

**DEVELOPMENT AND STANDARDIZATION OF READING PASSAGES
FOR CHILDREN IN KANNADA**



A project funded by AIISH research fund (2018-2019)

**All India Institute of Speech and Hearing
Manasagangothri, Mysuru -570006**

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Project Report

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ABSTRACT

Reading passages plays an important role in the assessment of speech skills such as fluency, articulation, and voice, also aids in the assessment of reading abilities. The present study aimed to develop the reading passages for school children ranging from grade III through grade VII in the Kannada language and also to standardize the passages after administration. The Kannada language textbooks from grade III through grade VII grades were collected and a total of 15 passages were prepared. The developed passages were measured objectively using the grade level measurement formula. Content validation was checked by the school teachers having their native language as Kannada with a minimum teaching experience of three to five years. The finalized reading passages were administered on 450 typically developing children who were further divided into three groups i.e., State syllabus English Medium, State syllabus Kannada medium and Central Board of Secondary Education (CBSE). All the recorded samples were analyzed with regard to errors, accuracy, the total time taken to read each passage, and words read per minute across grades III to VII. The results revealed significant differences between the groups as well as between the grades across all the parameters i.e., Total duration, Words read per minute and Accuracy. The progression in the words per minute and the accuracy with the age indicated that the reading passages are valid measures of reading skill and sensitive to reading development. The students from CBSE schools have shown generally better reading skills compared to other groups at lower grades whereas at higher grades State syllabus Kannada group have shown better performance. The present study results can be utilized to categorize the clinical population pertaining to their grade level reading performances.

CHAPTER-I

INTRODUCTION

Oral Fluency is defined as the effortless production of long and continuous utterance at a rapid rate (Starkweather, 1987). The fluent reading is comprised of three key elements: accurate reading of the connected text at a conversational rate with appropriate prosody or expression. Reading is considered as a complex process involving multiple linguistic and cognitive challenges. A reader is considered as fluent when he doesn't easily get distracted and reads in an effortless and flowing manner. Reading fluency helps in distinguishing good readers from the bad readers and also it helps in predicting the comprehension problems.

The Oral Reading Fluency assessment plays an important role in screening, where the assessment focuses on reading skills that predict future reading growth and development, conducted at the beginning of the school year to identify children likely to need extra or alternative forms of instruction. It also aids in making diagnosis, where the assessment conducted at any time during the school years where a more in-depth analysis of a students' strengths and needs is necessary to guide instructional decisions.

The oral reading fluency also plays an important role in monitoring the progress. The assessment conducted at a minimum of three times a year or on a routine basis (e.g., weekly, monthly, or quarterly) using comparable and multiple test forms to estimate rates of reading improvement. Oral fluency aids to identify students who are not demonstrating adequate progress, who may require additional or different forms of instruction, to evaluate the effectiveness of different forms of instruction for struggling readers, to provide direction for developing more

effective instructional programs for the challenged learners, to measure the outcome, and to determine whether students achieved grade-level performance or demonstrated improvement.

The reading ability has been reported to be varied across languages with differing scripts where the sound-symbol system of each language is different. Apart from reading words, reading non-words and oral reading passages also have been utilized to assess the grapheme-phoneme correspondences and it also helps us to understand whether the child is using a phonological route to decode the non-words. Further, the oral reading passage provides an opportunity to observe motor speech performance on tasks that cannot be assessed in isolation, such as prosodic variations. It also provides information regarding the context within which speech sounds are produced and the nature of the errors made, as well as examining the supra-segmental structure of utterances. Further, reading ability measures may provide an understanding into deficits at different dimensions of speech production.

Researchers investigated the relationship between the complexity of reading passages and the frequency and disfluency type. Cecconi, Hood, and Tucker (1977); Blood and Hood (1978) utilized 200-word passages from the "Houghton Mifflin Readers" (Durr, 1974) corresponding to the grades two to nine. Further, to evaluate the impact of controlling two antecedent stimuli events with respect to errors while reading and self-corrections, Singh and Singh (1984) reading passages were taken from the 'Ready to Read' book series. This series included storybooks that are sequenced and graded in terms of reading age. Authors (O'Shea, Lawrence, Paul & Dorothy, 1985; Gansley, VanDerHeyden, Noell & Williams, 1998) reported that the curriculum-based measurement passages provided a good index of reading proficiency and reading comprehension. Several researchers used GORT-3(Gray Oral Reading Test, third edition; Wiederholt & Bryant, 1992) to assess the reading rate, accuracy, fluency, and comprehension, in their study. The test

comprises of 13 passages. Every passage incorporates one paragraph, centered on a single theme. The passages length, sentence length, grammatical complexity, and vocabulary difficulty increased during the course of administration of the entire testing.

In the Western context, Shipley and Macafe (2004) have described the variety of passages such as Swimming; Grandma is coming; Nicknames; The amazing spider; and the Toothbrush passage that could be used to analyze the speech of school-going children. Similarly, Powell (2006) have compiled various passages such as Arthur the Rat passage (American University in the Emirates version), Comma Gets a Cure passage (Honorof, Cullough, & Somerville, 2000), The Farm Passage (Crystal & House, 1982), The Hunter Passage (Crystal & House, 1982), If passage (Kipling, 1940), The Limpy Passage (Wilson & Rice, 1977), My Grandfather passage (Darley et al., 1975), The North Wind and the Sun (International Phonetic Association, 1949), The Picnic passage (Wilson, 1987), The Rainbow Passage short version (Fairbanks, 1960), The Rainbow passage long version (Fairbanks, 1960), The Trip to the Zoo passage (Wilson, 1987), The Virginia Theatre passage (source unknown), Your Rate of Oral Reading passage (Fairbanks, 1940) that could be used to analyze the speaking skills of adults.

Other researchers report that DIBELS oral reading fluency could be used to examine the order of presentation of passages while assessing the oral reading fluency (Kaminski, 2002; Francis, Santi, Barr, Fletcher, Varisco & Foorman, 2008; Logan & Petscher, 2010). Leslie and Caldwell, 2011; and Wise et al., in 2013 reported that 'Qualitative Reading Inventory' could be used to assess the Reading fluency and the prosody in children. Ben-David, Moral, Namasivayam, Erel and Van Lieshout (2016) developed a new passage titled as "My First Day" as the traditional passages (Rainbow passage) were found to have several disadvantages such as the inclusion of less familiar words and non-neutral words. To study the acoustic differences in persons with

dysarthria and normal healthy adults, Kou and Tjaden (2016) used 'John Passage' developed by Tjaden and Wilding (2004).

Few studies have focused on the effects of Socioeconomic Status, Parent-Child relationship, and Learning Motivation on reading ability. Cheng and Wu (2017) showed some evidence regarding the associations among Socio-economic status and in the children's reading comprehension. These differences could be explained by Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1986) and the family investment model (Conger & Donnellan, 2007). According to the ecological systems theory, sustained proximal environments such as family would affect the child's development directly, including the reading development. According to the family investment, the high-SES families might provide financial, human, and social capital to provide their children a richer learning environment, to foster better attitudes toward reading for their children and to help their children learn. However, students from low-SES backgrounds tend to lack access to a variety of material and social resources that support reading development.

In addition, Burgees, Wilson, and Worth (2013); Chen, Kong, Gao and Mo (2018) also reported that the parent-child relationship played a mediating role between Socio-Economic Status and reading ability. Further, the influence of the environment on reading abilities is explained by Logan, Hart, Cutting, Deater-Deckard, Schatschneider, and Petrill (2013) where they reported that genetic influences were related primarily to those already present at the initial level of performance. However, environmental influences affecting the rate of growth were both predicted by and independent from initial levels of performance. It is concluded that the growth in early reading skills is amenable to family, school, or other environmental influences as reading skills develop.

In the Indian scenario, few studies are done in various languages that focus on the development of reading passages to assess various speech and language aspects in children as well as in adults. Rathna and Bettagiri (1972) developed passages for screening as well as for the diagnosis of articulation disorders in the Kannada language. Several studies (Ramaa, 1985; Loomba, 1995; Prema, 1997; Priyadarshi, Goswami, & Sen, 2012) utilized the reading passages that were selected from the children's textbooks were used to measure the reading comprehension of children in Kannada and Hindi languages respectively. Savithri and Jayaram, 2004; 2005, utilized 300 words reading passages to assess the rate of speech in four Dravidian languages namely Kannada, Telugu, Tamil, and Malayalam. The authors utilized 1000 words reading the passage to study the rhythm of speech in Indo-Aryan languages such as Kannada and Hindi. Shashidhar (1984) used 'combined' (Bengaluru passage) and a 'voiced passage' (Krishna Nadi passage) to analyze the speech sample of a person who stutters.

As mentioned above, most of the passages such as 'Bengaluru' passage and 'Krishna Nadi' passage in Kannada are developed for adults. Also, four 300 words passages were developed across various languages to assess the speaking abilities of adults. Few reading passages such as 'Raviya nayi', 'Ranga mattu nayi' , 'Kuri kayuva huguga', 'Aane, Kalla mattu avana nayi', 'Biraballana jaanatana', 'Chaadi maatu' and 'Arasana tappu' (Prema, 1997) are available for children in Kannada language mainly to assess the reading comprehension, however are not standardized on the population. Further, the reading passages concerning increasing complexity and grade level are not available. Hence, the current study is planned to develop and to standardize the reading passages for children ranging from III-VII grade in Kannada.

Need for the study: Reading passages used during oral reading are of high significance for assessment of articulation, voice, fluency, reading abilities. The reading task would help in scoring the individuals' responses objectively and identify the individuals' communicative ability and deficits. We can also chart the desirable behaviors i.e. the correct sound productions and fluent productions and vocal productions etc. Also, we will be able to chart the undesirable behaviors such as the misarticulations and specific disfluencies (frequency, duration of the disfluencies, physical concomitants such as the facial grimaces and avoidance behavior). Also, specific language features like the usage of copula verbs, plural morphemes, verb phrases, word-finding difficulties and circumlocutions can be assessed. This would also help us in providing the baseline for assessment that helps in making the diagnostic decisions and also demonstrating the progress during the treatment program. The reading passages available in the Kannada language are mostly applicable to adults. Few reading passages are available for children; however, it needs to be standardized. Further, the reading passages concerning increasing in complexity and grade level are not available as per our knowledge. Also, the differences in the development of reading in children with different languages as a medium of instructions (English, Kannada and CBSE) may exist and hence, these differences may also need to be investigated.

Aim of the study: The current study aimed to develop reading passages for Kannada speaking children across various grades and standardize the same.

The specific objectives of the study included:

- To develop reading passages with increasing complexity for children between grades III to VII
- To standardize the developed reading passages on children (8-12 years) between grade III to VII studying in State board (Kannada an English medium) and Central board of secondary education (CBSE)
- To compare the reading performance across third grade through seventh-grade children and medium of instructions.

CHAPTER II

REVIEW OF LITERATURE

Oral reading passages have been utilized to extract speech samples from people with various communication disorders. Oral reading passages are frequently utilized to analyze the reading accuracy, fluency, and comprehension that cannot be noted directly from the silent reading. The purpose of a reading passage is to observe the integrated performance of the speech production system, the best clinical practice would support embedding some of the syllable and word repetition tasks of the motor speech evaluation within the reading passage, to observe differences between isolated and connected speech performance. Moreover, the reading passage provides an opportunity to observe motor speech performance on tasks that cannot be assessed in isolation, such as prosodic modulation. Further, the reading passages provide information regarding the context within which speech sounds are produced and the nature of the errors made, as well as examining the supra-segmental structure of utterances, may offer understanding into deficits at different dimensions of speech production.

The amplexness of the sample and the suitability of the passage must be considered prior to choosing a reading passage for clinical or research purposes. Passages with complex words and lengthy reading passages probably provide more information for speech analysis. However, it may be challenging for the individuals who have limited reading abilities such as spoken language disorder, person with aphasia, Dysarthria etc.

A variety of reading passages have been reported in the literature, for assessing oral reading in children (Mcafe & Shipley, 2004). The passages such as, Swimming (Kinder garden to the first-grade level), Grandma is coming (first grade to second grade), Nicknames (third grade to

fourth grade), The amazing spider (third grade to fourth grade), The toothbrush (fourth grade to sixth grade) has been reported. All of the consonant phonemes of the English language are included in each passage and these passages vary with respect to their graded complexity.

Other than the passages that are mentioned above, Powell (2006) described various other passages available for adults to assess the individual's speaking abilities and also described the parameter that distinguishes from one another. The passages included; Arthur the Rat passage, Comma Gets a Cure passage, The Farm Passage, The Hunter Passage, If passage, The Limpy Passage, My Grandfather passage, The North Wind and the Sun, The Picnic passage, The Rainbow Passage (short and long version), The Trip to the Zoo passage, The Virginia Theatre passage, and Your Rate of Oral Reading passage. The phonetic and the structural transcripts of every passage were prepared. In the phonetic transcription, the number of syllables, phonetic inventory, consonant distribution and consonant clusters were analyzed. The structural transcription was used to provide information about the Total number of words, Number of sentences, Type-token ratio, and Mean length of utterance using Systematic Analysis of Language Transcripts software. The outcomes revealed that the structural complexity, length, and the lexical complexity separated the passages from each other. The Limpy passage and North Wind passage were the shortest passages among all and these passages provided very limited information. Longer passages tend to provide more information, but they may be challenging for the individuals with limited reading skills or with less stamina. He also found that 'My Grandfather' and the short version of 'The Rainbow Passage' provide relatively brief information and can be used for older adults. For people with limited reading skills or less stamina the 'Farm Passage' can be used as it is limited to monosyllabic words only and for children, 'The Picnic' and 'A Trip to the Zoo' passages can be used in children.

Recently, a novel reading passage was developed by Patel et al. (2013) entitled as “The Caterpillar” passage for the primary purpose of augmenting current motor speech assessment protocols. Passage formulation pursued a multistep procedure in which a subset of speech tasks utilized in motor speech assessment that would be enlightening for differential diagnosis and treatment planning. In addition to that task that addresses the prosodic disturbances that may not be evident in syllable and word repetition tasks. Next, the passages were reviewed in the clinical and research domains to archive the traits that target motor speech impairments as well as identify potential enhancements. The accompanying criteria was utilized to design the novel passage: balance of passage length with breadth of tasks for clinical efficiency; comprehensive phonotactic coverage to examine speech repertoire; inclusion of word and sentence forms that examine respiratory, phonatory, articulatory, resonatory, and prosodic control ; insertion of isolated speech motor tasks for comparison within connected speech (e.g., mono- and polysyllabic word forms, words of increasing length, repeated words, etc.) ; use of contemporary vocabulary and simple syntax to focus on speech production abilities while minimizing cognitive load.

In western context, various studies are done utilizing the reading passages to study the reading ability, oral fluency, rate, accuracy etc. in normal as well as clinical population. Some of the studies are discussed below under various sections.

Reading ability in typically developing children

The effects of repeated readings and attentional cues on oral reading fluency were investigated by O'Shea et al. (1985). A total of thirty 3rd grade going children were considered for this study and California Achievement Test (Tiegs & Clarke, 1970) was performed prior to the presentation of oral reading passage. It was found that all the children performed equal or above to their current grade level in reading and the average reading rate of all the children was found to be 70-119 words per minute. Five reading passages from the series specific Skills Reading, Getting the Facts, Books C and D (Boning, 1963) were utilized for the study and the grade level was estimated using Fry Readability Graph (Fry, 1968). One of two experimental circumstances was randomly allocated to children; a cue to read rapidly and precisely and instructed to look at their copy of the passage and start reading orally. All three levels of the repeated reading variable were received by the children under both conditions: one, three, and seven readings following cues to attend to either reading rate or the meaning. The number of words read correctly and the total time taken to read each passage were analyzed to measure the reading rate. The results revealed significant effect for both repeated readings and attentional cues on oral reading fluency. Thus, both fluency and comprehension increased as the number of repeated readings increased. In addition, readers cued to fluency read faster but comprehended less than those cued to comprehension. These results suggest that increasing fluency is a less efficient means of improving comprehension than presenting cues about comprehension.

Reading models were tested by Shinn, Good, Knutson, Tilly and Collins (1992) using confirmatory analysis procedure to examine the relation of Curriculum Based Measurement (CBM) oral reading fluency to the reading process from a theoretical perspective. He considered 114 third- and 124 fifth-grade students as participants of the study. The CBM passages were developed by randomly selecting eight stories from the Harcourt-Brace Jovanovich basal reading

at each grade level and examining each passage's readability using the Spache, Dale-Chall, and Fry readability formulas and selecting one passage with difficulty approximating beginning grade level and one passage with approximately ending grade level difficulty. Each passage comprising of 250 words the participants were asked to read the passages aloud for 1 minute and the samples were audio recorded. The samples were analyzed for the number of words that are read correctly, words that are read wrongly, self corrected words and repeated words. The words that are self-corrected less than 3 seconds and the repetition of the words were scored as correct. Substitutions, Omissions, and struggling with a word for more than 3 seconds were considered as incorrect. The results revealed that for third graders, a unitary model of reading (decoding, fluency and comprehension were not distinct) was validated with all measures contributing significantly. For fifth graders, a two-factor model (reading fluency was defined as a part of decoding construct and comprehension) was validated paralleling current conceptions of reading measurement. Nevertheless of the factor models, Curriculum Based Measurement oral reading fluency provided a good index of reading proficiency, including comprehension.

A brief experimental analysis was used by Eckert, Ardoin, Daly and Martens (2002) to evaluate the relative effectiveness of combining two consequences (contingent reinforcement or performance feedback) with an antecedent intervention (listening passage preview and repeated readings) on the oral reading fluency of 6 elementary students. Reading passages were selected from the first, second, and third grade levels of the Silver, Burdett, and Ginn, Inc. (1991) reading series. For each passage, a readability index Spache (1953) was calculated and the only reading passages with similar readability indexes for each grade level were used. For each grade level, 15 passages were selected with the average passage length of 89 words for the first-grade passages (range, 44 to 117), 99 words for the second-grade passages (range, 81 to 121), and 107 words for

the third-grade passages (range, 88 to 124). The average number of sentences was 12.60 for the first-grade passages (range, 6 to 15), 10.36 sentences for the second-grade passages (range, 6 to 18), and 8.96 sentences for the third-grade passages (range, 6 to 23). The number of words read correctly per minute (WRCM) was calculated for each session after the number of errors was subtracted from the total number of words read. A word was scored as correct if the participant read the word correctly in 3 secs. or self corrected a mispronounced word within 5 secs. A word was scored as an error if the student mispronounced a word, substituted another word, omitted a word, or did not read a word within 3 secs. In addition, if an entire line of text was skipped, the number of words contained within the line was subtracted from the total number of words read and error one was recorded. The outcomes of the study indicated that the antecedent intervention increased the number of correctly read words per minute for all 6 students. For 4 of the students, pairing the antecedent intervention with either of the consequences resulted in higher reading rates over the antecedent intervention alone. Undifferentiated results were obtained for the remaining 2 participants. These results suggest that combining an antecedent intervention with consequences may enhance the oral reading fluency of students with reading problems. However, individual responsiveness to the different intervention components indicates that brief experimental analyses are warranted to identify the most effective intervention.

GORT-3(Gray Oral Reading Test, third edition; Wiederholt & Bryant, 1992); a proportion of reading rate, accuracy, fluency, and comprehension was used by Craig, Thompson, Washington and Potter (2004) to examine the appropriateness of the GORT-3 for assessing the reading abilities of elementary-grade African American students. The authors considered 65 typically developing African American Children second through fifth graders as the participants for assessing the reading abilities of elementary-grade students. They utilized GORT-3(Gray Oral

Reading Test, third edition); a proportion of reading rate, accuracy, fluency, and comprehension was used to administer on the participants. The major purpose of this investigation was to examine the appropriateness of the Gray Oral Reading Tests–Third Edition (GORT-3; Wiederholt & Bryant, 1992) for assessing the reading abilities of elementary-grade African American students. The test comprises of 13 passages. Every passage incorporates one paragraph that is centered on a single theme. An increment in the test passages varied w.r.t. word length, sentence length, grammatical complexity, and vocabulary difficulty. The test yields raw scores, standard scores, percentiles, and grade-equivalent scores. It provides separate assessment of fluency and comprehension. The fluency assessment comprises of a Rate (i.e., the length of time taken to read each passage) and an Accuracy (i.e., number of deviations from print) score that are combined to form a Passage Score. Students were presented with individual booklets containing all of the GORT-3 passages. They were told to read each story as loud as fast and precisely as possible. The second graders started with story one, third and fourth graders with story three, and fifth graders with story five. Both the child and the examiner were audio-recorded with a Marantz PMD430 (Itasca, IL) audio recorder in a quiet room in the child’s school using Audio Technica ATH-COM1 (Stow, OH) headworn microphones. The oral reading of each passage was timed in seconds. Time was converted to rate scores using conversion tables. For Accuracy, number of deviations from print was summed. The sums were converted to Accuracy Scores using conversion tables. The Passage Score was the sum of the Accuracy and Rate Scores. The results showed that the African American English (AAE) was produced by most students while reading passages from the GORT-3 that were written in Standard American English (SAE). The second graders produced significantly more AAE features than did the third through fifth graders. Hence, GORT-3 was appropriate for assessing the oral reading of SAE text by African American

students. The students who produced AAE used increased accuracy and decreased rate, indicating that total feature production impacted these aspects of reading performances, but the influences were not strong.

The generality of Daly et al.'s (1996) findings were examined with respect to difficulty level (easy and hard) and its effect on students' ability to generalize reading responses and also to examine whether instruction and reward could be combined to produce generalized increases in reading fluency. Daly, Bonfiglio, Mattson, Persampieri, Foreman-Yates (2005) considered, thirteen 2nd grade students and thirteen 3rd grade reading passages were chosen randomly from the Silver, Burdett, and Ginn basal reading series (1991). Only narrative and expository texts were used. Passages contained approximately 170 words. Readability scores for the passages were computed using the Spache formula (Spache, 1953). Passages with high content overlap (HCO) were the generalization passages that contained a high percentage of the same words in a corresponding instructional passage (Daly et al., 1996). The HCO passages were created by rewriting the original passages, using the majority of words from the original instructional story. Therefore, there was one HCO passage for each instructional passage. Readability scores for the passages were also computed for HCO passages using the Spache formula (Spache, 1953). The percentage of word overlap with instructional passages was calculated by dividing the number of words that appeared in both passages by the total number of words in the HCO passage. The mean word overlap was 87% (range, 80% to 95%) for all passages. Sessions were conducted 4 days per week until each condition had been administered four times to all participants. Each session lasted approximately 10 to 25 min. Only one condition was administered per day. The student was rewarded for reading the next passage at the predetermined fluency and accuracy levels. If the student did not meet the criterion, the experimenter made an encouraging statement

(“nice try”) and told the child that he could try to earn the reward the next time they read together. The student was not allowed to take the reward. The results demonstrate the importance of combining reward and instructional variables (including difficulty level) to produce generalized increases and how those variables can be meaningfully investigated prior to making treatment recommendations.

The effect of combined repeated reading and question generation intervention on improving the reading abilities of school going children was examined. A total of thirty students (fourth grade= 13, fifth grade= 10, seventh grade = 6, and eighth grade =1) were considered as the participants of the study by Therrien, Wickstrom, and Jones (2006). All the children were diagnosed as having learning disability or at risk for learning disability. 300 word reading passages were used during intervention program and the passages were selected from the text book of grade 1 through grade 6. The words were selected from the original text and story was generated by six graduate assistants. The length of the passage was set so that the time taken to read each passage was about 1 to 1.25 minutes. All were narrative passages. The results showed that student’s ability to answer the question and the reading speed was improved in the repeated reading condition.

Francis et al. (2008) considered 134 children studying in the second grade to examine the order of presentation of passages while assessing the oral reading fluency. DIBELS oral reading fluency (Kaminski, 2002a) for 2nd grade children consisted of 29 passages in total, 20 passages were read in order throughout the year and the other nine passages served as criteria for the beginning, middle, and end of the year. In this study, six passages were randomly selected out of 20 passages that were read throughout a year. The grade level was measured for all the six passages using Spache readability measures and it was found that all the passages had an average

grade of 2.65. Every child was made to sit comfortably and the passages were presented randomly to them. All of them were asked to read the passage aloud for 1 minute and the words correctly read by the children were noted by an examiner. The mean fluency rates of 6 passages varied from 67.9 to 93.9. However, no difference was seen in the order of presentation on oral reading fluency.

A cross sectional study was conducted to determine whether the reading performances of the students varied among the Average level students; English language learners; minority students; and students eligible for free or reduced priced lunch by Logana and Petscher (2010). The oral reading fluency was measured at four points during the year in a large cross-sectional sample of first, second, and third grade students. The reading rate and the accuracy were analyzed using DIBELS ORF. Words that are substituted, omitted and self corrections were noted. If the words are self corrected by the child within 3 seconds then that word was considered as correct. If self correction lasted for more than 3 seconds then that word was scored as wrong. The results indicated that schools were able to be classified into four distinct groups based on their concentrations and types of at-risk students. Further, in all three grades, there were significant differences between the four identified groups observed in average reading fluency scores at the beginning of the year, the end of the year, and growth during the year indicating that groups based on school-concentration of at-risk students were significantly related to average student achievement in reading ability.

The Reading fluency and the prosody in children were assessed by Benjamin, Schwanenflugel, Meisinger, Groff, Kuhn and Steiner (2013) using a grade-level passage from the Qualitative Reading Inventory 5- QRI 5 (Leslie & Caldwell, 2011). The QRI 5 provides graded word lists and numerous passages designed to assess the oral, silent reading and listening ability

of students from the pre-primary through the secondary school levels. The passages to be read orally or silently assess the student's ability to read and comprehend different types of text. Passages can also be utilized to evaluate a student's listening level. At the primer and first grade levels, three narrative passages and one expository passage are presented with pictures. At second grade there are two narratives with pictures. The passages for third grade through fifth grade include three narratives and three expository passages at each level. The narratives for fourth through fifth grades are biographies of famous people who vary in their familiarity to students in these grades. At the sixth grade level, they included three narrative passages, two social studies passages, and two science passages. At the upper middle school level, there are six passages. Two passages representative of middle school literature selections are biographical or autobiographical in nature, two passages represent science content, and two represent social studies content.

