with their short-term working memory or attention or an additional comprehension deficit (Swanson, Howard & Sáez, 2006). This can account for the poor performance of CLD on tasks assessing auditory and visual perceptual skills. Siegel's (1989) study reflected the significantly poor scores across all the grades on the section assessing phoneme grapheme correspondence.

The reading problems of CLD can be traced to weaknesses in processing phonological information including difficulties in developing phonological awareness (Shankweiler & Liberman, 1989), reflected in poor scores in tasks assessing identification of initial and final consonants of words; difficulties in accessing phonological name codes (Wolf & Bowers, 1999),as evidenced by poor accuracy in auditory identification of letters; and poorer memory for phonological stimuli (Torgesen, Wagner, &Rashotte, 1994), explaining poor scores on auditory recall section (Brady, 1991). A lack of familiarity with the sounds of the language and the way they are represented in its alphabetic code might be the cause of poor scores of CLD in sections assessing phoneme grapheme correspondence.

A simultaneous lag in scores was observed in the sections of phoneme grapheme correspondence and reading comprehension. Children with dyslexia present with impaired decoding but preserved linguistic comprehension (Catts & Kamhi, 2005),as observed in

significantly poorer scores in phoneme grapheme correspondence section in early grades as compared to the non-significant difference in scores between TDC and CLD in the section assessing reading comprehension. Children with specific comprehension difficulties (poor comprehenders) have impaired linguistic comprehension and intact decoding skills (Cain, Oakhill & Bryant, 2000; Stothard & Hulme, 1995). This pattern was found in some senior grade participants who scored significantly poor in reading comprehension section but had a non significant difference in scores with TDC in section assessing phoneme grapheme correspondence. Thus, we can conclude that the CLD sample of this study had a combination of poor readers and poor comprehenders.

The typical "dyslexic" profile (Bruck, 1990; Nation, 1999; Shaywitz, 1996) has age appropriate comprehension skills but exhibit deficits in reading (accuracy and speed), phonological awareness and naming speed. Therefore the majority of primary grade CLD, score non-significantly lesser in reading comprehension. Reading comprehension sections showed significantly lower scores in CLD sample especially because of the items dealing with inferential questions as more difficulties in making inferences when the information is distally located in the text (Bonitatibus & Beal, 1996; Ackerman, Jackson, & Sherill, 1991). Reading passage 4 was an expository text with a lower level of cohesion as compared to the other three passages, and was scored poorest by CLD of even the senior most grades of participants in the sample (McNamara, Kintsch, Songer, & Kintsch, 1996). Poor inferential skills are linked to comprehension failure (Yuill & Oakhill, 1991) which was observed in the present study also as reading passage 3 and 4, which required higher level inferential skills, were scored significantly poorer by CLD than TDC. The underlying cause is an inability to integrate text due to working memory deficits, a lack of background knowledge, and poor metacognitive skills (McNamara et al., 2007).

CHAPTER VI
SUMMARY AND CONCLUSION

Reading ability forms the basis for all school-based learning. No research-based instrument exists to measure the first language early reading abilities of Hindi native language students. The purpose of this study was two-fold: (i) to describe the process of translating and adapting Early Reading Skills (ERS) proposed by Rae & Potter (1973, 2nd edition in 1981) and (ii) to administer the translated Hindi language early reading assessment template on a typically developing population to assess the sequential acquisition of the continuum of Hindi reading skills in participants of Grades I to VIII.

In this study, the literature addressed four major themes that guided the research: (i) the most current or relevant research in early reading, (ii) the most current or relevant research on the factors influencing reading achievement, (iii) state of reading research in India, and 4) a section on test/assessment of reading and related skills. The information was used as a structure of knowledge that provided the foundation on which the translation, adaptation and administration of the assessment instrument was based upon.

The translation of the test material required a thorough review of the available literature on sequential reading acquisition skills, followed by judgment of the appropriateness of the content by a committee of experts consisting of a linguist, a speech language pathologist and another qualified speech language pathologist in the field of clinical services (all of them fluent in both Hindi and English, and with a recognized degree in their respective areas of specialization). The committee was involved in translating tests from source language to target language, emphasizing on thematic translation in local languages rather than literal translation of a test (Peters & Passchier, 2006), because word-for word translation can often be inadequate in addressing linguistic and cultural differences(Hilton & Skrutkowski, 2002).

Finally a pilot study was carried out as a preliminary try out and for familiarization of administration. The pilot showed a possibility that the test battery, if validated only on English medium students, could give false positives for students from a Hindi medium. Therefore, the data set was divided into two equal groups in order to accommodate an equal

number of participants from both Hindi medium State Government school children (Lower SES) and English medium public/private school children (Middle SES), so that test items specifically sensitive to differences across both the group of participants could be revealed.

The final version of the test was administered on 160 typically developing children (TDC) between the ages of 6-13 years studying in any Standard between I to VIII, 20 children (10 males and 10 females) from each grade. The participants were divided into two groups according to the medium of instruction in the respective schools: TDC who were being educated in a Hindi medium school (TDCH) or TDC who were being educated in an English medium school (TDCE). Each group had 80 TDC belonging to Grade I to VIII. Since previous research predicted a predominantly higher SES opting for private education (Tilak, Jandhyala and Sudarshan, 2001), the two groups of TDCH and TDCE was to a certain extent assumed to represent a lower and a higher SES respectively. The duration of administration was 30 minutes and an audio video recording was carried out. The inter judge reliability was done by retesting of 10% of the audio video recorded data and about 10 percent of participants were randomly selected from the original sample to provide evidence of the validity of the adaptation. The developed test was then administered on sixteen children with Learning Disability (CLD).

The obtained scores were analyzed with SPSS 17.0 and the performance of participants was also qualitatively analyzed and discussed. The means and the standard deviations of the eight grades of participants across the reading tasks provided valuable information for comparing participants suspected of reading deficits and showed a developmental sequence of performance on each task, which varied with grade level. It was clearly seen that while earlier tasks such as perceptual skills (auditory and visual discrimination and identification), phoneme grapheme correspondence (alphabet test, identification of beginning and final consonants, etc.) and reading passage comprehension were attempted by all of the classes, tasks of blending and structural analysis (identification of root words, etc) could be attempted by participants studying in grades higher than Grade I. The overall performance of higher classes was better than the rest, although in complex tasks such as structural analysis, blending, etc. hundred percent performance wasn't obtained even by the Grade VIII participants. This was corroborated by the findings of Molfese, Modglin, Walker and Neamon (2004).

A section wise analysis of scores showed that the scores of the perceptual section increased gradually from Grade I to Grade VIII, with participants performing relatively better in auditory perceptual sections than visual perceptual sections. Auditory identification was the most difficult task among the auditory perceptual skills assessed and a qualitative analysis of the perceptual section showed that errors were shown predominantly by participants of first three grades. Level 2 of visual discrimination was found more difficult by participants of all grades except Grade II. King, Wood, and Faulkner (2007) had concluded that the discrimination of visual stimuli develops concurrently with the development of the alphabetic principle.

The scores on the phoneme grapheme correspondence section increased gradually from Grade I to Grade VIII, with participants scoring consistently better in Level 2 than Level 1. Identification of consonants constituting blends and identification of medial vowels were the most difficult tasks. The error analysis of this section showed that most of the participants had difficulty in identification of initial consonants in words with a similar sounding initial and final consonant and had aspirated-unaspirated confusion. Anthony, Lonigan, Driscoll, and Burgess (2003) found that children typically progress from combining phonemes to deleting or manipulating phonemes as they develop, presumably because of the cognitive load that increases according to task difficulty (Anthony & Francis, 2005).

Structural analysis section was one of the most difficult tasks of this test and could be scored by participants of Grade II onwards. A gradual rise was seen across the grades, but the hundred percent score was not obtained by even higher grade participants. Duncan, Casalis, and Cole (2009) had also revealed that children's morphological judgment ability develops over time and is related to other factors such as vocabulary and years of instruction children receive. Among the three levels, Level 2 was the most difficult, with performance on this consistently below all the other levels. In Level 1 participants showed difficulty in person, tense, number, gender markers and comparatives. Performance on Level II showed that the affixes for plurality and tense markers were first to appear. Study by Carlisle (2000) had indicated that children's performance on the different morphological awareness measures varied as a function of task difficulty. Scores on blending test showed a gradual rise, but even the highest scorer couldn't obtain the maximum marks. The common error seen across all grades was seen in identification of words created by blending pictures with a single consonant or CV combination.

There was a gradual progression of performance in oral passage comprehension scores of participants across Grades I to Grade VIII. Word recognition accounts for most of the variance in reading comprehension (Gernsbacher, 1990).Performance on the four reading passages followed the same pattern in all the participants across all the grades, i.e.: scores decreased as the passages increased in complexity from reading passage 1 to reading passage 4. Tilstra, McMaster, Van den Broek, Kendeou and Rapp (2009) had found that in beginning readers, word decoding is a significant impediment to reading comprehension, which explains the slow rate of increase in scores of the reading comprehension section.

Participants of Grade I could read letter by letter and could answer only the very simple questions. Grade II participants had to resort to letter-by-letter reading for multisyllabic and unfamiliar words and comprehension remained poor especially for questions requiring inferencing and "why" questions. Grade III participants obtained good scores in passage 1 and passage 2 was read silently, but most of the questions were answered incompletely. Participants from Grade IV could answer most of the questions of the first two passages and at least two from passage III, in spite of number or oral reading errors. In Grade V, the passages were read silently and fluently, and they could answer all questions from passage 1 but just one or two questions incompletely of passage 2 and 3. Grade VI participants showed significant gains in marks obtained in passage 3 and passage 4. Grade VII participants scored full on the first two passages and even questions of passage 3 were answered completely, except the more complex inferencing questions. Oral reading of oldest Grade VIII participants was fairly fluent and their answers were well formulated, complete and were given from memory.

Performance was thus compared across the two groups of TDC, i.e.: TDCH and TDCE (presumed to represent a relatively lower and higher SES) across all the sections and subsections of the Hindi version of ERS. The performance of the two groups is in concordance with the finding of a study examining reading-related skills of participants from diverse linguistic backgrounds by Chiappe, Siegel, and Gottardo (2002). Both auditory and visual perceptual skills showed a marginal difference between the performance across TDCH and TDCE during the early grades. In the phoneme grapheme correspondence section, TDCE showed a consistently better performance across all the grades and in both the subsections. Grade II onwards structural analysis section was scored consistently better by the TDCE

group. Difference in the mean scores between TDCE and TDCH was greater in earlier grades in the first task and in the middle grades on the second and third tasks of this section. The last task showed minimum difference in scores across the two groups of TDCE and TDCH. Blending test scores showed significant differences between TDCE and TDCH, with TDCE scoring Grade II onwards while TDCH could attempt this section only Grade IV onwards. TDCE group scored better than TDCH in all the levels of the reading comprehension tasks.

The current data set had medium of instruction, grade and gender as independent variables (IVs) and all the parameters of the test as dependent variables (DVs). A test of between-subjects on the total scores of each section showed that while medium of instruction and grade of the child significantly affected the performance, gender was found to be an insignificant variable. Noble, Farah and Mc Candliss (2006) had found that SES correlated significantly with all the literacy measures. A univariate analysis of the total scores of each section showed that scores were affected in both TDCE and TDCH groups. The Cronbach's alpha was greater than 0.7 over all the subsections and therefore all the sections of the Hindi adaptation of ERS were internally consistent. The values indicated high agreement between the ratings by the two raters and thus suggested high reliability. Validity was assessed by analyzing the scores of 10% of the total population and the mean scores of the sixteen TDC, for each of the sections of ERS, were found to lie between the confidence interval of the normative data of 160 TDC.

A comparison of the test scores of the sixteen LD participants and 160 TDC participants showed that the overall scores of perceptual section were affected only in the primary grades. LD participants have problems with their short-term working memory and attention (Swanson, Howard & Sáez, 2006). Poorer scores of LD on Level 1 of phoneme grapheme correspondence were obtained till Grade V, and on Level 2 were obtained till Grade VIII. CLD have unusual difficulties learning to use the regular patterns of correspondence between letters and sounds in words (Siegel, 1989). Structural analysis tasks were scored poorly by both TDC and CLD participants of earlier grades and blending tasks were scored poorly by TDC and CLD in all the early and middle grades.

Limitations:

There were some issues regarding the translations, as it was felt that the important

language features may have been lost in translation. The cross-sectional design of this study did not permit the examination of the reading related skills in the course of reading development because the study captured a snapshot of children's reading development at one time point, perhaps it was not representative of children's overall reading performance. While there was an attempt to control for SES, these factors were imperfectly measured and hence, at least a part of the relationship between private schools and children's educational outcomes may be spurious. Simultaneously, the effect of constant literacy instruction throughout the course of data collection, impact of home environments related to literacy experiences, instructional differences among teachers, and simply the maturity of the child in the school environment are all factors that were uncontrollable in the present study.

Implications:

This tool can be used for identification of reading deficits in Hindi speaking children from Grade I to Grade VIII and also in planning appropriate management strategies for Hindi speaking children with reading deficits. It can be utilized as a reference manual in speech and language clinics for assessment of reading deficits in Hindi speaking children ranging from Grade I to Grade VIII. The findings of this study strengthen the importance of assessing reading related skills of school-age children who demonstrate difficulty in performing educational tasks. Keeping in mind the results of this study may help avoid invalid assessment results, inaccurate clinical reasoning, and ineffective treatment regimens due to undetected or unsuspected deficits. The study also throws light on the possible role the medium of instruction and SES plays in reading related skills. If the critical pre-reading skills are evaluated and discovered earlier, future reading success can be predicted. These results can be thus used in planning appropriate management strategies for Hindi speaking children with reading deficits.

Future Directions:

This study highlighted several areas that deserve attention in future research. These include the place of Hindi in reading research, the role of instruction, the role of social-cultural context, and the role of early intervention. The confounded impact of reading level as a function of age, instruction, parental involvement, and exposure to reading materials, social-cultural context, the role of early intervention and other similar factors in children are

ambiguous relationships, needs to be explored. Research studies aimed at examining the burgeoning of language and how language and perception mediates the development of reading in the early school years should be a future research goal.

Conclusion

These results, together with the literature support discussed, provide strong evidence that deficits in several related skills may hinder reading development in the elementary grades, but in higher grades a more complex interrelation of reading related skills exist.

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Appendix

Appendix I

Early Reading Skills - Hindi (ERS - H)

I. Perceptual discrimination skills:

A. Auditory Identification Level

निर्देशन: बोले गए अक्षरों को ध्यान से सुनें और फिर उस अक्षर को ढुडे

/nIrd̪eʃən̪ː/: /bole gəe əkʃərõ ko d^{h}jan se sUnẽ ɔr fIr Us əkʃər ko d^{h}Ud̪ẽ/

उदाहरण: “क” ढुडे, “क” अक्षर पे गोला लगाये.

