READING COMPREHENSION SKILLS OF GRADE 7 STUDENTS WHO ARE LEARNING ENGLISH AS A SECOND LANGUAGE

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

The Faculty of Graduate Studies

(School Psychology)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

March 2010

ABSTRACT

Reading comprehension is a multi-dimensional process that includes the reader, the text, and factors associated with the activity of reading. Most research and theories of comprehension are based primarily on research conducted with monolingual English speakers (L1). Thus, it is important to investigate the cognitive and linguistic factors that have an influence on reading comprehension of English-as-a-Second-Language (ESL) speakers, especially during the higher grades, when there is a shift from "learning to read" to" reading to learn".

This study examined the cognitive aspects of reading comprehension among L1 and ESL speakers in the seventh grade. The performance of both groups was compared and the role of relevant processes, including, memory, phonological awareness, morphological and syntactic awareness, word reading and fluency was assessed. Three comprehension groups were examined: (1) children with poor comprehension in the absence of word reading difficulties, (2) children with poor word reading and poor comprehension, and (3) children with good word reading and comprehension abilities.

ESL and the L1 students in grade 7 performed in a similar way on all the reading comprehension measures, word reading and underlying cognitive measures. Only on two language related measures, syntactic awareness and working memory for words, the L1 students performed better than the ESL. Similar prevalence of reading comprehension subgroups was found for ESL and L1 students, with under 2 percent of students classified as reading disabled. The profile of students with poor comprehension was presented as well as profile of students with poor reading skills. Implications for identification of reading comprehension subgroups and for reading comprehension programs were discussed. In addition, the role of the school psychologist in relation to reading comprehension skills was presented.

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ACKNOWLEDGEMENTS

I would like to thank my committee members, *Laurie Ford* and *Bruno Zumbo*, for their consistent support in my education and academic growth at UBC. Your research and work has been an inspiration to me and I was so fortunate to learn from you. Appreciation also goes to the Faculty in the department of school psychology who supported my graduate studies and provided me with this wonderful opportunity to develop my skills. I would like to express my gratitude to my supervisor during the practicum year, Barbara Holmes, whose expertise, understanding, and patience, added considerably to my graduate experience. I would like to thank Dr. Nancy Perry for finding the time in such a short notice to serve as my external reader.

I would especially like to thank my supervisor, *Linda Siegel*, who provided me with the wonderful opportunity to work on this project. Your trust in my abilities, your guidance and wisdom influence my life. Linda, you will always have a special place in my heart.

To my best friend, *Yariv,* who brought me to this Canadian adventure 12 years ago…your courage, confidence, perception, calmness, and insights have changed my life. Your infinite support in my ambitions made my dreams come true. I love you.

To the lights of my life, *Shani, Danielle and Ofek*: thank you for giving me your unconditional love…

Thank you to my ema and aba for your love and support through all of my life and your encouragement to pursue my education.

Thank you to my parents-in-law, Silva and Maksho, for being the best in-laws that I could ever ask for. To Ido, Dana, Ben, Yaron, Nira, Gidi and Shachaf: You all have special part in my life and in this thesis. Thanks to all of my extended family and to my savta Ora, who is my role model for care and love.

DEDICATION

To Yariv, Shani, Danielle & Ofek

CO-AUTHORSHIP STATEMENT

The author conducted the data analyses and the manuscript preparations.

Dr.Siegel conducted and supervised the research and designed the research program

1 INTRODUCTION

1.1 Background

To successfully navigate in today's society; students must acquire strong literacy skills. In reading, the ultimate measure of proficiency is being able to comprehend a broad array of text types at a high level. The National Assessment of Educational Progress data reported that 26 percent of eighth-grade students cannot read material essential for daily living, and overall, 68 percent of secondary students score below the proficient level (Perie, Grigg, & Donahue, 2005). Such skills may be of a particular challenge for a considerable number of students with learning disabilities (LD) and students with English as a Second Language (ESL).