The Oral Reading Fluency in children from Grades 6 through 8 was assessed by Barth, Tolar, Fletcher, and Francis (2014). They used thirty five passages ranging from 108–591 words. Every subject was presented with five different passages and they were asked to read out all the five passages at a time. The passages varied from each other with respect to Lexile, text type (narrative vs. expository), length, narrativity, syntactic simplicity, word concreteness, referential cohesion, and deep cohesion. The words read correctly per minute were analyzed and it was found that, the words correctly read per minute increased with the grade level with a mean increase of 20 words. Hence, the study suggests that the WCPM can be one the characteristic to identify the grade level of the child.

The relationship between reading comprehension rate measures and broad reading skill development among first grade to third grade children passages were examined by Ciancio, Thompson, Schall, Skinner and Foorman (2015). A total of 30 passages (10 per grade) were

developed. The total words of the passages ranged from 76 - 307 words. The passages were categorized as easy, average and difficult for each grade with respect to the sentence structure, usage of the vocabulary and word complexity. A total of 1425 children were considered for the study. Each child was randomly presented with three passages (easy, average and difficult) and they were asked to read the passage aloud and they were asked to answer the questions after reading each passage. The children were prompted by a correct word when they struggled for more than 3 seconds. The number of questions answered correctly and the total time taken to read each passage were analyzed. The study revealed that the average reading comprehension rate is one of the indicator of broad reading skills.

The effect of age on second grade children's reading performance was investigated by Vlachos & Papadimitriou (2015). Authors considered 287 children aged 7.1–8.2 years who were divided into two age subgroups (the younger, 85–91 months and the older, 92–98 months) and were examined in reading accuracy, fluency, and comprehension tasks. Words and pseudo-word reading was used to assess the reading fluency. To test the comprehension skills, The TORP subtest 13 (Padeliadu & Sideridis, 2000) was used. It included six passages of ascending length and text complexity that were followed by 2–4 multiple choice questions. The administration was discontinued if the student had failed to answer correctly all the questions following a passage or had severe difficulties with word reading. Results showed a significant effect of age in reading performance, with the older children having better scores than younger ones for reading fluency, reading comprehension, and the total reading performance. They reported that the age differences could be attributed to the continuous maturation of the visual and auditory temporal processing capacities necessary for a successful reading during school age years. From a neurobiological point of view, the differences in reading performance were found in the study between younger

and older second-grade students. It could be attributed to differences in brain maturation and hemispheric lateralization for language processing between these two groups. In a very recent functional magnetic resonance imaging study, young beginning readers (aged 8.3 years) with age-appropriate reading skills displayed a left hemispheric dominance characteristic for language processing already by grade two, while their poor readers peers displayed a more bilateral activation pattern. This points to an increased effort and the emergence for compensatory strategies for reading and the phonological processing just 1.5 years after the start of formal reading instruction. It was also found that the maturation of the white matter may play a key role in the development of cognitive processes such as reading.

Reading ability in Children with Intellectual disability

The impact of controlling two antecedent stimuli event with respect to errors while reading and self corrections was evaluated, by Singh and Singh (1984) considering 4 children having moderate degree of Intellectual disability. An alternating treatment design was used to compare the impact of discussing the target text with the children before they read the passage orally (previewing condition) versus discussing the unrelated text with the children before they read the passages orally (previewing with unrelated text) and no previewing condition. The reading passages were taken from the Ready to Read book series. These series includes story books that are sequenced and graded in terms of reading age and several supplementary readers at each age level. These books were matched for difficulty on basic words with those from the other series. All students were familiar with books from both series but had not previously read those used in the study. For each child, a set of 100 words passage were randomly assigned to each of the three experimental conditions: previewing the target text, equivalent time spent in previewing an unrelated text, and a no preview condition. All the samples

were audio recorded. Each subject took 5 minutes to read the 100 words passage. The results indicated that in previewing the target text condition, self correction was found to be more and the oral reading errors were found to be less. However, no differences were observed in the other two conditions, i.e., previewing an unrelated text and no-previewing. The outcomes of the study were consistent over each of the four children and it demonstrated that the reading proficiency can be increased by controlling the antecedent stimulus events before the oral reading.

Reading ability in Children with Learning disability

The instructional order to analyze the impact of the instructional interventions (subject passage preview) on participants' oral reading performance on passages was performed by Daly and Martens (1994). Four students with learning disabilities an average age of 10 years 8 months participated in the study. Twenty-eight passages of around 50 words each were chosen arbitrarily from the students' curricular basal reading series, which included only narrative and expository texts. Narrative passages, in general, depict moderately unremarkable occasions with which the vast majorities have some nature from an individual viewpoint. Expository passages, in general, depict authentic, social, as well as logical actualities from a non-individual target viewpoint. The participants were randomly presented with three passages from the third-grade reader in order to estimate oral reading accuracy and fluency. All the reading samples were audio-recorded. The oral reading fluency was calculated by counting the number of words read correctly per minute and reading accuracy was estimated by considering the percentage of correctly read words. Passages were then ranked from least to most difficult according to fluency and the accuracy of the words. The outcomes revealed that the passages were found to be difficult for all participants that indicated huge deficits in reading (below 80% accuracy and less than 60 words read correctly per minute).

The previous research reported instructional match was a student performance variable measured as the degree of accuracy and fluency, whereas content overlap was defined as the proportion of words in assessment passages that overlapped with instructional passages. Further, Daly, Martens, Kilmer and Massey (1996) conducted an experimental analysis of the effects of instructional match and content overlap on students' ability to generalize from passage reading instruction. Four students served as the participants of the study. These students were selected because they had performed below their grade level. They were instructed to read passages. Eight passages (ranging from 49 to 54 words) were selected from a phonics reading series. All of these passages were composed of single-consonant words only. The four passages for the instructional match condition contained a large percentage of single-consonant/short vowel words (ranging from 27% to 67%). Target phonics skills (in the sequence in which they were instructed) for the instructional match passages were short /i/, short /u/, short /e/, and short /a/. The other four passages for the instructional mismatch condition contained a large percentage of single consonant/ long-vowel words (ranging from 29% to 38%). Target phonics skills (in the sequence in which they were instructed) for the instructional mismatch passages were long /i/, long /e/ (twice consecutively), and long /a/. *The* students were instructed with passages at two levels of text difficulty (instructionally matched vs. instructionally mismatched), and generalization was assessed with passages at two levels of similarity to those instructed (low vs. high content overlap). The results indicated that students' oral reading accuracy and fluency showed the greatest degree of generalization when instructional materials were matched to the students' skill level and assessment materials were similar to those used during instruction. Moreover, these results were maintained at 1-month follow-up.

Reading ability in Children with Attention deficit hyperactive disorder

Literature reports that reinforced practice can contribute to developing fluency and may also increase the performance of skills that are already in the individual's repertoire. Hence, Noell et al.(1998) examined the effects of reinforcement contingencies that are designed to increase the performance of existing reading skills, the effects of instruction-modeling and practice, designed to increase skill level for oral reading fluency across three levels of reading materials and the combined effects of contingent, modeling and practice. Three boys (9 years old) were the participants of the study and these children were diagnosed as attention deficit hyperactivity disorder. The participants were beginning fourth-grade students who were of at least average intellectual functioning and whose parents expressed concern regarding their reading skills. Twenty-one reading passages at each grade level were selected randomly from *Harcourt Brace Jovanovich Treasury of Literature*, employing standard curriculum-based measurement guidelines for the selection of passages. Each participant's reading was evaluated using a multiple baseline design across three levels of reading materials and each session consisted of the participant reading three different randomly selected passages from one grade level. Participants were asked to read the passage aloud and to attempt each word. If a participant did not complete a word within 3 s, the experimenter told the participant the word and marked it as incorrect. Results showed that a combination of contingencies, modeling, and practice was effective in producing substantial increases in reading fluency for all participants at their assigned grade levels. These results demonstrate one strategy for experimentally determining those instructional components that are required to increase oral reading rate.

Reading fluency in persons with stuttering

The effect of varying the complexity of reading material on the frequency and the disfluency type in the oral reading of normally fluent elementary school children was evaluated by Cecconi et al. (1977). Authors selected eighty typically developing school kids (10 boys and 10 girls from Grades 3, 4, 5, and 6) as participants. The criteria followed for the selection of third-grade children included "average" academic performance and the absence of a specific learning or reading disability as judged by the classroom teacher. The criteria followed for the fourth, fifth, and sixth graders included average academic performers based on the composite score between the fortieth and seventieth percentile on the administration of Iowa Test of Basic Skills (1955). Each subject was presented with five different reading passages that corresponded to one grade level below, equal to and one, two, and three grade levels above their school placement. The reading materials were taken from a developmental reading program "Houghton Mifflin Readers"(Durr, 1974). This comprises of eight, 200-word passages corresponding to intermediate levels for Grades two through nine. To safeguard the size of font, space, and visual prompts that may influence the reading ability, the passages were photocopied straightforwardly from the first content. The passages were introduced in order of increasing complexity. Each reading passage was tape-recorded for subsequent analysis. Two separate analyses involving gender and reading level, and grade and reading level were performed. Disfluencies were analyzed in two ways, global and specific type of disfluencies. The specific type of dsfluency included part-word repetitions, word repetitions, phrase repetitions, revisions, interjections, disrhythmic phonations, tense pauses and recoils. The results showed a significant increase in the frequency of total moments of disfluency and four specific types of disfluency occurred concurrent with an increase in the complexity of the reading passage, and males were found to be more disfluent than females.

The relationship between the complexity of reading passages and the frequency and disfluency type among school going children who stutter was investigated by Blood and Hood (1978). A total of 40 children (Ten children were chosen from the following grade levels: third, fourth, fifth, and sixth) were selected. Every child was made to read five distinctive 200-word passages that are related to one grade level underneath their current level, equivalent to their level, and one-three grades above their current level. Reading passages were presented by varying the complexity. The reading materials were taken from the developmental reading program called “Houghton Mifflin Readers” (Durr, 1974). To spare the font size, space, and other visual prompts that may affect the degree of reading material difficulty, they were photocopied straightforwardly from the source. Each subject was tape recorded separately and the samples were analyzed for both global moments of disfluency and specific disfluency types. The eight specific types of disfluency included repetition of part-word, repetition of word, repetition of phrase, revisions, interjections, disrhythmic phonations, tense pauses and recoils. Results revealed that the number of disfluencies increased and repetition of part-word, disrhythmic phonation, and tense pauses were found more as the reading passages became more complex.

The “modified vocalization hypothesis” suggests that the persons who stutter tends to have more difficulty in initiating and terminating phonation than the persons who do not stutter. Runyan and Bonifant (1981) conducted an experiment, considering 18 males and four females with an average age of nine years and who were previously diagnosed as stuttering. Two experimental reading passages were developed and their readability levels were measured, for the number of phonemes, the number of syllables, number of words and the number of sentences. The passage I consisted of 145 syllables including all voiced phonemes and the passage II consisted of 134 syllables including both voiced and unvoiced phonemes. In addition to that, the multisyllabic

words were not used in the 2 passages. Three readability measures (Spache Readability Formula, Fog Index and Readability graph) were used to determine reading and grade levels of each passage. Spache Readability Formula (Spache, 1953) determines the reading level by measuring the average length of sentences and the number of unfamiliar words. Fog Index (Gunning, 1952) determines the reading level by measuring the total sentence and the total number of words containing more than three syllables. Readability graph (Fry, 1977) determines the reading level by plotting the number of syllables out of 100 words and the number of words per sentence. These readability measures indicated that two passages were within third to fourth grade level and then these passages were presented to the participants and their reading samples were audio recorded. The frequency of disfluencies, the disfluency type such as the part-word repetition, whole word repetition, and number of iterations as a part of repetition, prolongations and duration of pauses that each subject exhibited were analyzed. The results of the study did not support the “modified vocalization hypothesis” in children; however, the results demonstrated that few participants produced more disfluency while reading the passage that consisted of both voiced and voiceless phonemes.

In order to assess the reading fluency, Hegde (1982) developed the oral reading passages in English for 5.6 to 6.1-year-old child. A total of 18 reading samples were audio recorded, where the first sample was recorded when the child was 5.6 year old and the last sample was recorded at 6.1 year of age and every month two to four samples were recorded. The reading passages were categorized as "easy," "moderately difficult," or "very difficult" for the child and the length of the passages were not controlled. "Easy" passages were those that he had read over and again previously and not containing any unfamiliar words that made difficult for him to comprehend. “Moderately difficult” passages were those that he had read just once or more than

one time and containing 3% of new words that he neither produced nor comprehended before and "Very difficult" passages were those that he had never read and containing 10% of new words he neither produced nor comprehended. The "easy" and "moderately difficult" passages were selected from the children's textbooks; the "very difficult" passages were selected from magazines, ASHA presidential address, astronomy papers, neurophysiology, geology, evolution, and ancient Egyptian history. The child was asked to read the passage aloud and the disfluencies were noted down. The results showed that the passage that was judged as "very difficult" was found to have more disfluency rate compared to moderate and easy passages with a mean disfluency rate of 6.2%, 2.4%, and 0.9% respectively and interjections, part word repetition whole word repetition, prolongation of sounds, silent pauses, and revisions were observed.

The traditional passage (Rainbow passage) is been frequently used by the Speech-Language pathologists to gather a speech sample of persons with stuttering. The passage consists of all the phonemes present in the English language. However, this passage found to have several disadvantages such as inclusion of less familiar words and non-neutral words. In order to overcome, Ben-David et al. (2016) developed a new passage titled as "My First Day". This passage was developed to reduce the effect of content and structure factors that may affect the reading performances of the person who stutters. While developing the passage the following guidelines were taken care of: maintaining semantic cohesiveness of the text and readability; avoiding any negative, positive and/ or arousing words; choosing extremely familiar words; presenting each content word only once in the text; matching main lexical characteristics to the average values found in the three traditional passages and using short sentences, and words with less complex words. Finally a set of 74 word passage was developed. The outcome of the study

revealed to use both the traditional as well as newly developed passage while assessing the persons who stutters.

Assessment of Dysarthria using reading passages

To study the acoustic differences in persons with dysarthria and Normal healthy adults Kuo and Tjaden (2016) used 'John Passage' developed by (Tjaden & Wilding, 2004). The passage consisted of 192 words including variety of vowels and consonants. The participants were asked to read the passage at soft level, at their habitual level and at loud level. All the samples were audio taped. The study concluded that the passage reading has to be considered while making the decisions regarding the clinical group.

Reading passages developed in an Indian Context

In Indian scenario, Rathna and Bettagiri (1972) developed passages for screening as well as for the diagnosis of articulation disorders in Kannada language. Two passages for screening included all the phonemes in Kannada except for the aspirated ones. Aspirated phonemes are not tested as they are less used by children. The complete passage consists of 59 words (180 syllables) and 45 words (138 syllables) respectively. One passage for diagnostic test consists of all the phonemes in Kannada including the aspirated ones and consists of 43 words (184 syllables).

The reading comprehension in Kannada was measured among children studying in grades I to IV by Ramaa (1985). The passages were selected from the children's textbooks suited to the grades I through IV. Each passage had all the possible questions pertaining to the literal, reorganization and inferential skills of comprehension. The passages were arranged in an order of difficulty in terms of easy access to recognize the words, knowing the meaning of words in the

context, sentence structure and level of comprehension. It was assumed that as the degree of implicitness increases and if there is scope for more number of inferential comprehension questions the level of comprehension would increase. The passages were administered on 120 children selected from three government and two private schools studying in grades I through IV based on the assumption that children attending those schools vary with respect to the educational standard of their parents, assistance provided by the parents to improve their reading performance as well as the type of methodology of teaching to which they are exposed to at schools. The speed and accuracy of the word recognition were measured. A child was classified as above average, average or below average if his reading grade was higher than, same as, or lower than the grade in which he was studying respectively.

The reading sample of adults and children who stutter were collected by Shashidhar (1994) using the reading passages namely combined and a voiced passage developed by Gayathri (1980). The 'combined' passage was selected from a Kannada text books and this passages consisting of voiced, unvoiced, vowels and diphthongs and the 'voiced' passage was also selected from the same source and it consists of all voiced phonemes. The number of syllables for each passage was 139 and 124 respectively. Participants were asked to read out the passages and the frequency of stuttering, rate and disfluency type were analyzed. The results of the study showed that most of the persons who stutter had normal rate of speech and the frequency of stuttering varied from person to person. Repetitions were found to be more followed by Prolongation, hesitation, pauses and omission. The adults who stutter were found to have more stuttering in the 'combined' passage than the 'voiced' passage and no difference was found in the children.

To evaluate the sequential progression of English reading skills in Indian children Loomba (1995) chose 40 normal school going children ranging from first to eight standard. Five students

from each class were chosen. All of them were having either Hindi or Punjabi as their mother tongue. To test oral reading abilities, four passages were taken from Indian English books and it ranged from early reading skills to complex reading abilities. At the end of each passage, four questions are asked concerning the passage, which also varied from simple to complex. The results indicated that the acquisition of reading skills followed the normal developmental patterns. The sequential progression of reading skills was in consonance with acquisition of reading by native speakers of English. However, lag was observed in oral reading. This is attributed to the fact that the English reading instruction and the exposure to the language begin, only in the school.

A test material entitled “Reading acquisition profile in Kannada” was developed by Prema (1997). It aimed at profiling acquisition of reading skills in children learning to read Kannada which has semi syllabic script, with the objectives of developing a profile for acquisition of reading and writing, delineating the specifics of reading with respect to the orthographic features of Kannada, Identifying predictors of reading ability and identifying the children with reading disability. A total of 150 children graded from III to VII were included. It consists of a section for assessing reading comprehension under two subsections which are as follows; GAP test consisting of 10 individual passages with GAPS and answers that are to be chosen and Graded Stories consisting of 8 stories and a set of questions pertaining to each story at every grade. Though, these reading passages used were in Kannada pertaining to each grade, they were not standardized.

The rate of reading in four Dravidian languages including Kannada, Tamil, Telugu and Malayalam was measured by Savithri and Jayaram (2004). They considered 401 normal participants for the study. All the participants were literates and were from the urban population.

Cartoon pictures for 4-6 yrs and panchathantra stories for 7-10yrs were used and standardized reading passages were used for adults. The passages were developed by the experimenters and consisted of 304,306,414 and 307 words in Kannada, Telugu, Tamil and Malayalam passages respectively. All the children were instructed to describe the cartoon or the story and the adults were asked to read the passage at a comfortable pitch and loudness level. All the samples were audio recorded using PRAAT. The number of syllables uttered per second, number of syllables per minute and the words per minute were analyzed. The results indicated an increase in the syllables per second, syllables per minute and the words per minute as the age increases.

The speech rhythm in Indo-Aryan and Dravidian languages including Kannada and Hindi was investigated by Savithri and Jayaram (2005). The 1000 word passages were developed in both the languages by the investigators. The passages incorporated all the phonemes of the Kannada language and with their frequency of occurrence. A total of 20 adults participated in the study of each language (Kannada and Hindi). The participants were asked to read the passages at their comfortable pitch and loudness level. The vocalic and intervocalic duration were analyzed. The results revealed that the Kannada is a mora time language and Hindi is a syllable time language.

To assess the reading and writing abilities in Hindi speaking children, Priyadarshi, Goswami and Sen (2012) developed an Early Reading Skills in Hindi. ERS-H is an adapted tool aimed at assessing the sequential acquisition of the continuum of Hindi reading skills in children of Grades I to VII and also aimed at investigating the presence of any literary deficits and in explaining the same in Hindi speaking children with Learning Disability. It consisted of passages translated in Hindi, from the original version. The passages were arranged in the order of decreasing level of cohesion and increasing level of complexity. The first three passages were

narrative and the last passage was 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). Four questions were created for each passage, which also varied from simple to complex. The results indicated increase in the test score as the age increases.

Readability measures

Various readability measures are reported in the Western as well as in Indian context. The readability measures are mainly used to estimate the reading difficulty of a passage. Few of the readability indices and graphs are as follows:

The Flesch Reading Ease score (Flesch, 1948) is obtained by the formula: $\text{Score} = 206.835 - (1.015 \times \text{ASL}) - (84.6 \times \text{ASW})$. Where, ASL is the average sentence length and ASW is average number of syllables per word. The Flesch Reading Ease Formula returns a number from 1 to 100, rather than grade level. Passages with a Flesch Reading Ease score of 30 are considered “very difficult” while those with a score of 70 are considered “easy” to read.

The Flesch-Kincaid readability formula is a simplified version of the Flesch Reading Ease score. It is based on identification of the average sentence length of the passage to be assessed (ASL) and the average number of syllables per word in the passage (ASW). The formula estimates readability by US grade level (GL): $\text{GL} = (0.4 \times \text{ASL}) + (12 \times \text{ASW}) - 15$.

The Fog Index (Gunning, 1952) exploits two variables: average sentence length and the number of words containing more than two syllables (“hard words”) for each 100 words of a document. This index returns the US Grade Level (GL) of the input passage, according to the formula: $\text{GL} = 0.4 \times (\text{average sentence length} + \text{hard words})$.

The SMOG grading (McLaughlin, 1969) is computed by considering the polysyllable count, equivalent to the number of words that contain more than two syllables in 30 sentences, and applying the following formula: $\text{SMOG grading} = 3 + \sqrt{\text{polysyllable count}}$ It has been noted that the SMOG formula is quite widely used, particularly in the preparation of US healthcare documents intended for the general public.

The Fry readability formula (Fry, 1977) is used to calculate the grade level required to understand a text. It uses sentences and syllables as variables. Numbers which fall into the dark blue areas labeled 'long words' and 'long sentences' fall outside of the graph's parameters and can't be scored. Fry's graph was originally calculated by selecting three 100 word passages from near the beginning, middle and ends of the book; then counting the total number of sentences in each 100 word passage and averaging the number of sentences for three samples; and counting the total number of syllables in each 100 word sample and averaging the total number of syllables for the three samples. Finally, the average number of sentences per hundred words is plotted across the average number of syllables per hundred words. The area where the two lines from these figures intersect was taken as the approximate reading grade level of the text.

Spache Readability Formula (Spache, 1953) calculates the grade level of a text sample based on sentence length and number of unfamiliar words. The Spache Formula considers "unfamiliar words" as words that 3rd grade and below do not recognize. The Spache Formula is best used to calculate the difficulty of text that falls at the 3rd grade level or below. $\text{Spache Readability Index/Grade Level} = (0.141 \times \text{ASL}) + (0.086 \times \text{PDW}) + 0.839$. Where, ASL = Average sentence length and PDW = percentage of difficult words.

Dale–Chall readability formula (Dale–Chall, 1948) provides a numeric gauge of the comprehension difficulty that readers come upon when reading a text. It uses a list of 3000 words that groups of fourth-grade students could reliably understand, considering any word not on that list to be difficult. The formula for calculating the raw score of the Dale–Chall readability score is $0.1579(\text{Difficult words}/\text{words} \times 100) + 0.0496 (\text{words}/\text{sentences})$. Score of 4.9 or lower indicates that the text is easily understood by an average 4th-grade student or lower, 5.0-5.9 indicates that the text is easily understood by an average 5th or 6th-grade student, 6.0–6.9 indicates that the text is easily understood by an average 7th or 8th-grade student, 7.0–7.9 indicates that the text is easily understood by an average 9th or 10th-grade student, 8.0–8.9 indicates that the text is easily understood by an average 11th or 12th-grade student and a score of 9.0–9.9 indicates that the text is easily understood by an average 13th to 15th-grade (college) student.

Since most of readability formulas are for English language, an attempt was made to develop the readability formula in Indian languages especially in Kannada language by Madhushree and Nanjappa (2017). They used text books of second to tenth grade of Kannada language. From each of the 15 text books considered, every tenth page was selected as sample for the measurement of readability variables. The total number of passages selected was 141 and the Word length (WL) and Average sentence length (ASL) were analyzed. It was found that the two readability variables had positive and significant relationship with respect to grade level. Hence, these variables were considered in the development of readability formula i.e., $GL = 4.45 + 1.425(WL) + 0.7262(ASL)$.

From the above mentioned studies, we can conclude that the reading passages used during oral reading are of high significance for the assessment of articulation, voice, fluency, reading abilities. Variety of reading passages have been mentioned in the literature, for the assessing oral

reading abilities and speech skills in typically developing children, in normal adults and in disordered population such as intellectual disability, Learning disability, Attention deficit hyperactive disorders, speech sound disorders, Stuttering, Dysarthria and voice. The most commonly used passages to analyze the children's reading abilities are 'Swimming' used for Kinder garden to the first-grade level children, 'Grandma is coming' used for first grade to second grade children, 'Nicknames' and 'the amazing spider' passage used for third grade to fourth grade children, and 'the toothbrush' passage used for fourth grade to sixth grade. For adults, 'the rainbow' and 'my grandfather passages' are commonly used to assess their speech.

In Indian context, 'Bengaluru' and 'Krishna nadi' passages are developed in Kannada language and are commonly used to assess the reading abilities in adults. These passages help in measuring the rate of speech, accuracy and error words of the targeted population. To measure the passages readability or the grade level various formulae are been reported in literature. Spache, Dale-Chall, Fry readability, Flesch reading ease, Flesch-Kincaid readability, Smog grading score are few of the readability measures used to check the grade level of English text. In Kannada language, Madhushree and Nanjappa (2017) developed a readability formula i.e., $\text{Grade Level} = 4.45 + 1.425(\text{Word length}) + 0.7262(\text{Average Sentence Length})$. The earlier tools for reading assessments have concentrated on assessing the reading ability, reading rate and accuracy and they usually assessed adults. Presently, there are no reading passages in Kannada language for measuring the reading related skills in primary school going children. Hence, the current study is planned to develop and to standardize the reading passages for school going children ranging from III-VII grade in Kannada.