/Ud̪ahərən̪ː/: /“k” d^{h}Ud̪ẽ, “k” əkʃər pe gola ləgaẽ/

1	अ	उ	ट	स	ल	ओ	र
	/ə/	/U/	/t/	/s/	/l/	/o/	/r/
2	श	फ	ज	व	म	ग	प
	/ʃ/	/f/	/dʒ/	/v/	/m/	/g/	/p/
3	ब	न	ड	च	य	ई	ख
	/b/	/n/	/d/	/tʃ/	/j/	/i/	/k^{h}/
4	घ	झ	त	ग	म	ल	क्ष
	/g^{h}/	/dʒ^{h}/	/t̪/	/g/	/m/	/l/	/kʃə/
5	ई	ख	ट	ध	य	ह	फ
	/i/	/k^{h}/	/t/	/d^{h}/	/j/	/h/	/f/
6	ए	आ	ग	छ	ट	ड़	ज
	/e/	/a/	/g/	/tʃ^{h}/	/t/	/ɽ/	/dʒ/
7	थ	ठ	च	न	ज	फ	अ
	/t̪^{h}/	/t^{h}/	/tʃ/	/n/	/dʒ/	/f/	/ə/
8	क्ष	व	भ	ड़	ट	छ	ग

	/kʃə/	/v/	/bʰ/	/r̥/	/t/	/tʃʰ/	/g/
9	ध	ख	झ	थ	ब	व	त्र
	/dʰ/	/kʰ/	/dʒʰ/	/ʈʰ/	/b/	/v/	/ʈrə/
10	क	ज	त	फ	ल	ह	ष
	/k/	/dʒ/	/ʈ/	/f/	/l/	/h/	/ʂ/
11	आ	ऐ	च	ड	न	य	स
	/a/	/æ/	/tʃ/	/d/	/n/	/j/	/s/
12	छ	क	ऊ	त	ब	श	म
	/tʃʰ/	/k/	/u/	/ʈ/	/b/	/ʃ/	/m/
13	ग	झ	त	प	य	ष	ज्ञ
	/g/	/dʒʰ/	/ʈ/	/p/	/j/	/ʂ/	/gjə/
14	झ	ब	द	ठ	च	ऐ	ल
	/dʒʰ/	/b/	/ɖ/	/tʰ/	/tʃ/	/æ/	/l/
15	ऊ	च	ट	द	न	र	भ
	/u/	/tʃ/	/t/	/ɖ/	/n/	/r/	/bʰ/
16	ध	त	ठ	ज	भ	व	क्ष
	/dʰ/	/ʈ/	/tʰ/	/dʒ/	/bʰ/	/v/	/kʃə/
17	उ	क	छ	ड	उ	भ	व
	/U/	/k/	/tʃʰ/	/d/	/U/	/bʰ/	/v/
18	द	ठ	च	ओ	प	र	भ
	/ɖ/	/tʰ/	/tʃ/	/o/	/p/	/r/	/bʰ/
19	ओ	आ	ज	ड़	न	म	य
	/o/	/a/	/dʒ/	/r̥/	/n/	/m/	/j/
20	ट	थ	फ	र	स	ख	ई

	/t/	/t̪^{h}/	/f/	/r/	/s/	/k^{h}/	/i/
21	द	झ	क	फ	र	स	आ
	/d̪/	/dʒ^{h}/	/k/	/f/	/r/	/s/	/a/
22	न	ड़	ज	ख	ऊ	र	ह
	/n/	/r̥/	/dʒ/	/k^{h}/	/u/	/r/	/h/
23	छ	त	ब	श	क	ऊ	ल
	/tʃ^{h}/	/t̪/	/b/	/ʃ/	/k/	/u/	/l/
24	र	त्र	ब	द	झ	क	इ
	/r/	/t̪rə/	/b/	/d̪/	/dʒ^{h}/	/k/	/I/
25	ध	य	ह	ड़	ज	ख	ऊ
	/d^{h}/	/j/	/h/	/r̥/	/dʒ/	/k^{h}/	/u/
26	ग	झ	त	उ	प	य	ष
	/g/	/dʒ^{h}/	/t̪/	/U/	/p/	/j/	/ʂ/

B. Auditory Recall level

निर्देशन: रेखाकिंत अक्षर का नाम बताएं.

/nIrd̪eʃəɳ/: /rek^{h}ākIt̪ əkʃər ka nam bət̪ãe/

1		उ	स	ओ	र
		/U/	/s/	/o/	/r/
2		श	ज	म	प
		/ʃ/	/dʒ/	/m/	/p/
3		न	च	ई	ख
		/n/	/tʃ/	/i/	/k^{h}/
4		घ	त	म	क्ष

	/g^{h}/	/ʈ̪/	/m/	/kʃə/
5	ख	ध	ह	फ
	/k^{h}/	/ɖ̪^{h}/	/h/	/f/
6	ए	ग	ट	ज
	/e/	/g/	/t/	/dʒ/
7	ठ	न	फ	अ
	/t^{h}/	/n/	/f/	/ə/
8	क्ष	व	ड़	छ
	/kʃə/	/v/	/ɾ̥/	/ʧ^{h}/
9	ध	झ	ब	त्र
	/ɖ̪^{h}/	/dʒ^{h}/	/b/	/ʈ̪rə/
10	ज	फ़	ह	ष
	/dʒ/	/f/	/h/	/ʂ̥/
11	ऐ	च	न	य
	/æ/	/ʧ/	/n/	/j/
12	छ	ऊ	त	श
	/ʧ^{h}/	/u/	/t̪/	/ʃ/
13	झ	प	ष	ज्ञ
	/dʒ^{h}/	/p/	/ʂ̥/	/gjə/
14	ब	द	च	ऐ
	/b/	/ɖ̪/	/ʧ/	/æ/
15	ऊ	ट	न	र
	/u/	/t/	/n/	/r/
16	त	ज	ओ	क्ष

	/ʈ/	/dʒ/	/o/	/kʃə/
17	उ	छ	उ	व
	/U/	/tʃʰ/	/U/	/v/
18	ठ	ओ	र	भ
	/tʰ/	/o/	/r/	/bʰ/
19	ओ	ज	न	य
	/o/	/dʒ/	/n/	/j/
20	ट	फ	स	ई
	/t/	/f/	/s/	/i/
21	झ	फ	स	आ
	/dʒʰ/	/f/	/s/	/a/
22	न	ज	ऊ	ह
	/n/	/dʒ/	/u/	/h/
23	त	श	ऊ	ल
	/ʈ/	/ʃ/	/u/	/l/
24	त्र	ब	झ	इ
	/ʈrə/	/b/	/dʒʰ/	/I/
25	ध	ह	ड	ख
	/ɖʰ/	/h/	/ɾ/	/kʰ/
26	झ	उ	य	ष
	/dʒʰ/	/U/	/j/	/ʂ/

C. AudItory discrimination test

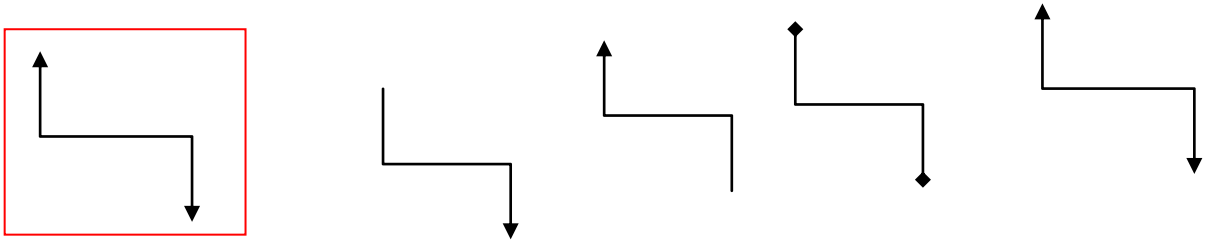
निर्देशन: मै दो शब्द बोलूंगी और अगर वो दोनों समान है तो सही/समान बोलना और अगर वो अलग है तो अलग/गलत बोलना.

/nIrd̪eʃəɳ̩/: /mæ̃ d̪ɔ ʃəbd̪ bolU̴gI ɔr əgər vo d̪õ̴nõ̴ səman hæ ʈo səhi/səman bolәna ɔr əgər vo əlәg hæ ʈo əlәg/gəlәʈ bolәna/

उदाहरण: बस-कार	अलग/गलत	नदी-नदी	सही/समान
/Ud̪ahərəɳ̩/: /bəs/-/kar/	/əlәg/-/gəlәʈ/	/nəd̪i/-/nəd̪i/	/səhi/-/səman/

1. दोनों – दोनों
   /d̪onõ̴/- /d̪onõ̴/
2. खाट – खाल
   /k^{h}at/-/k^{h}al/
3. कर – कार
   /kər/-/kar/
4. क्यों – क्यों
   /kjõ̴/-/kjõ̴/
5. थोड़I – थोड़I
   /t^{h}oɽa/-/ t^{h}oɽa /
6. दवाई – दवाई
   /d̪əvai/-/d̪əvai/
7. सारा – सारा
   /sara/-/sara/
8. बीस – तीस
   /bis/-/ʈis/
9. भैया – भैया
   /b^{h}æja/-/b^{h}æja/
10. तेल – तिल
    /ʈel/-/ʈIl/
11. तकिया – तकिया
    /ʈəkIja/-/ʈəkIja/
12. हल – हिल
    /həl/-/hIl/
13. साठ – आठ
    /sat^{h}/-/at^{h}/
14. पर – पार
    /pər/-/par/
15. काल – काला
    /kal/-/kala/
16. हल – चल
    /həl/-/tʃəl/
17. कान – गान
    /kan/-/gan/
18. आम – काम
    /am/-/kam/
19. हार – हाल
    /har/-/hal/
20. भारी – बारी
    /b^{h}ari/-/bari/
21. जवाब– जवाब
    /dʒəvab/-/dʒəvab/
22. पार – पान
    /par/-/pan/
23. हट – हल
    /hət/-/həl/
24. दाल – ताल
    /d̪al/-/ʈal/
25. बिंदी – बिंदी
    /bI̴d̪i/-/bI̴d̪i/
26. कापी – काफी
    /kapi/-/kafi/
27. बेल - बोल
    /bel/-/bol/
28. देन – देख
    /d̪en/-/d̪ek^{h}/
29. नाक – नोक
    /nak/-/nok/
30. भूक – भौक
    /b^{h}uk/-/b^{h}ɔ̃k/

D. Visual Discrimination



त	ल	न	त्र	त
च	ज	म	च	ल
ल	त	ल	त्र	न
ओ	अ	औ	आ	ओ
ट	ठ	ट	व	ब
इ	ई	ड़	झ	इ

Level 2

निर्देशन: ध्यान से देखें और हर कतार में उस डब्बे पे गोला लगाए जो बाए तरफ लिखे अक्षरों से सामान हो

/nIrd̪eʃən̪ / : /d̪^{h}jan se d̪ek^{h}e̋ ɔr hər kə̪tar me̋ Us dəbbe pe gola ləgae̋ dʒo ba̋e tərəf lIk^{h}e əkʃərő se səman ho/

उदाहरण: "पग" 'पट' 'पह' 'पम' **'पग'**

/Ud̪ahərən̪ / : /pəg/ /pət/ /pəh/ /pəm/ /pəg/

Stimulus	**Choice**			
ओ ई	अ ऊ	आ ई	ओ ई	ओ इ
/o i/	/ə u/	/a i/	/o i/	/o I/

ब ड	व ड	ब ड	व ड़	ब ड़
/b d/	/v d/	/b d/	/v ɽ/	/b ɽ/
फ द	प ट	फ ट	फ द	प द
/f d̪/	/p t/	/f t/	/f d̪/	/p d̪/
ठ च	ठ ज	ठ च	ट ज	ट च
/tʰ tʃ/	/tʰ dʒ/	/tʰ tʃ/	/t dʒ/	/t tʃ/
घ द	घ ट	ध ट	ध द	घ द
/gʰ d̪/	/gʰ t/	/dʰ t/	/dʰ d̪/	/gʰ d̪/
प ऊ	फ उ	प ऊ	फ ऊ	प उ
/p u/	/f U/	/p u/	/f u/	/p U/
उ घ	उ छ	ऊ छ	ऊ घ	उ घ
/U gʰ/	/U tʃʰ/	/u tʃʰ/	/u gh/	/U gʰ/
य श	थ स	य स	य श	थ श
/j ʃ/	/t̪ʰ s/	/j s/	/j ʃ/	/t̪ʰ ʃ/
र ज	र च	र ज	स च	स ज
/r dʒ/	/r tʃ/	/r dʒ/	/s tʃ/	/s dʒ/
क्ष ष	क्ष प	ध ष	ध प	क्ष ष
/kʃə ʂ/	/kʃə p/	/d̪ʰ ʃ/	/d̪ʰ p/	/kʃə ʂ/
ए व	ऐ ब	ए व	ऐ व	ए ब
/e v/	/æ b/	/e v/	/æ v/	/e b/
ख ह	श ह	श अ	ख ह	ख अ
/kʰ h/	/ʃ h/	/ʃ ə/	/kʰ h/	/kʰ ə/
इ त	ई न	इ त	ई त	इ न
/I t̪/	/i n/	/I t̪/	/i t̪/	/I n/

ज्ञ क	ज क	ज ब	ज्ञ ब	ज्ञ क
/gjə k/	/dʒ k/	/dʒ b/	/gjə b/	/gjə k/
स द	श द	श ट	स द	स ट
/s d̪/	/ʃ d̪/	/ʃ t/	/s d̪/	/s t/
ब झ	व भ	ब झ	व झ	ब भ
/b dʒʰ/	/v bʰ/	/b dʒʰ/	/v dʒʰ/	/b bʰ/
च क्ष	ज क्ष	च झ	च क्ष	ज झ
/tʃ kʃə/	/dʒ kʃə/	/tʃ dʒʰ/	/tʃ kʃə/	/dʒ dʒʰ/

I. Phoneme grapheme correspondence test

Level 1:

A. Beginning consonant

निर्देशन: बोले गए शब्द का पहला अक्षर लिखिए

/nIrd̪eʃən̪ː/: /bole gəe ʃəbd̪ ka pəhla əkʃər lIkʰIje/

उदाहरण: **“पार”** शब्द “प” से शुरू होता है तो, ‘प’ लिखिए

/Ud̪ahərən̪ː/: /‘par’ ʃəbd̪ ‘p’ se ʃUrU hoṯa hæ ṯo ‘p’ lIkʰIje/

1. डट
   /dət/
2. हक़
   /həḵ/
3. लँबा
   /lə̃ba/
4. पांडु
   /pa̰dU/
5. बैंड
   /bæ̰d/
6. मैल
   /mæl/
7. सैर
   /sær/
8. छतरी
   /tʃʰə̪tri/
9. किन
   /kIn/
10. रथ
    /rə̪t̪ʰ/
11. नोट
    /not/
12. फैन
    /fæn/
13. विजय
    /vIdʒəj/
14. टोपी
    /topi/
15. गाय
    /gaj/
16. यारी
    /jari/
17. जंग
    /dʒəŋ/
18. भालू
    /bʰalu/

B. Ending consonant

निर्देशन: बोले गए शब्द का आख़िरी अक्षर लिखिए

/nIrd̪eʃəɳ̩/: /bole gəje ʃəbd̪ ka ak^{h}Iri əkʃər lIk^{h}Ije/

उदाहरण: "पार" शब्द 'र' से ख़त्म होता है तो, 'र' लिखिए

/̲Udahərəɳ̩/: /'par' ʃəbd̪ 'r' se k^{h}əʈm hoʈa hæ ʈo 'r' lIk^{h}Ije/

1. नाक
   /nak/
2. राग
   /rag/
3. पिस्तौल
   /pIsʈɔl/
4. चख
   /tʃək^{h}/
5. जेब
   /dʒeb/
6. चोर
   /tʃor/
7. आम
   /am/
8. कंजूस
   /kə̃dʒus/
9. सेट
   /set/
10. ठंड
    /t^{h}ə̃d/
11. चाय
    /tʃaj/
12. मन
    /mən/
13. राज
    /radʒ/
14. साफ़
    /saf/
15. रात
    /raʈ/

C. Consonant blends

निर्देशन: बोले गए शब्दों में जो दो अक्षर मिलके संयुक्त अक्षर बना रहें हैं, उन्हें लिखें.