In the last two decades, researchers have focused on understanding the reading characteristics and instructional practices of younger students (e.g., McCardle & Chhabra, 2004). Most of the attention has been in building phonemic awareness and decoding skills. Similar research investments have not been made with adolescents in secondary schools (Deshler & Hock, 2007).

Comprehension is a complex cognitive construct that consists of multiple component skills. One of the difficulties faced by middle and secondary school teachers today is that many students come into their classrooms without the requisite knowledge, skills, or disposition to read and comprehend the materials placed before them (RAND, 2002). At the same time, there is an increasing demand by the curriculum to comprehend complex texts.

From the teachers' perspectives, there is no support provided and little direct attention has been devoted to helping teachers develop the skills they need to promote their students' reading comprehension abilities. From the Policies and Programs perspective, there is an intention to improve reading comprehension with programs that are regularly adopted, but their effects are uncertain because the programs are neither based on empirical evidence nor adequately evaluated (RAMD, 2002).

Hence, especially for middle school and high school students, there is a need to better understand reading comprehension and the components that contribute to successful reading comprehension. Of particular interest are the at risk populations such as ESL and LD students. As well, there is a need to understand the sources that contribute to reading comprehension challenges. Specifically, there is a need to support students on their journey to acquire reading comprehension skills and, on the other hand, to support teachers with effective instructional tools and programs.

1.2 Reading comprehension

Comprehension is the ultimate goal of reading and comprehension failures can lead to school failures. Therefore, there has been an increased interest in trying to assess and understand comprehension (RAND Reading Study Group, 2002).

In the traditional view, novice readers acquire a set of hierarchically ordered sub skills that sequentially build toward comprehension ability. Once the skills have been mastered, readers are viewed as experts who comprehend what they read. In this view, readers are passive recipients of information in the text. Meaning resides in the text itself, and the goal of the reader is to reproduce that meaning. Until recently, reading assessment and research has focused mainly on word decoding skills, probably because decoding is comprehension, and because decoding failures are more easily defined than comprehension failures. Researchers use different frames to describe the process of reading comprehension. Cognitively based views of reading comprehension emphasize the interactive nature of reading (Rumelhart & Ortony, 1977) and provide a more complex description of the reading comprehension process.

Text comprehension draws on many different language skills. These include lower-level lexical skills such as word reading efficiency and vocabulary knowledge, sentence-level skills such as knowledge of grammatical structure and higher-level text processing skills such as inference generation, comprehension monitoring and working memory capacity (e.g., Hannon & Daneman, 2001; Perfetti & Hart, 2001; Perfetti, Marron, & Foltz, 1996). Efficient lower-level

lexical skills facilitate reading comprehension by enabling more resources to be devoted to higher-level processes. Higher-level skills are related to text comprehension because they enable the reader to make the necessary integrative and inferential links to construct a meaning-based representation of the text (Cain &Oakhill, 2006).

In their comprehensive report, the RAND (2002) defined reading comprehension as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. Reading comprehension consists of three elements: the reader, the text, and the activity or purpose for reading.

1.3   Assessment of reading comprehension

Many measures that assess reading comprehension are presented as measures of the same content "comprehension". However, reading comprehension is not a unitary construct, but instead consists of multiple cognitive processes. In many cases, test developers have not offered analyses of the skills underlying their tests. There is direct evidence that commonly used tests of reading comprehension are not tapping into the same cognitive processes (RAND Reading Study Group, 2002). Nation and Snowling (1997) examined the covariance of two comprehension tests, the Neale Analysis of Reading Ability and the Suffolk Reading Scale, with measures of decoding and listening comprehension. The researchers found that performance on both tests was influenced by the student's level of decoding skills. Listening comprehension accounted only for additional variance on the Neale, but not on the Suffolk, probably because assessment of the later involves sentence completion (format of cloze test). The authors concluded that a cloze-test format measures word recognition skills. In a similar manner, Francis, Fletcher, Catts and Tomblin (2005) concluded that there was a stronger relationship between decoding and comprehension, when comprehension was assessed with the cloze test, rather than with multiple-choice questions. Another study used three common comprehension tests, WIAT (Wechsler Individual Achievement Test)-reading comprehension, Gates-MacGinitie Test and the Gray Oral Reading Test, to classify children with regards to their comprehension