CHAPTER-III

METHOD

Reading passages plays an important role in the assessment of speech skills such as fluency, articulation, and voice. It also helps in the assessment of reading abilities. The reading passages can be used for children as well as for adults to assess their speaking abilities. It further aids in recording the responses objectively and in identifying the communication abilities as well as deficits. This would also aid in assessing the baseline which further helps in making the diagnosis of the individual and also in monitoring the progress during treatment. Hence, the present study aimed to develop the reading passages for school children ranging from grade III through grade VII in the Kannada language and also to standardize the passages after administration on them. The current study has been divided into 2 phases: Phase I includes the development of reading passages, Phase II includes Pre-finalization of developed passages and Phase III includes the standardization of developed reading passages.

Phase I- Development of Reading Passages

Selection of books:

Kannada textbooks were collected from Block Education office, South division, Mysuru. Textbooks of grade III through VI were collected. For each grade, the selected textbooks corresponded to one grade below their school placement.

- For grade III: 'Nali Kali' Kannada books were selected as the state board government uses 'nali kali' books for second grade. The books consist of activity cards that include songs, games, outdoor activities, conversation, role play, puzzle, and craft. It also includes letter

and word cards and in the end, it has got four simple stories. The basic principle of 'nali kali' books is as follows: Multiple sensory stimulations; incorporates Play activity; Peer guidance and Self-Evaluation. Also, the first language Kannada textbook of second grade was referred because the state board English medium and CBSE uses this textbook to teach the second-grade students.

- For grade IV, V and VI: First language Kannada textbooks of third, fourth and fifth grade were referred. It was noted that the first language textbooks were used to teach third, fourth and fifth-grade students irrespective of the medium of their instruction (Kannada, English & CBSE).
- For grade VII: First language Kannada textbooks were used as the state board Kannada and English medium used it for sixth-grade students. However, the CBSE students used second language Kannada textbooks for sixth grade and hence it is selected for reference.

As per the literature, the reasons for selecting the books that are one grade below their current grade include:

- The usage of known and familiar words in the passages or text enhances the reading comprehension of the children though they were reading for the first time. Also, they feel comfortable while reading the familiar text and they read with ease.
- When the young readers were presented with books with different complexity levels, it was found that most of the young readers choose books below their grade level and the complexity of assigned reading has been on a downward trend (Wood, 2013).

- It was also reported that reading comprehension comes from being absorbed in a story, not tripping over unknown words and complicated sentences and children want to read to relax in the same way adults do and difficult texts can dissuade them (Wood, 2013).

Selection of words and phrases:

The words and phrases were selected based on the high frequency of occurrence of phonemes as indicated by Sreedevi, Smitha, and Vikas (2012). The authors studied the adult fluent native speakers of Kannada in the age range of 20 to 50 years with a minimum of 10 to 12 years of education in Kannada medium. All the participants were native speakers of the Mysore dialect of Kannada and resided in Mysore city. The data obtained was the conversation sample of the participants which lasted for about 25 to 30 minutes of duration. They reported the high frequency of occurrence of phonemes were /a/, /n/, /l/, /e/, /r/, /a:/, /d/, /l/, /t/, /u/, /g/ and /k/. The consonants /m/, /v/, /h/, /s/, /j/ , /p/, / tS/, /dZ/ and /S/ Vowel /o/ occurred less frequently. Consonants /ŋ/, /ph/, /th/ did not occur in the conversational samples though they are present in the Kannada phoneme system. The aspirated phonemes were amply evident. Diphthongs such as /ai/ and /au/ also occurred less frequently.

In the present study, it was also made sure that every passage must contain all the phonemes occurring in the Kannada language as the frequency of occurrence of phoneme data is crucial to understand the language structure and also has wide applications in Speech-Language Pathology. The frequencies of phonemes across all the passages for grades are discussed in the result section. A list of words and the phrases from each textbook of each grade were prepared. From each textbook, three lists of words/ phrases were made for each grade. The first list consists of the words taken from the initial few lessons (i.e., Lesson 1 - 3), the second list consists of the

words taken from middle chapters (i.e., Lesson 4-6) and the third list consists of the words taken from the last few chapters (i.e., Lesson 6-9). Similarly, the lists were prepared for all the grades beginning from III-VII. Finally, a total of 15 lists were prepared. A connected story was made out of the words and phrases. A total of 15 passages were made, 3 in each grade. The number of words and sentences varied across passages is discussed in results. To save the font size and style from the original text, a similar size and style were used i.e., Baraha font and 15pt.

Grade level measurement:

The developed passages were measured objectively using the grade level measurement formula (Madhushree & Nanjappa, 2017). The formula is as follows: $GL = -4.45 + 1.425(WL) + 0.7262(ASL)$. Where, GL= grade level, WL= word length and it is calculated by dividing the total number of phonemes by a total number of words, ASL= Average sentence length and it is calculated by dividing the total number of words by a total number of sentences. Based on the values, the passages were further classified as Simple, Average and Complex. The decision on complexity was based on grade level values being higher for complex passage followed by average and simple passage. For third grade passages, the grade level obtained was 2.62, 3.44 and 3.60. Where the passage with 2.62-grade levels was considered as the simple passage for that grade, the passage with 3.44 values was considered as the average passage and finally, the passage with 3.60 values was considered as the complex passage for the III grade students. Similarly, for fourth grade, the grade level values for simple, average and complex passages were as follows 3.67, 4.03 and 4.57 respectively. For fifth grade, 4.73, 5.08 and 5.18 were the grade level values for simple, average and complex passages. For sixth grade, 5.73, 6.49 and 6.844 were the grade level values for simple, average and complex passages respectively. Finally, for seventh grade the values were obtained were 6.76, 7.45 and 7.63 for simple, average

and complex passage respectively. The average word length, average sentence length and the grade level for each passage is represented in table 3.1

Table 3.1: Grade level measures across all passages

| Passages | Word length | Average sentence length | Grade level |
|---------------------------------|--------------------|--------------------------------|--------------------|
| 3 rd grade passage 1 | 3.27 | 3.32 | 2.62 |
| 3 rd grade passage 2 | 3.50 | 4.00 | 3.44 |
| 3 rd grade passage 3 | 3.47 | 4.28 | 3.60 |
| 4 th grade passage 1 | 3.57 | 4.18 | 3.67 |
| 4 th grade passage 2 | 3.79 | 4.25 | 4.03 |
| 4 th grade passage 3 | 3.91 | 4.75 | 4.57 |
| 5 th grade passage 1 | 3.82 | 5.15 | 4.73 |
| 5 th grade passage 2 | 4.05 | 5.18 | 5.08 |
| 5 th grade passage 3 | 3.91 | 5.60 | 5.18 |
| 6 th grade passage 1 | 4.16 | 5.86 | 5.73 |
| 6 th grade passage 2 | 4.42 | 6.40 | 6.49 |
| 6 th grade passage 3 | 4.87 | 6.00 | 6.84 |
| 7 th grade passage 1 | 4.84 | 5.95 | 6.76 |
| 7 th grade passage 2 | 4.73 | 7.11 | 7.45 |
| 7 th grade passage 3 | 4.60 | 7.61 | 7.63 |

Content validation:

The selected passages were given to 10 school teachers having their native language as Kannada with a minimum teaching experience of three to five years. The teachers who taught Kannada as a subject in a school set up were considered. They were instructed to rate the passages with respect to familiarity as very familiar, familiar, unfamiliar. Also, they were asked to rate the passages based on the complexity using a three-point rating scale as simple, average and complex

respectively, pertaining to the grade from which passage was obtained. The ratings obtained by the teachers are discussed in the result section. The rating scale used to rate the passages is represented in Appendix 1.

Pilot study:

A pilot study was conducted on 75 typically developing children between grades III to VII, mainly to ascertain the suitability of the developed passages to appropriate grades. The participants were further divided into three groups i.e., State syllabus English Medium, State syllabus Kannada medium and Central Board of Secondary Education (CBSE). Each group comprised of 25 participants and irrespective of gender, five were chosen from each class. Written consent was taken from the school authorities. The Schools selected for the pilot study include Gangotri government high school, ACME school, and a Demonstration school. Only the participants with age adequate speech and language skills, without any neurological, oromotor, psychological, physical and sensorimotor disorders, Average performers in reading ability as per the discussion with the class teachers were considered. Each participant was introduced to the reading passages. The passages were randomly presented to them and they were asked to read out the given passages at a comfortable loudness and pitch level. The responses were recorded using an audio recorder for further analysis.

Phase II: Pre finalization of developed passages.

Based on the content validation and the pilot study results, a total of fifteen passages were developed and each grade consists of three passages with respect to the difficulty level such as simple, average and complex. The developed passages are given in Appendix 2. The passages were further analyzed for the total number of phonemes, the number of words and sentences for

each passage. Also, the grade levels were measured using the readability formula. The details of grade levels are discussed in the results part.

Phase III: Administration of the developed material

Participants:

The participants selected were 450 typically developing children ranging from grade III to grade VII. The participants were further divided into three groups i.e., State syllabus English Medium, State syllabus Kannada medium and Central Board of Secondary Education (CBSE). Each group comprised of 150 participants and irrespective of gender, 30 were chosen from each class. Written consent was taken from the Block Education Officer, South division, Mysuru as well as from the concerned school authorities. The Schools selected for the current study are from Mysuru. The names and the addresses of the selected schools are as follows:

- Pragathi Vidya Kendra, Bogadi 2nd Stage, TK Layout, Mysuru, Karnataka.
- ACME school, Rotary Sudarshini Building, Niveditha Nagar, Mysuru, Karnataka.
- Holy trinity school, 4th Stage, TK Layout, Mysore.
- Hemavathi school, TK Layout, Mysuru, Karnataka.
- Government Kannada medium school, Kukkarahalli, Saraswathipuram, Mysuru, Karnataka.
- Gangothri Government high School, J.C.E. College Road, Near J.C.E. College, Manasagangotri, Mysuru, Karnataka.
- Mysore west Lions Saviniketan School, Gokulam 3rd Stage, Gokulam, Mysuru, Karnataka.

- Viveka vidyalaya, 3rd Stage, Behind Kshema Dhama Sabha Bhavana, Srirampura, Mysuru, Karnataka and
- Gangotri public school, Church Cross, Bogadi Main Road, Bogadi 2nd Stage, Mysuru, Karnataka.

Inclusion criteria:

- Participants with age adequate speech and language skills and without any neurological, oromotor, psychological, physical and sensorimotor disorders were selected.
- Average performers in reading ability as per the discussion with the class teachers were considered.

Test Procedure:

Each participant was tested individually in a quiet room. He /she was made to sit on a comfortable chair in front of the examiner. Initially, the tester conversed with the child to make him/her comfortable during testing. The reading material was placed on the table and each of the participants was given his/her grade appropriate passage. Each grade consisted of 3 passages (Simple, Average, and Complex). The passages were randomly presented to the participants. Each child was given a reasonable amount of time to respond. The instructions were given to read out the given passages at a comfortable loudness and pitch level. After the completion of each passage, the break was given for five minutes. The responses were recorded using an audio recorder Olympus LS 100. The audio recorder was placed at the speaker's mouth level with a minimum distance of 12-15 cm. In case, where a student hesitated for more than 5 seconds on a word, he or she was told the word by the examiner and was prompted to continue reading.

Data analyses:

All the recorded samples were analyzed with regard to errors, accuracy, the total time taken to read each passage, and words read per minute across grades III to VII. The words that were self-corrected, mispronounced, omitted, or substituted were counted as errors. The accuracy was measured by dividing the number of words read correctly by participants with the total number of words present in the passage multiplied by 100.

PRAAT software was used to measure the total time taken by each participant to read each passage. The recorded sample was fed into the PRAAT. The cursors were placed in such a way that the first cursor shows the starting point of the passage and the second cursor shows the ending point of the passage. The duration between the two cursors shows the time taken to read the passage i.e., the total duration to read each passage. The words per minute were analyzed using the formula $WPM = \frac{\text{total number of words}}{\text{total time taken to read the passage (seconds)}} * 100$.

To analyze the data further, an appropriate Statistical procedure was applied. Test-retest reliability was checked by testing 10% of the randomly selected population.

CHAPTER-IV

Results and Discussion

The present study aimed to develop the reading passages for children in the age range of 8 to 13 years (i.e., grade III through grade VII) in the Kannada language and also to standardize the same. A total of fifteen passages were developed and each grade consists of three passages which is been further classified based on the readability measure values as Simple, Average and Complex. In specific, an attempt was made to investigate the total time taken to read each passage, Words read per minute and the words read accurately across three passages i.e., Simple, Average and Complex respectively. For all the parameters, a comparison was made between the groups i.e., State syllabus Kannada medium children (SSK), State syllabus English medium children (SSE) and Central Board of secondary education children (CBSE). The present study also aimed to find out if is there any difference between the grades i.e., Grade III through Grade VII across the three groups.

In the present study, the results are been discussed into three phases: Phase I- Development of the reading passages, Phase II- Pre-finalization of the developed passages and Phase III- Administration of the reading passages.

Phase I: Development of the reading passages

Selection of books, Words / Phrases:

The aim of the study was to develop the reading passages in Kannada for children of grade III-VII. Hence, Kannada text books of grade II through VI were collected from the Block Education Office, Mysuru. For each grade the selected textbooks were corresponded to one grade

below their school placement. The words and phrases were selected based on the high frequency of occurrence of phonemes. The high frequency of occurrence of phonemes in Kannada language are considered as /a/, /n/, /l/, /e/, /r/, /a:/, /d/, /l/, /t/, /u/, /g/ and /k/ (Sreedevi, Smitha & Vikas, 2012). It was also made sure that all the phonemes of Kannada language to be present in every passage. The frequency of phonemes across all the passages with respect to their grades are represented using International Phonetic Alphabet (Schiffman & Arokianath, 1986) is shown in table 4.1a and 4.1b. A total of three lists of words and phrases were prepared from each text book. A total of 15 lists were prepared. From each list of words and phrases, a connected story was prepared. Therefore, a total of 15 connected story samples were developed. From the table 4.1a, It can be observed that the decreasing order of the first ten phonemes in third grade level for Simple passage were /d/, /r/, /g/, /t/, /l/, /v/, /D/, /k/ and /n/, for Average passage /t/, /d/, /n/, /g/, /m/, /r/, /k/, /l/, /D/ and /v/ and for Complex passage /t/, /d/, /n/, /j/, /b/, /g/, /v/, /L/, /D/ and /k/. Similarly, the decreasing order of the first ten phonemes in fourth grade level Simple passage were /d/, /n/, /g/, /r/, /t/, /l/, /j/, /b/, /s/ and /k/, for Average passage /r/, /d/, /s/, /g/, /L/, /n/, /v/, /m/, /l/ and /j/ and for Complex passage /r/, /g/, /t/, /d/, /n/, /v/, /l/, /L/, /m/ and /k/.

From the table 4.1b, the decreasing order of the first ten phonemes in fifth grade Simple passage were found to be /d/, /n/, /t/, /r/, /g/, /k/, /j/, /L/, /v/ and /l/, for Average passage /d/, /t/, /n/, /m/, /l/, /r/, /L/, /g/, /v/, and /k/ and for Complex passage /t/, /r/, /n/, /d/, /m/, /L/, /k/, /s/, /g/ and /v/. In sixth grade's Simple passage, the occurrence of phonemes in descending order were /d/, /r/, /t/, /n/, /g/, /l/, /k/, /j/, /v/ and /s/, for Average passage /r/, /k/, /t/, /d/, /v/, /g/, /l/, /j/, /s/ and /L/ and for Complex passage /r/, /d/, /n/, /v/, /g/, /t/, /S/, /k/, /m/ and /l/. Finally, for the seventh grade's Simple passage the decreasing order of the first ten phonemes were found to be /d/, /t/, /r/, /n/, /v/,

/m/, /g/, /j/, /k/ and /D/, for Average passage /v/, /r/, /k/, /g/, /j/, /d/, /t/, /s/, /m/ and /n/ and for Complex passage /d/, /n/, /t/, /r/, / k/, /v/, /s/, /g/, /j/ and /b/.

Table 4.1a: Occurrence of phonemes across all the passages for grade III and grade IV

| Phonemes | Grade Level | | | | | |
|----------|-------------|-----|-----|-----|-----|-----|
| | III | | | IV | | |
| | 1 | 2 | 3 | 1 | 2 | 3 |
| k | 08 | 10 | 08 | 08 | 10 | 12 |
| g | 13 | 12 | 13 | 17 | 20 | 28 |
| tS | 01 | 02 | 01 | 02 | 06 | 02 |
| dz | 01 | 01 | 05 | 02 | 01 | 01 |
| T | 01 | 02 | 02 | 01 | 01 | 03 |
| D | 09 | 07 | 09 | 06 | 11 | 09 |
| N | 01 | 01 | 01 | 01 | 02 | 26 |
| t | 12 | 20 | 22 | 16 | 19 | 25 |
| d | 18 | 20 | 30 | 31 | 21 | 17 |
| n | 08 | 19 | 19 | 21 | 17 | 06 |
| p | 01 | 01 | 07 | 01 | 03 | 06 |
| b | 04 | 04 | 14 | 11 | 07 | 13 |
| m | 03 | 12 | 03 | 07 | 12 | 10 |
| J | 04 | 05 | 16 | 12 | 11 | 36 |
| r | 18 | 11 | 15 | 17 | 33 | 15 |
| l | 12 | 08 | 08 | 13 | 12 | 16 |
| v | 10 | 06 | 12 | 08 | 15 | 10 |
| s | 07 | 07 | 06 | 02 | 05 | 10 |
| S | 01 | 01 | 05 | 11 | 20 | 14 |
| h | 12 | 02 | 05 | 07 | 06 | 06 |
| L | 04 | 07 | 12 | 05 | 19 | 13 |
| Total | 148 | 158 | 213 | 194 | 251 | 278 |

Note. 1: Passage I; 2: Passage II and 3: Passage III

Table 4.1b: Occurrence of phonemes across all the passages for grades V, VI and VII

| Phonemes | Grade Level | | | | | | | | |
|----------|-------------|--------|--------|---------|---------|---------|----------|----------|----------|
| | V 1 | V 2 | V 3 | VI 1 | VI 2 | VI 3 | VII 1 | VII 2 | VII 3 |
| k | 15 | 11 | 20 | 18 | 35 | 20 | 33 | 17 | 31 |
| g | 17 | 16 | 18 | 28 | 21 | 25 | 30 | 19 | 28 |
| tS | 05 | 01 | 07 | 07 | 01 | 01 | 03 | 01 | 08 |
| dz | 03 | 02 | 02 | 06 | 03 | 07 | 03 | 01 | 02 |
| T | 07 | 06 | 06 | 04 | 09 | 10 | 13 | 13 | 02 |
| D | 09 | 08 | 09 | 08 | 07 | 06 | 07 | 16 | 11 |
| N | 01 | 08 | 02 | 03 | 04 | 08 | 05 | 01 | 04 |
| t | 26 | 31 | 42 | 33 | 34 | 24 | 27 | 40 | 60 |
| d | 31 | 33 | 26 | 52 | 32 | 48 | 28 | 46 | 70 |
| n | 29 | 25 | 28 | 31 | 14 | 32 | 19 | 37 | 68 |
| p | 03 | 06 | 17 | 04 | 05 | 11 | 05 | 25 | 16 |
| b | 04 | 07 | 09 | 11 | 15 | 16 | 14 | 10 | 24 |
| m | 11 | 25 | 22 | 12 | 14 | 20 | 23 | 22 | 18 |
| J | 14 | 07 | 19 | 16 | 17 | 14 | 29 | 18 | 25 |
| r | 24 | 20 | 37 | 41 | 35 | 49 | 34 | 37 | 47 |
| l | 11 | 22 | 14 | 19 | 19 | 20 | 11 | 13 | 17 |
| v | 12 | 15 | 17 | 15 | 24 | 30 | 36 | 25 | 31 |
| s | 02 | 03 | 07 | 02 | 16 | 22 | 11 | 11 | 05 |
| S | 17 | 10 | 18 | 15 | 17 | 16 | 24 | 13 | 31 |
| h | 06 | 05 | 02 | 11 | 12 | 06 | 16 | 08 | 19 |
| L | 13 | 18 | 21 | 10 | 17 | 12 | 17 | 12 | 24 |
| Total | 260 | 279 | 343 | 346 | 351 | 397 | 388 | 385 | 541 |

Note. 1: Passage I; 2: Passage II and 3: Passage III

The number of words and sentences varied across the passages and it is represented in table 4.2. From the table, we can clearly understand the increase in the number of words as an increase in the grade level. The trend in the increase in the number of words was also seen as the complexity of the passages was increased. A similar trend was seen in the number of sentences. From the table, we can understand that the number of words and sentences are being higher in the seventh-grade complex passage i.e., 142 words and 18 sentences respectively whereas in the third-grade Simple passage the number of words and sentences of Simple passage were found to

be 40 and 11 respectively. This indicates that the passage length and complexity increased as the grade level increased.

Table 4.2: *Occurrence of words and sentences across passages*

| Grade | No. of words | No. of sentences |
|---------------------------------|---------------------|-------------------------|
| 3 rd grade passage 1 | 40 | 11 |
| 3 rd grade passage 2 | 43 | 12 |
| 3 rd grade passage 3 | 47 | 12 |
| 4 th grade passage 1 | 55 | 12 |
| 4 th grade passage 2 | 59 | 13 |
| 4 th grade passage 3 | 65 | 14 |
| 5 th grade passage 1 | 72 | 14 |
| 5 th grade passage 2 | 76 | 15 |
| 5 th grade passage 3 | 84 | 15 |
| 6 th grade passage 1 | 88 | 15 |
| 6 th grade passage 2 | 107 | 16 |
| 6 th grade passage 3 | 120 | 16 |
| 7 th grade passage 1 | 122 | 17 |
| 7 th grade passage 2 | 131 | 18 |
| 7 th grade passage 3 | 142 | 18 |

Grade level measurement:

Once the number of words and the number of sentences was calculated from each of the developed passages then the passages were measured objectively using a readability measure formula; $\text{Grade level} = -4.45 + 1.425 (\text{word length}) + 0.7262 (\text{Average sentence length})$. Based on the grade level values the developed passages were further classified as Simple, Average and Complex. The grade level measure values are been discussed in the method section. As a total, 15 passages were developed among them five were considered as simple passages, five passages as average level difficulty and the other five as complex passages.

Content Validation:

A total of 15 developed passages i.e., five Simple passages, five average passages and five complex passages (based on the grade level measurement values) were given to ten school teachers for familiarity and complexity rating. The used rating scale is given in appendix I. Based on the ratings obtained by the teachers; it was found that all the developed passages were rated as familiar about each grade level. The opinions of the teachers regarding the complexity of the passages include that all the ten teachers rated the five Simple passages as Simple. Eight out of ten teachers rated the five average level passages as average whereas two of them rated it as complex. Similarly, for the five complex passages, eight of them rated as complex whereas two of them rated as average. The five average and complex passages are considered as average and complex respectively as more than 50% of the teachers opined it to be having a difficulty level of average and complex passages.

Also, the suggestions regarding the developed passages were given by the teachers are as follows:

- For third grade: use of only Simple words (CVCV words). Example: /mane/, /Sale/
- For fourth: use of geminates (regular type). Example: /Akka/, /nanna/, /oLLeja/
- For fifth grade: Use of geminates (irregular type). Example: /Satru/ , /Asakti/
- For sixth grade: use of special words (words with 'arka'). Example: /mUrti/, /Tirthankara/
- For seventh grade: use of multisyllabic words, words with increased complexity and words with clusters. Example: /stri/, /samrudhi/, /sUrjanamaskAra/
- As per the suggestions, the changes were incorporated into the developed passages.

Pilot study:

A pilot study was conducted on 75 typically developing children between grades III to VII, mainly to ascertain the suitability of the developed passages to appropriate grades. The participants were further divided into three groups i.e., State syllabus English Medium, State syllabus Kannada medium and Central Board of Secondary Education (CBSE). Each group comprised of 25 participants and irrespective of gender, five were chosen from each class.

Based on the pilot study, few changes were made to the developed passages. The words and the phrases on which children faced difficulty were replaced with easier ones selected from the respective text. To retain the meaning appropriate synonyms were identified for the difficult words and were replaced with Simple words. It was also made sure that only the simple (CVCV) words were used in the third-grade passage. For fourth and fifth-grade passages words with geminates i.e., regular and irregular were used respectively. For sixth grade, special words were used (arka) and for seventh-grade multisyllabic words and words with complex clusters were used.

Phase II: Pre-finalization of developed passages

Based on the content validation and the pilot study results, a total of fifteen passages were developed and each grade consists of three passages with respect to the difficulty level such as Simple, Average and Complex. The passages were further analyzed for the total number of phonemes. The frequency of phonemes across all the passages with respect to their grades is shown in table 4.3a and 4.3b.

From the table 4.3a, It can be observed that the decreasing order of the first ten phonemes in third grade level for Simple passage were /n/, /v/, /g/, /d/, /r/, /L/, /k/, /s/, /m/ and /D/, for Average passage /t/, /d/, /r/, /n/, /l/, /k/, /D/, /h/, /s/, and /L/ and for Complex passage /r/, /d/, /g/, /v/, /l/, /h/, /n/, /t/, /b/, and /j/. Similarly, the decreasing order of the first ten phonemes in fourth grade level Simple passage were /d/, /t/, /r/, /n/, /g/, /l/, /s/, /b/, /k/, and /L/, for Average passage /g/, /t/, /d/, /r/, /n/, /l/, /L/, /k/, /v/, and /b/ and for Complex passage /r/, /d/, /n/, /g/, /s/, /t/, /L/, /m/, /l/ and /v/.

From the table 4.3b, the decreasing order of the first ten phonemes in fifth grade Simple passage were found to be /t/, /d/, /m/, /n/, /r/, /g/, /v/, /l/, /k/ and /D/, for Average passage /d/, /t/, /r/, /n/, /g/, /j/, /L/, /k/, /l/ and /v/ and for Complex passage /t/, /r/, /d/, /n/, /k/, /L/, /s/, /g/, /m/ and /j/. In sixth grade's Simple passage, the occurrence of phonemes in descending order were /d/, /r/, /t/, /n/, /g/, /s/, /l/, /k/, /j/, /v/ and /s/, for Average passage /r/, /k/, /t/, /d/, /v/, /n/, /g/, /s/, /l/ and /m/ and for Complex passage /r/, /d/, /t/, /n/, /m/, /v/, /g/, /k/, /s/ and /j/. Finally, for the seventh grade's Simple passage the decreasing order of the first ten phonemes were found to be /t/, /d/, /n/, /r/, /k/, /v/, /m/, /g/, /l/ and /D/, for Average passage /r/, /g/, /v/, /d/, /n/, /j/, /m/, /s/, /t/, and /k/ and for Complex passage /d/, /n/, /t/, /r/, /v/, /s/, /k/, /g/, /j/ and /L/.