/nIrd̪eʃəɳ̩/: /bole gəje ʃəbd̪õ me̋ dʒo d̪o əkʃər mIlke sə̃jUkʈ̪ əkʃər bəna rəhe hæ̃, Unhe̋ lIk^{h}e̋/

उदाहरण: "क्रिकेट" शब्द में "क" और "र" का संयुक्त अक्षर है.

/̲Udahərəɳ̩/: /'krIket' ʃəbd̪ me̋ 'k' ɔr 'r' ka sə̃jUkʈ̪ əkʃər hæ̃/

1. बल्ला
   /bəlla/
2. भ्रम
   /b^{h}rəm/
3. ड्रम
   /drəm/
4. क्लेश
   /kleʃ/
5. फ्रांस
   /fra̋s/
6. ग्राम
   /gram/
7. प्लेन
   /plen/
8. स्टेशन
   /steʃən/
9. ट्रक
   /trək/
10. क्लर्क
    /klərk/
11. क्रेन
    /kren/
12. प्राण
    /praɳ̩/
13. स्लेट
    /slet/
14. ग्लानि
    /glanI/
15. स्पेन
    /spen/
16. स्मरण
    /smərəɳ̩/
17. स्वर

/svər/

18.स्कूल
/skul/

19.शांत
/ʃaʈ̪/

20.सख्त
/səkʰʈ̪/

D. Vowel sounds

निर्देशन: अब मै कुछ शब्द बोलूंगी और आप ध्यान से सुनना.

/nIrd̪eʃən̪ː/: /bole gəe ʃəbd̪o͂ ko d̪ʰjan se sUnəna/

उदाहरण: **"पार"** अगर आपको लगता है कि पार शब्द में 'आ' की मात्रा आती है तो, 'आ' अक्षर के आगे बोले गए शब्द का अंक डाले.

/Udahərən̪ː/: /'par' ʃəbd̪ me͂ 'a' ki mat̪ra at̪l hæ t̪o, 'a' əkʃər ke age bole gəe ʃəbd̪ ka ə́k dale͂/

1. शेर
   /ʃer/ /sær/
2. दान
   /d̪an/
3. फूल
   /ful/
4. घिस
   /gʰIs/
5. कोयल
   /kojəl/
6. चुप
   /ʧUp/
7. छूट
   /ʧʰut/
8. कीमत
   /kimət̪/
9. कौन
   /kɔn/
10. सैर

Level 2:

A. Beginning consonant

निर्देशन: अब मै कुछ शब्द बोलूंगी और आप ध्यान से सुनना.

/nIrd̪eʃəɳ̩/: /bole gəe ʃəbd̪o͂ ko d̪^{h}jan se sUnəna/

उदाहरण: **"पार" -** अगर आपको लगता है कि "पार" शब्द प से शुरू होता है तो, 'प' अक्षर के आगे सही का चिन्ह लगाए और अगर नहीं तो गलत का चिन्ह लगाए.

/U̲dahərəɳ̩/: /'par' ʃəbd̪ 'p' se ʃUrU hoṯa hæ ṯo 'p' əkʃər ke age səhI ka tʃĨh ləgae͂ ɔr nəhĨ ṯo gələṯ ka tʃĨh ləgaẽ/

1	र	रैकेट	रंग	रेस	वहां	टेबल
	/r/	/rækət/	/rə͂g/	/res/	/vəhã́/	/tebəl/
2	ट	टेबल	मार्बल	टेक	केला	टोपी
	/t/	/tebəl/	/marbəl/	/tek/	/kela/	/topl/
3	फ	पानी	फैन	डर	एडी	फालतु
	/f/	/panI/	/fæn/	/dər/	/eɽ̩l/	/faləṯ̪U/
4	म	फ़ैल	एलबम	मोर	नीला	मेरा
	/m/	/fæl/	/ælbəm/	/mor/	/nIla/	/mera/
5	व	वादा	विजय	मई	नोक	वीर
	/v/	/vad̪a/	/vIdʒəj/	/məi/	/nok/	/vir/
6	स	टोकरी	सर	सिक्का	कौन	कार
	/s/	/tokəri/	/sər/	/sIkka/	/kɔn/	/kar/

B. Ending consonant

निर्देशन: अब मै कुछ शब्द बोलूंगी और आप ध्यान से सुनना.

/nIrd̪eʃəɳ̩/: /bole gəe ʃəbd̪o̐ ko d̪^{h}jan se sUnəna/

उदाहरण: **"पार"** अगर आपको लगता है कि पार शब्द **'र'** से ख़त्म होता है तो, **'र'** अक्षर के आगे सही का चिन्ह लगाए और अगर नहीं तो गलत का चिन्ह लगाए.

/Udahərəɳ̩/: / 'par' əgər apko ləgət̪a hæ kI 'par' ʃəbd̪ 'r' se k^{h}ət̪m hot̪a hæ t̪o 'r' əkʃər ke age səhI ka tʃʰh ləgae̐ ɔr nəhĩ t̪o gələt̪ ka tʃʰh ləgaẽ/

1	स	काट	सारस	सेकंड	मांस	रोज़
	/s/	/kat/	/sarəs/	/sekə̐d/	/ma̐s/	/roz/
2	ड	कांड	डोर	तब	खंड	रोड
	/d/	/ka̐d/	/dor/	/t̪əb/	/k^{h}ə̐d/	/rod/
3	क	कूक	किन	रोक	कौन	स्कूल
	/k/	/kUk/	/kIn/	/rok/	/kɔn/	/skul/
4	ट	चाट	टाल	साईट	ट्रेन	लेट
	/t/	/tʃat/	/tal/	/saIt/	/tren/	/let/
5	र	रात	कार	चार	रोड	कबूतर
	/r/	/rat̪/	/kar/	/tʃar/	/rod/	/kəbut̪ər/
6	ल	चाल	लौकी	पोल	लाइन	नाग
	/l/	/tʃal/	/lɔki/	/pol/	/laIn/	/nag/

C. Vowel sounds

निर्देशन: अब मै तीन शब्द बोलूंगी, उनमें से वो दो शब्द बोलें जिनमें एक ही मात्रा है.

/nIrd̪eʃəɳ̩/: /bole gəe ʃəbd̪o̐ me̐ vo d̪o ʃəbd̪ bole̐ dʒInəme̐ ek hI mat̪ra hæ/

उदाहरण: **“पार” “चार”** और **“तीर** में **“पार”** और **“चार”** में **‘आ’** की मात्रा आती है.

/U̱ḍahərəṇ̥/: **/‘par’, ‘ʧar’** ɔr **‘ṯ̱ir’** mɛ̃ **‘par’** ɔr ‘**ʧar’** mẽ **‘a’** ki maṯ̱ra aṯ̱I hæ/

1.	कठिन	कार	टिकट
	/kəth̥In/	/kar/	/tIkət/
2.	गाजर	कौन	चौखट
	/gadʒər/	/kɔn/	/ʧɔkh̥ət/
3.	काट	चार	चीर
	/kat/	/ʧar/	/ʧIr/
4.	खुश	काम	कुछ
	/kh̥Uʃ/	/kam/	/kUʧh̥/
5.	जाप	खेत	जेल
	/dʒap/	/kh̥eṯ̱/	/dʒel/
6.	गीत	जोश	चील
	/giṯ̱/	/dʒoʃ/	/ʧIl/
7.	चोट	खून	झूठ
	/ʧot/	/kh̥un/	/dʒh̥uth̥/
8.	जाल	कैद	गैस
	/dʒal/	/kæḍ̱/	/gæs/
9.	चोर	जीत	गोल
	/ʧor/	/dʒiṯ̱/	/gol/
10.	तीन	कान	तीर
	/ṯ̱in/	/kan/	/ṯ̱ir/

BLENDING TEST

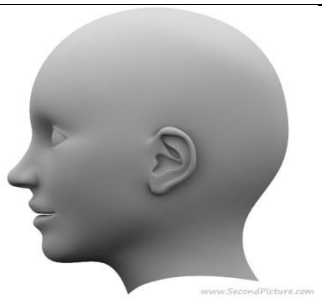
Level 1:

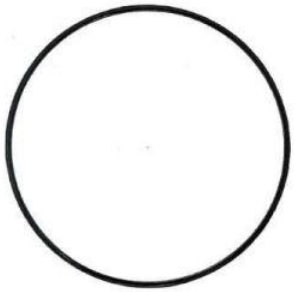
निर्देशन: नीचे हर डब्बे में एक चित्र और कुछ अक्षर हैं जो मिलके एक शब्द बनाते हैं. बोले गये शब्द को ढुंडीए.

/nIrd̪eʃən̪/: /nItʃe hər dəbbe mɛ̃ ek tʃIt̪r ɔr kUtʃʰ əkʃər hæ̃ dʒo mIlәke ek ʃəbd̪ bənat̪e hæ̃/.

उदाहरण: 9 + कर = नौकर

/Udahərən̪/: /nɔ/ + /kər/ = /nɔkər/

 + मुख +/mUkʰ/	 + भरा + /bʰəra/	हवाई + /həval/ 
स + /s/ + 	सत + /sət̪/ + 	सदा + /səd̪a/ + 
 + कार + /kar/	सि + /sI/ + 	त + /t̪/ + 
खं +	ख +	खतर +

/k^{h}ŋ/ +	/k^{h}/ +	/k^{h}ə̤ṭər/ +
		
+ ना + /na/		

Level 2:

निर्देशन: हर कतार में तीन शब्द हैं, जो या तो अलग तरह से बांटे हुए है या लिखे हुए हैं. बोले गये शब्द को ढुंडीए.

/nIrḍeʃəṇ̗/: /nItʃe hər kəṭ̤ar me͂ ṭ̤in ʃəbḍ̤ hæ͂, dʒo ja ṭ̤o ələg ṭ̤ərəh se baṭ̤e͂ hUe hæ͂ ja lIk^{h}e hUe hæ͂/.

उदाहरण:	बंजा + रा	बंज + र	बं + जर
/U̲ḍ̤ahərəṇ̗/:	/bə͂dʒa/ + /ra/	/bə͂dʒ/ + /r/	/bə͂/ + /dʒər/

1)	तक + नीकी /ṭ̤ək/ + /niki/	तक + नीक /ṭ̤ək/ + /nik/	त + क + नीकी /ṭ̤/ + /k/ + /niki/
2)	त + ट + रेखा /ṭ̤/ + /t/ + /rek^{h}a/	तट + रे + खा /ṭ̤ət/ + /re/ + /k^{h}a/	तट + रेखा /ṭ̤ət/ + /rek^{h}a/
3)	चट + पटा /tʃət/ + /pəta/	छट + पटा /tʃ^{h}ət/ + /pəta/	च + टपटा /tʃ/ + /təpəta/
4)	तर + कीब /ṭ̤ər/ + /kib/	तर + कील /ṭ̤ər/ + /kil/	त + र + कीब /ṭ̤/ + /r/ + /kib/
5)	तर + फ़दारी	तरफ़ + दारी	त + रफ़ + दारी

/t̪ər/ + /fəd̪ari/	/t̪ərəf/ + /d̪ari/	/t̪/ + /rəf/ +/d̪ari/
6) तर + बूज	त + र + बूज	तरबू + ज
/t̪ər/ + /budʒ/	/t̪/ + /r/ + /budʒ/	/t̪ərbu/ + /dʒ/
7) तल + वा	तल + वार	तल + ना
/t̪əl/ + /va/	/t̪əl/ + /var/	/t̪əl/ + /na/
8) तह + की + कात	तहकी + कात	त + हकी + कात
/t̪əh/ + /ki/ + /kaṭ̪/	/t̪əhəki/ + /kaṭ̪/	/t̪/ + /həki/ + /kaṭ̪/

Structural AnalysIs Test:

Level 1

निर्देशन: नीचे दिए गए तीन विकल्पों में से एक चुने और खाली स्थान भरे.

/nIrd̪eʃən̪o/: /nitʃe d̪Ije gəe t̪in vIkəlpõ me͂ se ek tʃUne ɔr kʰalI stʰan bʰə̃rẽ/.

उदाहरण: _____ रो रहे थे।

बच्चा बच्चे बच्ची

/Ud̪ahərən̪o/: / _____ro rəhe t̪ʰe/

/bətʃt̪ʃa/ /bətʃt̪ʃe/ /bətʃt̪ʃI/

1) लड़का घोड़े की सवारी _____ था।
कर रहा करेगा करती

/ləṛəka gʰoṛe kI səvarI _____ t̪ʰa/

/kər rəha/ /kərega/ /kərət̪i/

2) मुझे बहुत सारे खिलौने _____ हैं।
दिख रहा दिखता दिख रहे

/mUdʒʰe bəhUt̪ sare kʰIlɔne _____ hæ̃/

/d̪Ikʰ rəha/ / d̪Ikʰt̪a/ /d̪Ikʰ rəhe/

3) मेरा गुब्बारा सबसे _____ है।
बड़ी बड़ा बहुत बड़ा

/mera gUbbara səbəse _____ hæ/

/bəɽi/ /bəɽa/ /bəhUt̪ bəɽa/

4) कुत्ता गेट के ऊपर से _____ गया ।
कूद कूदेगा कूदना

/kUt̪t̪a get ke Upər se _____ gəja/

/kUd̪/ /kUd̪ega/ /kUd̪əa/

5) वो बहुत तेज़ _____ है।
दौड़ना दौड़ेगा दौड़ता

/vo bəhUt̪ tez _____ hæ/

/d̪ɔɽəna/ /d̪ɔɽəga/ /d̪ɔɽət̪a/

6) राम श्याम से _____है।
लम्बी लंबा लम्बाई

/ram ʃjam se _____ hæ/

/lə̃bI/ /lə̃ba/ /lə̃baI/

7) वो घर _____ है।
आ रहा आएगा आना

/vo gʰər _____ hæ/

/a rəha/ /aega/ /ana/

8) वो साथ नहीं _____ ।
जा जाएगें जाना

/vo saʈ^{h} nəhɾ _____ /

/dʒa/ /dʒaẽge/ /dʒana/

9) बच्चे जल्दी _____ हैं।
आएगें आनी आ रहे

/bətʃtʃe dʒəldI _____ hæ̃/

/aẽge/ /anI/ /a rəhe/

10)पक्षी घर के ऊपर से _____ गया।
उड़कर उडी उडेगी

/pəkʃI g^{h}ər ke Upər se _____ gəja/

/Uɻkər/ /Uɻri/ /Uɻregi/

Level 3

निर्देशन: निम्नलिखित शब्दों में से प्रत्येक में मूल शब्द को रेखांकित करें। अगर शब्द में जड़ शब्द मौजूद नहीं है, तो गलत का चिन्ह लगाएं ।

/nIrɖeʃəɳ/: /nImnəlIk^{h}Iʈ ʃəbɖõ mẽ se prətjek mẽ mUl ʃəbɖ ko rek^{h}ãkIʈ kərẽ/. /əgər ʃəbɖmẽ dʒəɻ ʃəbɖ mɔdʒUɖ nəhɾ hæ ʈo gələt ka tʃInh ləgaẽ/