abilities. Although 43.5% of the sample was identified by at least one of the tests as having a reading comprehension difficulty, but only 9.4% of the sample was identified as having a reading comprehension difficulty by all three tests (Rimrodt, Lightman, Denckla & Cutting, 2005). Keenan, Betjemann & Olson (2008) compared some of the most popular reading comprehension measure used in research and clinical practice in the US: the Gray Oral Reading Test (GORT), the two assessments (retelling and comprehension questions) from the Qualitative Reading Inventory (QRI), the Woodcock-Johnson Passage Comprehension subtest (WJPC) and the Reading Comprehension test from the Peabody Individual Achievement Test (PIAT). The researchers found modest intercorrelations among the tests, suggesting that the tests were measuring different skills. Regression analyses demonstrated that decoding, and not listening comprehension, accounted for most of the variance in both the PIAT and the WJPC, and the reverse holds for the GORT and the QRI.

Siegel (1999) indicated key factors that differ between reading comprehension tests, such as the type of questions, the type of text, the background knowledge that may contribute to comprehension and whether the test is timed or not. Reading comprehension tests differ by the types of questions that the student is being asked to answer. Reading comprehension tests are based on paragraphs or sentences that the student needs to read. The student then needs to address questions related to the paragraph/sentence. The actual comprehension questions themselves can vary along several dimensions. They may involve inferences, memory for details, or the general point of the passage (Siegel, 1999). It is very likely that a large part of reading "comprehension" ability consists of memory skills (e.g., Tal & Siegel, 1996): individuals must decode words and obtain meaning from them, but also he or she must retain the information in working memory and be able to answer questions about the content of the reading passage.

The meaning of a text is not comprised of the words and phrases in the text, but rather develops through an interactive process between the reader and the text. Topic-relevant prior knowledge

refers to readers' pre-existing knowledge related to the text content and is often measured with open-ended and/or multiple choice questions on vocabulary and relevant factual information (Shapiro, 2004). An individual's familiarity with the material in the text can determine how he or she will score on a reading comprehension test (e.g., Drum, Calfee, & Cook, 1981; Marr & Gormley, 1982). In addition, the time required to read a passage can also be an integral part of the reading score. Siegel (1999) indicated a number of factors that can contribute to differences in this area. For example, a person who recalls information about a story may have a faster time than someone who cannot recall the target information, but can remember its spatial location and look back quickly, who may in turn have a faster time than a person who cannot remember anything about the target information and has to search throughout the passage.

Another difficulty with reading comprehension tests is that frequently the questions can be answered with a reasonable amount of accuracy without reading or comprehending the passage (e.g., Tal & Siegel, 1996). Siegel (1999) concluded, that "Obviously, the problem with having so much variability in measurement is that many different skills are assessed. There are many types of possible reading difficulties, and we do not know which dimensions are creating the problem when the individual achieves a low score on one of these sentence- or paragraph-reading tests". (p.310)

There are many sources for comprehension difficulties. It is necessary to distinguish among these different sources to tailor instruction and intervention appropriately. For instance, it makes little sense to focus instruction exclusively on strategies for comprehension with students whose word reading skills are deficient or who have inadequate knowledge of the meaning of the words used in the text. Alternately, it makes little sense to focus time and instructional attention on comprehension strategies with students who are already strategic readers but whose comprehension is hampered by failures of fluency or word knowledge.

The aim of the present study is to examine reading comprehension while taking into consideration its complexity. The present study examined reading comprehension with standardized tests as well as with experimental tasks that were designed to control for the influence of the reader's background. In addition, the study examined reading comprehension in relation to decoding skills as well as cognitive skills. The study examined at risk populations: students with English as a Second Language and students with reading and comprehension difficulties.