The number of phonemes varied across all the passages when compared with the passages that were developed in phase I. However, the high frequencies of occurrence of phonemes across all the passages were maintained. No difference was seen in the high frequency of occurrence of phonemes between phase I and II. The high frequencies of occurrence of phonemes were found to be /d/, /t/, /n/, /r/ and /g/ across all the passages.

Table 4.3a: Occurrence of phonemes across all the passages for grade III and grade IV

| Phonemes | Grade Level | | | | | |
|----------|-------------|----------|----------|---------|---------|---------|
| | III 1 | III 2 | III 3 | IV 1 | IV 2 | IV 3 |
| k | 07 | 07 | 07 | 07 | 15 | 11 |
| g | 12 | 04 | 15 | 13 | 32 | 21 |
| tS | 01 | 03 | 01 | 01 | 01 | 04 |
| dz | 01 | 02 | 07 | 02 | 02 | 02 |
| T | 02 | 03 | 03 | 01 | 03 | 02 |
| D | 04 | 06 | 05 | 04 | 09 | 11 |
| N | 01 | 01 | 01 | 01 | 02 | 01 |
| t | 03 | 14 | 10 | 20 | 31 | 18 |
| d | 12 | 11 | 23 | 31 | 31 | 24 |
| n | 20 | 10 | 10 | 16 | 23 | 22 |
| p | 01 | 01 | 03 | 01 | 02 | 03 |
| b | 03 | 02 | 10 | 10 | 12 | 11 |
| m | 05 | 05 | 06 | 05 | 10 | 17 |
| j | 01 | 02 | 08 | 11 | 04 | 10 |
| r | 11 | 12 | 26 | 18 | 27 | 33 |
| l | 03 | 08 | 13 | 12 | 22 | 15 |
| v | 14 | 03 | 13 | 05 | 14 | 12 |
| S | 01 | 02 | 02 | 01 | 07 | 02 |
| s | 06 | 05 | 08 | 10 | 12 | 19 |
| h | 02 | 05 | 12 | 04 | 08 | 08 |
| L | 09 | 05 | 08 | 06 | 16 | 18 |
| Total | 112 | 111 | 191 | 180 | 283 | 264 |

Note. 1: Passage I; 2: Passage II and 3: Passage III

Table 4.3b: Occurrence of phonemes across all the passages for grade V, VI and grade VII

| Phonemes | Grade Level | | | | | | | | |
|----------|-------------|--------|--------|---------|---------|---------|----------|----------|----------|
| | V 1 | V 2 | V 3 | VI 1 | VI 2 | VI 3 | VII 1 | VII 2 | VII 3 |
| k | 11 | 13 | 25 | 17 | 45 | 26 | 31 | 18 | 31 |
| g | 20 | 14 | 18 | 26 | 22 | 31 | 20 | 46 | 28 |
| tS | 1 | 4 | 7 | 9 | 1 | 4 | 1 | 5 | 8 |
| dz | 2 | 2 | 1 | 9 | 2 | 7 | 1 | 4 | 2 |
| T | 6 | 5 | 5 | 5 | 11 | 7 | 14 | 15 | 2 |
| D | 11 | 9 | 10 | 10 | 9 | 9 | 15 | 5 | 11 |
| N | 4 | 2 | 1 | 2 | 4 | 3 | 1 | 2 | 4 |
| t | 36 | 24 | 50 | 39 | 43 | 43 | 42 | 23 | 60 |
| d | 34 | 29 | 29 | 49 | 40 | 57 | 41 | 35 | 70 |
| n | 28 | 20 | 28 | 34 | 23 | 40 | 41 | 34 | 68 |
| p | 4 | 3 | 12 | 3 | 8 | 15 | 6 | 5 | 16 |
| b | 6 | 4 | 7 | 11 | 19 | 13 | 10 | 17 | 18 |
| m | 29 | 7 | 18 | 10 | 20 | 34 | 23 | 28 | 18 |
| j | 8 | 14 | 17 | 17 | 18 | 18 | 13 | 33 | 25 |
| r | 21 | 21 | 42 | 42 | 52 | 63 | 41 | 46 | 47 |
| l | 15 | 11 | 16 | 18 | 20 | 16 | 17 | 18 | 17 |
| v | 18 | 11 | 17 | 16 | 36 | 33 | 27 | 36 | 31 |
| S | 2 | 3 | 6 | 2 | 19 | 17 | 12 | 4 | 5 |
| s | 8 | 10 | 22 | 14 | 21 | 22 | 12 | 28 | 31 |
| h | 8 | 10 | 4 | 12 | 13 | 12 | 8 | 13 | 19 |
| L | 17 | 14 | 22 | 10 | 18 | 10 | 15 | 16 | 24 |
| Total | 289 | 230 | 357 | 355 | 444 | 480 | 391 | 431 | 535 |

Note. 1: Passage I; 2: Passage II and 3: Passage III

The number of words and sentences varied across the passages and it is represented in table 4.4. From the table, it was noted that the number of words and the number of sentences increases as the grade level increases. The trend in the increase in the number of words and the number of sentences was also seen as the complexity of the passages was increased. A similar trend was noted in the development of the passage phase. However, the number of words and the sentences did not vary to a greater extent from the initial phase and the details are provided in the Table 4.4.

Table 4.4: *Occurrence of words and sentences across passages*

| Grade | No. of words | No. of sentences |
|---------------------------------|---------------------|-------------------------|
| 3 rd grade passage 1 | 41 | 11 |
| 3 rd grade passage 2 | 52 | 12 |
| 3 rd grade passage 3 | 67 | 14 |
| 4 th grade passage 1 | 60 | 13 |
| 4 th grade passage 2 | 63 | 16 |
| 4 th grade passage 3 | 67 | 13 |
| 5 th grade passage 1 | 75 | 15 |
| 5 th grade passage 2 | 77 | 15 |
| 5 th grade passage 3 | 84 | 15 |
| 6 th grade passage 1 | 85 | 15 |
| 6 th grade passage 2 | 107 | 16 |
| 6 th grade passage 3 | 130 | 16 |
| 7 th grade passage 1 | 104 | 15 |
| 7 th grade passage 2 | 106 | 15 |
| 7 th grade passage 3 | 146 | 18 |

Grade level measurement:

The passages were again subjected to grade-level measurement after all the modifications using a formula, $GL = -4.45 + 1.425(WL) + 0.7262(ASL)$ (Madhushree & Nanjappa, 2017). Where, GL= grade level, WL= word length and it is calculated by dividing the total number of phonemes by a total number of words, ASL= Average sentence length and it is calculated by dividing the total number of words by a total number of sentences. Based on the values, the passages were further classified as Simple, Average and Complex. The decision on complexity was based on grade level values being higher for complex passage followed by average and Simple passage. For third grade passages, the grade level obtained for Simple, Average and Complex passage was 2.76, 3.06 and 3.39 respectively. Similarly, for fourth grade, the grade level values for Simple, Average and Complex passages were 3.87, 4.39 and 4.68 respectively. For

fifth grade, 4.78, 5.09 and 5.18 were the grade level values for Simple, Average and Complex passages. For sixth grade, 5.72, 6.00 and 6.44 were the grade level values for Simple, Average and Complex passages respectively. Finally, for seventh grade the values were obtained were 6.56, 7.21 and 7.32 for Simple, Average and Complex passage respectively. The average word length, average sentence length and the grade level for each passage are represented in table 4.5.

Table 4.5: Grade level measures across all passages

| Passages | Word length | Average sentence length | Grade level |
|---------------------------------|--------------------|--------------------------------|--------------------|
| 3 rd grade passage 1 | 3.17 | 3.72 | 2.76 |
| 3 rd grade passage 2 | 3.07 | 4.33 | 3.06 |
| 3 rd grade passage 3 | 3.07 | 4.78 | 3.39 |
| 4 th grade passage 1 | 3.5 | 4.61 | 3.87 |
| 4 th grade passage 2 | 3.93 | 4.20 | 4.39 |
| 4 th grade passage 3 | 3.79 | 5.15 | 4.68 |
| 5 th grade passage 1 | 3.79 | 4.88 | 4.78 |
| 5 th grade passage 2 | 4.00 | 5.26 | 5.09 |
| 5 th grade passage 3 | 3.91 | 5.60 | 5.18 |
| 6 th grade passage 1 | 4.16 | 5.85 | 5.72 |
| 6 th grade passage 2 | 3.94 | 6.68 | 6.00 |
| 6 th grade passage 3 | 3.51 | 8.12 | 6.44 |
| 7 th grade passage 1 | 4.20 | 6.93 | 6.56 |
| 7 th grade passage 2 | 4.10 | 8.15 | 7.31 |
| 7 th grade passage 3 | 4.13 | 8.11 | 7.32 |

The grade level measures again indicated that all the developed passages were appropriate for their respective grades. The complexity of the passages was also maintained as in the development phase based on the grade level values even after modifications are done. Hence, it is appropriate to use the passages for administration purposes on the target population. The results of the administration of the passages are discussed in the next phase.

3. Phase III: Administration of the developed material

A total of 450 typically developing children ranging from grade III to grade VII were considered for the study. The participants were further divided into three groups i.e., SSE (State syllabus English Medium), SSK (State syllabus Kannada medium) and Central Board of Secondary Education (CBSE). Each child was presented with the grade appropriate reading passage and was instructed to read the passage. Each grade consists of three passages (Simple, Average and Complex). All the reading samples were audio recorded. The samples were analyzed with regard to the total time taken to read each passage, Words read per minute and Accuracy. The data obtained for all the three parameters (Total duration, Words per minute and Accuracy) across all the three passages (Simple, Average and complex) with respect to their grades were averaged and analyzed using statistical measures in SPSS software. To test the test retest reliability 10% of the samples were randomly selected for re-administration of the passages post one week of initial administration in order to find out if the experiment can consistently produce the same results over time. The reliability was checked with respect to the total duration, Words per minute and Accuracy.

The test retest reliability coefficient for third grade was found to be good for total duration ($\alpha=0.88$), Words per minute ($\alpha=0.88$) and Accuracy ($\alpha=0.82$). For fourth grade, the test retest reliability coefficient was found to be good for total duration ($\alpha=0.85$), Words per minute ($\alpha=0.85$) and Accuracy ($\alpha=0.81$). For fifth grade, the test retest reliability coefficient was found to be excellent for total duration ($\alpha=0.90$), good for words per minute ($\alpha=0.88$) and accuracy ($\alpha=0.82$). For sixth grade, the test retest reliability coefficient was found to be excellent for total duration ($\alpha=0.91$), good for words per minute ($\alpha=0.86$) and accuracy ($\alpha=0.88$). For seventh grade,

the test retest reliability coefficient was found to be excellent for total duration ($\alpha=0.97$), good for words per minute ($\alpha=0.85$) and accuracy ($\alpha=0.88$).

The data was initially subjected to Shapiro wilks test for normality and it revealed that data does not follow normal distribution i.e., $p>0.05$. Also, the mean and standard deviation values varied across all the parameters. In order to stabilize the variance, a total of 25 outliers were removed from the data (i.e., Seven participants were removed from the SSK group, ten from the SSE group and eight from the CBSE group). Once the outliers were removed, the data was further subjected to normality test and the results are presented under the following sections:

Between group comparison (SSK, SSE and CBSE):-

- Comparison of Total duration across three passages (Simple, Average and complex)
- Comparison of Words read per minute across three passages
- Comparison of accuracy across three passages

Within groups/ across grades comparison:-

- Comparison of Words read per minute across three passages
- Comparison of accuracy across three passages

Comparison of total duration between the groups:

The time taken by each participant to read each passage was measured using the PRAAT software. The recorded samples were fed into the PRAAT. The cursors were placed in such a way that the first cursor indicates the starting point of the passage and the second cursor indicates the ending point of the passage. The duration between the two cursors is considered as the total time taken to read the passage i.e., the total duration to read each passage. The data was then subjected

to Shapiro wilks test for normality and it revealed that data does not follow normal distribution i.e., $p > 0.05$. Hence, a non parametric test Kruskal Wallis test was carried out to compare the differences between three independent groups namely SSK, SSE and CBSE. The results revealed no significant difference in total duration between the groups for grade III. For grade IV, significant difference ($\chi^2(2) = 7.44$, $p = 0.02$) was found for the total time taken to read the Average passage. For grade V, significant differences were found between the groups for total time taken to read the Average ($\chi^2(2) = 17.52$, $p = 0.00$) and Complex passage ($\chi^2(2) = 22.78$, $p = 0.00$). For grade VI and grade VII significant differences were found for all the three passages i.e., Simple [VI- ($\chi^2(2) = 18.07$, $p = 0.00$) & VII- ($\chi^2(2) = 12.24$, $p = 0.00$)], Average [VI- ($\chi^2(2) = 20.46$, $p = 0.00$) & VII- ($\chi^2(2) = 14.07$, $p = 0.00$)] and Complex [VI- ($\chi^2(2) = 14.69$, $p = 0.00$) and VII- ($\chi^2(2) = 13.88$, $p = 0.00$)].

Mann Whitney U test was used for pair wise comparison of the groups namely SSK Versus SSE, SSK Versus CBSE and SSE Versus CBSE. Between SSK and SSE groups, significant difference was found in the total duration of Average passage ($|Z| = 2.326$, $p = 0.02$) for Grade IV. For grade V, significant difference [$(|Z| = 2.078$, $p = 0.03$), $(|Z| = 3.692$, $p = 0.00$), $(|Z| = 4.219$, $p = 0.00$)] was found in total duration across all the three passages (Simple, Average and Complex). Similarly, for grade VI significant difference [$(|Z| = 3.623$, $p = 0.00$), $(|Z| = 3.895$, $p = 0.00$) and $(|Z| = 3.049$, $p = 0.00$)] was found in total duration across all the three passages (Simple, Average and Complex). For grade VII, significant difference was found in total duration of Average ($|Z| = 2.408$, $p = 0.01$) and Complex passage ($|Z| = 2.576$, $p = 0.01$).

On comparing SSK and CBSE groups, significant difference was seen in total duration of the Average ($|Z| = 3.124$, $p = 0.00$) and Complex passage ($|Z| = 3.632$, $p = 0.00$) for grade V. And for grade VII, significant difference was found across all the three passages (Simple, Average and

Complex passage) ($|Z|= 3.334$, $p=0.00$), ($|Z|= 3.611$, $p=0.00$) and ($|Z|= 3.696$, $p=0.00$) respectively.

On comparing SSE and CBSE groups, for grade IV, significant difference was found in total duration of the Average passage ($|Z|= 2.090$, $p=0.03$). For grade V, significant difference was seen in total duration of the Complex passage ($|Z|= 1.979$, $p=0.04$). And for grade VI, significant difference was found in total duration of all the three passages ($|Z|= 3.687$, $p=0.00$), ($|Z|= 3.911$, $p=0.00$) and ($|Z|= 3.584$, $p=0.00$) respectively.

Data analyses with respect to total duration across groups (SSE/SSK/CBSE) suggested varied performance while reading the developed passages. This further focuses on the need to the development of reading passages for varied types of curriculum followed in different School set up.

On comparing the mean and median values across all the groups as indicated in tables 4.6a, 4.6b and 4.6.c. It was found that the children took more time to read Complex passage followed by the Average and Simple passage. Further, the children in the SSE group took more time to read the passages compared to CBSE and SSK groups. SSK group participants were found to be faster in reading the passages followed by CBSE and SSE groups. Figure 4.1a to 4.1e represents the median values for total duration for all the five grades across the groups.

Table 4.6 a: Mean, standard deviation and median values of total duration across three passages for SSK group

| Grade | N | Total duration | | | | | | | | |
|--------------|-----|----------------|-------|--------|--------|-------|--------|--------|-------|--------|
| | | STD | | | ATD | | | CTD | | |
| | | Mean | S.D | Median | Mean | S.D | Median | Mean | S.D | Median |
| III | 30 | 108.18 | 46.22 | 100.98 | 142.32 | 67.03 | 128.15 | 182.71 | 86.98 | 164.90 |
| IV | 29 | 98.46 | 43.04 | 80.70 | 129.86 | 66.10 | 106.53 | 158.91 | 95.47 | 117.27 |
| V | 27 | 85.92 | 19.93 | 83.22 | 92.67 | 24.14 | 88.26 | 112.55 | 33.38 | 106.56 |
| VI | 29 | 107.70 | 38.84 | 106.33 | 136.04 | 52.82 | 121.19 | 175.29 | 73.36 | 160.00 |
| VII | 28 | 96.00 | 29.35 | 90.39 | 104.11 | 31.74 | 94.42 | 136.54 | 42.92 | 131.53 |
| Total | 143 | 99.53 | 37.46 | 90.02 | 121.66 | 54.72 | 100.16 | 154.09 | 74.94 | 129.68 |

Note. SSK- State syllabus Kannada medium, STD- total duration for simple passage, ATD- total duration for average passage, CTD- total duration for complex passage

Table 4.6b: Mean, standard deviation and median values of total duration across three passages for SSE group

| Grade | N | Total duration | | | | | | | | |
|--------------|-----|----------------|-------|--------|--------|--------|--------|--------|-------|--------|
| | | STD | | | ATD | | | CTD | | |
| | | Mean | S.D | Median | Mean | S.D | Median | Mean | S.D | Median |
| III | 29 | 118.01 | 42.09 | 110.32 | 148.81 | 59.79 | 124.23 | 195.16 | 76.69 | 178.60 |
| IV | 26 | 117.40 | 46.67 | 111.74 | 177.40 | 80.36 | 176.28 | 195.69 | 92.48 | 186.65 |
| V | 30 | 116.84 | 50.56 | 101.60 | 159.91 | 79.69 | 135.91 | 206.91 | 93.22 | 199.84 |
| VI | 28 | 145.11 | 36.86 | 131.95 | 194.47 | 53.80 | 191.21 | 231.08 | 61.00 | 227.39 |
| VII | 27 | 106.61 | 27.49 | 96.84 | 126.68 | 39.051 | 114.11 | 186.18 | 76.78 | 159.72 |
| Total | 140 | 120.87 | 43.04 | 112.49 | 161.36 | 67.75 | 147.65 | 203.23 | 81.25 | 187.54 |

Note. SSE- State syllabus English medium, STD- total duration for simple passage, ATD- total duration for average passage, CTD- total duration for complex passage

Table 4.6c: Mean, standard deviation and median values of total duration across three passages for CBSE group

| Grade | N | Total duration | | | | | | | | |
|--------------|-----|----------------|-------|--------|--------|-------|--------|--------|-------|--------|
| | | STD | | | ATD | | | CTD | | |
| | | Mean | S.D | Median | Mean | S.D | Median | Mean | S.D | Median |
| III | 28 | 99.87 | 34.14 | 94.07 | 124.53 | 45.52 | 106.62 | 174.93 | 67.35 | 166.90 |
| IV | 29 | 94.23 | 23.00 | 92.58 | 135.84 | 38.05 | 139.31 | 156.15 | 48.43 | 151.46 |
| V | 29 | 95.66 | 20.63 | 92.24 | 115.44 | 30.13 | 105.98 | 156.38 | 44.25 | 143.34 |
| VI | 29 | 111.11 | 26.92 | 102.32 | 137.70 | 33.83 | 126.19 | 173.78 | 45.07 | 173.62 |
| VII | 27 | 115.96 | 27.52 | 108.84 | 138.85 | 41.02 | 124.33 | 188.75 | 56.73 | 164.53 |
| Total | 142 | 103.21 | 27.76 | 99.60 | 130.40 | 38.54 | 122.36 | 169.70 | 53.60 | 158.65 |

Note. CBSE- Central Board of Secondary Education, STD- total duration for simple passage, ATD- total duration for average passage, CTD- total duration for complex passage

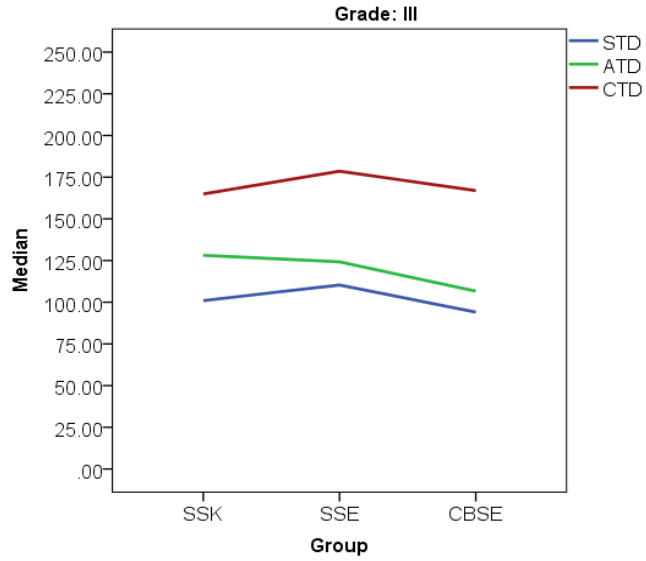


Figure 4.1a: Median values for total duration of grade III participants across all the three groups
Note. STD- total duration of simple passage, ATD- total duration of average passage, CTD- total duration of complex passage

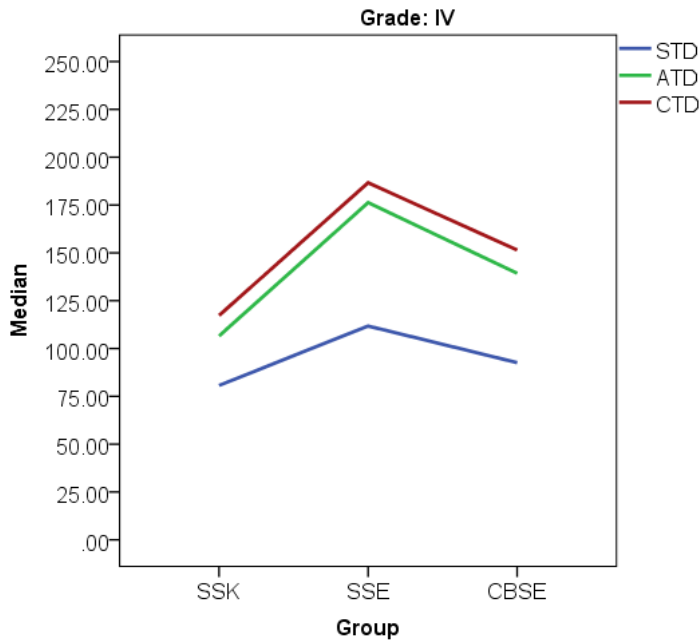


Figure 4.1b: Median values of grade IV participants for total duration across the three groups
Note. STD- total duration of simple passage, ATD- total duration of average passage, CTD- total duration of complex passage

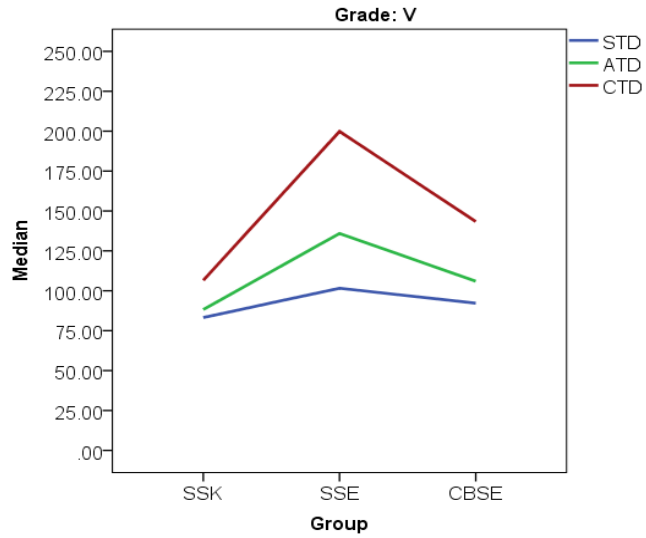


Figure 4.1c: Median values of grade V participants for total duration across the three groups
Note. STD- total duration of simple passage, ATD- total duration of average passage, CTD- total duration of complex passage

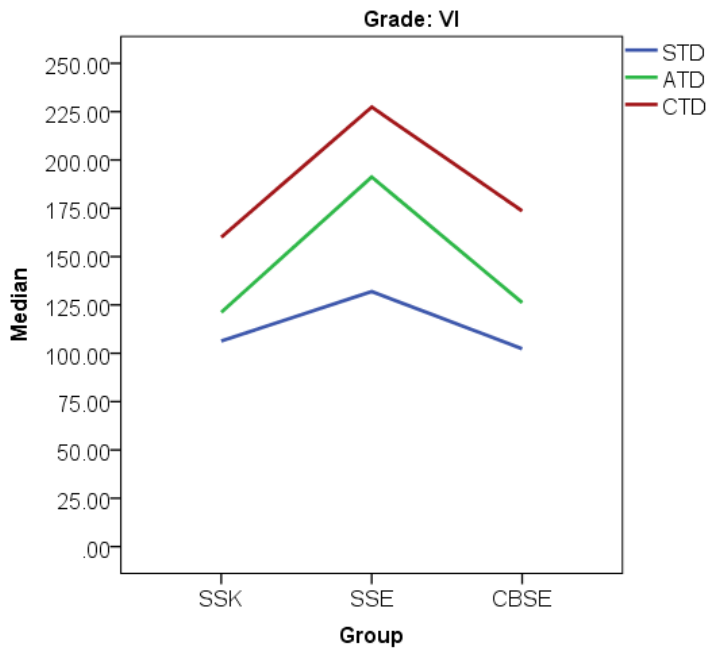


Figure 4.1d: Median values of grade VI participants for total duration across all the three groups
Note. STD- total duration of simple passage, ATD- total duration of average passage, CTD- total duration of complex passage

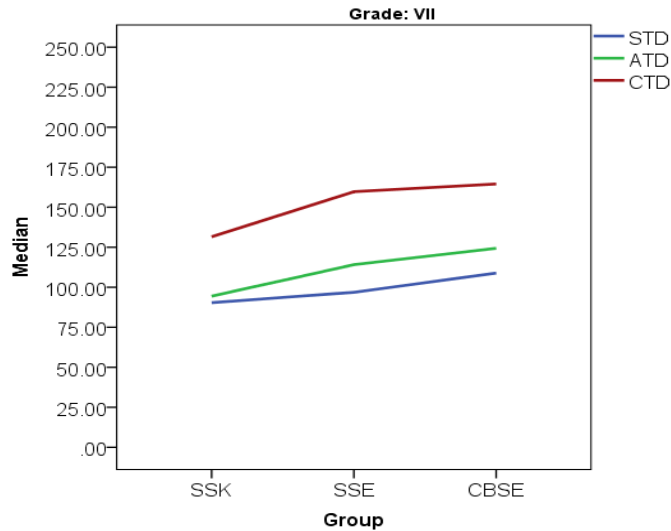


Figure 4.1 e: Median values of grade VII participants for total duration across all the three groups
Note. STD- total duration of simple passage, ATD- total duration of average passage, CTD- total duration of complex passage

The graphical representation of the total duration indicates that the Simple passage has lower values compared to the Average and Complex passage. The lesser values for Simple passage indicated that the children took less time to read the Simple passage than the Average passage. The higher values for Complex passage indicated that the children took more time to read the passage.