उदाहरण: <u>अधि</u>कारी <u>अधि</u>क्षक <u>अधि</u>नियम ~~अधिक्तर~~

/<u>U</u>ɖahərəɳ/: /əɖ^{h}IkarI/ /əɖ^{h}Ikʃək/ /əɖ^{h}InIjəm/ ~~/əɖ^{h}Iktər/~~

कटुभाषी	कटुसत्य	कटुस्वर	कटौती
/kətUbʰaʂi/	/kətUsət̪j/	/kətUsvər/	/kətɔt̪i/
कथाकारिता	कथात्मक	कथित	कथावाचक
/kət̪ʰakarIt̪a/	/kət̪ʰat̪mək/	/kət̪ʰIt̪/	/kət̪ʰavatʃək/
अंतरात्मा	अंतरिम	अंतर्यामी	अन्तर
/ə̃t̪ərat̪ma/	/ə̃t̪ərIm/	/ə̃t̪ərjami/	/ə̃t̪ər/
कर्मचारी	करम	कर्मशाला	कर्मशक्ति
/kərmətʃari/	/kərəm/	/kərmʃala/	/kərməʃəkt̪I/
क्षतिग्रस्त	क्षतिपुर्ति	क्षतिपूरण	क्षत्रिय
/kʃət̪Igrəst̪/	/kʃət̪IpUrt̪I/	/kʃət̪IpUrəɳ/	/kʃət̪rIj/
कलाकार	कलाकृति	कली	कलाबाज़ी
/kəlakar/	/kəlakrIt̪I/	/kəli/	/kəlabazi/
अंधकार	अंधविश्वास	अंधाधुंध	आन्धी
/ə̃ɖ̪ʰəkar/	/ ə̃ɖ̪ʰəvIʃvas/	/ə̃ɖ̪ʰaɖ̪ʰUɖ̪ʰ/	/ãɖ̪ʰi/
कार्यकारिणी	कार्यकुशल	कार्यक्षमता	काया
/karjəkarIɳi/	/karjəkUʃəl/	/karjəkʃəmət̪a/	/kaja/
क्रान्ति	क्रमश:	क्रमसूचक	क्रमांक
/krant̪I/	/krəməʃ:/	/krəməsUtʃək/	/krəmaḱ/
कमरपेटी	कमरा	कमरतोड़	कमरबंद
/kəmərpeti/	/kəməra/	/kəmərət̪oɽ/	/kəmərbə̃ɖ̪/

Level 2:

निर्देशन: निम्नलिखित शब्दों में उस शब्द पर गोला लगाएं जो:

/nIrɖeʃəɳ/: /nImnəlIkʰIʈ ʃəbɖo̰ mẽ Us ʃəbɖ pər gola ləgaẽ dʒo/:

१. बहुवचन दर्शाता है (उदाहरण: पंखे)

/bəhUvətʃən ɖərʃaʈa hæ/ (/Uɖahərəɳ/: /pə̃kʰe/)

बच्चा	बच्चे	बच्ची
/bətʃtʃa/	/bətʃtʃe/	/bətʃtʃi/
चीख	चीखी	चीखें
/tʃĭkʰ/	/tʃĭkʰi/	/tʃĭkʰẽ/
विचार	विचारे	विचारों
/vItʃar/	/vItʃare/	/vItʃaro̰/

२. भूतकाल दर्शाता है (उदाहरण: रोते थे)

/bʰUʈəkal ɖərʃaʈa hæ/ (/Uɖahərəɳ/: /roʈe ʈʰe/)

मिल	मिलते	मिलेंगें
/mIl/	/mIləʈe/	/mIlẽgẽ/
जाए	जाओ	जाना
/dʒae/	/dʒao/	/dʒana/
आओ	आए	आएंगे
/ao/	/ae/	/aẽge/

३. कम या ज्यादा दर्शाता है (उदाहरण: उच्चतर)
/kəm ja ʤjaḍa ḍərʃaṭa hæ/ (/Uḍahərəṇ/: /Uʧʧəṭər/)

बड़ा	बहतर	स्वच्छ
/bəṛa/	/bəhəṭər/	/svəʧʧʰ/
छोटा	ऊचा	श्रेष्ठतम
/ʧʰota/	/Ʊʧaṭ/	/ʃreʃtʰṭəm/
विशालतम	लंबा	सुन्दर
/vIʃaləṭəm/	/ləm̐ba/	/sƱḍər/

४. अस्वीकार/नहीं दर्शाता है (उदाहरण: असंभव)
/əsvIkar/nəhĩ ḍərʃaṭa hæ/ (/Uḍahərəṇ/: /əsə̃bʰəv/)

अनुचित	उचित	उच्च
/ənUʧIṭ/	/UʧIṭ/	/Uʧʧ/
अप्रसन्न	प्रसन्न	प्रसिद्ध्
/əprəsənn/	/prəsənn/	/prəsIḍḍʰ/
अभागा	भाग	भाग्यवती
/əbʰaga/	/bʰag/	/bʰagjəvəṭi/

५. फ़िर से या दोबारा दर्शाता है (उदाहरण: पुनरावेदन)
/fIr se ja ḍobara ḍərʃaṭa/ (/Uḍahərəṇ/: /pUnəraveḍən/)

आरम्भ	प्रारम्भ	पुनरारम्भ
/arəmbʰ/	/prarəmbʰ/	/pUnərarəmbʰ/
आवागमन	पुनरागमन	आगमन
/avagəmən/	/pUnəragəmən/	/agəmən/
पुनरावेदन	आवेदन	निवेदन

/pUnəraveɖ̤ən/	/aveɖ̤ən/	/nIveɖ̤ən/

६. रहित या बिना दर्शाता है (उदाहरण: निस्वार्थ)
/rəhIt̤ ja bIna ɖ̤ərʃaṭ̤a hæ/ (/Uɖ̤ahərəɳ̤/: /nIsvarṭ̤^{h}/)

सशस्त्र	शस्त्र	निशस्त्र
/səʃəsṭ̤rə/	/ʃəsṭ̤rə/	/nIʃəsṭ̤rə/
संदिगद्ध	संदेह	निसंदेह
/sə̃ɖ̤Igɖ̤ɖ̤^{h}/	/sə̃ɖ̤eh/	/nIsə̃ɖ̤eh/
निसन्कोच	सन्कोच	सोच
/nIsə̃kotʃ/	/sə̃kotʃ/	/sotʃ/

७. साथ या सहित दर्शाता है (उदाहरण: संकटपूर्ण)
/saṭ̤^{h} ja səhIt̤ ɖ̤ərʃaṭ̤a hæ/ (/Uɖ̤ahərəɳ̤/: sə̃kətəpUrɳ̤/)

संतोष	संतुष्ट	संतोशजनक
/sə̃ṭ̤oʃ/	/sə̃ṭ̤Uʃt/	/sə̃ṭ̤oʃdʒənək/
संदिग्ध	संदेहजनक	संगीन
/sə̃ɖ̤Igɖ̤^{h}/	/sə̃ɖ̤ehədʒənək/	/sə̃gin/
संपत्तिशाली	संपत्ति	आपत्ति
/sə̃pəṭ̤ṭ̤IʃalI/	/sə̃pəṭ̤ṭ̤I/	/apəṭ̤ṭ̤I/

८. पहले से या पूर्व (उदाहरण: पूर्वकथित)
/pəhəle se ja pUrv/ (/Uɖ̤ahərəɳ̤/: / pUrvəkəṭ̤^{h}It̤/

पूर्वकल्पना	कल्पना	काल्पित
/pUrvəkəlpəna/	/kəlpəna/	/kəlpIt̤/
अभ्यास	आभास	पूर्वाभ्यास
/əb^{h}jas/	/ab^{h}as/	/pUrvab^{h}jas/

अनुमान	पूर्वानुमान	अनुमानित
/ənUman/	/pUrvanUman/	/anUmanIt̪/

Reading Passages

Level 1

आज सोमवार है। नौ बजे हैं। आसमान में काले बादल छाए हैं। तेज़ बारिष हो रही है। राजू और चेतन बाज़ार जा रहे हैं। वो दोनों छाता और बैग लेके जा रहे हैं। वो साइकल नहीं चला रहे हैं। वो पैदल चल रहे हैं।

/adz soməvar hæ/ /nɔ bədʒe hæ̃/ /asəman mẽ kale bad̪əl tʃʰae hæ̃/ /t̪ez barIʃ ho rəhi hæ/ /radʒU ɔr tʃet̪ən bazaar dʒa rəhẽ hæ̃/ /vo d̪onõ tʃʰat̪a ɔr bæg leke dʒa rəhe hæ̃/ /vo saIkəl nəhĩ tʃəla rəhẽ hæ̃/ /vo pæd̪əl tʃəl rəhe hæ̃/

लेवल १:

/levəl 1/:

१. आज कौनसा दिन है?
/adʒ kɔnəsa d̪In hæ̃/

२. राजू और चेतन कहाँ जा रहे हैं?
/radʒU ɔr tʃet̪ən kəhã dʒa rəhe hæ̃/

३. क्या वो बैग लेके जा रहे हैं?
/kja vo bæg leke dʒa rəhẽ hæ̃/

४. वो कैसे जा रहें हैं?
/vo kæse dʒa rəhẽ hæ̃/

Level 2

एक जंगल में एक बहुत बरा तालाब था। बहुत तादाद में मच्छलियॉ , मेंडक, केकरे रहते थे। एक साल वहॉ बिल्कुल बारिश नहीं हुईं और वहॉ बहुत गर्मी थी। तालाब का पानी सूख रहा था। वहाँ तालाब के पास एक सारस रहता था , जिसे मच्छलियॉ खाना बहुत पसंद था। एक दिन उसने तरकीब सोची और तालाब पहुंचके एक मच्छली से बोला , “दोस्त, मुझे तुम्हारे लिए बहुत बुरा लगता है। यह सुनके कि इस साल यहा बारिश नहीं होगी और ना ही तालाब में अब ज़्यादा पानी बचा है। अगर यहा बारिश नहीं होती तो एक दिन तालाब का सारा पानी सूख जाएगा और तुम सब मर जाओगे। ” तभी सारी मच्छलियॉ , मेंडक, केकरे एक आवाज़् मे बोले, "कृपया हमें बता दिजिए कि कैसे हम अपने आप को बचा सकते हैं ?" चतुर सारास ने कहा, "यहा पास में एक बहुत बडी झील हैं, जहा बहुत सारा पानी है। अगर तुम लोग चाहते हो तो मैं तुम लोगों को अपनी चोंच से उठाकर एक एक करके झील में छोडकर आ सकता हूं। ” सभी मच्छलियॉ मान गई। सारस एक एक करके म च्छलियों को अपनी चोंच से उठाकर उड़ गया। और वह एक चट्टान पर ले जाकर उनको खा गया। वह रोज़ तालाब के पास आता और एक बार में एक मच्छली को चट्टान पर ले जाकर खा जाता। एसी तरह वह तालाब की सारी मच्छलियों को खा गया।

/levəl 2/:

/ek dʒə́gəl me ek bəhUt̪ bə̰ra t̪alab t̪ʰa/ /bəhUt̪ t̪ad̪ad̪ mẽ mətʃʰəlIjã́, mẽdʰək ɔr kekə̰re rehə̰t̪e t̪ʰe/ /ek sal vəhã́ bIlkUl barIʃ nəhΓ hUI ɔr vəhã́ bəhU̪ gərmi t̪ʰi/ /t̪alab ka pani sUkʰ rəha t̪ʰa/ /vəhã́ t̪alab ke pas ek sarəs rehə̰t̪a t̪ʰa, dʒIse mətʃʰəlIjã kʰana bəhUt̪ pəsənd̪ t̪ʰa/ /ek d̪In Usəne t̪ərkIb sotʃi ɔr t̪alab pəhUtʃəker ek mətʃʰəli se bola/, /“d̪ost̪ mUdʒʰe t̪Umhare lIe bəhUt̪ bUra ləgə̰t̪a hæ/ /jəh sUnəke kI jəhã́ sal bʰər barIʃ nəhΓ hogi ɔr nahi t̪ələb mẽ əb zjad̪a pani bətʃa hæ/ /əgər jəhã́ barIʃ nəhĩ hogi t̪o ek d̪In t̪alab ka sara pani sUkʰ dʒaega ɔr t̪Um səb mər dʒaoge/” /t̪əbʰi sari mətʃʰəlIjã, mẽdʰək ɔr kekə̰re ek avaz mẽ bole/, /“krIpəja həmẽ bə̰t̪a d̪IdʒIje ki kæse hUm əpəne ap ko bətʃa səkə̰t̪e hæ̃”/ /tʃə̰t̪Ur sarəs ne kəha /, /“jəhã́ pas mẽ ek bəhUt̪ bə̰ri dʒʰIl hæ/, /dʒəhã́ bəhUt̪ sara pani hæ/ /əgər t̪Um log tʃahə̰t̪e ho t̪o mæ̃ t̪Um logṍ ko əpəni tʃṍtʃ se Utʰakər ek ek kərəke dʒʰIl mẽ tʃʰo̰rəkər a səkə̰t̪a hU/ /səbʰi mətʃʰəlIjã́ man gəΓ/ /sarəs ek ek kərəke mətʃʰəlIjṍ ko əpəni tʃṍtʃ me Utʰakər U̪r gəja/ /ɔr vəhã́ ek tʃəttan pər le dʒakər Unəko kʰa gəja/ /vo roz t̪alab ke pas at̪a ɔr ek mətʃʰəli ko tʃəttan pər le dza ker kʰa dʒat̪a/ /IsI t̪ərəh vəh t̪alab ki sari mətʃʰəlIjã́ kʰa gəja/

लेवल 2:

/levəl 2/:

१. तालाब में कौन रहता था?
/ʈalab mɛ̃ kɔn rəhəʈa ʈʰa/

२. तालाब का पानी क्यों सुख गया?
/ʈalab ka pani kjɔ̃ sUkʰ gəja/

३. सारस ने मछली को क्या कहा?
/sarəs ne məʧʰəli ko kja kəha/

४. सारस मछली को कहाँ ले गया?
/sarəs məʧʰəli ko kəhɑ̃ le gəja/

LEVEL 3

जैसे ही साधू का उपदेश समाप्त हुआ और भीड़ तितर बितर हो गई, वह डाकू उनके पास पहुंचा और बोला, “परम पूजनीय साधू जी, मैं एक बहुत बड़ा पापी हूं। मैं अपना निर्वाह लोगों को लूटके करता हूं। मैं अपने बुरे तरीकों को छोड़ नहीं पा रहा हूं। मैं कैसे अपने को सुधारूं? कृपया मुझे सही मार्ग दिखाइए।”

साधू जी ने पल भर सोचा और बोले , "क्यों नहीं? झूठ बोलना बंद करो। यही रास्ता हे तुम्हारी मुक्ति का।" वह डाकू उनके पैर पड़ गया और उनके आशीर्वाद लिये। फिर वह अपने जीवन और अपने कर्मों के बारे में सोचता हुआ चला गया। उसी समय वह एक महल के पास से गुज़रा। उसने सोचा कि राजा का महल लूटने में कुछ गलत नहीं । राजा ने निर्दयता से जनता से कर इकट्ठा करके पैसा और सोना जमा किया है। यह सोचके वह महल में गया।