From the above mentioned results, we can conclude that when all the groups were compared for total duration it was found that the performance of the participants of CBSE group was better followed by SSK and SSE group at lower grades (Grade III and IV). At higher grades i.e., from grade V -VII, SSK group was found to be better followed by CBSE and SSE group. Further, as a difficulty level of passage was increased no significant difference was seen in lower grades (grade III).whereas, significant increase in the duration was seen across the three passages (Simple, Average and Complex) in higher grades (grade VI and VII). This finding indicates that

the classification of the passages as Simple, Average and Complex holds good even after the administration of reading passage.

The decrement in the total duration due to the increment in age / grade level trend was not seen in the current study. This could be due to the usage of different passages for each grade level which varies in terms of the word usage (simple, complex, use of special words, multi-syllabic words), and the number of sentences. This difference is supported by Daly et al. (2005) where they reported that, as the difficulty level of text increased, even the skilled readers and older readers (Grade VI- VII) tended to slow their reading rates to a greater degree than less skilled readers and younger readers and hence this finding further adds on to the literature.

This finding was further explained by Daly et al. (2005). The authors stated that the skilled readers and the older readers modulated their reading rates to a greater degree particularly for the longer passages, more difficult, and less cohesive texts, is not surprising. The usage of higher cognitive skills such as problem solving, planning and organization are required for the successful comprehension of the passages. More than that, when learning new information, the readers often engage strategic processes to combine information from explicit statements of the text and relevant information from their general knowledge. Deployment of strategic processes may slow the speed of processing text. In this study, slower reading rates observed among the older readers do not reflect the comprehension breakdown. Rather, due to the engagement of higher level cognitive skills when learning information from text.

The results of the current study with respect to the group comparison are also supported by the previous studies (Ramaa, 1985; Logana et al., 2010). The authors highlighted differences in terms of the performances across the schools. In one study, Ramaa (1985) compared the speed

of reading across government and private schools. She mentioned that the performance of the students varied with respect to the educational standard of their parents, assistance provided by the parents to improve their reading performance as well as the type of methodology of teaching to which they are exposed to at schools. Logana et al., (2010) also found a significant difference across the average level students, English language learners, minority students and students eligible for free or reduced priced lunch. Some more studies (Cheng & Wu, 2017; Chen, Kong & Mo, 2018) stated that the socio- economic status of the children might play a role in the reading performance especially in the speed of reading.

Overall, in the present study similar trend was observed, the performance of SSE group was found to be poorer when compared to CBSE and SSK group. The reason for poor performance could be that, In English-medium schools, English is the main language and all the academic subjects are taught in English only except Kannada. Whereas, in the regional medium schools, the regional language of the state is the main language and all the academic subjects are taught in that language and hence the SSK group would have read faster. Karande and Kulkarni (2005) opined that the interaction of a large number of socio economic status as well as academic environmental factors influence the students performance in school. In present, the CBSE children have performed better than the SSE group this could be to due to the influence of environmental factors such as the higher education level of parents, assistance that the parents provide to their children while reading and the experience of the teachers.

Comparison of words read per minute between the groups:

The words per minute were measured by dividing the total number of words by the total time taken to read the passage in second's multiplied by 100. The data was then subjected to

Shapiro wilks test for normality and it revealed that data does not follow normal distribution i.e., $p > 0.05$. Hence, a non parametric test Kruskal Wallis test was administered to compare the differences between three groups namely SSK, SSE and CBSE. The results did not reveal any significant differences across all the three passages (Simple, Average and Complex) for grade III and grade IV. However, significant difference was found for grade V in Simple ($\chi^2(2) = 7.684$, $p = 0.02$) and Complex passage ($\chi^2(2) = 6.106$, $p = 0.04$). For grade VI [$\chi^2(2) = 14.745$, $p = 0.00$], ($\chi^2(2) = 14.489$, $p = 0.00$), ($\chi^2(2) = 11.318$, $p = 0.00$)] and grade VII [$\chi^2(2) = 1.279$, $p = 0.00$), ($\chi^2(2) = 8.632$, $p = 0.01$), ($\chi^2(2) = 6.851$, $p = 0.03$)] revealed significant difference across all the three passages (Simple, Average and Complex).

Mann-Whitney U test revealed, between SSK and SSE groups' significant differences were found in the complex passage of grade IV ($|Z| = 2.427$, $p = 0.01$) and also in all the three passages (Simple, Average and Complex) of grade V [$(|Z| = 2.505$, $p = 0.01$), ($|Z| = 2.175$, $p = 0.03$) and ($|Z| = 2.319$, $p = 0.02$)] and grade VI [$(|Z| = 3.204$, $p = 0.00$), ($|Z| = 2.917$, $p = 0.00$) and ($|Z| = 2.437$, $p = 0.01$)].

Whereas, between SSK and CBSE groups, significant differences were found only in the grade VII across all the three passages i.e., Simple ($|Z| = 3.363$, $p = 0.00$) Average ($|Z| = 3.069$, $p = 0.00$) and Complex ($|Z| = 2.631$, $p = 0.00$) passage. When SSE and CBSE groups were compared, significant difference was found in Simple passage of grade V ($|Z| = 2.217$, $p = 0.02$) and for all the three passages of grade VI [$(|Z| = 3.437$, $p = 0.00$), ($|Z| = 3.658$, $p = 0.00$) and ($|Z| = 3.341$, $p = 0.00$) i.e., Simple, Average and Complex respectively].

On comparing the median values across groups as indicated in tables 4.7a, 4.7b and 4.7c, it was found that the number of words read in a minute were more when simple passage was

introduced compared to average and complex passages in all the three groups. It was also found that the participants in the SSE group read less number of words compared to SSK and CBSE groups. The SSK group read more number of words in a minute followed by CBSE and SSE groups. Figure 4.2a, 4.2b and 4.2c represents the median values for words per minute for all the five grades across the groups.

Table 4.7a: Mean, standard deviation and median values of words per minute across three passages for SSK group

| Grade | N | Words per minute | | | | | | | | |
|--------------|-----|------------------|-------|--------|-------|-------|--------|-------|-------|--------|
| | | SWPM | | | AWPM | | | CWPM | | |
| | | Mean | S.D | Median | Mean | S.D | Median | Mean | S.D | Median |
| III | 30 | 27.80 | 9.70 | 27.00 | 25.66 | 9.41 | 23.00 | 22.06 | 8.72 | 22.50 |
| IV | 29 | 33.34 | 10.83 | 30.00 | 28.93 | 10.05 | 26.00 | 26.31 | 9.04 | 25.00 |
| V | 27 | 45.70 | 13.13 | 45.00 | 39.81 | 15.27 | 39.00 | 36.07 | 13.44 | 36.00 |
| VI | 29 | 48.55 | 13.46 | 49.00 | 42.93 | 14.74 | 44.00 | 39.44 | 15.51 | 39.00 |
| VII | 28 | 66.07 | 15.78 | 64.00 | 61.28 | 16.94 | 60.00 | 54.57 | 18.24 | 54.00 |
| Total | 143 | 44.00 | 18.34 | 42.00 | 39.47 | 18.36 | 38.00 | 35.46 | 17.48 | 33.00 |

Note. SSK- state syllabus Kannada medium, SWPM- words per minute for simple passage, AWPM- words per minute for average passage, CWPM- words per minute for complex passage

Table 4.7b: Mean, standard deviation and median values of words per minute across three passages for SSE group

| Grade | N | Words per minute | | | | | | | | |
|--------------|-----|------------------|-------|--------|-------|-------|--------|-------|-------|--------|
| | | SWPM | | | AWPM | | | CWPM | | |
| | | Mean | S.D | Median | Mean | S.D | Median | Mean | S.D | Median |
| III | 29 | 24.86 | 9.12 | 23.00 | 21.79 | 8.79 | 19.00 | 18.75 | 8.44 | 16.00 |
| IV | 26 | 29.42 | 12.27 | 25.00 | 25.61 | 10.89 | 24.00 | 20.73 | 11.16 | 18.50 |
| V | 30 | 36.90 | 14.10 | 34.00 | 31.50 | 14.89 | 26.00 | 27.70 | 14.46 | 24.00 |
| VI | 28 | 38.00 | 8.61 | 36.50 | 32.46 | 8.39 | 30.50 | 29.85 | 8.65 | 29.50 |
| VII | 27 | 59.18 | 19.03 | 62.00 | 51.96 | 20.13 | 52.00 | 47.07 | 18.66 | 46.00 |
| Total | 140 | 37.53 | 17.45 | 34.50 | 32.53 | 16.71 | 27.50 | 28.72 | 16.08 | 25.00 |

Note. SSE- state syllabus English medium, SWPM- words per minute for simple passage, AWPM- words per minute for average passage, CWPM- words per minute for complex passage

Table 4.7c: Mean, standard deviation and median values of words per minute across three passages for CBSE group

| Grade | N | Words per minute | | | | | | | | |
|--------------|-----|------------------|-------|--------|-------|-------|--------|-------|-------|--------|
| | | SWPM | | | AWPM | | | CWPM | | |
| | | Mean | S.D | Median | Mean | S.D | Median | Mean | S.D | Median |
| III | 28 | 26.67 | 8.02 | 24.00 | 23.57 | 8.37 | 22.00 | 20.92 | 9.17 | 20.50 |
| IV | 29 | 32.51 | 10.71 | 30.00 | 27.65 | 9.30 | 27.00 | 24.10 | 9.63 | 24.00 |
| V | 29 | 44.20 | 11.36 | 42.00 | 35.13 | 12.18 | 34.00 | 30.65 | 11.22 | 31.00 |
| VI | 29 | 49.24 | 12.55 | 49.00 | 42.93 | 10.29 | 43.00 | 40.06 | 11.18 | 40.00 |
| VII | 27 | 53.55 | 8.98 | 53.00 | 48.48 | 11.19 | 51.00 | 43.85 | 10.22 | 43.00 |
| Total | 142 | 41.16 | 14.44 | 42.00 | 35.45 | 13.74 | 34.00 | 31.83 | 13.47 | 31.00 |

Note. CBSE-central board of secondary education, SWPM- words per minute for simple passage, AWPM- words per minute for average passage, CWPM- words per minute for complex passage

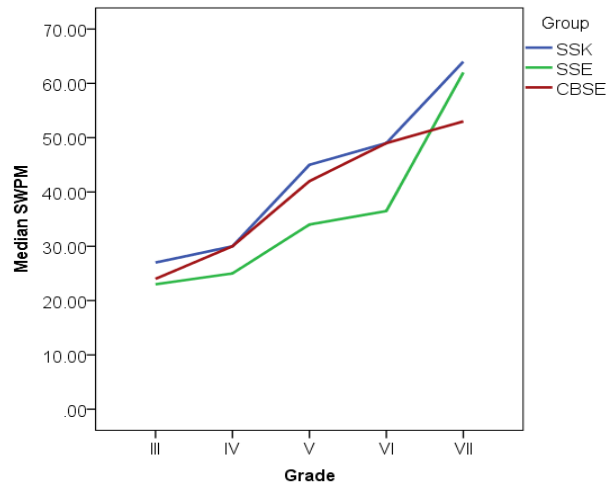


Figure 4.2a: Median values of words per minute for simple passage across the three groups and grades

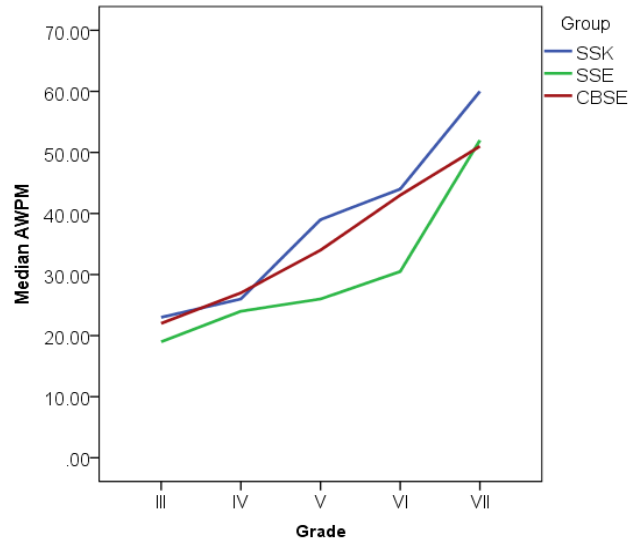


Figure 4.2 b: Median values of words per minute for Average passage across the three groups and grades

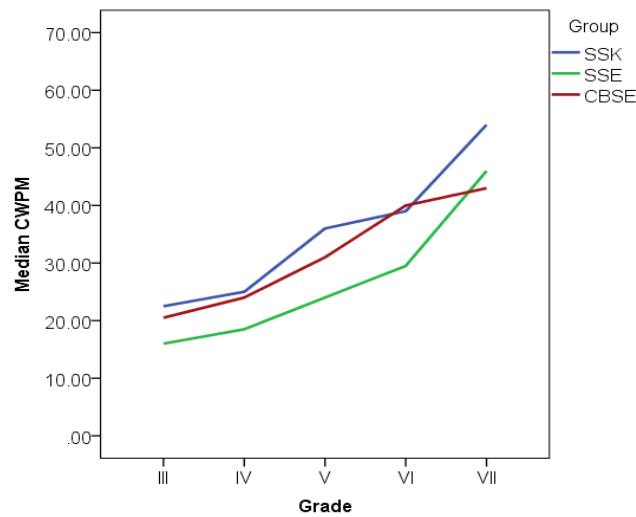


Figure 4.2c: Median values of words per minute for Complex passage across the three groups and grades

From the results of the current study, significant difference between groups was found only at higher grades (V, VI and VII) when the complexity of the passage was increased. Among the three groups, SSK group was found to be better followed by CBSE and SSE groups across all the grades. Hence once again, it is proved that the medium of instruction as well the school environment plays an important role on reading performance (Petrill et al., 2010).

Similar finding was reported by the previous authors Daly et al (2005) where they reported that, the higher graders tended to slow down their reading speed as the difficulty level of text increased to greater extent than the lower graders. As a result of reduced rate the number of words read in a minute also reduced. Hence, this finding further added on to the literature.

Little literature review reported that (Wilson, 2013; Cheng & Wu, 2017; Chen, Kong & Mo, 2018) the socio- economic status might play an important role in the reading performance. Though in the present study SES was not considered as a major variable, it is understood that the SSK group mostly belong to the Lower Socio economic status.

Comparison of accuracy between the groups:

The accuracy was measured by dividing the number of words read correctly by participants with the total number of words present in the passage multiplied by 100. The data was then subjected to Shapiro wilks test for normality and it revealed that data does not follow normal distribution i.e., $p > 0.05$. Hence, a non parametric test Kruskal Wallis test was administered to compare the differences between the groups. The results revealed no significant difference across all the three passages (simple, average and complex) for grade III ($\chi^2(2) = 0.243$, $p > 0.05$) and grade V ($\chi^2(2) = 1.583$, $p > 0.05$). For grade IV ($\chi^2(2) = 11.395$, $p = 0.00$), grade VI ($\chi^2(2) = 6.344$, $p = 0.04$) and grade VII ($\chi^2(2) = 5.407$, $p = 0.04$) significant difference was found only in the complex passage.

Mann- Whitney U test revealed, between SSK and SSE groups' significant differences were found in the complex passage for grade VI ($|Z| = 2.091$, $p = 0.03$) and VII ($|Z| = 2.095$, $p = 0.03$). On comparing SSK and CBSE groups' significant differences were found in the complex passage

of grade IV ($|Z|= 3.345$, $p=0.00$), VI ($|Z|=2.560$, $p=0.01$) and VII ($|Z|= 2.366$, $p=0.01$). Whereas, no significant differences were found between SSE and CBSE groups across three passages.

On comparing the mean and median values across groups as indicated in tables 4.8a, 4.8b and 4.8c, it was found that all the groups were accurate when simple and average passages were presented but when complex passage was presented it was found that the participants of SSK group were more accurate followed by CBSE and SSE group. Figure 4.3a, 4.3b and 4.3c represents the median values for accuracy of all the five grades across three groups.

Table 4.8a: Mean, standard deviation and median values of accuracy across three passages for SSK group

| Grade | N | Accuracy | | | | | | | | |
|--------------|-----|----------|-----|--------|--------|-----|--------|--------|------|--------|
| | | SAC | | | AAC | | | CAC | | |
| | | Mean | SD | Median | Mean | SD | Median | Mean | SD | Median |
| III | 30 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 97.90 | 2.49 | 98.00 |
| IV | 29 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.65 | 0.76 | 100.00 |
| V | 27 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.81 | 0.48 | 100.00 |
| VI | 29 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 100.00 | 0.00 | 100.00 |
| VII | 28 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 100.00 | 0.00 | 100.00 |
| Total | 143 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.45 | 1.44 | 100.00 |

Note. SSK- state syllabus Kannada medium, SAC- accuracy for simple passage, AAC- accuracy for average passage, CAC- accuracy for complex passage

Table 4.8b: Mean, standard deviation and median values of accuracy across three passages for SSE group

| Grade | N | Accuracy | | | | | | | | |
|--------------|-----|----------|-----|--------|--------|-----|--------|-------|------|--------|
| | | SAC | | | AAC | | | CAC | | |
| | | Mean | SD | Median | Mean | SD | Median | Mean | SD | Median |
| III | 29 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 97.86 | 2.76 | 99.00 |
| IV | 26 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 98.84 | 2.16 | 100.00 |
| V | 30 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.53 | 0.81 | 100.00 |
| VI | 28 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.78 | 0.56 | 100.00 |
| VII | 27 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.74 | 0.65 | 100.00 |
| Total | 140 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.15 | 1.79 | 100.00 |

Note. SSE- state syllabus English medium, SAC- accuracy for simple passage, AAC- accuracy for average passage, CAC- accuracy for complex passage

Table 4.8c: Mean, standard deviation and median values of accuracy across three passages for CBSE group

| Grade | N | Accuracy | | | | | | | | |
|--------------|-----|----------|-----|--------|--------|-----|--------|-------|------|--------|
| | | SAC | | | AAC | | | CAC | | |
| | | Mean | SD | Median | Mean | SD | Median | Mean | SD | Median |
| III | 28 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 97.78 | 2.61 | 99.00 |
| IV | 29 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 98.00 | 2.23 | 98.00 |
| V | 29 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.65 | 0.72 | 100.00 |
| VI | 29 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.37 | 1.67 | 100.00 |
| VII | 27 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 99.62 | 0.79 | 100.00 |
| Total | 142 | 100.00 | .00 | 100.00 | 100.00 | .00 | 100.00 | 98.88 | 1.93 | 100.00 |

Note. CBSE- Central board of secondary education, SAC- accuracy for simple passage, AAC- accuracy for average passage, CAC- accuracy for complex passage

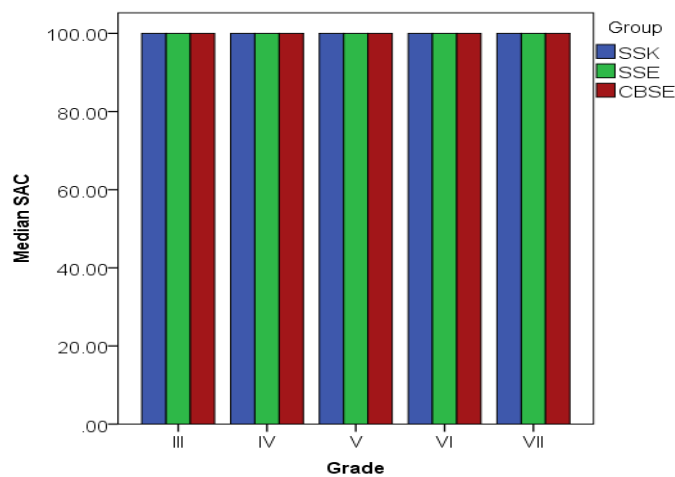


Figure 4.3a: Median values of accuracy for simple passage across the three groups

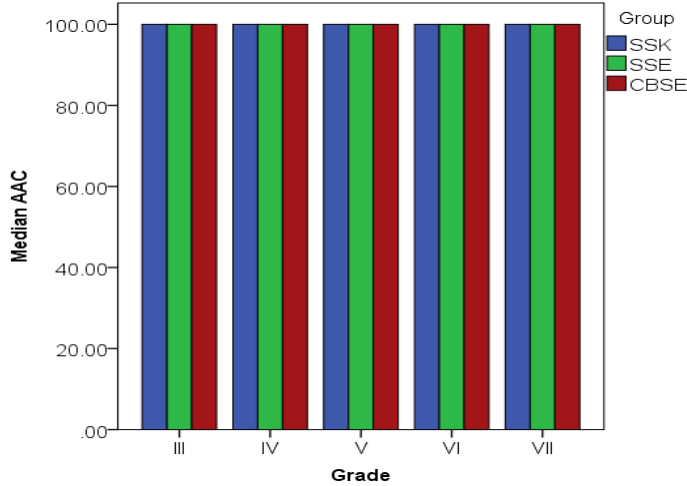


Figure 4.3b: Median values of accuracy for average passage across the three groups

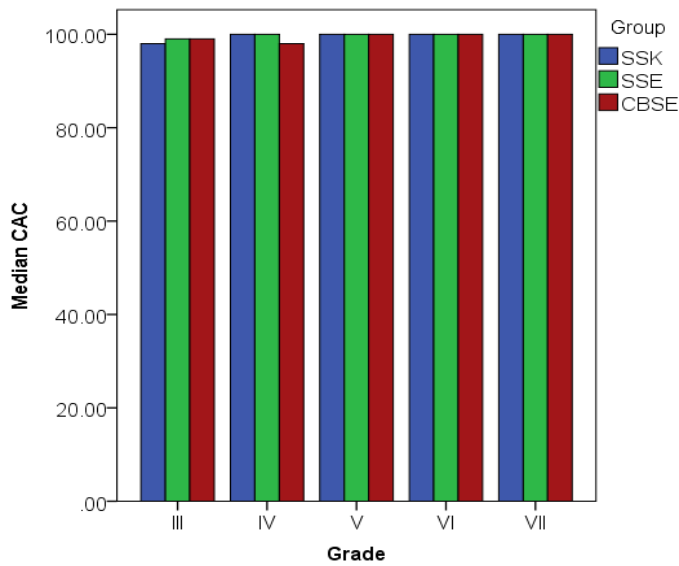


Figure 4.3c: Median values of accuracy for complex passage across the three groups

It was found that the accuracy did not vary among the groups at lower grade level (grade III and IV) for simple and average passage. The varied performances were seen in accuracy when the complex passage was introduced. This finding is supported by Daly et al. (2005), where they also reported that the difficulty level of the passages might have a significant effect on reading performances

In addition, significant differences were found for complex passage among SSK, SSE and CBSE groups for complex passage only across the grades IV, VI and VII [$\chi^2(2) = 11.395, 0.00$], ($\chi^2(2) = 6.344, 0.04$) and ($\chi^2(2) = 5.407, 0.04$) respectively]. The literature highlights the importance of genetic factors that influence differences in reading (Petrill et al., 2010) also the role of environment on reading performance, educational standard of their parents, assistance provided by the parents to improve their reading performance as well as the type of methodology of teaching to which they are exposed to at schools (Ramaa, 1985; Petrill et al., 2010).

The performance of SSK group was found to be better followed by CBSE and SSE groups. The reason for better performance could be that, in the Kannada medium schools, the Kannada language is the main language and all the academic subjects are taught in that language and hence the SSK group would have read faster. Whereas in English-medium schools, English is the main language and all the academic subjects are taught in English only except Kannada language and hence SSE group children would have performed poorer (Ramaa, 1985).

Seigel and Serra (2001) observed nine to ten year old Italian-English speaking children. The authors found that on all the Italian tasks, the bilingual children lagged behind monolingual children matched on age due to deficits in phonological processing of the language. Similarly, in the present study the English exposed children are tending to have more errors while reading Kannada. Thus we can conclude that children who have been exposed to a second language are likely to show problems in any other language to which they are exposed. In the present study, similar trend was evident in CBSE and SSE group.

Comparison of Words per minute within the groups and between grades:

Shapiro wilks test for normality revealed that the data does not follow normal distribution i.e., $p > 0.05$. Hence, a non parametric test Kruskal Wallis test was administered to compare the differences between the grades namely III, IV, V, VI and VII across the three groups SSK, SSE and CBSE. The results revealed significant difference within all the three groups across all the three passages i.e., simple, average and complex. The Kruskal Wallis test values are represented in table 4.9.

Table 4.9: Kruskal Wallis test values of within group comparison for words per minute

| Passage | SSK | | | SSE | | | CBSE | | |
|----------------|----------|----|-------|----------|----|-------|----------|----|-------|
| | χ^2 | df | sig | χ^2 | df | sig | χ^2 | df | sig |
| Simple | 76.04 | 2 | 0.00* | 56.67 | 2 | 0.00* | 70.54 | 2 | 0.00* |
| Average | 65.83 | 2 | 0.00* | 48.72 | 2 | 0.00* | 63.34 | 2 | 0.00* |
| Complex | 57.51 | 2 | 0.00* | 50.42 | 2 | 0.00* | 60.87 | 2 | 0.00* |

Note. * indicates $p < 0.05$

Mann Whitney U test revealed within SSK group, significant difference was found between all the grades except grade III and IV for average and complex passage and grade V and VI for all the three passages. The test values are given in the table 4.10.

Table 4.10: Mann Whitney U test results of SSK group

| Grades | Simple | | Average | | Complex | |
|----------------|--------|-------|---------|-------|---------|-------|
| | Z | sig | Z | Sig | Z | sig |
| III-IV | 1.96 | 0.49 | 1.45 | 0.14 | 1.70 | 0.89 |
| III-V | 4.98 | 0.00* | 3.11 | 0.00* | 4.00 | 0.00* |
| III-VI | 5.20 | 0.00* | 4.49 | 0.00* | 4.30 | 0.00* |
| III-VII | 6.25 | 0.00* | 6.18 | 0.00* | 5.88 | 0.00* |
| IV-V | 3.17 | 0.01* | 2.72 | 0.06* | 2.90 | 0.04* |
| IV-VI | 3.92 | 0.00* | 3.70 | 0.00* | 3.29 | 0.01* |
| IV-VII | 6.07 | 0.00* | 5.93 | 0.00* | 5.41 | 0.00* |
| V-VI | 0.73 | 0.46 | 0.91 | 0.36 | 0.87 | 0.38 |
| V-VII | 4.53 | 0.00* | 4.29 | 0.00* | 3.74 | 0.00* |
| VI-VII | 3.95 | 0.00* | 3.96 | 0.00* | 3.98 | 0.03* |

Note. * indicates $p < 0.05$

On comparing the SSE group, significant difference was found between all the grades except grade III & IV and grade V & VI for all the three passages. Also no significant difference was found between grade IV and V for average passage. The test values are given in the table 4.11.

Table 4.11: Mann Whitney U test results of SSE group

| Grades | Simple | | Average | | Complex | |
|----------------|--------|-------|---------|-------|---------|-------|
| | Z | sig | Z | Sig | Z | Sig |
| III-IV | 1.39 | 0.16 | 1.43 | 0.15 | 0.27 | 0.78 |
| III-V | 3.51 | 0.00* | 2.75 | 0.00* | 2.42 | 0.00* |
| III-VI | 4.48 | 0.00* | 4.19 | 0.00* | 4.24 | 0.00* |
| III-VII | 5.72 | 0.00* | 5.50 | 0.00* | 5.64 | 0.00* |
| IV-V | 2.19 | 0.02* | 1.49 | 0.13 | 2.02 | 0.04* |
| IV-VI | 2.99 | 0.00* | 2.92 | 0.00* | 3.40 | 0.00* |
| IV-VII | 5.09 | 0.00* | 4.91 | 0.00* | 5.06 | 0.00* |
| V-VI | 0.86 | 0.38 | 1.16 | 0.24 | 1.17 | 0.24 |
| V-VII | 4.29 | 0.00* | 3.87 | 0.00* | 3.91 | 0.00* |
| VI-VII | 4.38 | 0.00* | 3.91 | 0.00* | 3.81 | 0.00* |

Note. * indicates $p < 0.05$

When CBSE group was compared, No significant difference was found between the grades III & IV for average and complex passage, grade V & VI for simple passage and grade VI & VII for simple and complex passage. However significant difference was found between all the other grades. The text values are represented in table 4.12.

Table 4.12: Mann Whitney U test results of CBSE group

| Grades | Simple | | Average | | Complex | |
|----------------|--------|-------|---------|-------|---------|-------|
| | Z | Sig | Z | Sig | Z | sig |
| III-IV | 2.24 | 0.02* | 1.67 | 0.09 | 1.12 | 0.26 |
| III-V | 5.00 | 0.00* | 3.60 | 0.00* | 3/12 | 0.02* |
| III-VI | 5.72 | 0.00* | 5.52 | 0.00* | 5.23 | 0.00* |
| III-VII | 6.09 | 0.00* | 5.70 | 0.00* | 5.74 | 0.00* |
| IV-V | 3.48 | 0.00* | 2.46 | 0.01* | 2.17 | 0.03* |
| IV-VI | 4.42 | 0.00* | 4.77 | 0.00* | 4.69 | 0.00* |
| IV-VII | 5.67 | 0.00* | 5.27 | 0.00* | 5.43 | 0.00* |
| V-VI | 1.33 | 0.18 | 2.49 | 0.01* | 2.72 | 0.00* |
| V-VII | 3.07 | 0.00* | 3.63 | 0.00* | 3.91 | 0.00* |
| VI-VII | 1.57 | 0.11 | 2.33 | 0.02* | 1.34 | 0.17 |

Note. * indicates $p < 0.05$

When the median values were compared within the SSK group, it was found that the participants of grade III had read less number of words in a minute and grade VII participants read more number of words when compared to other grades. It was also found that the number of words in a minute are in positive correlation with the increase in grade i.e., as grade level increased the number of words read in minute also increased. Similar trend was seen in the other two groups namely SSE and CBSE. Within SSK group, the average increase in words per minute for simple passage was approximately six words for grade IV, 18 words for grade V, 22 words for grade VI and 37 words for grade VII when compared to grade III. The words per minute for average passage was three words for grade IV, 16 words for grade V, 21 words for grade VI and 37 words for grade VII when compared to grade III and for complex passage three words for grade IV, 14 words for grade V, 17 words for grade VI and 32 words for grade VII when compared to grade III.

Within SSE group, the average increase in words per minute for simple passage was approximately two words for grade IV, 11 words for grade V, 13 words for grade VI and 39 words for grade VII when compared to grade III, for average passage was five words for grade IV, seven words for grade V, 11 words for grade VI and 33 words for grade VII when compared to grade III and for complex passage two words for grade IV, eight words for grade V, 13 words for grade VI and 30 words for grade VII when compared to grade III.

Within CBSE group, the average increase in words per minute for simple passage was approximately six words for grade IV, 18 words for grade V, 25 words for grade VI and 29 words for grade VII when compared to grade III, for average passage was five words for grade IV, 12 words for grade V, 21 words for grade VI and 29 words for grade VII when compared to grade III and for complex passage, four words for grade IV, 11 words for grade V, 20 words for

grade VI and 23 words for grade VII when compared to grade III. The mean, Standard deviation and median values of all the three groups across five grades are represented in table 4.7a, 4.7b and 4.7c (Page no. 69 & 70).

This finding of the present study is in congruent with the results of Barth et al.(2014) who found that the increase in the words per minute consistently with the increase grade level, suggesting variability between participants can be explained by atleast one reader characteristic i.e., grade level. It was observed that the skilled readers as well as the older readers (grade VII) modulate their reading rates more effectively than struggling readers and the younger readers respectively. Also, the variations in the performances across passages within grade suggested that there may be some variability within participants.

In addition, the results of the current study are in support of another study (Savithri & Jayaram, 2005) in Kannada language which indicated an increase in the words per minute as the age increases. The authors had considered participants in the age range of four to hundred years. The four to ten years old participants were instructed to describe the cartoons and the story. The participants in the age range of 11 to 100 years read the 300 word passage developed by the investigator. The results indicated the significant difference between age groups, and languages. The rate of speech increased with increase in age till 40 years and declined after 40 years. It was found that the average words per minute in the age range of seven to ten years, 11- 15 years were 85 and 104 words respectively. The findings of the present study also revealed increase in the number of words per minute as the age increases. The number of words read per minute was found to be less in the present compared to Savithri and Jayaram (2004). The probable reason for could be consideration of more number of participants in the present study with an average reading skill. Only the reading passages were used for all the age groups in the present study

where as in previous study cartoon pictures and narrative stories were used for four to ten years old children. We have also used different passages that are appropriate to their grades where as in the previous study only one passage was used across all the age groups and this might have influenced the reading performances of the children.

The one of the possible reason for why the words per minute decreased as the complexity of the passage increased is slowing down of the reading rate in order to identify the words correctly would have reduced the number of words read in a minute for complex passage (Oshea, 1985). Another reason could be the usage of knowledge-based inferences while reading complex narrative passages. Inferences including the goals and plans that motivate the actions of characters, the knowledge and beliefs held by the character, traits, emotions, motivations of the character that cause events, spatial relationships among entities, predictions about episodes that may occur in the future, and so on (Barth et al., 2014). These types of inferences are generated by the reader in an attempt to construct a meaningful, referential situation model that not only addresses their goals as a reader but also explains why actions, events, and states are revealed in the narrative text. Additionally, these types of inferences are generated quickly and reliably by students when reading narrative texts (Barth et al., 2014).

Comparison of accuracy within the groups and between grades:

Kruskal Wallis test results revealed significant differences between the grades namely III, IV, V, VI and VII for only complex passage across the three groups SSK ($\chi^2(2) = 42.126, p < 0.05$), SSE ($\chi^2(2) = 17.665, p < 0.05$) and CBSE ($\chi^2(2) = 29.046, p < 0.05$). No significant difference was found for simple and average passage between the grades and across the three groups.

To compare the grade wise differences within the groups Mann Whitney U test was performed and the results of SSK group revealed significant difference between the all the grades except grade IV & V, and grade VI & VII. The test values are represented in the table 4.13

Table 4.13: Mann Whitney U test results for accuracy of complex passage in SSK group

| Grades | Complex | |
|----------------|----------------|------------|
| | Z | Sig |
| III-IV | 3.19 | 0.00* |
| III-V | 3.46 | 0.00* |
| III-VI | 4.50 | 0.00* |
| III-VII | 4.43 | 0.00* |
| IV-V | 0.43 | 0.66 |
| IV-VI | 2.31 | 0.02* |
| IV-VII | 2.28 | 0.02* |
| V-VI | 2.13 | 0.03* |
| V-VII | 2.09 | 0.03* |
| VI-VII | 0.00 | 1.00 |

*Note. * indicates $p < 0.05$*

Within the SSE group, significant difference was seen only between the following grades: Grade III & V, III & VI and III & VII. The test values are represented in the table 4.14

Table 4.14: Mann Whitney U test results for accuracy of complex passage in SSE group

| Grades | Complex | |
|----------------|----------------|------------|
| | Z | Sig |
| III-IV | 1.62 | 0.10 |
| III-V | 2.57 | 0.01* |
| III-VI | 3.31 | 0.00* |
| III-VII | 3.20 | 0.00* |
| IV-V | 0.80 | 0.42 |
| IV-VI | 1.73 | 0.08 |
| IV-VII | 1.64 | 0.10 |
| V-VI | 1.23 | 0.21 |
| V-VII | 1.08 | 0.28 |
| VI-VII | 0.11 | 0.91 |

*Note. * indicates $p < 0.05$*

When CBSE group was compared, significant difference was found between the grades III & V, III & VI, III & VII, IV & V, IV & VI and IV & VII. The test values are represented in the table 4.15.

Table 4.15: Mann Whitney U test results for accuracy of complex passage in CBSE group

| Grades | Complex | |
|----------------|----------------|------------|
| | Z | Sig |
| III-IV | 0.28 | 0.77 |
| III-V | 3.71 | 0.00* |
| III-VI | 3.45 | 0.00* |
| III-VII | 3.61 | 0.00* |
| IV-V | 3.21 | 0.00* |
| IV-VI | 2.85 | 0.00* |
| IV-VII | 3.18 | 0.00* |
| V-VI | 0.88 | 0.93 |
| V-VII | 0.83 | 0.93 |
| VI-VII | 0.20 | 0.84 |

*Note. * indicates $p < 0.05$*

The median values revealed, within SSK, SSE and CBSE groups no differences were found between the grades III through VII in terms of accuracy when simple and average passages were presented. When the complex passage was introduced to the SSK and SSE group, it was found that all the participants of grade IV, V, VI and VII were 100% accurate. Among SSK group, the participants of grade III were found to be 98% accurate and the participants of SSE group grade III were found to be 99% accurate. Among CBSE group, it was found that the participants of grade III were 99% accurate and grade IV were 98% accurate. The grade V, VI and VII participants were found to be 100% accurate. The mean, S.D and median values are represented in the table 4.8a, 4.8b and 4.8c (page no. 73 & 74).

To summarise, the results of the present study revealed that the accuracy tend to be lower at a lower grades (grade III & IV) and it improves as the grade level increases. Further, accuracy tends be higher when the passage contained simple and familiar words to that grade level as in

simple and average passages and the accuracy varied as the complex and unfamiliar words used in the passages as in complex passage. This finding of the present study is in support of the previous studies (Vlachos & Papadimitriou, 2015) which showed a significant effect of age in reading performances, with the older children having better scores than younger ones for reading accuracy.

The age differences found in this study could be due to the continuous maturation of the visual and auditory temporal processing capacities necessary for a successful reading during school age years (Dawes & Bishop, 2008). From a neurobiological point of view, the differences in reading performance, that were found in this study between the lower and higher grade students could be attributed to differences in brain maturation and hemispheric lateralization for language processing between the groups. Bach, Bradeis, Hofstetter, Martin and Richardson (2010) reported that for language processing, left hemispheric dominance was seen in the young readers with age appropriate reading skills, but in poor reader's bilateral activation of both the hemispheres was seen. The possible differences in brain maturation between younger and older graders could be explained by the finding where it is reported that the maturation of the white matter may play a key role in the development of cognitive processes such as reading (Beaulieu et al., 2005).

Further the finding of the current study that is the low performances in terms of accuracy when the complex passage was introduced is also supported by the other authors such as Daly et al. (2005). They mentioned that the difficulty level of the passages may have an effect on reading performances. Therrein et al. (2006) opined that the performance in terms of accuracy would vary based on the instructions provided to the children.

The reading abilities of school going children were described using various reading models. According to the unitary model as described by Shinn (1992), where he reported that the third and the fourth graders develop only fluency skills at first, whereas; the comprehension and the decoding skills develop at the higher grades (i.e., above grade V). Since the only concern for the lower graders while reading is fluency, their performance while reading the passages were found to be 100% accurate in the current study. Additionally, this finding could be because of the incorporation of very simple and familiar words in simple and as well as average passage.

Overall results of the present study

To conclude, significant differences were found between the groups as well as between the grades across all the parameters i.e., Total duration, Words read per minute and Accuracy. However, significant difference was found in most of the grade level comparison in each group. The progression in the words per minute and the accuracy with the age indicated that the reading passages are valid measures of reading skill and sensitive to reading development. In Indian scenario, most of the state schools have their regional language as the medium of instruction whereas private schools use English. Also some of the schools' have Central board of secondary education system. The students from CBSE schools have shown generally better reading skills compared to other groups at lower grades whereas at higher grades SSK group have shown better performance. The overall differences in total time taken to read the passages, words per minute and accuracy among children in state Kannada medium, state English medium and CBSE schools are consistent with these differences and have been validated on a small population. The present study results can be utilized to categorize the clinical population pertaining to their grade level reading performances. The average values for total duration, Words per minute and Accuracy are mentioned in Appendix III.

The oral reading passages are developed to measure the integrated performance of the speech production system and to measure the differences between isolated and connected speech performance. Moreover, the reading passage provides an opportunity to observe motor speech performance on tasks that cannot be assessed in isolation, such as prosodic modulation. Further, the reading passages provide information regarding the context within which speech sounds are produced and the nature of the errors made, as well as examining the suprasegmental structure of utterances, which helps in identifying the deficits at different dimensions of speech production. Overall, the Oral reading passages are used to analyze the reading accuracy, fluency, and comprehension that cannot be noted directly from the silent reading.

CHAPTER V

Summary and Conclusions

Reading passages plays an important role in the assessment of speech skills such as fluency, articulation, and voice. It also helps in the assessment of reading abilities. The reading passages can be used for children as well as for adults to assess their speaking abilities. It further aids in recording the responses objectively and in identifying the communication abilities as well as deficits. This would also aid in assessing the baseline which further helps in making the diagnosis of the individual and also in monitoring the progress during treatment.

The present study aimed to develop the reading passages for school children ranging from grade III through grade VII in the Kannada language and also to standardize the passages after administration on them. The current study has been divided into three phases: Phase I include the development of reading passages, Phase II includes Pre-finalization of the reading passages and Phase III includes the standardization of developed reading passages.

Phase I: Development of reading passages

The Kannada textbooks were collected from Block Education Office, South division, Mysuru. Textbooks of grade II through VI were collected. For each grade, the selected textbooks corresponded to one grade below their school placement. The words and phrases were selected based on the high frequency of occurrence of phonemes as indicated by Sreedevi, Smitha, and Vikas (2012). A list of words and the phrases from each textbook of each grade were prepared. From each textbook, three lists of words/ phrases were made for each grade. A connected story was made out of the words and phrases. A total of 15 passages were made, three in each grade. The number of syllables, words and sentences varied across passages. The developed passages were measured objectively using the grade level measurement formula: $GL = -4.45 + 1.425(WL)$

+ 0.7262 (ASL). Where, GL= grade level, WL= word length and it is calculated by dividing the total number of phonemes by a total number of words, ASL= Average sentence length and it is calculated by dividing the total number of words by a total number of sentences (Madhushree & Nanjappa, 2017). Based on the values, the passages were further classified as Simple, Average and Complex.

Content validation and Pilot study

The selected passages were given to 10 school teachers having their native language as Kannada with a minimum teaching experience of three to five years. They were instructed to rate the passages with respect to familiarity as very familiar, familiar, unfamiliar. Also, they were asked to rate the passages based on the complexity using a three-point rating scale as simple, average and complex respectively, pertaining to the grade from which passage was obtained. Pilot study was also conducted on the 75 children from grade III -VII to check whether the passages were appropriate to their current grade level.

The changes made after content validation and pilot study were the use of simple (CVCV) words were used in the third-grade passage. For fourth and fifth-grade passages words with geminates i.e., regular and irregular were used respectively. For sixth grade, special words were used (arka) and for seventh-grade multisyllabic words and words with complex clusters were used. The words and the phrases on which children faced difficulty were replaced with easier ones selected from the respective text. To retain the meaning appropriate synonyms were identified for the difficult words and were replaced with Simple words. It was also made sure that only the

Phase II: Pre-finalization of developed passages

Based on the content validation and the pilot study results, a total of fifteen passages were developed and each grade consists of three passages with respect to the difficulty level such as simple, average and complex. The passages were further analyzed for the total number of phonemes, the number of words and sentences for each passage. Also, the grade levels were measured using the readability formula. It was also found that the high frequencies of occurrence of phonemes across all the passages were /d/, /t/, /n/, /r/ and /g/. The number of words and sentences varied across the passages and it was noted that the number of words and the number of sentences increases as the grade level increases. The trend in the increase in the number of words and the number of sentences was also seen as the complexity of the passages was increased. Grade level measures revealed that the passages were appropriate to their respective grades.

Phase III: Administration of the developed material

The 450 typically developing children ranging from grade III to grade VII were selected. The participants were further divided into three groups i.e., State syllabus English Medium, State syllabus Kannada medium and Central Board of Secondary Education (CBSE). Each group comprised of 150 participants and irrespective of gender, 30 were chosen from each class. Written consent was taken from the Block Education Officer, South division, Mysuru as well as from the concerned school authorities. The Participants with age adequate speech and language skills and without any neurological, oromotor, psychological, physical, sensorimotor disorders and average performers in reading ability were selected

Each participant was tested individually in a quiet room. He /she were made to sit on a comfortable chair in front of the examiner. The reading material was placed on the table and each

of the participants was given his/her grade appropriate passage. Each grade consisted of 3 passages (Simple, Average, and Complex). The passages were randomly presented to the participants. Each child was given a reasonable amount of time to respond. The instructions were given to read out the given passages at a comfortable loudness and pitch level. After the completion of each passage, the break was given for five minutes. The responses were recorded using an audio recorder Olympus LS 100.

All the recorded samples were analyzed with regard to errors, accuracy, the total time taken to read each passage, and words read per minute across grades III to VII. The words that were self-corrected, mispronounced, omitted, or substituted were counted as errors. The accuracy was measured by dividing the number of words read correctly by participants with the total number of words present in the passage multiplied by 100.

The results revealed significant difference in total duration between the groups were found for grade IV when Average passage was introduced, for grade V when Average and Complex passage was introduced. For grade VI and grade VII significant differences were found for all the three passages. The decrement in the total duration due to the increment in age / grade level trend was not seen in the current study. This could be due to the usage of different passages for each grade level which varies interms of the word usage (simple, complex, use of special words, multi-syllabic words), and the number of sentences. It was also found that the children took more time to read Complex passage followed by the Average and Simple passage.

Futher, the children in the SSK group took less time to read the passages compared to CBSE and SKK groups. Based on the finding, it can be concluded that the in SSK schools, the Kannada language is the main language and all the academic subjects are taught in that language and hence the SSK group would have read faster. The CBSE children have performed better than

the SSE group this could be due to the influence of environmental factors such as the higher education level of parents, assistance that the parents provide to their children while reading and the experience of the teachers.

The revealed significant difference for words per minute for grade V in Simple and Complex passage and across all the three passages for grade VI and grade VII. It was noted that the number of words read in a minute were more when Simple passage was introduced compared to average and complex passages in all the three groups. Based on this finding we can conclude that the higher graders tended to slow down their reading speed as the difficulty level of text increased to greater extent than the lower graders. As a result of reduced rate the number of words read in a minute also reduced. It was also found that the SSK group read more number of words in a minute followed by CBSE and SSE groups. Hence once again, it is proved that the medium of instruction as well the school environment plays an important role on reading performance.

The results revealed significant difference for grade IV, VI and grade VII only in the complex passage. it was found that all the groups were accurate when simple and average passages were presented but when complex passage was presented. This finding concludes that the difficulty level of the passages might have a significant effect on reading performances. It was also found that the participants of SSK group were more accurate followed by CBSE and SSE group. This again concludes that the medium of instruction as well the school environment plays an important role on reading performance. It further concludes that the children who have been exposed to a second language are likely to show problems in any other language to which they are exposed. In the present study, similar trend was seen in CBSE and SSE group.

On comparing the Words per minute, the results revealed significant differences between the grades namely III, IV, V, VI and VII across the three groups SSK, SSE and CBSE across all the three passages. It was also found that the SSK participants of grade III had read less number of words in a minute whereas grade VII participants read more number of words across all the passages. Similar trend was seen in the other two groups namely SSE and CBSE. Hence we can conclude that the number of words read in minute increased as grade level increased. This finding further indicates that the older readers (grade VII) modulate their reading rates more effectively than struggling readers and the younger readers respectively. It was also found that, as the complexity of the passages increased the number of words read in a minute was decreased. Hence we can conclude that the participants tend to slow down their reading rate in order to identify the words correctly.

On comparing the accuracy between the grades, the results revealed significant differences only in complex passage across all the grades and within all the three groups. The results further revealed that the accuracy tends to be lower at lower grades (grade III & IV) and it improves as the grade level increases. This finding of the study concludes that the age have an influence on the reading performances. The differences in reading performance, that were found in this study between the lower and higher grade students could be attributed to differences in brain maturation and hemispheric lateralization for language processing between the groups.

Further, the results revealed that the accuracy tends be higher when the passage contained simple and familiar words and it varied as the complex and unfamiliar words used in the passages. This finding of the present study concludes that the difficulty level of the passages and the instructions provided to the children prior to the reading may have an effect on reading performances.

To conclude, significant differences were found between the groups as well as between the grades across all the parameters i.e., Total duration, Words read per minute and Accuracy. However, significant difference was found in most of the grade level comparison in each group. The progression in the words per minute and the accuracy with the age indicated that the reading passages are valid measures of reading skill and sensitive to reading development. In Indian scenario, most of the state schools have their regional language as the medium of instruction whereas private schools use English. Also some of the schools' have Central board of secondary education system. The students from CBSE schools have shown generally better reading skills compared to other groups at lower grades whereas at higher grades SSK group have shown better performance. The overall differences in total time taken to read the passages, words per minute and accuracy among children in state Kannada medium, state English medium and CBSE schools are consistent with these differences and have been validated on a small population. The present study results can be utilized to categorize the clinical population pertaining to their grade level reading performances.

Implications of the study

The study consists of the reading passages that are developed for third grade seventh grade children in Kannada language. The passages can be utilized to measure the reading performance across grades. The passages were further classified based on the complexity as Simple, Average and Complex as it helps in measuring the hierarchy of the reading performances. The classification holds well after the administration of the passage on population as more time was taken to read the Complex passage followed by Average and Simple passage. Also, as per the knowledge the current study is a preliminary attempt to analyze the reading performances across the children of different medium of instructions using the same passages.

In addition, every passage consists of the all the phonemes present in Kannada language and hence can be used to assess the articulation problems and fluency disorders. Overall the reading passages could be utilized as a clinical tool to assess varied communication disorders (Speech , Language, Voice, Fluency, reading disability).

Limitations

- The study has been conducted on a small population. However it needs to be carried out on larger group of population to validate the findings of the present study.
- The study has not considered socio economic status as a variable though it might have an influence on reading performances.
- The data should have been analyzed in terms of syllables per minute because the lengths of phonemes are less variable than the length of words.