महल के दरवाज़े पर उसे पहरेदार रोक लेता है और पूछता है," कौन हो तुम?" डाकू ने झूठ बोलना छोड़ दिया था, इसलिए वह बोला, "एक चोर"। पहरेदार उसके इस उत्तर से चकित रह गया। उसने सोचा, "यह आदमी अवश्य महल का ही कोई सदस्य है। यह मेरे पूछताछ से क्रोद्धित हो गया होगा। इसीलिए मुझे इसे रोकना नहीं चाहिए। अन्यथा राजा अप्रसन्न हो सकते हैं"। यह विवाद कर, पहरेदार ने आदर सहित डाकू को

कहा,"श्रीमान, मेरी पूछताछ पे क्रोद्धित न हो। मैं तो बस अपना काम कर रहा था। कृपया अंदर जाइए"।

डाकू अंदर चला गया। उसने अनमोल गहनों से भरा एक संदूक़ ले लिया। डाकू ने वो बक्सा अपने सर पे उठा लिया। जब वह दरवाज़ा पार करने वाला था, पहरेदार ने उसे रोका और पूछा, "यह क्या है जो तुम लेके जा रहे हो?" डाकू ने उत्तर दिया, "यह राजा के गहनों का संदूक़ है। मैंने चुराया है"। पहरेदार ने सोचा, "यह बहुत ही चिड़चिड़ा आदमी होगा। मेरे साधारण से सवालों पे भी गुस्सा हो जाता है। इसीलिए यह ऐसे उद्दंड उत्तर दे रहा है। यह अवश्य ही राजा के आदेश से कुछ ले जा रहा होगा। मुझे इसे जाने देना चाहिए।" इस प्रकार से अपने आप को आश्वासन देकर पहरेदार डाकू को बाहर जाने देता है।

लेवल 3

/levəl 3/:

/dʒæse hi saɖ̪ʰU ka Upəɖ̪eʃ səmapt̪ hUa ɔr bʰi̯r̪ ʈ̪Iʈ̪ər bIʈ̪ər ho gəi/, /vəh dakU Unəke pas pəhU̍ʧ̆ɔ̃r bola /, “/pərəm pUdʒənIj saɖ̪ʰU dʒi/, /mæ̃ek bəUt̪ bə̯ra papi hU̍/ /mæ̃ əpəna nIrvah logõ̰ ko lUtəke kərəʈ̪a hU̍/ /mæ̃ əpəne bUre ʈ̪ərIkõ̰ ko ʧʰo̯r nəhΓ pa rəha hU̍/ /mæ̃ kæse əpəne ap ko sUɖ̪ʰarU̍/ /krIpəja mUdʒʰe səhi marg ɖ̪IkʰaIje/”

/saɖ̪ʰU dʒi ne pəl bʰər sotʃa ɔr bola /, “/kjõ̰ nəhΓ/ /dʒʰUtʰ bolna ʧʰo̯r ɖo/ /jəhI rasʈ̪a hæ ʈ̪UmharI mUkt̪I ka/” /vəh dakU Unəke pær pə̯r gəja ɔr Unəke aʃIrvaɖ̪ lIje/ /fIr vəh əpəne dʒIvən ɔr kərmõ̰ ke bare mḛ̃ sotʃəʈ̪a hUa ʧəla gəja/ /Usi səməj vəh ek məhəl ke pas se gUzra/ /Usəne sotʃa radʒa ka məhəl lUtəne mḛ̃ kUʧʰ gələt̪ nəhΓ/ /radʒa ne nIrɖ̪əjəʈ̪a se dʒənəʈ̪a se kər Ikəttʰa kərəke pæsa ɔr sona dʒəma kIja hæ/ /jəh sotʃəke vəh məhəl mḛ̃ gəja/

/məhəl ke ɖ̪ərəvaze pər Use pehəreɖ̪ar rok leʈ̪a hæ ɔr pUʧʰʈ̪a hæ/, “/kɔn ho ʈ̪Um/” /dakU ne dʒʰUtʰ bolәna ʧʰo̯r ɖ̪Ija ʈ̪ʰa/, /IsəlIje vəh bola/, “/ek ʧor/” / pehəreɖ̪ar Usəke Is dʒəvab se ʧəkIt̪ rəh gəja/. /Usəne sotʃa/, “/jəh aɖ̪əmi əvəʃj məhəl ka hi koi səɖ̪əsj hæ/ /jəh mere pUʧʰʈ̪atʃʰ se kroɖ̪ʰIt̪ ho gəja hoga/ /IsIlIje mUdʒʰe Ise rokəna nəhΓ ʧahIje/ /ənjət̪ʰa radʒa əprəsənn ho səkəʈ̪e hæ̃/” /jəh vItʃar kər pehəreɖ̪ar ne aɖ̪ər səhIt̪ dakU ko kəha/, “/ʃrImaɳ mere pUʧʰʈ̪atʃʰ pe kroɖ̪ʰIt̪ na hõ/ /mæ̃ ʈ̪o bəs əpəna kam kər rəha ʈ̪ʰa/ /krIpəja ənɖ̪ər dʒaIje/”

/dakU ənɖ̪ər ʧəla gəja//Usəne ənəmol gəhənõ̰ se bʰəra ek səndU̪k le lIja/ /dakU ne vəh bəksa əpəne sIr pe Utʰa lIja/ /dzəb vəh ɖ̪ərəvaza par kərəne ləga ʈ̪ʰa, pehəreɖ̪ar ne Use roka ɔr pUʧʰa/, “/jəh kja hæ dʒo ʈ̪Um leke dʒa rəhe ho/” /dakU ne Uʈ̪ʈ̪ər ɖ̪Ija/, “/jəh radʒa ka gəhenõ̰

se bʰəra sənd̪Uk hæ dʒo mæ̃ne tʃUraja hæ /” / pehəred̪ar ne sotʃa/, “/jəh bəhUt̪ hi tʃIr̥tʃIr̥a ad̪əmi hoga/ /mere sad̪ʰarən̪ se səvalõ̃ per bʰi gUssa ho dʒat̪a hæ/ /IslIje æse Ud̪d̪õ̃d Ut̪t̪ər d̪e rəha hæ/ /jəh əvəʃj hi radʒa ke ad̪eʃ se kUtʃʰ le dʒa rəha hoga/ /mUdʒʰe Ise dʒane d̪ena tʃahIje/” /Is prəkar se əpəne ap ko aʃvasən d̪ekər pehəred̪ar dakU ko dʒane d̪et̪a hæ/

लेवल 3:

/levəl 3/:

१. डाकू ने क्या कहा?
/dakU ne kja kəha/

२. डाकू महल में क्यों गया था?
/dakU məhəl mẽ kjõ̃ gəja t̪ʰa/

३. डाकू ने झूठ क्यों नहीं बोला?
/dakU ne dʒʰUtʰ kjõ̃ nəhɾ bola/

४. पहरेदार ने डाकू के बारे में क्या सोचा था?
/pehəred̪ar ne dakU ke bare mẽ kja sotʃa t̪ʰa/

LEVEL 4

वन्य जीवन का प्रकृति में बहुत ही महत्वपूर्ण भूमिका है। कुछ जानवर किसान की मदद करते हैं, है ना? बड़े जानवर छोटे शाकाहारी जानवरों द्वारा खेतों को नष्ट होने से बचाते हैं। यह परभक्षी हानिकारक चूहे, गिलहरी आदि कतरने वाले जानवर, कीड़ेमकोड़े व पक्षियों से होने वाली हानि को कम करते हैं। चूहे, गिलहरी आदि कतरने वाले जानवर प्रकृति के संतुलन को बनाए रखने का सबसे महत्वपूर्ण काम करते हैं। वो जंगली पोधों को प्रचुर मात्रा में उत्पन्न होने से रोकते हैं। वो कई प्रकार के पक्षी, जानवर व सरीसृपो के लिए खाना उपलब्ध कराते हैं। लकड़बघ्घे और गिद्ध प्रकृति के स्वच्छता कर्मी हैं। वो जानवरों के मृतशरीरो को खाते हैं और हवा को गंदी बदबू एवं प्रदूषण से बचाते हैं।

आपने पक्षी तो देखा है, है ना? पक्षी किसान के लिए बहुत ही महत्वपूर्ण होते हैं। यह फूलों को निषेचित करने और बीजों को फैलाने के लिए जिम्मेदार होते हैं। यह वनस्पति में बीमारियां फैलाने वाले कीडेमकोड़े खाके, किसानो की मदद करते हैं। यह चूहे,

गिलहरी आदि कतरने वाले जानवरो की आबादी को भी काम रखते हैं। यह कहा जाता है की केवल एक ही उल्लू हर साल करीब ८०० चूहे मार डालता है। पक्षी अपनी गतिविधियो से हमें भूकम्प, बाड़, और सूखे की पूर्व चेतावनी देते हैं। किसको मधुमक्खियों द्वारा इक्कट्ठा किया हुआ शहद चखना पसंद नहीं? किसको सारिका या कोयल के वसन्त के स्वर सुनके खुशी नहीं होती? कौन रंगीन पंखों और मोर के नृत्य से या हंस के मनोहर चाल से आकर्षित नहीं होता? उन्हें देखने में थोड़ा समय बिताना शिक्षाप्रद एवं मनोरंजक है। हैं ना?

सम्राट अशोक ने कुछ आज्ञापत्र छोड़े हैं। उनमें से एक पे उन्होनें उन पक्षियों और जानवरों के नाम लिखवाए जिन्हें उनके राज्य में संरक्षित किया जाएगा। बुद्ध एवं माहावीर ने पशु-पक्षियों के प्रति सदभावना का उपदेश दिया है। अगर हमें वन्य जीव-जंतुओ को सुरक्षित रखना है तो हमें अपने जंगलो का एक हिस्सा विशिष्ट रूप से जंगली जानवरों के लिए आरक्षित करना पडेगा। हमें यह भी याद रखना चाहिए कि जंगल वनस्पति व पशुओं को आश्रय देने के अलावा, बाड़ और भू-क्षरण को भी रोकता है।

सन १९५२ में, राष्ट्रीय वन्यजीव बोर्ड को स्थापित किया गया था। यह हमारे वन्य जीवन को सुरक्षित व संरक्षित करने के लिए योजनाए बनाता है। तभी से, यह बोर्ड और उसके राज्य के प्रतिरूपो ने वन्य जीवन के विकास के लिए उत्कृष्टता से काम किया है। इसने कुछ जंगली इलाकों को वन्य जीव-जन्तुओं के लिए आरक्षित किया। जहा वन्यजीव को सुरक्षित रखा जाता है, ऐसी जगहों को शरण स्थान या सैंगक्चूएरी कहते हैं।

कर्नाटक में बांदीपुर में एक अभयारण्य है और एक पक्षियों के लिए रंगानाथीठत्तू (श्रीरंगापटनम के पास) में एक शरण स्थान या सैंगक्चूएरी है। इन सैंगक्चूएरियो में सरकार ने शिकार पे पाबंधी लगा राखी है और जानवर व पक्षी बिना किसी हानि के आज़ाद घूम सकते हैं। हमारे कई बड़े जंगल पहले से ही जलीय परियोजनाओं और सड़को के निर्माण के लिए साफ़ कर दिए गए हैं। पशु पक्षियों की कई प्रजातियां लगभग विलुप्त हो चुकी हैं। अगर हम अपने वनस्पति और पशु पक्षियों के अनियंत्रित विनाश को नहीं रोकते, तो हम हमारे सुंदर देश को एक रेगिस्तान की बंजर भूमि जैसा बना देंगे।

/levəl 4/:

/vənj dzIvən ka prəkrIt̪I me͂ b əhUt̪ hi məhət̪vəpUrn̥ bʰUmIka hæ/ /kUtʃʰ dʒanəvər kIsan ki məd̪əd̪ kərət̪e hæ͂/ /bə̥re dʒanəvər tʃʰote ʃakahari dʒanəvəro͂ d̪vara kʰet̪o͂ ko nəʃt hone se bətʃat̪e hæ͂/ /jəh pərəbʰəkʃi hanIkarək tʃUhe, gIləhəri ad̪I kət̪ərəne vale dʒanəvər, kI̥re

məkɔ̰re v pəkʃIjo̰ se hone valI hanI ko k əm kərə̤te hæ̰/ /tʃUhe, gIləhəri ad̤I kə̤tərəne vale dʒanəvər prəkrI̤tI ke sə̃t̤Ulən ko bənae rəkʰne ka səbəse məhə̤tvəpUrn̰ kam kərə̤te hæ̰/ /vo dʒə̃glI pɔd̤ʰo̰ ko pr ətʃUr mat̤ra mḛ U t̤əpənn hone se rokə̤te hæ̰/ /vo kəi prəkar ke pəkʃi, dʒanəvər v sərIsrIpo̰ ke lI je Upələbd̤ʰ kərə̤te hæ̰/ /ləkə̰rəbəgʰgʰe ɔr gId̤ʰ prəkrI̤tI ke svətʃʧʰə̤ta kərmI hæ̰/ /vo dʒanəvəro̰ ke mrI t̤ ʃərIro̰ ko kʰa̤te hæ̰ ɔr həva ko gə̃d̤i bəd̤əbU evəm prəd̤Uʃən̰ se bətʃa̤te hæ̰/

/apəne pəkʃi t̤o d̤ekʰa hæ, hæ na/ / pəkʃi kIsan ke lIje bəhUt̤ hi məhə̤tvəpUrn̰ hot̤e hæ̰/ /jəh fUlo̰ ko nIʃetʃI t̤ kərəne ɔr bIdʒo̰ ko fælanḛ ke lI je zImmed̤ar hot̤e hæ̰/ /jəh vənəspə̤tI mḛ bimarIja̰ fælane vale kḬre məkɔ̰re kʰakər kIsano̰ ki məd̤əd̤ kərə̤te hæ̰/ /jəh tʃUhe, gIləhəri ad̤I kə̤tərəne vale dʒanəvəro̰ ki abad̤i ko bʰi kəm rəkʰə̤te hæ̰/ /jəh kəha dʒa̤ta hæ ki kevəl ek hi UllU hər sal kərIb 400 tʃUhe mar dalə̤ta hæ/ / pəkʃI əpəni gə̤tIvId̤ʰIjo̰ se hə mḛ bʰUkə̃p, ba̰ʰ, ɔr sUkʰe ki pUrv tʃe̤tavəni d̤e̤te hæ̰/ /kIsəko məd̤ʰUməkʰIjo̰ d̤vara Ikəttʰa kIja ʃəhəd̤ tʃəkʰəna pəsənd̤ nəhI/ /kIsəko sarIka ja kojəl ke vəsənt̤ ke svər sUnəker kʰUʃi nəhI̤ ho t̤i/ /kɔn rə̃gIn pə̃kʰo̰ ɔr mor ke nrIʧ se ja həns ke mənohər tʃal se akərʃI̤t nəhI̤ hot̤ a/? /Unhḛ d̤ ekʰəna ʃIkʃaprəd̤ evəm mənorə̃dʒək hæ/ /hæ̰ na/.

/səmrat əʃok ne kUtʃʰ agjə̃pə̤trə tʃʰo̰re hæ̰/ / Unəmḛ se ek pe Unho̰nḛ Un pəkʃI jo̰ ɔr dʒanəvəro̰ ke nam lIkʰvaje dʒInhḛ U nəke radʒj mḛ sə ̃rəkʃI̤t kIja dʒaega/ /bUd̤d̤ʰ evəm məhavIr ne pəʃU pəkʃIjo̰ ke prət̤I səd̤əbʰavəna ka Upəd̤eʃ d̤Ija/ /əgər həmḛ vənj d ʒIv-dʒə̃t̤Uo̰ ko sUrəkʃI̤t rəkʰəna hæ t̤o həmḛ əpəne d ʒə̃gəlo̰ ka ek hIssa vIʃIʃt ʰ rUp se dʒə̃gəlI dʒanəvəro̰ ke lIje arəkʃI̤t kərəna pə̰rega/. /həmḛ jəh bʰi jad̤ rəkʰəna tʃahIje kI dʒə̃gəl vənəspə̤tI v pəʃUo̰ ko aʃrəj d̤ene ke əlava ba̰ʰ ɔr bʰU kʃərən̰ ko bʰi rokə̤ta hæ/

/sən 1942 mḛ raʃtrIj vənjə dʒIv bord ko st̤ʰapI̤t kIja gəja t̤ʰa/ /jəh həmare vənj dʒIvən ko sUrəkʃI̤t kərəne ke lIje jodzənaẽ bənat̤a hæ/ /t̤əbʰi se, jəh bord ɔr Usəke radʒj ke prə̤tIrUpo̰ ne vənj dʒIvən ke vIkas ke lIje UtkrIʃtʰt̤a se kam kIja hæ/ /Isəne dʒə̃gli Ilako̰ ko vənj d ʒIv-dʒə̃t̤Uo̰ ke lI je arəkʃI̤t kIja/. /dʒəha̰ vənjəd ʒIv ko sUrəkʃI̤t rəkʰa dʒa̤ta hæ, æsi dʒəgəho̰ ko ʃərən̰ st̤ʰan ja sæ̰tʃjUrI kəhə̤te hæ̰/

/kərnatək mḛ ba̰d ̤IpUr mḛ ek əbʰjarən̰j hæ ɔr ek pəkʃIjo̰ ke lI je rənganat̤ʰItU (ʃrIrə̃gpə̤t̤ənəm ke pas) mḛ ek ʃərən̰ st̤ʰan ja sæ̰tʃjUrI hæ / / In sæ̰tʃjUrIo̰ mḛ sərəkar ne ʃIkar pər pabə̃d̤i ləga rəkʰi hæ ɔr dʒanəvər v pəkʃi bIna kIsI hanI ke azad̤ gʰUm səkə̤te hæ̰/ /həmare kəI bə̰re dʒə̃gəl pəhəle hi dʒəlIj pərIjodʒənao̰ ɔr sər̰ əko̰ ke nI rman̰ ke lIje saf kər d̤Ije gəje hæ̰/ /pəʃU pəkʃIjo̰ ki kəI prədʒa̤tIja̰ ləgbʰəg vIlUpt̤ ho tʃUki hæ̰/ /əgər həm əpəne vənəspə̤tI ɔr pəʃU pəkʃIjo̰ ke ənI jə̃t̤rI̤t vInaʃ ko nəhI̤ rokə̤t̤ e/ /t̤o həm həmare sUnd̤ər d̤eʃ ko ek regIst̤an kI bə̃dʒər bʰUmi dʒæsa bəna d̤ḛge/

लेवल 4:

/levəl 4/:

१. पुराने दिनों में किस महान राजा ने जंगली जीव जन्तुओं को सुरक्षित किया था?
/pUrane d̪Inõ mẽ kIs məhan radʒa ne dʒə̃gəlI dʒIv dʒə̃t̪Uõ ko sUrəkʃIt̪ kIja t̪ʰa/

२. राष्ट्रीय वन्यजीव बोर्ड को किस साल में स्थापित किया गया था?
/raʃtrIj vənjə dʒIv bord ko kIs sal mẽ st̪ʰapIt̪ kIja gəja t̪ʰa/

३. राष्ट्रीय वन्यजीव बोर्ड ने वन्य जीवन विषय के विकास के लिए क्या काम किया है?
/raʃtrIj vənjə dʒIv bord ne vənj dʒIvən vIʃəj ke vIkas ke lIje kja kam kIja hæ/

४. कर्नाटक के दो अभयारण्यों के नाम बताइए?
/kərnatək ke d̪o əbʰjarən̪jõ ke nam bət̪aIje/

Appendix II

Response Sheet

Age: Gender:

Grade/Class: Medium of School:

I. Perceptual discrimination skills:

A. Auditory Identification Level

निर्देशन: बोले गए अक्षरों को ध्यान से सुनें और फिर उस अक्षर को ढुडे

उदाहरण: “क” ढुडो, “क” अक्षर पे गोला लगाये.

1	अ	उ	ट	स	ल	ओ	र
2	श	फ	ज	व	म	ग	प
3	ब	न	ड	च	य	ई	ख
4	घ	झ	त	ग	म	ल	क्ष
5	ई	ख	ट	ध	य	ह	फ
6	ए	आ	ग	छ	ट	ड़	ज
7	थ	ठ	च	न	ज	फ	अ
8	क्ष	व्	भ	ड़	ट	छ	ग

9	ध	ख	झ	थ	ब	व्	त्र
10	क	ज	त	फ	ल	ह	ष
11	आ	ऐ	च	ड	न	य	स
12	छ	क	ऊ	त	ब	श	म
13	ग	झ	त	प	य	ष	ज्ञ
14	झ	ब	द	ठ	च	ऐ	ल
15	ऊ	च	ट	द	न	र	भ
16	ध	त	ठ	ज	भ	व्	क्ष
17	उ	क	छ	ड	उ	भ	व्
18	द	ठ	च	ओ	प	र	भ
19	ओ	आ	ज	ड़	न	म	य
20	ट	थ	फ	र	स	ख	ई
21	द	झ	क	फ	र	स	आ
22	न	ड़	ज	ख	ऊ	र	ह
23	छ	त	ब	श	क	ऊ	ल
24	र	त्र	ब	द	झ	क	इ

25	ध	य	ह	ड़	ज	ख	ऊ
26	ग	झ	त	उ	प	य	ष

B. Auditory Recall level

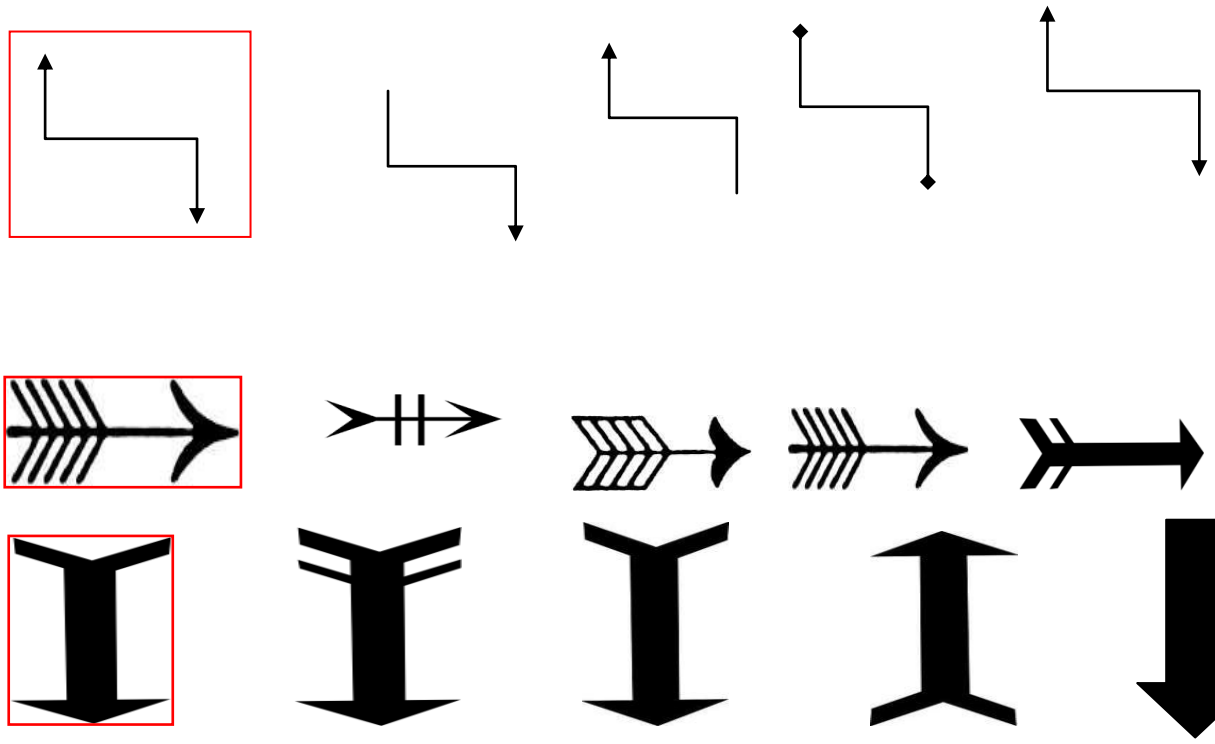
निर्देशन: रेखांकित अक्षर का नाम बताएं.

1			उ		स		ओ र
2		श		ज		म		प
3			न		च		ई ख
4		घ		त		म		क्ष
5			ख		ध		ह फ
6		ए		ग		ट		ज
7			ठ		न		फ अ
8		क्ष	व्		ड		छ
9		ध		झ		ब		त्र
10			ज		फ		ह ष
11			ऐ	च		न	य

12		छ		ऊ	त		श	
13			झ		प		ष	ज्ञ
14			ब	द		च	ऐ	
15		ऊ		ट		न	र	
16			त		ज			क्ष
17		उ		छ		उ		व्
18			ठ		ओ		र	भ
19		ओ		ज		न		य
20		ट		फ		स		ई
21			झ		फ		स	आ
22		न		ज		ऊ		ह
23			त		श		ऊ	ल
24			त्र	ब		झ		इ
25		ध		ह	ड		ख	
26			झ		उ		य	ष

Visual Discrimination

Level 1



त	ल	न	त्र	त
च	ज	म	च	ल
ल	त	ल	त्र	न
ओ	अ	औ	आ	ओ
ट	ठ	ट	व	ब
र	स	ख	श	र

प	फ	प	म	ण
इ	ई	ड़	झ	इ
उ	ओ	अ	ऊ	उ

Level 2

निर्देशन: ध्यान से देखें और हर कतार में उस डब्बे पे गोला लगाए जो बाए तरफ लिखे अक्षरों से सामान हो

उदाहरण: "पग" 'पट' 'पह' 'पम' **'पग'**

Stimulus	Choice			
ओ ई	अ ऊ	आ ई	ओ ई	ओ इ
ब ड	व ड	ब ड	व ड़	ब ड़
फ द	प ट	फ ट	फ द	प द
भ झ	भ क्ष	ग क्ष	ग झ	भ झ
ठ च	ठ ज	ठ च	ट ज	ट च
घ द	घ ट	ध ट	ध द	घ द
थ ऐ	भ ऐ	थ ए	थ ऐ	भ ए
प ऊ	फ उ	प ऊ	फ ऊ	प उ

उ घ	उ छ	ऊ छ	ऊ घ	उ घ
य श	थ स	य स	य श	थ श
र ज	र च	र ज	स च	स ज
क्ष ष	क्ष प	ध ष	ध प	क्ष ष
ए व	ऐ ब	ए व	ऐ व	ए ब
ख ह	श ह	श अ	ख ह	ख अ
इ त	ई न	इ त	ई त	इ न
ड़ त्र	इ त्र	ड त	ड़ त	ड़ त्र
ज्ञ क	ज क	ज ब	ज्ञ ब	ज्ञ क
स द	श द	श ट	स द	स ट
ब झ	व भ	ब झ	व झ	ब भ
च क्ष	ज क्ष	च झ	च क्ष	ज झ

Phoneme grapheme correspondence test

Level 1:

A. Beginning consonant

निर्देशन: बोले गए शब्द का पहला अक्षर लिखिए

उदाहरण: **“पार”** शब्द “प” से शुरू होता है तो, ‘प’ लिखिए

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17	
18	

B. Ending consonant

निर्देशन: बोले गए शब्द का आख़िरी अक्षर लिखिए

उदाहरण: “पार” शब्द ‘र’ से ख़त्म होता है तो, ‘र’ अक्षर लिखिए

1	
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15	

C. Consonant blends

निर्देशन: बोले गए शब्दों में जो दो अक्षर मिलके संयुक्त अक्षर बना रहें हैं, उन्हें लिखें.

उदाहरण: “क्रिकेट” शब्द में “क” और “र” का संयुक्त अक्षर है.

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D. Vowel sounds

निर्देशन: अब मै कुछ शब्द बोलूंगी और आप ध्यान से सुनना.

उदाहरण: **“पार”** अगर आपको लगता है कि पार शब्द में ‘आ’ की मात्रा आती है तो, ‘आ’ अक्षर के आगे बोले गए शब्द का अंक डाले.

अ	
आ	
इ	
ई	
उ	

ऊ	
ए	
ऐ	
ओ	
औ	

Level 2:

D. Beginning consonant

निर्देशन: अब मै कुछ शब्द बोलूंगी और आप ध्यान से सुनना.

उदाहरण: **“पार”** अगर आपको लगता है कि “पार” शब्द प से शुरू होता है तो, ‘प’ अक्षर के आगे सही का चिन्ह लगाए और अगर नहीं तो गलत का चिन्ह लगाए.

र					
ट					
फ					
म					
व					
स					

E. Ending consonant

निर्देशन: अब मै कुछ शब्द बोलूंगी और आप ध्यान से सुनना.

उदाहरण: **“पार”** अगर आपको लगता है कि पार शब्द **‘र’** से ख़त्म होता है तो, **‘र’** अक्षर के आगे सही का चिन्ह लगाए और अगर नहीं तो गलत का चिन्ह लगाए.

स					
ड					
क					

ट					
र					
ल					

BLENDING TEST

Level 2:

निर्देशन: हर कतार में तीन शब्द हैं, जो या तो अलग तरह से बांटे हुए है या लिखे हुए हैं. बोले गये शब्द को ढुंडीए.

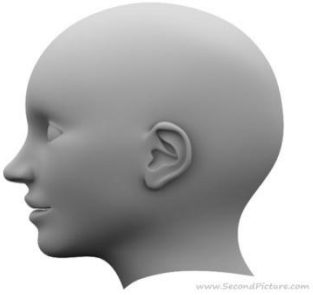
उदाहरण: बंजा + रा बंज + र बं + जर

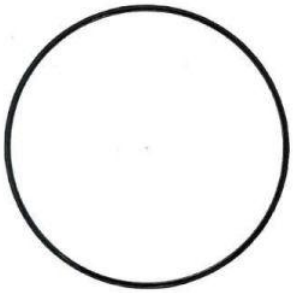
1)	तक + नीकी	तक + नीक	त + क + नीकी
2)	त + ट + रेखा	तट + रे + खा	तट + रेखा
3)	चट + पटा	छट + पटा	च + टपटा
4)	तर + कीब	तर + कील	त + र + कीब
5)	तर + फ़दारी	तरफ़ + दारी	त + रफ़ + दारी
6)	तर + बूज	त + र + बूज	तरबू + ज
7)	तल + वा	तल + वार	तल + ना
8)	तह + की + कात	तहकी + कात	त + हकी + कात

Level 1:

निर्देशन: नीचे हर डब्बे में एक चित्र और कुछ अक्षर हैं जो एक पहेली है. बोले गये शब्द को ढुंडीए.

उदाहरण: 9 + कर = नौकर

 + मुख	 + भरा	हवाई + 
होन + 	सत + 	सदा + 
स + 	सि + 	त + 
सम + 	 + कार	 + य

खं +  + ना	ख + 	खतर + 

Structural Analysis Test:

निर्देशन: नीचे दिए गए तीन विकल्पों में से एक चुने और खाली स्थान भरे.