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Appendix - I

Familiarity and Complexity rating Scale

| Grades | Familiarity | | | Complexity | | |
|--------|----------------------|-----------------|-------------------|---------------|----------------|----------------|
| | 0 (Very familiar) | 1 (Familiar) | 2 (unfamiliar) | 1 (Simple) | 2 (Average) | 3 (Complex) |
| III. 1 | | | | | | |
| III.2 | | | | | | |
| III.3 | | | | | | |
| IV.1 | | | | | | |
| IV.2 | | | | | | |
| IV.3 | | | | | | |
| V.1 | | | | | | |
| V.2 | | | | | | |
| V.3 | | | | | | |
| VI.1 | | | | | | |
| VI.2 | | | | | | |
| VI.3 | | | | | | |
| VII.1 | | | | | | |
| VII.2 | | | | | | |
| VII.3 | | | | | | |

Appendix- II
Reading Passages
Grade III

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ಊರಿನ ಸಮೀಪ ತೋಟವಿದೆ. ಅಲ್ಲಿ ರೈತನು ವಾಸಿಸುವನು. ಅವನು ಗೋಧಿ, ಜೋಳ ಬೆಳೆಯುವನು. ಅವನ ಬಳಿ ಕೈಗಾಡಿ ಇದೆ. ಅದರಲ್ಲಿ ದಾನ್ಯಗಳು ಸಾಗಿಸುವನು. ತೋಟದ ಬಳಿ ಕೆರೆ ಇದೆ. ದಿನಾ ಗಿಡಗಳಿಗೆ ನೀರರು ಹಾಕುವನು. ದಣಿದಾಗ ಮರದ ಕೆಳಗೆ ಕೂರುವನು. ಆಗ ಅವನು ನೀರು ಕೊಡುವಳು. ಅವನು ನೀರು ಕುಡಿದು ಆರಮಿಸುವನು. ಇರುಳಾದ ಮೇಲೆ ಮನೆಗೆ ಹೋಗುವನು.

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ಅಂದು ಶನಿವಾರ. ಮಕ್ಕಳು ಸಂತೆ ನೋಡಲು ಬಯಸಿದರು. ಅದು ಊರಿನ ಆಚೆ ಇತ್ತು. ಮಕ್ಕಳು ತಾತನ ಜೊತೆ ಹೋದರು. ಸಂತೆ ಜನರಿಂದ ತುಂಬಿತ್ತು. ಅಲ್ಲಿ ದಿನಸಿ ಅಂಗಡಿಗಳು ಸಾಲಾಗಿ ಇದ್ದವು. ತರಕಾರಿ, ಹಣ್ಣು, ಉಡುಪನ್ನು ಮಾರುತ್ತಾ ಇದ್ದರು. ಜನ ತಮಗೆ ಬೇಕಾದ ಸಾಮಾನು ಖರೀದಿಸುತ್ತಾ ಇದ್ದರು. ತಾತ ಚಾಕ್-ಲೇಟ್ ಕೊಂಡು ಮಕ್ಕಳಲ್ಲಿ ಹಂಚಿದರು. ಅಲ್ಲಿ 'ಹಗಲುವೇಷ' ಆಟ ನಡೆಯುತ್ತಿತ್ತು. ಮಕ್ಕಳು ಅದನ್ನು ನೋಡಲು ಹೊರಟರು. ಆಟ ಮುಗಿದ ಮೇಲೆ ಖುಷಿಯಿಂದ ಮನೆಗೆ ಹೊರಟರು.

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ರಾಮವುರ ಒಂದು ಪುಟ್ಟ ಊರು. ಅಲ್ಲಿ ರವಿ, ಅಜ್ಜಿ-ತಾತನ ಜೊತೆ ವಾಸಿಸುವನು. ಊರ ಹೊರಗೆ ಅವರ ಹೊಲ ಇದೆ. ಅಲ್ಲಿ ತೆಂಗಿನ ಮರಗಳು ಬೆಳೆದಿವೆ. ಹುಲ್ಲು ಮೇಯಲು ಮೇಕೆಗಳು ಬರುತ್ತವೆ. ಆ ಹೊಲದ ಬಳಿ ಬೆಟ್ಟ ಇದೆ. ಬೆಟ್ಟಗಳ ನಡುವೆ ಒಂದು ಝರಿ ಹರಿಯುತ್ತಿದೆ. ಆ ಬೆಟ್ಟದ ಹಿಂದೆ ಒಂದು ಹುಲಿಯು ವಾಸವಾಗಿದೆ. ಅದು ಆಗಾಗ ಹೊಲದ ಬಳಿ ಬರುತ್ತದೆ. ಇದರಿಂದ ಮೇಕೆಗಳಿಗೆ ಹಾಗೂ ಊರಲ್ಲಿರುವ ಜನರಿಗೆ ಭಯವಾಯಿತು. ಈ ವಿಚಾರವಾಗಿ ಜನರೆಲ್ಲಾ ಸೇರಿದರು. ಕಾಡಿನ ಅಧಿಕಾರಿಗಳ ಜೊತೆ ಸಭೆ ಕೂರಿದರು. ಹುಲಿಯನ್ನು ಹಿಡಿಯಲು ಯೋಜನೆ ಹಾಕಿದರು. ಅದನ್ನು ಸೆರೆಹಿಡಿದು ಕಾಡಿಗೆ ತಲುಪಿಸಿದರು.

Grade IV

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ಒಂದೂರಲ್ಲಿ ಒಬ್ಬ ಬಾಲಕನಿದ್ದನು. ಆತ ಬಹಳ ಸೋಮಾರಿ ಆಗಿದ್ದನು. ಆತನ ತಾಯಿ ಯಾವಾಗಲೂ ಬೈಯುತ್ತಿದ್ದಳು. ಆತ ಬೇಸರಗೊಂಡು ಕೆಲಸಕ್ಕೆ ಸೇರಿದನು. ಇದರಿಂದ ಎಲ್ಲರೂ ನೆಮ್ಮದಿಯಿಂದ ಜೀವನ ಸಾಗಿಸುತ್ತಿದ್ದರು. ಒಂದಿನ ಆತನ ತಂದೆ ಗಾಡಿಯಲ್ಲಿ ಪೇಟೆಗೆ ಹೋದರು. ಅಂದು ಮಳೆ ಜೋರಾಗಿ ಬಂದಿತ್ತು. ದಾರಿಯೂ ನೀರಿನಿಂದ ತುಂಬಿತ್ತು. ತಂದೆಗೆ ಗಾಡಿ ಚಲಿಸಲು ಆಗಲಿಲ್ಲ. ಆಗ ದಾರಿಯಲ್ಲಿ ಒಬ್ಬ ಯುವಕ ಬರುತ್ತಿದ್ದನು. ತಂದೆ ಯುವಕನಿಗೆ ಸಹಾಯ ಕೇಳಿದರು. ಸಹಾಯ ಮಾಡಿದವನಿಗೆ ತಂದೆ ಅಭಿನಂದಿಸಿದರು.

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ಆಲೂರಿನಲ್ಲಿ ಒಂದು ಶಾಲೆಯಿತ್ತು. ಆ ಶಾಲೆಗೆ ಕಾಂಪೌಂಡ್ ಇತ್ತು. ಕಾಂಪೌಂಡಿನ ಒಳಗೆ ಮಾವಿನ ಮರವಿತ್ತು. ಮರವೂ ನೆರಳನ್ನು ನೀಡುತ್ತಿತ್ತು. ಅಲ್ಲಿನ ವಾತಾವರಣ ವಿಶಾಲವಾಗಿತ್ತು. ಆ ಶಾಲೆಯಲ್ಲಿ ಒಬ್ಬ ಗುರುಗಳಿದ್ದರು. ಅವರು ಮಕ್ಕಳಿಗೆ ಸರಾಗವಾಗಿ ಕಲಿಯುವಂತೆ ಬೋಧಿಸುತ್ತಿದ್ದರು. ತುಂಟ ಮಕ್ಕಳಿಗೆ ದಂಡಿಸುತ್ತಿದ್ದರು. ಶಾಲೆಯಲ್ಲಿ ನಾಡ ಹಬ್ಬಗಳನ್ನು ಆಚರಿಸುತ್ತಿದ್ದರು. ಹಬ್ಬದ ಸಿದ್ಧತೆಗೆ ಮಕ್ಕಳಿಲ್ಲಾ ಕುತೂಹಲದಿಂದ ಮುಂದಾದರು. ಶಾಲೆಯನ್ನು ತಳೆದು ತೋರಣಗಳಿಂದ ಸಿಂಗರಿಸಿದರು. ನಾಡ ಹಬ್ಬದಲ್ಲಿ ಅಧಿಕಾರಿಗಳು ಅತಿಥಿಗಳಾಗಿ ಆಗಮಿಸಿದರು. ಅತಿಥಿಗಳನ್ನು ಗುರುಗಳು ಸ್ವಾಗತಿಸಿದರು. ನಾಡ ಹಬ್ಬದ ಸಲುವಾಗಿ ಮಕ್ಕಳು ಗೀತೆಗಳನ್ನು ಹಾಡಿದರು. ಆಟೋಟಗಳ ವಿಜೇತರಿಗೆ ಉತ್ತೇಜಿಸಲು ಬಹುಮಾನಗಳನ್ನು ನೀಡಿದರು. ಇದರಿಂದ ಶಾಲೆಗೆ ಗೌರವ ದಕ್ಕಿತು.

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ಊರಿನಲ್ಲಿ ಹಬ್ಬವನ್ನು ಆಚರಿಸಲಾಯಿತು. ಎಲ್ಲರೂ ಸಡಗರದಿಂದ ಸಿದ್ಧತೆಗಳನ್ನು ಮಾಡಿಕೊಂಡರು. ತಮ್ಮ ಮನೆಗಳನ್ನು ಶುಚಿಗೊಳಿಸಿದರು. ಹೊಸ ಉಡುಪುಗಳನ್ನು ಧರಿಸಿದರು. ವಿಷೇಶವಾದ ತಿಂಡಿಗಳನ್ನು ತಯಾರಿಸಿದರು. ಹಬ್ಬದ ಸಲುವಾಗಿ ಊರಿನ ಹಿರಿಯರು ಪರಿಸರದ ಭಾವ ಕುರಿತು ಮಾತನಾಡಿದರು. ಜೀವಿಗಳು ನೀರು ಕುಡಿಯದೆ ಇದ್ದರೆ ಬದುಕಲಾರವು. ಮನೆ ಶುಚಿಗೊಳಿಸಲು, ಅಡುಗೆ ತಯಾರಿಸಲು ನೀರು ಬೇಕು. ಬೆಳವಣಿಗೆಗೆ ಸರಿಯಾದ ಸಮಯಕ್ಕೆ ಆಹಾರ ಸೇವಿಸಬೇಕು. ಇರುಳಾದ ಮೇಲೆ ಎಲ್ಲರೂ ತಮ್ಮ ಮನೆಯನ್ನು ಸೇರ ಬೇಕು. ಅದು ನಮಗೆ ಚಳಿ, ಮಳೆ, ಹಾಗೂ ಕಳ್ಳರಿಂದ ಕಾಪಾಡುತ್ತದೆ. ಜೀವಿಗಳು ಉಸಿರಾಡಲು ಗಾಳಿ ಅಗತ್ಯವೆಂದು ತಿಳಿಸಿದರು. ಈ ವಿಷಯಗಳ ಬಗ್ಗೆ ಮಾತಾಡುತ್ತಾ ಎಲ್ಲರೂ ತಮ್ಮ ಮನೆಗೆ ತೆರಳಿದರು.

Grade V

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ಇದು ನಮ್ಮ ಮನೆ, ಮನೆಯಲ್ಲಿ ಅಪ್ಪ, ಅಮ್ಮ, ಅಣ್ಣ, ತಂಗಿ ಮತ್ತು ತಾತ ಇದ್ದಾರೆ. ನಮ್ಮದು ಸಂತೋಷಕರವಾದ ಕುಟುಂಬವಾಗಿದೆ. ನಾವು ಮನೆಯ ಮುಂದೆ ಗಿಡಗಳನ್ನು ಬೆಳೆಸಿದ್ದೇವೆ. ಗಿಡಗಳಿಗೆ ದಿನಾ ನೀರುಣಿಸುತ್ತೇವೆ. ಇದರಿಂದ ಮನೆ ಬಹಳ ಸುಂದರವಾಗಿ ಕಾಣುತ್ತಿದೆ. ಮನೆಯ ಹತ್ತಿರ ಮೈದಾನವಿದೆ. ಮೈದಾನವೂ ಹಸಿರು ಗಿಡಗಳಿಂದ ಕಂಗೊಳಿಸುತ್ತಿದೆ. ಇದು ಮಕ್ಕಳಿಗೆ ಆಟವಾಡುವ ಮತ್ತು ಹಿರಿಯರಿಗೆ ಆರಾಮ ಪಡೆಯುವ ತಾಣವಾಗಿದೆ. ಮೈದಾನದಲ್ಲಿ ಆಟವಾಡುವಾಗ ಮಕ್ಕಳು ತಮ್ಮಲ್ಲಿಯೇ ಜಗಳವಾಡುತ್ತಾ ಇರುತ್ತಾರೆ. ಅದನ್ನು ನೋಡಿದ ಹಿರಿಯರು ಜಗಳವನ್ನು ಬಿಡಿಸುತ್ತಾರೆ. ಒಳ್ಳೆಯತನದಿಂದ ನಡೆದುಕೊಳ್ಳಬೇಕೆಂದು ಉಪದೇಶಿಸುತ್ತಾರೆ. ಆಟ ಮುಗಿದ ನಂತರ ಎಲ್ಲರೂ ನೆಲದ ಮೇಲೆ ಕುಳಿತು ಊಟವನ್ನು ಮಾಡುತ್ತೇವೆ. ಊಟ ಆದಮೇಲೆ ಅಮ್ಮ ಎಲ್ಲರಿಗೂ ಬಾಳೆಹಣ್ಣು ಹಂಚುತ್ತಾಳೆ. ಹಣ್ಣನ್ನು ತಿಂದು ಎಲ್ಲರೂ ಮಲಗುತ್ತಾರೆ.

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ಒಬ್ಬ ಸಿರಿವಂತನು ಇದ್ದನು. ಈತ ಸಮಯಕ್ಕೆ ಸರಿಯಾಗಿ ಹೊಟ್ಟೆ ತುಂಬ ಊಟ ಮಾಡುತ್ತಿದ್ದನು. ಎಲ್ಲರ ಜೊತೆಯಲ್ಲಿ ಒಳ್ಳೆಯತನದಿಂದ ನಡೆದುಕೊಳ್ಳುತ್ತಿದ್ದನು. ಸದಾ ನಗು ಮೊಗದಿಂದಲೇ ಇರುತ್ತಿದ್ದನು. ತಪ್ಪು ಮಾಡಿದವರಿಗೆ ತಿಳುವಳಿಕೆ ಹೇಳಿ ಕೊಡುತ್ತಿದ್ದನು. ಯಾವಾಗಲೂ ಎಚ್ಚರಿಕೆಯಿಂದ ಕೆಲಸ ಮಾಡಬೇಕೆಂದು ಹೇಳುತ್ತಿದ್ದನು. ಈತನಿಗೆ ಶತ್ರುಗಳು ಸಹ ಇದ್ದರು. ಅವರು ಸಿರಿವಂತನಿಗೆ ಕೆಡಕನ್ನು ಉಂಟು ಮಾಡಲು ಯೋಜನೆಯನ್ನು ರೂಪಿಸಿದರು. ಈ ವಿಷಯ ಸಿರಿವಂತನ ಗೆಳೆಯರಿಗೆ ತಿಳಿಯಿತು. ಆತನಿಗೆ ಎಚ್ಚರಿಕೆಯಿಂದ ಇರಲು ತಿಳಿಸಿದರು. ಒಳಿತು ಮಾಡುವ ಗೆಳೆಯರು ಇರುವುದರಿಂದ ಈತನಿಗೆ ಯಾವುದೇ ರೀತಿಯ ಕೆಡಕು ಉಂಟಾಗಲಿಲ್ಲ.

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ಕುಟುಂಬದಲ್ಲಿ ಅಪ್ಪನ ಪಾತ್ರ ಪ್ರಮುಖವಾಗಿರುತ್ತದೆ. ಅಪ್ಪ ತೆಗೆದುಕೊಳ್ಳುವ ಯಾವುದೇ ಸಂಕಲ್ಪವನ್ನು ಎಲ್ಲರೂ ಒಪ್ಪಿಕೊಳ್ಳುತ್ತಾರೆ. ಯಾವುದೇ ಸಮಸ್ಯೆಗಳು ಬಂದರು, ಅಪ್ಪ ಯೋಚಿಸಿ ಉತ್ತರ ನೀಡುತ್ತಾರೆ. ಅಮ್ಮನ ಪಾತ್ರವೂ ಅಷ್ಟೇ ಪ್ರಮುಖವಾಗಿರುತ್ತದೆ. ಗಂಡ ಮತ್ತು ಮಕ್ಕಳ ಪ್ರೋಪಣೆಯನ್ನು ಆಸಕ್ತಿಯಿಂದ ಮಾಡುತ್ತಾರೆ. ಸರಿಯಾದ ಸಮಯಕ್ಕೆ ರುಚಿ ರುಚಿಯಾದ ಪೌಷ್ಟಿಕ ಆಹಾರವನ್ನು ಬಿಡಿಸುತ್ತಾರೆ. ಮನೆಯನ್ನೆಲ್ಲಾ ಸ್ವಚ್ಛಗೊಳಿಸುತ್ತಾರೆ. ಆಗಾಗ ಬರುವ ನೆಂಟರನ್ನು ಊಟ ಉಪಚಾರದಿಂದ ಸತ್ಕರಿಸಿ ವಿನಯದಿಂದ ನೋಡಿಕೊಳ್ಳುತ್ತಾರೆ. ಮಕ್ಕಳು ತಪ್ಪು ಮಾಡಿದಾಗ ತಿದ್ದಲು ಪ್ರಯತ್ನಿಸುತ್ತಾರೆ. ಇವರಿಗೆ ಸತ್ಯದ ಪಥದಲ್ಲಿ ನಡೆಯುವಂತೆ ದಾರಿತೋರಿಸುತ್ತಾರೆ. ಅಂದಿನ ಕೆಲಸ ಅಂದೇ ಮಾಡಿ ಮುಗಿಸುವಂತೆ ಹೇಳುತ್ತಾರೆ. ಇದರಿಂದ ಮಕ್ಕಳಿಗೆ ಕೆಲಸದಲ್ಲಿ ಆಸಕ್ತಿ ಮೂಡಿತು. ಇದು ಇವರ ಶಿಸ್ತಿನ ಜೀವನ ದಿನಚರಿಯಾಗಿತ್ತು. ಇದೇ ರೀತಿ ಪ್ರೋಪಕರನ್ನು ಪಾಲಿಸುವಂತಹ ಮಕ್ಕಳು ಮುಂದೆ ಒಳ್ಳೆಯ ಬುದ್ಧಿಶಾಲಿಗಳಾಗುತ್ತಾರೆ. ಒಳ್ಳೆಯ ಗುಣ, ನಡತೆಗಳು ಹಾಗೂ ಭಾವನೆಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುತ್ತಾರೆ.

Grade VI

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ಸಿದ್ದವುರವೆಂಬ ಊರಿತ್ತು. ಆ ಊರಲ್ಲಿದ್ದ ಜನ ಸಾಮಾನ್ಯ ಕುಟುಂಬಕ್ಕೆ ಸೇರಿದವರಾಗಿದ್ದರು. ಊರಿನ ಹಿರಿಯರು ಹಿತನುಡಿ ಮತ್ತು ಬುದ್ಧಿಮಾತುಗಳನ್ನು ನುಡಿಯುತ್ತಿದ್ದರು. ಅಲ್ಲಿನ ಜನರಲ್ಲಿ ಒಗ್ಗಟ್ಟಿತ್ತು. ಸಾಕಷ್ಟು ವಿಚಾರಗಳಲ್ಲಿ ತಿಳುವಳಿಕೆಯಿತ್ತು. ಈ ಊರಿನ ಜನರು ಆರೋಗ್ಯದ ಬಗ್ಗೆ ಹೆಚ್ಚು ಕಾಳಜಿ ವಹಿಸಿದ್ದರು. ಇವರು ಕುಡಿಯಲು ಶುದ್ಧವಾದ ನೀರನ್ನು ಉಪಯೋಗಿಸುತ್ತಿದ್ದರು. ಹಾಗೂ ಆಹಾರದ ಬಗ್ಗೆಯೂ ಹೆಚ್ಚು ಕಾಳಜಿ ವಹಿಸಿದ್ದರು. ಊರಿನ ಹೊರಭಾಗದಲ್ಲಿ ಒಂದು ಭಯಂಕರ ಕಾಡಿತ್ತು. ಅಡುಗೆ ತಯಾರಿಸಲು ಸೌದೆಯನ್ನು ಕಾಡಿನಿಂದ ತರುತ್ತಿದ್ದರು. ಕಾಡಿನಲ್ಲಿ ಕ್ರೂರ ಪ್ರಾಣಿಗಳ ಓಡಾಟ ಹೆಚ್ಚಾಗಿತ್ತು. ಕತ್ತಲೆ ಕವಿದಾಗ ಅವು ಊರಿನ ಕಡೆಗೆ ಬರುತ್ತಿದ್ದವು. ಇದರಿಂದ ಜನ ಭಯ ಭೀತಿಯಾಗುತ್ತಿದ್ದರು. ಅಮವಾಸ್ಯೆಯ ದಿನಗಳಲ್ಲಿ ಊರಿನಲ್ಲಿದ್ದ ದೇವತೆಯ ಮೆರವಣಿಗೆ ನಡೆಯುತ್ತಿತ್ತು. ಅಲ್ಲಿ ಜನ ಬಂದು ತಮ್ಮ ಹರಕೆಗಳನ್ನು ಸಲ್ಲಿಸುತ್ತಿದ್ದರು. ಇದರಿಂದ ಜನರು ಹೆಚ್ಚಿನ ನೆಮ್ಮದಿ ಮತ್ತು ಆರೋಗ್ಯದಿಂದ ಜೀವನವನ್ನು ಸಾಗಿಸುತ್ತಿದ್ದರು.

೧

ಬೇಗೂರಿನ ಶಾಲೆಯ ಮಕ್ಕಳಿಗೆ ಶಿಕ್ಷಕರ ಮೇಲೆ ಅಪಾರ ಪ್ರೀತಿಯಿತ್ತು. ಇವರು ತುಂಬು ಹೃದಯದ ಅಭಿಮಾನವನ್ನು ಇಟ್ಟಿದ್ದರು. ಅಲ್ಲಿಯ ಶಿಕ್ಷಕರ ಕಲಿಕಾ ವಿಧಾನ ಕೌಶಲ್ಯವೂ ಮಕ್ಕಳಿಗೆ ಓದುವ ಹವ್ಯಾಸ ಬೆಳೆಸಲು ಸಹಾಯ ಮಾಡಿತು. ದಿಸೆಂಬರ್ ತಿಂಗಳಲ್ಲಿ ಶಾಲೆಯಿಂದ ಶೈಕ್ಷಣಿಕ ಪ್ರವಾಸವೂ ಆಯೋಜಿಸಲಾಯಿತು. ಐತಿಹಾಸಿಕ ಸ್ಥಳವಾದ ಶ್ರವಣಬೆಳಗೊಳಕ್ಕೆ ಪ್ರವಾಸ ಹೊರಟರು. ದಾರಿಯಲ್ಲಿ ಹೋಗುವಾಗ ಶಿಕ್ಷಕರು ಇದರ ಮಹತ್ವವನ್ನು ವಿವರಿಸಿದರು. ಇದೊಂದು ಅಧುನಿಕವಾದ ತಾಣವಾಗಿದೆ. ಇದನ್ನು ವೀಕ್ಷಿಸಲು ಹಲವಾರು ಪ್ರಯಾಣಿಕರು ಬರವರು. ಇಲ್ಲಿನ ಏಕಶಿಲಾ ಗೋಮಮಟಮೂರ್ತಿ, ಈ ಬೆಟ್ಟದ ಮೇಲಿಂದ ಕಾಣುವ ಪ್ರಕೃತಿ ಸೌಂದರ್ಯವನ್ನು ನೋಡಲು ಎರಡು ಕಣ್ಣುಗಳು ಸಾಲದು. ಈ ಬೆಟ್ಟಕ್ಕೆ ಆರನೂರ-ಐವತ್ತು ಮೆಟ್ಟಿಲುಗಳಿವೆ. ಇದನ್ನು ಹತ್ತಿದರೆ ಭರತ, ಬಾಹುಬಲಿಯ ಹಾಗೂ ಇತರ ತೀರ್ಥಂಕರರ ಮೂರ್ತಿಗಳು ಕಾಣುತ್ತವೆ. ಅದನ್ನು ನೋಡಿದಾಗ ಭಕ್ತಿಯೂ ಉಕ್ಕಿ ಬರುತ್ತದೆ. ಮೂರ್ತಿಗಳ ಮುಖದಲ್ಲಿ ಶಾಂತತೆಯ ಭಾವನೆ ಎದ್ದು ಕಾಣುತ್ತದೆ ಎಂದು ವಿವರಿಸಿದರು. ಹೀಗೆ ಮಕ್ಕಳು ಈ ಸ್ಥಳದ ಮಹತ್ವವನ್ನು ಶಿಕ್ಷಕರಿಂದ ತಿಳಿದು ಅರ್ಥಮಾಡಿಕೊಂಡರು. ಪ್ರವಾಸದಿಂದ ಹಿಂತಿರುಗುವಾಗ ಸಂತೋಷಗೊಂಡ ಮಕ್ಕಳು ಗೀತೆ, ನೃತ್ಯಗಳಿಂದ ರಂಜಿಸಿದರು. ಶಾಲೆಯಲ್ಲಿ ಈ ವಿಚಾರಗಳು ಸಂಬಂಧಿಸಿ ಪಾಠಮಾಡುವಾಗ ಮಕ್ಕಳಿಗೆ ಸುಲಭವಾಗಿ ಅರ್ಥವಾಯಿತು.