उदाहरण: _____ रो रहे थे।

बच्चा बच्चे बच्ची

1) लड़का घोड़े की सवारी _____ था।

कर रहा करेगा करती

2) मुझे बहुत सारे खिलौने _____ हैं।

दिख रहा दिखता दिख रहे

3) मेरा गुब्बारा सबसे _____ है।

बड़ी बड़ा बहुत बड़ा

4) कुत्ता गेट के ऊपर से _____ गया ।

कूद कूदेगा कूदना

5) वो बहुत तेज़ _____ है।

दौड़ना दौड़ेगा दौड़ता

6) राम श्याम से _____है।

लम्बी लंबा लम्बाई

7) वो घर _____ है।

आ रहा आएगा आना

8) वो साथ नहीं _____ ।

जा जाएगें जाना

9) बच्चे जल्दी _____ हैं।

आएगें आनी आ रहे

10) पक्षी घर के ऊपर से _____ गया।

उड़कर उडी उडेगी

Level 3

निर्देशन: निम्नलिखित शब्दों में से प्रत्येक में मूल शब्द को रेखांकित करें। अगर शब्द में जड़ शब्द मौजूद नहीं है, तो गलत का चिन्ह लगाएं ।

उदाहरण: अधिकारी अधिक्षक अधिनियम ~~अधिकर~~

कटुभाषी	कटुसत्य	कटुस्वर	कटौती
कथाकारिता	कथात्मक	कथित	कथावाचक
अंतरात्मा	अंतरिम	अंतर्यामी	अन्तर
कर्मचारी	करम	कर्मशाला	कर्मशक्ति
क्षतिग्रस्त	क्षतिपुर्ति	क्षतिपूरण	क्षत्रिय
कलाकार	कलाकृति	कली	कलाबाज़ी

अंधकार	अंधविश्वास	अंधाधुंध	आन्धी
कार्यकारिणी	कार्यकुशल	कार्यक्षमता	काया
क्रान्ति	क्रमश:	क्रमसूचक	क्रमांक
कमरपेटी	कमरा	कमरतोड़	कमरबंद

Level 2:

निर्देशन: निम्नलिखित शब्दों में उस शब्द पर गोला लगाएं जो:

१. बहुवचन दर्शाता है (उदाहरण: पंखें)

बच्चा	बच्चे	बच्ची
चीख	चीखी	चीखें
विचार	विचारे	विचारों

२. भूतकाल दर्शाता है (उदाहरण: रोते थे)

मिल	मिलते	मिलेंगें
जाए	जाओ	जाना

आओ	आए	आएंगें

३. कम या ज्यादा दर्शाता है (उदाहरण: उच्चतर)

बड़ा	बहतर	स्वच्छ
छोटा	ऊचां	श्रेष्ठतम
विशालतम	लंबा	सुन्दर

४. अस्वीकार/नहीं दर्शाता है (उदाहरण: असंभव)

अनुचित	उचित	उच्च
अप्रसन्न	प्रसन्न	प्रसिद्ध्
अभागा	भाग	भाग्यवती

५. फ़िर से या दोबारा दर्शाता है (उदाहरण: पुनरावेदन)

आरम्भ	प्रारम्भ	पुनरारम्भ
आवागमन	पुनरागमन	आगमन
पुनरावेदन	आवेदन	निवेदन

६. रहित या बिना दर्शाता है (उदाहरण: निस्वार्थ)

सशस्त्र	शस्त्र	निशस्त्र

संदिग्द्ध	संदेह	निसंदेह
निसन्कोच	सन्कोच	सोच

७. साथ या सहित दर्शाता है (उदाहरण: संकटपूर्ण)

संतोष	संतुष्ट	संतोशजनक
संदिग्ध	संदेहजनक	संगीन
संपत्तिशाली	संपत्ति	आपत्ति

८. पहले से या पूर्व (उदाहरण: पूर्वकथित)

पूर्वकल्पना	कल्पना	काल्पित
अभ्यास	आभास	पूर्वाभ्यास
अनुमान	पूर्वानुमान	अनुमानित

Reading Passages

Level 1

आज सोमवार है। नौ बजे हैं। आसमान में काले बादल छाए हैं। तेज़ बारिष हो रही है। राजू और चेतन

बाज़ार जा रहे हैं। वो दोनों छाता और बैग लेके जा रहे हैं। वो साइकल नहीं चला रहे हैं। वो पैदल चल रहे हैं।

लेवल १:

५.आज कौनसा दिन है?
६.राजू और चेतन कहाँ जा रहें हैं?
७.क्या वो बैग लेके जा रहे हैं?
८.वो कैसे जा रहें हैं?

Level 2

एक बार एक जंगल में एक बहुत बरा तालाब था। बहुत तादाद में मच्छलियाँ , मेंडक, केकरे रहते थे। एक साल वहाँ बिल्कुल बारिश नहीं हुईं और वहाँ बहुत गर्मी थी। तालाब का पानी सूख रहा था। वहाँ तालाब के पास एक सारस रहता था , जिसे मच्छलियाँ खाना बहुत पसंद था। एक दिन उसने तरकी ब सोची और तालाब पहुंचके एक मच्छली से बोला , “दोस्त, मुझे तुम्हारे लिए बहुत बुरा लगता है। यह सुनके कि इस साल यहा बारिश नहीं होगी और ना ही तालाब में अब ज़्यादा पानी बचा

है। अगर यहा बारिश नहीं होती तो एक दिन तालाब का सारा पानी सूख जाएगा और तुम सब मर जाओगे। " तभी सारी मच्छलियॉ, मेंडक, केकरे एक आवाज़ मे बोले, "कृपया हमें बता दिजिए कि कैसे हम अपने आप को बचा सकते हैं ?" चतुर सारास ने कहा , "यहा पास में एक बहुत बडी झील हैं , जहा बहुत सारा पानी है। अगर तुम लोग चाहते हो तो मैं तुम लोगों को अपनी चोंच से उठाकर एक एक करके झील में छोडकर आ सकता हूं। " सभी मच्छलियॉ मान गई। सारस एक एक करके मच्छलियों को अपनी चोंच से उठाकर उड गया। और वह एक चट्टान पर ले जाकर उनको खा गया। वह रोज़ तालाब के पास आता और एक बार में एक मच्छली को चट्टान पर ले जाकर खा जाता। एसी तरह वह तालाब की सा री मच्छलियों को खा गया।

लेवल 2:

५. तालाब में कौन रहता था?
६. तालाब का पानी क्यों सुख गया?
७. सारस ने मछली को क्या कहा?
८. सारस मछली को कहॉ ले गया?

LEVEL 3

जैसे ही साधू जी का उपदेश समाप्त हुआ और भीड़ तितर बितर हो गई, वह डाकू उनके पास पहुंचा और बोला , “परम पूजनीय साधू जी, मैं एक बहुत बड़ा पापी हूं। मैं अपना निर्वाह लोगों को लूटके करता हूं। मैं अपने बुरे तरीकों को छोड़ नहीं पा रहा हूं। मैं कैसे अपने को सुधारूं ? कृपया मुझे सही मार्ग दिखाइए।””

साधू जी ने पल भर सोचा और बोले , "क्यों नहीं? झूठ बोलना बंद करो। यही रास्ता हे तुम्हारी मुक्ति का। " वह डाकू उनके पैर पड़ गया और उनके आशीर्वाद लिये। फिर वह अपने जीवन और अपने कर्मों के बारे में सोचता हुआ चला गया। उसी समय वह एक महल के पास से गुज़रा। उसने सोचा कि राजा का महल लूटने में कुछ गलत नहीं। राजा ने निर्दयता से जनता से कर इकट्ठा करके पैसा और सोना जमा किया है। यह सोचके वह महल में गया।

महल के दरवाज़े पर उसे पहरेदार रोक लेता है और पूछता है," कौन हो तुम?" डाकू ने झूठ बोलना छोड़ दिया था, इसलिए वह बोला, "एक चोर"। पहरेदार उसके इस उत्तर से चकित रह गया। उसने सोचा, "यह आदमी अवश्य महल का ही कोई सदस्य है। यह मेरे पूछताछ से क्रोद्धित हो गया होगा। इसीलिए मुझे इसे रोकना नहीं चाहिए। अन्यथा राजा अप्रसन्न हो सकते हैं"। यह विवाद कर, पहरेदार

ने आदर सहित डाकू को कहा,"श्रीमान, मेरी पूछताछ पे क्रोद्धित न हो। मैं तो बस अपना काम कर रहा था। कृपया अंदर जाइए"।

डाकू अंदर चला गया। उसने अनमोल गहनों से भरा एक संदूक़ ले लिया। डाकू ने वो बक्सा अपने सर पे उठा लिया। जब वह दरवाज़ा पार करने वाला था, पहरेदार ने उसे रोका और पूछा, "यह क्या है जो तुम लेके जा रहे हो?" डाकू ने उत्तर दिया, "यह राजा के गहनों का संदूक़ है। मैंने चुराया है"। पहरेदार ने सोचा, "यह बहुत ही चिड़चिड़ा आदमी होगा। मेरे साधारण से सवालों पे भी गुस्सा हो जाता है। इसीलिए यह ऐसे उद्दंड उत्तर दे रहा है। यह अवश्य ही राजा के आदेश से कुछ ले जा रहा होगा। मुझे इसे जाने देना चाहिए।" इस प्रकार से अपने आप को आश्वासन देकर पहरेदार डाकू को बाहर जाने देता है।

लेवल ६:

५. डाकू ने क्या कहा?
६. डाकू महल में क्यों गया था?
७. डाकू ने झूठ क्यों नहीं बोला?
८. पहरेदार ने डाकू के बारे में क्या सोचा था?

LEVEL 4

वन्य जीवन का प्रकृति में बहुत ही महत्वपूर्ण भूमिका है। कुछ जानवर किसान की मदद करते हैं, है ना? बड़े जानवर छोटे शाकाहारी जानवरों द्वारा खेतों को नष्ट होने से बचाते हैं। यह परभक्षी हानिकारक चूहे, गिलहरी आदि कतरने

वाले जानवर, कीड़ेमकोड़े व पक्षियों से होने वाली हानि को कम करते हैं। चूहे, गिलहरी आदि कतरने वाले जानवर प्रकृति के संतुलन को बनाए रखने का सबसे महत्वपूर्ण काम करते हैं। वो जंगली पोधों को प्रचुर मात्रा में उत्पन्न होने से रोकते हैं। वो कई प्रकार के पक्षी, जानवर व सरीसृपो के लिए खाना उपलब्ध कराते हैं। लकड़बघ्घे और गिद्ध प्रकृति के स्वच्छता कर्मी हैं। वो जानवरों के मृतशरीरो को खाते हैं और हवा को गंदी बदबू एवं प्रदूषण से बचाते हैं।

आपने पक्षी तो देखा है, है ना? पक्षी किसान के लिए बहुत ही महत्वपूर्ण होते हैं। यह फूलों को निषेचित करने और बीजों को फैलाने के लिए जिम्मेदार होते हैं। यह वनस्पति में बीमारियां फैलाने वाले कीडेमकोड़े खाके, किसानो की मदद करते हैं। यह चूहे, गिलहरी आदि कतरने वाले जानवरो की आबादी को भी काम रखते हैं। यह कहा जाता है की केवल एक ही उल्लू हर साल करीब ८०० चूहे मार डालता है। पक्षी अपनी गतिविधियो से हमें भूकम्प, बाड़, और सूखे की पूर्व चेतावनी देते हैं। किसको मधुमक्खियों द्वारा इक्कट्ठा किया हुआ शहद चखना पसंद नहीं? किसको सारिका या कोयल के वसन्त के स्वर सुनके खुशी नहीं होती? कौन रंगीन पंखों और मोर के नृत्य से या हंस के मनोहर चाल से आकर्षित नहीं होता? उन्हें देखने में थोड़ा समय बिताना शिक्षाप्रद एवं मनोरंजक है। हैं ना?

सम्राट अशोक ने कुछ आज्ञापत्र छोड़े हैं। उनमें से एक पे उन्होनें उन पक्षियों और जानवरों के नाम लिखवाए जिन्हें उनके राज्य में संरक्षित किया जाएगा। बुद्ध एवं माहावीर ने पशु-पक्षियों के प्रति सदभावना का उपदेश दिया है। अगर हमें वन्य जीव-जंतुओ को सुरक्षित रखना है तो हमें अपने जंगलो का एक हिस्सा विशिष्ट रूप

से जंगली जानवरों के लिए आरक्षित करना पडेगा। हमें यह भी याद रखना चाहिए कि जंगल वनस्पति व पशुओं को आश्रय देने के अलावा, बाड़ और भूक्षरण को भी रोकता है।

सन १९५२ में, राष्ट्रीय वन्यजीव बोर्ड को स्थापित किया गया था। यह हमारे वन्य जीवन को सुरक्षित व संरक्षित करने के लिए योजनाए बनाता है। तभी से, यह बोर्ड और उसके राज्य के प्रतिरूपो ने वन्य जीवन के विकास के लिए उत्कृष्टता से काम किया है। इसने कुछ जंगली इलाकों को वन्य जीव-जन्तुओं के लिए आरक्षित किया। जहा वन्यजीव को सुरक्षित रखा जाता है, ऐसी जगहों को शरण स्थान या सैंगक्चूएरी कहते हैं।

कर्नाटक में बांदीपुर में एक अभयारण्य है और पक्षियों के लिए रंगानाथीठतू (श्रीरंगापटनम के पास) में एक शरण स्थान या सैंगक्चूएरी है। इन सैंगक्चूएरियो में सरकार ने शिकार पे पाबंधी लगा राखी है और जानवर व पक्षी बिना किसी हानि के आज़ाद घूम सकते हैं। हमारे कई बड़े जंगल पहले से ही जलीय परियोजनाओं और सड़को के निर्माण के लिए साफ़ कर दिए गए हैं। पशु पक्षियों की कई प्रजातियां लगभग विलुप्त हो चुकी हैं। अगर हम अपने वनस्पति और पशु पक्षियों के अनियंत्रित विनाश को नहीं रोकते, तो हम हमारे सुंदर देश को एक रेगिस्तान की बंजर भूमि जैसा बना देंगे।

लेवल ७:

५. पुराने दिनों में किस महान राजा ने जंगली जीव जन्तुओं को सुरक्षित किया था?

६. राष्ट्रीय वन्यजीव बोर्ड को किस साल में स्थापित किया गया था?

७. राष्ट्रीय वन्यजीव बोर्ड ने वन्य जीवन विषय के विकास के लिए क्या काम किया है?

४. कर्नाटक के दो अभयारण्यों के नाम बताइए?