ನಮ್ಮ ದೇಶ ಭಾರತ, ಇದರ ಮೂರು ಕಡೆ ಸಾಗರ ಹಾಗೂ ಒಂದು ಕಡೆ ಹಿಮಾಲಯ ಮಹಾಪರ್ವತವಿದೆ. ಇದನ್ನು 'ಭರತಖಂಡ', 'ಹಿಂದುಸ್ತಾನ', 'ಇಂಡಿಯ' ಎಂದು ಕರೆಯುವರು. ಇದು ಕಾಶ್ಮೀರಿನಿಂದ ಕನ್ಯಾಕುಮಾರಿ, ಪಂಜಾಬದಿಂದ ಮಣಿಪುರದವರೆಗೆ ಹಬ್ಬಿದೆ. ನಮ್ಮದು ಬಹುಧರ್ಮ, ಬಹುಭಾಷೆ, ಬಹುವೇಷ ಹೊಂದಿರುವ ದೇಶ. ಇಲ್ಲಿನ ಜನ ಶಾಂತಿಪ್ರಿಯರು ಮತ್ತು ವಿಶಾಲ ಮನೋಭಾವದವರು. ಇಲ್ಲಿ ಸುಂದರ ಪ್ರಕೃತಿಯಿದ್ದು, ಪಕ್ಷಿ ಸಂಕುಲಗಳು ಹಾಗೂ ಪ್ರಾಣಿಗಳು ಮನೋಲಾಸವನ್ನು ಕೊಡುತ್ತವೆ. ನಮ್ಮ ದೇಶದ ಹೆಮ್ಮೆಯೂ ತ್ರಿವರ್ಣ ದ್ವಜವಾಗಿದೆ. 'ಕೇಸರಿ' ತ್ಯಾಗದ ಸಂಕೇತ, 'ಬಿಳಿ' ಶಾಂತಿಯ ಪ್ರತೀಕ ಮತ್ತು 'ಹಸಿರು' ಸಮೃದ್ಧಿಯ ಸೂಚಕ. ನಡುವೆ ಇರುವ 'ನೀಲಿ' ಬಣ್ಣದ ಚಕ್ರ ನಮ್ಮ ಧರ್ಮ ಚಕ್ರ, ಪ್ರಗತಿಯ ಸಂಕೇತ." ಜನ ಗಣ ಮನ" ನಮ್ಮ ರಾಷ್ಟ್ರ ಗೀತೆಯಾಗಿದೆ. ಇದನ್ನು ಬರೆದವರು 'ರವಿಂದ್ರನಾಥ ತಾಗೋರ್'. ಇದು ಭಾರತ ದೇಶವನ್ನು ಬಣ್ಣಿಸುತ್ತದೆ ಮತ್ತು ಭಾರತೀಯರಿಗೆ ಜಯವನ್ನು ಕೋರುತ್ತದೆ. ದೇಶ ಪ್ರೇಮ ಸಾರುವ ಗೀತೆಯೂ "ವಂದೇ ಮಾತರಂ" ಆಗಿದೆ. ಅಲ್ಲದೆ ನಮ್ಮ ದೇಶದಲ್ಲಿ ಗಂಗಾ, ಯಮುನಾ, ಕಾವೇರಿ, ಗೋದಾವರಿ ಮುಂತಾದ ನದಿಗಳು, ಸುಂದರ ಬೆಟ್ಟ-ಗುಡ್ಡ, ಪರ್ವತಗಳು, ಹಸಿರು ಭೂಮಿಯ ನೋಟ ಕಣ್ಮನ ಸೆಳೆಯುತ್ತದೆ. ಇತ್ತೀಚೆಗೆ ಪರಿಸರದ ಅತಿರೇಖದ ಬಳಕೆಯಿಂದ ಎಲ್ಲವೂ ಕ್ರಮೇಣ ನಾಶವಾಗುತ್ತಾ ಜೀವಿಗಳಿಗೆ ಸಂಕಟವನ್ನು ಉಂಟು ಮಾಡುತ್ತಿದೆ.

Grade VII

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ಮಕ್ಕಳಲ್ಲಿ, ಆಟ ಮತ್ತು ತುಂಟಾಟಗಳು ಇರುವುದು ಸಹಜ. ಅದು ತನಗಾಗಲಿ ಅಥವಾ ಇತರರಿಗಾಗಲಿ ನೋವು ಅಥವಾ ದುಃಖವನ್ನು ತರಬಾರದು. ತುಂಟಾಟಕ್ಕೆ, ತಮಾಷೆಗೆ ಒಂದು ಮಿತಿ ಇರುತ್ತದೆ, ಆ ಮಿತಿಯನ್ನು ಮೀರಿದರೆ ಅಪಾಯ ಖಂಡಿತ. ಅದು ಬೇರೆಯವರ ಕಷ್ಟಕ್ಕೆ ಸಂತೋಷಪಡಲು, ಪದೇ-ಪದೇ ಸುಳ್ಳು ಹೇಳಿ, ಕೆಟ್ಟ ಯೋಚನೆ ಮಾಡುವಂತೆ ದಾರಿಮಾಡಿಕೊಡುತ್ತದೆ. ಇಂತಹ ನಡವಳಿಕೆ ಸರಿಯಲ್ಲ, ಇದು ಮಾನವೀಯ ಲಕ್ಷಣವಲ್ಲ. ಇದು ಅನ್ಯರಿಗೆ ತೊಂದರೆ ಉಂಟು ಮಾಡಿ, ಬಡವರನ್ನು, ಅಶಕ್ತರನ್ನು, ಶ್ರಮಿಕರನ್ನು ಸಂಕಷ್ಟಕ್ಕೆ ತಳ್ಳುತ್ತದೆ. ಮತ್ತೊಬ್ಬರನ್ನು ಮೂರ್ಖರನ್ನಾಗಿಸಲು ಹೋದವರೇ ಮೂರ್ಖರಾಗುತ್ತಾರೆ ಅಲ್ಲದೇ ವಿಪತ್ತುಗಳನ್ನು ತಂದುಕೊಳ್ಳುತ್ತಾರೆ. ಆದ್ದರಿಂದ ಅನ್ಯರಿಗೆ ನೋವು ಉಂಟು ಮಾಡಿ ಅನಂದಿಸಬಾರದು. ಅವರ ದುಃಖವನ್ನು ಕಷ್ಟಗಳನ್ನು ದೂರಮಾಡಲು ಸಹಾಯಮಾಡುವುದರಿಂದ ಪಡೆಯುವ ಸಂತೋಷ ಅಮಿತವಾದದ್ದು. ಯಾವಾಗಲೂ ಒಳ್ಳೆಯ ಮಾತುಗಳನ್ನಾಡಬೇಕು. ಅದರಿಂದ ಯಾವ ಕೆಲಸವನ್ನಾದರೂ ಸಾಧಿಸಬಹುದು. ನಮಗೆ ಆಗುವ ಖುಷಿಗಿಂತ, ನಾವು ಇನ್ನೊಬ್ಬರಿಗೆ ಕೊಡುವ ಖುಷಿ ನಮಗೆ ಇನ್ನೂ ಹೆಚ್ಚು ತರುತ್ತದೆ. ಇದರಿಂದ ಕಲಿಯುವುದೇನೆಂದರೆ ಮಿತಿ ಮೀರಿದ ಹುಡುಗಾಟ, ತರುವುದು ಸಂಕಟ.

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ನಮ್ಮ ಎಲ್ಲಾ ದೈನಂದಿನ ಚಟುವಟಿಕೆಗಳು, ಪರಿಸರಗಳು ನಮ್ಮ ಆರೋಗ್ಯದ ಮೇಲೆ ಪ್ರಭಾವ ಬೀರುತ್ತದೆ. "ಮಾತು ಬಲ್ಲವನಿಗೆ ಜಗಳವಿಲ್ಲ, ಊಟ ಬಲ್ಲವನಿಗೆ ರೋಗವಿಲ್ಲ" ಎಂಬ ಮಾತಿನಂತೆ, ನಾವು ಆರೋಗ್ಯದ ಸೂತ್ರಗಳನ್ನು ಪಾಲಿಸಿದರೆ ಅದನ್ನು ಚೆನ್ನಾಗಿ ಸಾಧಿಸಿಕೊಳ್ಳಬಹುದು. ಆರೋಗ್ಯವಂತರಾಗಿರಲು ಆಹಾರವನ್ನು ಹಿತಮಿತವಾಗಿ ಹಾಗೂ ಸಮಯಕ್ಕೆ ಸರಿಯಾಗಿ ಸೇವಿಸಬೇಕು. ಸಸ್ಯಹಾರಿಗಳು ತರಕಾರಿ, ಸೊಪ್ಪು, ಹಣ್ಣು, ಹಾಲು, ಮೊಸರು ಮುಂತಾದವುಗಳನ್ನು ಸೇವಿಸಬೇಕು. ಮಾಂಸಹಾರಿಗಳು ಮೊಟ್ಟೆ, ಮೀನು, ಮಾಂಸವನ್ನು ಸೇವಿಸಬೇಕು. ಆಹಾರದ ಜೊತೆಗೆ ನಿದ್ರೆಯೂ ಅಷ್ಟೇ ಮುಖ್ಯ. ಸುಮಾರು ಆರರಿಂದ ಎಂಟು ಗಂಟೆಗಳ ನಿದ್ರೆ ಪ್ರತಿಯೊಬ್ಬರಿಗೂ ಅವಶ್ಯಕ. ಆಹಾರ, ನಿದ್ರೆಯ ಜೊತೆಗೆ ವ್ಯಾಯಾಮವೂ ಅವಶ್ಯಕ. ನಾವು ಚಟುವಟಿಕೆಯಿಂದಿರಲು, ನಾವು ಸೇವಿಸುವ ಆಹಾರ ಜೀರ್ಣವಾಗಲು ವ್ಯಾಯಾಮ, ಯೋಗಾಸನ ಮತ್ತು ಸೂರ್ಯನಮಸ್ಕಾರ ಮಾಡಬೇಕು. ಇವು ದೀರ್ಘವಾದ ಉಸಿರಾಟದೊಂದಿಗೆ ಮಾಡುವ ಬಗೆಬಗೆಯ ವ್ಯಾಯಾಮಗಳು. ಯೋಗಾಸನ ಎಂದರೆ

ಏಕಾಗ್ರತೆಯಿಂದ ಧೀರ್ಘವಾದ ಉಸಿರಾಟದೊಂದಿಗೆ ಶರೀರದ ಅಂಗಾಂಗಗಳಿಗೆ ಅಗತ್ಯವಾದ ಬಗೆಬಗೆಯ ವ್ಯಾಯಾಮ. ಉಸಿರಾಟದ ಸಹಾಯದೊಂದಿಗೆ ಮಾಡುವ ಕೆಲವು ಯೋಗಾಸನಗಳ ಸರಣಿಯೇ ಸೂರ್ಯನಮಸ್ಕಾರ. ಇದರಲ್ಲಿ ಒಟ್ಟು ಹತ್ತು ಆಸನಗಳಿವೆ. ಇದನ್ನು ಮಾಡಿದವರು ಏಕಾಗ್ರತೆಯನ್ನು ಹೆಚ್ಚಿಸಿಕೊಳ್ಳಬಹುದು ಮತ್ತು ಆರೋಗ್ಯವಂತರಾಗಬಹುದು.

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ಸೋಮೇಶ್ವರನೆಂಬ ಸರಳಜೀವಿ ಇದ್ದನು. ಆತ ಕರುಣಾಳು ಮತ್ತು ಸದ್ಗುಣವುಳ್ಳವನಾಗಿದ್ದನು. ಇವನು ಯಾವಾಗಲೂ ಪರೋಪಕಾರ, ಸಹಕಾರ, ಪ್ರೀತಿ, ಕರುಣೆ, ಮಾನವೀಯತೆಯೊಂದಿಗೆ ಮಾನವ ಬದುಕಿದರೆ, ಬದುಕು ಅರ್ಥ-ಪೂರ್ಣವಾಗುತ್ತದೆ ಎಂದು ಹೇಳುತ್ತಿದ್ದನು. ತಾಳ್ಮೆ, ಸಹನೆಗಳಿಂದ ಬದುಕನ್ನು ಸ್ವೀಕರಿಸಬೇಕು ಹಾಗೂ ಒಳ್ಳೆಯದು ದೊರೆಯಬೇಕಾದರೆ ಅದಕ್ಕಾಗಿ ಕಾಯಲೇಬೇಕು ಎಂದು ನುಡಿಯುತ್ತಿದ್ದನು. ನಿಸ್ವಾರ್ಥತೆಯಿಂದ ಬದುಕಿದರೆ ನಮ್ಮ ಬದುಕು ಹಸನಾಗುತ್ತದೆ, ನಮ್ಮ ಒಳ್ಳೆಯತನ ನಮ್ಮನ್ನು ಕಾವಾಡುತ್ತದೆ ಎಂಬ ತತ್ವಗಳನ್ನು ಪಾಲಿಸುತ್ತಿದ್ದನು. ಬ್ರಾಳಿನಲ್ಲಿ ಶಿಸ್ತು, ಸಂಯಮ, ಸಮಯಪಾಲನೆಗಳಿಗೆ ಭಾರಿ ಮಹತ್ವ ನೀಡುತ್ತಿದ್ದನು. ಈತ ಯಾರ ಬಗ್ಗೆಯೂ ಬೇಧ ಭಾವ ಮಾಡುತ್ತಿರಲಿಲ್ಲ. ಹಾಗೂ ಒಳ್ಳೆಯ ಉಪಾಯವನ್ನು ಬಲ್ಲವನಾಗಿದ್ದನು. ಎಲ್ಲರೂ ಆಶ್ಚರ್ಯ ಪಡುವಂತಹ ಮಾತಿನ ಶೈಲಿಯಿತ್ತು. ಈತ ಶಾಂತ ಸ್ವಭಾವಕ್ಕೆ ತಕ್ಕಂತೆ ವಸ್ತ್ರಗಳನ್ನು ಧರಿಸುತ್ತಿದ್ದನು. ಈತ ಶಿಕ್ಷಣದ ಅಭಿವೃದ್ಧಿ ಹಾಗೂ ಸುಧಾರಣೆಗೆ ಕುರಿತಂತೆ ಹಲವು ಪುಸ್ತಕಗಳನ್ನು ಬರೆಯುತ್ತಿದ್ದನು. ಈತನಿಗೆ ಹೆಚ್ಚಿನ ಸ್ನೇಹಿತರಿದ್ದರು. ಅವರೊಡನೆ ಸಮಾಜದಲ್ಲಿ ನಡೆಯುವ ಘಟನೆಗಳನ್ನು ಚರ್ಚಿಸುತ್ತಿದ್ದನು. ಈತ ಸಾರ್ವಜನಿಕ ಕಾರ್ಯಗಳಲ್ಲಿ ವಾಳೊಳ್ಳುತ್ತಿದ್ದನು. ನಾವು ಸಮಾಜ ಸೇವೆ ಮಾಡಲು ಸದಾ ಸಿದ್ಧರಾಗಿರಬೇಕು ಹಾಗೂ ಅನ್ಯಾಯದ ವಿರುದ್ಧ ಪ್ರತಿಭಟಿಸಬೇಕೆಂದು ಹೇಳುತ್ತಿದ್ದನು. ನೂರಾರು ಕೈಗಳು ಸೇರಿದರೆ ಒಂದು ಮಹತ್ಕಾರ್ಯ ಸಾಧ್ಯವಾಗುತ್ತದೆ ಎಂಬ ಮಾತನ್ನು ನಂಬಿದ್ದನು. ಈ ಮೂಲಕ ಅಳಿಲು ಸೇವೆಯ ಮನೋಭಾವನೆಯನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದು ಸಾಧ್ಯವಾಗುತ್ತದೆ ಎಂದು ನುಡಿಯುತ್ತಿದ್ದನು. ಈತ ಯಾವಾಗಲೂ ಶ್ರದ್ಧೆಯಿಂದ ಕಾರ್ಯಗಳನ್ನು ನಿರ್ವಹಿಸುತ್ತಿದ್ದನು. ಜವಾಬ್ದಾರಿಯಿಂದ, ಶ್ರದ್ಧೆಯಿಂದ ನಿರ್ವಹಿಸಿದ ಕಾರ್ಯಗಳು ಯಾವಾಗಲೂ ಯಶಸ್ವಿಯಾಗುತ್ತದೆ ಎಂದು ನುಡಿಯುತ್ತಿದ್ದನು. ಈತನ ವ್ಯಕ್ತಿತ್ವ ಎಲ್ಲರ ಮೆಚ್ಚುಗೆಯ ಪಾತ್ರವಾಗಿತ್ತು.

Appendix- iii

Average values for total duration in SSK group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|--------|-------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 108.18 | 46.22 | 90.92 | 125.45 | 100.98 |
| | IV | 98.46 | 43.04 | 82.09 | 114.83 | 80.70 |
| | V | 85.92 | 19.93 | 78.04 | 93.81 | 83.22 |
| | VI | 107.70 | 38.84 | 92.92 | 122.48 | 106.33 |
| | VII | 96.00 | 29.35 | 84.62 | 107.38 | 90.39 |
| Average Passage | III | 142.32 | 67.03 | 117.29 | 167.35 | 128.15 |
| | IV | 129.86 | 66.10 | 104.71 | 155.00 | 106.53 |
| | V | 92.67 | 24.14 | 83.12 | 102.23 | 88.26 |
| | VI | 136.04 | 52.82 | 115.94 | 156.13 | 121.19 |
| | VII | 104.11 | 31.74 | 91.80 | 116.42 | 94.42 |
| Complex Passage | III | 182.71 | 86.98 | 150.23 | 215.19 | 164.90 |
| | IV | 158.91 | 95.47 | 122.60 | 195.23 | 117.27 |
| | V | 112.55 | 33.38 | 99.34 | 125.75 | 106.56 |
| | VI | 175.29 | 73.36 | 147.38 | 203.20 | 160.00 |
| | VII | 136.54 | 42.92 | 119.90 | 153.18 | 131.53 |

Average values for words per minute in SSK group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|-------|-------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 27.80 | 9.70 | 24.17 | 31.42 | 27.00 |
| | IV | 33.34 | 10.83 | 29.22 | 37.46 | 30.00 |
| | V | 45.70 | 13.13 | 40.50 | 50.89 | 45.00 |
| | VI | 48.55 | 13.46 | 43.43 | 53.67 | 49.00 |
| | VII | 66.07 | 15.78 | 59.95 | 72.19 | 64.00 |
| Average Passage | III | 25.66 | 9.41 | 22.14 | 29.18 | 23.00 |
| | IV | 28.93 | 10.05 | 25.10 | 32.75 | 26.00 |
| | V | 39.81 | 15.27 | 33.77 | 45.85 | 39.00 |
| | VI | 42.93 | 14.74 | 37.32 | 48.53 | 44.00 |
| | VII | 61.28 | 16.94 | 54.71 | 67.85 | 60.00 |
| Complex Passage | III | 22.06 | 8.72 | 18.81 | 25.32 | 22.50 |
| | IV | 26.31 | 9.04 | 22.86 | 29.75 | 25.00 |
| | V | 36.07 | 13.44 | 30.75 | 41.39 | 36.00 |
| | VI | 39.44 | 15.51 | 33.54 | 45.35 | 39.00 |
| | VII | 54.57 | 18.24 | 47.49 | 61.64 | 54.00 |

Average values for Accuracy in SSK group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|--------|------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | IV | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | V | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VI | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| Average Passage | III | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | IV | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | V | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VI | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| Complex Passage | III | 97.90 | 2.49 | 96.96 | 98.83 | 98.00 |
| | IV | 99.65 | 0.76 | 99.36 | 99.94 | 100.00 |
| | V | 99.81 | 0.48 | 99.62 | 100.00 | 100.00 |
| | VI | 100.00 | 0.00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | 0.00 | 100.00 | 100.00 | 100.00 |

Average values for total duration in SSE group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|--------|--------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 118.01 | 42.09 | 102.00 | 134.03 | 110.32 |
| | IV | 117.40 | 46.67 | 98.54 | 136.25 | 111.74 |
| | V | 116.84 | 50.56 | 97.96 | 135.72 | 101.60 |
| | VI | 145.11 | 36.86 | 130.81 | 159.40 | 131.95 |
| | VII | 106.61 | 27.49 | 95.74 | 117.49 | 96.84 |
| Average Passage | III | 148.81 | 59.79 | 126.07 | 171.55 | 124.23 |
| | IV | 177.40 | 80.36 | 144.94 | 209.86 | 176.28 |
| | V | 159.91 | 79.69 | 130.15 | 189.67 | 135.91 |
| | VI | 194.47 | 53.80 | 173.61 | 215.33 | 191.21 |
| | VII | 126.68 | 39.051 | 111.23 | 142.13 | 114.11 |
| Complex Passage | III | 195.16 | 76.69 | 165.99 | 224.34 | 178.60 |
| | IV | 195.69 | 92.48 | 158.34 | 233.05 | 186.65 |
| | V | 206.91 | 93.22 | 172.10 | 241.73 | 199.84 |
| | VI | 231.08 | 61.00 | 207.43 | 254.74 | 227.39 |
| | VII | 186.18 | 76.78 | 155.81 | 216.56 | 159.72 |

Average values for words per minute in SSE group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|-------|-------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 24.86 | 9.12 | 21.38 | 28.33 | 23.00 |
| | IV | 29.42 | 12.27 | 24.46 | 34.37 | 25.00 |
| | V | 36.90 | 14.10 | 31.63 | 42.16 | 34.00 |
| | VI | 38.00 | 8.61 | 34.66 | 41.33 | 36.50 |
| | VII | 59.18 | 19.03 | 51.65 | 66.71 | 62.00 |
| Average Passage | III | 21.79 | 8.79 | 18.44 | 25.13 | 19.00 |
| | IV | 25.61 | 10.89 | 21.21 | 30.01 | 24.00 |
| | V | 31.50 | 14.89 | 25.93 | 37.06 | 26.00 |
| | VI | 32.46 | 8.39 | 29.20 | 35.71 | 30.50 |
| | VII | 51.96 | 20.13 | 43.99 | 59.92 | 52.00 |
| Complex Passage | III | 18.75 | 8.44 | 15.54 | 21.97 | 16.00 |
| | IV | 20.73 | 11.16 | 16.22 | 25.23 | 18.50 |
| | V | 27.70 | 14.46 | 22.29 | 33.10 | 24.00 |
| | VI | 29.85 | 8.65 | 26.50 | 33.21 | 29.50 |
| | VII | 47.07 | 18.66 | 39.69 | 54.45 | 46.00 |

Average values for Accuracy in SSE group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|--------|------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | IV | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | V | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VI | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| Average Passage | III | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | IV | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | V | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VI | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| Complex Passage | III | 97.86 | 2.76 | 96.81 | 98.91 | 99.00 |
| | IV | 98.84 | 2.16 | 97.97 | 99.72 | 100.00 |
| | V | 99.53 | 0.81 | 99.22 | 99.83 | 100.00 |
| | VI | 99.78 | 0.56 | 99.56 | 100.00 | 100.00 |
| | VII | 99.74 | 0.65 | 99.48 | 100.00 | 100.00 |

Average values for total duration in CBSE group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|--------|-------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 99.87 | 34.14 | 86.63 | 113.11 | 94.07 |
| | IV | 94.23 | 23.00 | 85.48 | 102.98 | 92.58 |
| | V | 95.66 | 20.63 | 87.81 | 103.51 | 92.24 |
| | VI | 111.11 | 26.92 | 100.87 | 121.35 | 102.32 |
| | VII | 115.96 | 27.52 | 105.07 | 126.84 | 108.84 |
| Average Passage | III | 124.53 | 45.52 | 106.88 | 142.19 | 106.62 |
| | IV | 135.84 | 38.05 | 121.37 | 150.32 | 139.31 |
| | V | 115.44 | 30.13 | 103.98 | 126.90 | 105.98 |
| | VI | 137.70 | 33.83 | 124.84 | 150.57 | 126.19 |
| | VII | 138.85 | 41.02 | 122.62 | 155.08 | 124.33 |
| Complex Passage | III | 174.93 | 67.35 | 148.81 | 201.05 | 166.90 |
| | IV | 156.15 | 48.43 | 137.73 | 174.58 | 151.46 |
| | V | 156.38 | 44.25 | 139.55 | 173.21 | 143.34 |
| | VI | 173.78 | 45.07 | 156.64 | 190.93 | 173.62 |
| | VII | 188.75 | 56.73 | 166.31 | 211.20 | 164.53 |

Average values for words per minute in CBSE group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|-------|-------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 26.67 | 8.02 | 23.56 | 29.79 | 24.00 |
| | IV | 32.51 | 10.71 | 28.43 | 36.59 | 30.00 |
| | V | 44.20 | 11.36 | 39.88 | 48.52 | 42.00 |
| | VI | 49.24 | 12.55 | 44.46 | 54.01 | 49.00 |
| | VII | 53.55 | 8.98 | 50.00 | 57.10 | 53.00 |
| Average Passage | III | 23.57 | 8.37 | 20.32 | 26.81 | 22.00 |
| | IV | 27.65 | 9.30 | 24.11 | 31.19 | 27.00 |
| | V | 35.13 | 12.18 | 30.50 | 39.77 | 34.00 |
| | VI | 42.93 | 10.29 | 39.01 | 46.84 | 43.00 |
| | VII | 48.48 | 11.19 | 44.05 | 52.91 | 51.00 |
| Complex Passage | III | 20.92 | 9.17 | 17.37 | 24.48 | 20.50 |
| | IV | 24.10 | 9.63 | 20.44 | 27.76 | 24.00 |
| | V | 30.65 | 11.22 | 26.38 | 34.92 | 31.00 |
| | VI | 40.06 | 11.18 | 35.81 | 44.32 | 40.00 |
| | VII | 43.85 | 10.22 | 39.80 | 47.89 | 43.00 |

Average values for Accuracy in CBSE group

| | Grades | Mean | S.D | 95% CI for mean | | Median |
|------------------------|------------|--------|------|-----------------|-------------|--------|
| | | | | Lower bound | Upper bound | |
| Simple Passage | III | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | IV | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | V | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VI | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| Average Passage | III | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | IV | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | V | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VI | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| | VII | 100.00 | .00 | 100.00 | 100.00 | 100.00 |
| Complex Passage | III | 97.78 | 2.61 | 96.77 | 98.79 | 99.00 |
| | IV | 98.00 | 2.23 | 97.14 | 98.85 | 98.00 |
| | V | 99.65 | 0.72 | 99.38 | 99.92 | 100.00 |
| | VI | 99.37 | 1.67 | 98.74 | 100.01 | 100.00 |
| | VII | 99.62 | 0.79 | 99.31 | 99.94 | 100.00 |

For total duration, the values may overlap across the grades as different reading passages are been used for different grades. For words read per minute, the values may overlap in case if no difference was found between the grades.