Appendix III

Score Sheet

Name: Gender:

Age: Grade/Class:

Medium of instruction

I. Perceptual discrimination skills:

	Auditory Identification Level			Auditory Recall level		Auditory discrimination test		Visual discrimination test			
No.	Stim	Res	Sc	Res	Sc	Res	Sc	Level 1		Level 2	
								Res	Sc	Res	Sc
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											

23								
24								
25								
26								
27								
28								
29								
30								

II. Phoneme/Syllable – Grapheme/Letter correspondence test

Part 1:

	Beginning consonant		Ending consonant		Consonant blends		Vowel sounds	
No.	Res	Sc	Res	Sc	Res	Sc	Res	Sc
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Part 2:

	Beginning consonant		Ending consonant		Vowel sounds		
No.	Response	Score	Response	Score	No.	Response	Score
1					1		
					2		
					3		
					4		
					5		
2					6		
					7		
					8		
					9		
					10		
3							
4							
5							
6							

BLENDING TEST

	Level 1		Level 2		
No.	Response	Score	Stimuli	Response	Score
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Structural Analysis Test

	Level 1		Level 3	
No.	Response	Score	Response	Score
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Level 2:

No.	Response	Score
1		
2		
3		
4		
5		
6		
7		
8		

Reading Passages

Level	No.	Response	Score
1	1		
	2		
	3		
	4		
2	1		
	2		
	3		
	4		
3	1		
	2		
	3		
	4		

4	1		
	2		
	3		
	4		
	5		

Appendix IV

MANUAL

AN ADAPTATION OF EARLY READING SKILLS IN HINDI (ERS-H)

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CONTENTS

AN ADAPTATION OF EARLY READING SKILLS (ERS) IN HINDI

Chapter 1: Introduction

Reading is a holistic act. It is more difficult than speaking, because children must be aware of the sound structure in spoken language and then break the alphabetic code to acquire the sound/symbol connection. One possibility why reading is so much more difficult to acquire than an oral language is that during oral language acquisition, the mapping between symbol (word) and object is easy. In contrast, when learning to read, a child must focus on the letter-sound correspondences and on blending those sounds to produce the proper pronunciation of the word. It is unlikely that the words' referent is anywhere in the environment, and even when a text may be accompanied by pictures, reference to the pictures is unlikely to be systematic.

India offers an interesting contrast of written languages with the extreme opacity of English alongside the transparent Hindi orthography within the same group of children. There are differences in orthographic transparency of the two languages, Hindi and English. In 'shallow' or 'transparent' orthographies, graphemes generally represent only one phoneme, whereas in 'deep' or 'opaque' orthographies, individual graphemes represent a number of different phonemes in different words, and there are many exceptions to grapheme-phoneme correspondence rules (Spencer & Hanley, 2003). Therefore, in a 'deep' orthography, children have to learn not only the grapheme-phoneme conversion rules but their exceptions as well.

Standardized tests are low cost appropriate tools that are often used to detect reading writing difficulties. As a majority of these tests are usually available in English, it is always necessary to translate to the native language when used in non-English speaking communities. However, there are difficulties in the process of proper translation, and the lack of a local language version can become a barrier in assessing and reporting such deficits. Translated versions are needed in detecting health problems that will also allow cross-countries and as well as cross-cultural comparisons (Hunt, Alonso, Bucquet, Niero, Wiklund, McKenna, 1991). In situations where tests and instruments originally developed in a particular language for use in some national context are to be made appropriate for use in one or more other languages and/or national contexts, the aim of the translation/adaptation process is to produce a test or instrument

with comparable psychometric qualities as the original. Adaptations of the accompanying verbal materials for administration and score interpretation are necessary.

The aim of the present study was to translate and adapt Early Reading Skills proposed by Rae & Potter (1973, 2nd edition in 1981) **in the book titled "Informal Reading Diagnosis: A Practical Guide for the Classroom Teacher" in Hindi language.** The present study also considered and incorporated the suggestions reported in "Descriptive Analysis of the Sequential Progression of English Reading Skills among Indian Children" by Monika Loomba (Unpublished Masters dissertation, 1995), later edited by Jayaram, Prema and Savithri (2003) as a publication of All India Institute of Speech and Hearing, Mysore. **Further it is also aimed that this adapted tool serve as a measure to assess the sequential acquisition of** the continuum of **Hindi reading skills in children of Grades I to VIII.** Accordingly, the study aimed to investigate and explain the presence of literary deficits in **Hindi speaking children with Learning Disability.**

Chapter 2: Preparation, administration and scoring

General guidelines

1. ERS-Hindi is designed for use by speech language pathologiosts
2. The administration time is approximately 30 minutes depending upon the cooperation of the child
3. Familiarization: It is important to familiariza fully with ERS-Hindi well before starting the test. This involves reading through this manual carefully, familiarizing with the procedure, scoring pattern and interpretation for each section.

Instructions for subtest administration and scoring for following sections and subsections of ERS:

	Sections	Subsections	Levels
I	Perceptual Discrimination Skills	Auditory Identification Level	-
		Auditory Recall Level	-
		Auditory Discrimination	-
		Auditory Perceptual	-
		Visual Discrimination	1
			2
		Visual Perceptual	-
II	Phoneme /Syllable – Grapheme/Letter Correspondence	Beginning Consonant	1
		Ending Consonant	
		Consonant Blends	
		Vowel Sounds	
		Beginning Consonant	2
		Ending Consonant	
		Vowel Sounds	
III	Blending Test	-	1
		-	2
IV	Structural Analysis Test	-	1
		-	2
		-	3
V	Reading	-	1

	Passages	-	2
		-	3
		-	4

Administration Guidelines:

1. The instructions should be read out from the booklet to the participants.
2. Take care to make the participants feel comfortable before and during the testing.
3. The children should be tested individually in a single session in a quiet, noise and distraction free environment.
4. Testing can take place during school hours in private testing spaces on the school premises also.
5. The study should be explained verbally to the participants.
6. After the children have been given a period of time to become comfortable with the experimental setting; give each participant a copy of the test along with a pen/pencil.
7. The audio video recordings of the sessions can be carried out while administering the test.
8. For each subtest, the items are to be presented in the fixed order.
9. Each participant should be given reasonable amount of time to respond. If required stimulus word or instructions can be repeated again. When the correct response is obtained, verbal reinforcement should be given to maintain motivation level.
10. Before testing establish rapport and after testing appropriate rewards can also be given to the child.

Instructions for Subtest Administration and Scoring

Section I: Perceptual Skills- Testing of perceptual skills included:

A. Auditory Identification Level: This test was selected because it provides information about a child's ability to identify different letters. In the test, the child is given a sheet with row of

letters. The letters are orally presented to participants, and each participant is asked to circle the letter the tester names. The test has 26 items. e.g.: point to the letter A along that row.

B. Auditory Recall level: This test requires the child to read the underlined letters in each row. There are 26 items in this test. e.g.: tell the name of the letter underlined N.

C. Visual discrimination test: This test begins with items that are dramatically different from each other. There are both letters and shapes. It consists of matching to given sample items. In each problem, a figure, letter, or letter group is given first and a series of items appear to its right. The test is administered in two parts: Level I (geometric shapes and individual letters) & Level II (words and nonsense syllables). There are 17 items each in both levels.

   Level 1: Prerequisite skills for letter identification include visual discrimination of shapes, and differentiating between straight and curved lines. Child must be able to recognise the different symbols, perceive their direction, tell the difference between similar shapes and determine where these are located in relationship to each other. Students must also be able to discriminate between random symbols, letters, and numbers. The ability to perceive the shapes of objects and pictures is an important skill for the developing child to acquire.
   e.g.: □ -----◺ ⬭ □ ◇

   Level 2: Visual discrimination involves the ability to perceive letters accurately by noting likenesses and differences in them. The learning of the letters of the alphabet, syllables, and words will undoubtedly be impeded if there is difficulty in perceiving the form of the letters, syllables, and words. Beginning readers often misperceive letters that are similar because they have not yet internalized the differences.
   e.g.: bp --- bq pd bd bp

D. Auditory discrimination test: The test is administered orally to an individual child who is seated such that neither the examiner's mouth nor the words on the test form are visible to the child. The examiner reads each word-pair only once, and the child indicates whether the word-pair consists of different or identical words. The test contains 30 word pairs, 21 of the pair are dissimilar (7 varying in the beginning, 7 in the ending and 7 in the medial position).

The other 9 are identical pairs to ensure that the child is not responding by rote. e.g.: pat – pan

Section II: Phoneme Grapheme Correspondence Test- Phoneme-grapheme correspondence test does not necessarily require knowledge of spelling, but rather an understanding of the letters related to particular sounds in words. It is assessed in two levels:

Level 1: This level assesses the ability to write the correct letter from a word clue.

A. Beginning consonant: It consists of 18 words and the child is asked to identify initial consonant sound of the words. e.g.: write the beginning letter of dog - d
B. Ending consonant: In this identification of single consonants at the end of words are tested using a list of 15 words. e.g.: write the letter at the end of dog - g
C. Consonant blends: This part deals with identification of the letters constituting a blend. The child is instructed to write the two letters that form the blend sound at the beginning of the word said by the tester. It consists of 20 blends. e.g.: write the two letters t the beginning of blast - bl
D. Vowel sounds: This part tests the student's ability to recognize vowel sounds: both long and short single vowel sounds that appear in the middle of the word in the consonant vowel configuration. The child is provided by a list of the vowels in Hindi and asked to identify the vowel in the word named by the tester. The test has 10 words. e.g.: hen - e

Level 2: This tests the identification of the initial/final consonant of a word, when a target consonant is provided before starting the test. The child is instructed to put a (✓) mark in the box beside the number of the word on the answer sheet, if the word said by the tester begins/ends with the sound of the target consonant.

A. Beginning consonant: It consists of a list of 30 words, testing 6 consonants at the initial position.
   e.g.: b. 1. bat 2. cat 3. big 4. beautiful
   b. 1. ✓ 2. ✘ 3. ✓ 4. ✓
B. Ending consonant: It consists of a list of 30 words, testing 6 consonants at the final position.

e.g.: t. 1. get 2. come 3. fat 4. forget

t. 1. ✓ 2. ✘ 3. ✓ 4. ✓

C. Vowel sounds: This tests the identification of medial vowels. The examiner says three words, out of which two have the same middle sound. The child is asked to tell the two words which have the same middle sound. e.g.: "bet mess bill" --- bet & mess have same middle sound.

Section III: Structural Analysis Test - Structural analysis skill is assessed by asking learners to divide compound words or to underline the root word or the affix in words with prefixes and/or suffixes. It is also tested in different levels:

Level 1: It deals with the earlier set of regular and irregular inflectional endings within contexts. It has 10 fill-in-the-blank sentences with 3 options for each.

e.g.: The boy was _____ the horse. (ride/riding/rided)

Level 2: It deals with a series of affixes and requires identification of words according to meaning of affix. It has 8 items with three items in each set.

Circle the word which indicates plural: baby babies baby's babied

Level 3: It deals with the child's ability to identify roots within words. The test had four rows of words each out of which three have a common root. The fourth word looks as if the root could be the same, but the meaning and/or pronunciation identify it as being different from others. The child must cross out the word that doesn't belong to the group.

e.g.: underline the root word: recount ~~country~~ counties uncounted

Section III: Blending Test - Phonetic blending is the ability to join phonemes in a smooth enough manner to approximate a pronunciation that enables identification of the word. It is assessed in two levels:

Level 1: It uses picture clues in Rebus style and is meant for less mature children. It has 12 items.

e.g.: t +  = train

Level 2: It requires more reading skills but uses the identification level for answers. It has eight items. e.g.: str+ite str+ide str+eed

Section IV: Oral Reading - This test included four short passages. The passages were arranged in the order of decreasing level of cohesion and increasing level of complexity. Low-cohesion passages contain a higher number of pronouns, fewer causal connectives, and more filler text between inferences. All the first three passages are narrative while the last one is an expository text. The passages contained the following number of words: Passage 1 (44 words), Passage 2 (227 words), Passage 3 (357 words) and Passage 4 (522 words).

Items: Four questions were created for each passage, which also vary from simple to complex (requiring inferential skill). For the first question after each story, students were required to make a setting inference. The setting questions were considered fairly easy and were included for students with poorer inference skills. For the other two questions, students were required to make causal inferences. Therefore, to create a range of difficulty in the items and to better differentiate good and poor comprehenders, two causal inference questions were developed for each passage. The first causal inference question required students to integrate clues in the text across shorter amounts of text and the other required integration across longer amounts of text. For each passage, the order of the questions remained the same: (1) setting, (2) causal-near, and (3) causal-far.

Chapter 3: Development and standardization of ERS-Hindi

Test construction

The translation of the test material required a thorough review of the available literature on sequential reading acquisition skills, followed by judgment of the appropriateness of the content by a committee of experts consisting of a linguist, a speech language pathologist and another qualified speech language pathologist in the field of clinical services (all of them fluent in both Hindi and English, and with a recognized degree in their respective areas of specialization). The committee was involved in translating tests from source language to target

language, emphasizing on thematic translation in local languages rather than literal translation of a test (Peters & Passchier, 2006), because word-for word translation can often be inadequate in addressing linguistic and cultural differences (Hilton & Skrutkowski, 2002). Adaptation of ERS in Hindi language was the combination of close translation of the parts of the instrument that are assumed to be adequate in the target culture, such as test instructions and items of perceptual skill test, and a change of other parts when a close translation would be inadequate for linguistic, cultural, or psychometric reasons (Hambleton & De Jong, 2003; Harkness, Mohler, & Van de Vijver, 2003), like sections assessing structural analysis abilities.

Pilot testing

A pilot study was carried out as a preliminary try out and for familiarization of administration. The pilot showed a possibility that the test battery, if validated only on English medium students, could give false positives for students from a Hindi medium. Therefore, the data set was divided into two equal groups in order to accommodate an equal number of participants from both Hindi medium State Government school children (Lower SES) and English medium public/private school children (Middle SES), so that test items specifically sensitive to differences across both the group of participants could be revealed.

Standardization

The final version of the test was administered on 160 typically developing children (TDC) between the ages of 6-13 years studying in any Standard between I to VIII, 20 children (10 males and 10 females) from each grade, in a school following the academic curricula proposed by Central Board of Secondary Education (CBSE) and using textbooks approved by the National Council for Educational Research and Training (NCERT, New Delhi). The participants were divided into two groups according to the medium of instruction in the respective schools: TDC who were being educated in a Hindi medium school (TDCH) or TDC who were being educated in an English medium school (TDCE). Each group had 80 TDC belonging to Grade I to VIII. Since previous research predicted a predominantly higher SES opting for private education (Tilak, Jandhyala and Sudarshan, 2001), the two groups of TDCH and TDCE was to a certain extent assumed to represent a lower and a higher SES respectively. The duration of administration was 30 minutes and an audio video recording was carried out.

The inter judge reliability was done by retesting of 10% of the audio video recorded data and about 10 percent of participants were randomly selected from the original sample to provide evidence of the validity of the adaptation. The developed test was then administered on sixteen children with Learning Disability (CLD).

Chapter 4: Instructions for Scoring

A common scoring system is used for all the subtests. A score of 1 is given for each item answered correctly. Therefore, the maximum score for each subset varies according to the number of items in it. The method for scoring for identification of medial vowels is slightly different. Here the score of 1 is given if the participant answers both the questions correctly. If 1 question is answers, then half point is given.

Sections	Subsections	Levels	Maximum Score
Perceptual Discrimination Skills	Auditory Identification Level	-	26
	Auditory Recall Level	-	26
	Auditory Discrimination	-	30
	Auditory Perceptual	-	82
	Visual Discrimination	1	17
		2	17
	Visual Perceptual	-	34
Phoneme/Syllable-Grapheme/Letter Correspondence	Beginning Consonant	1	18
	Ending Consonant		15
	Consonant Blends		20
	Vowel Sounds		10
	Beginning Consonant	2	30
	Ending Consonant		30
	Vowel Sounds		10
Blending Test	-	1	12
	-	2	8
Structural Analysis Test	-	1	10
	-	2	10
	-	3	24
Reading Passages	-	1	4
	-	2	4
	-	3	4
	-	4	4