By examining the reader, the text and the cognitive skills dimensions, this study aimed to address many of the gaps within the research area of reading comprehension in order to inform teachers, school psychologists, and researchers.

1.4   Objectives of the study

The main objective of the study is to examine the reading comprehension skills of ESL students, poor readers and poor comprehenders. There are three main objectives in this study:

First, to examine the overall achievement of ESL students compared to English L1 students on measures of reading comprehension in grade 7. Second, to investigate what the overall achievement of ESL students is compared to English L1 students on measures of phonological processing, language skills, and working memory. The third objective of the study was to examine the profiles of students with reading comprehension difficulties. The students were classified into three groups based on their performance on the Stanford Diagnostic Reading Comprehension Test (SDRT; Karlsen & Gardner, 1994) and the Wide Range Achievement Test reading subtest (WRAT3; Wilkinson, 1993): poor readers (PR), poor comprehenders (PC) and a third control group of good comprehension and adequate word reading skills. First, the differences by language group (ESL, L1) in the prevalence of each of the three reader classifications were examined and then, the performance of the three groups (poor decoders, poor comprehenders, control), on the three processes (working memory, phonological awareness, language skills) was assessed.

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2 READING COMPREHENSION SKILLS OF GRADE 7 STUDENTS WHO ARE LEARNING ENGLISH AS A SECOND LANGUAGE[1]

2.1   Introduction

Reading comprehension is a complex process that involved the reader, the contextual setting, and the reader's background knowledge. Therefore, there may be several reasons for difficulties with comprehension skills.

The literature on reading proposes several critical processes for adequate word reading performance. The most robust predictor of word reading is that of phonological processing. Individuals with reading disabilities often have a deficit at the phonological module level, which impedes their ability to discern and manipulate the distinctive sound elements that constitute language (Shaywitz & Shaywitz, 2003). In addition, word recognition skills must develop to the point where text can be rapidly decoded (Bowers, 1993). The combination of speed and accuracy of real-word recognition contributes to fluency, which has been shown to have a direct effect on reading comprehension (Blachman, 2000; Kame'enui & Simmons, 2001), and is a skill that is crucial for effective local text processing (Perfetti, 1985, 1988).

The existing research and theories of comprehension are based primarily on research conducted with monolingual English speakers. Therefore, it is important to investigate the cognitive and linguistic factors that have an influence on reading comprehension of ESL speakers. It is also important to compare the overall performance in reading comprehension for this group of learners to their monolingual peers. The present study was designed to address this understudied area. The study also examined the profiles of learners with reading comprehension difficulties.

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[1] A version of this chapter has been submitted for publication. Lipka, O., & Siegel, L. S,. (2010). Reading comprehension skills of grade 7 students who are learning English a second language, Reading and Writing.

2.2 Reading comprehension and subgroups

The literature on the reading comprehension of English speakers identifies two types of comprehension difficulties. Most of the research on reading difficulties has focused on poor comprehenders who are also considered poor readers due to deficient basic level processes (e.g. Shankweiler, 1989). This type of reading comprehension difficulty primarily reflects significant word reading difficulties. The second type of reading difficulty is considered a specific comprehension problem. These children have developed good word recognition skills but have poor comprehension. When word reading ability and written vocabulary knowledge are controlled, poor comprehenders demonstrate deficits on higher-level skills relative to same-age good comprehenders. Impairments have also been found on measures of working memory (Yuill, Oakhill, & Parkin, 1989). Research has found that such children experience difficulties at the text level, rather than the word level. These readers often do not differ significantly from good comprehenders on the accuracy, speed, or automaticity of single-word decoding (e.g. Yuill & Oakhill, 1991). In a review of the research, Yuill and Oakhill (1991) noted that the problems of poor comprehenders arise when low-level processes are intact, but difficulties develop when it comes to higher-level processing including inference making, working memory, and story structure knowledge.

In contrast to children with reading difficulties, approximately 10% of 7–11-year-old children have poor reading comprehension (Nation & Snowling, 1997; Oakhill, 1994)—despite fluent and accurate reading, these children are poor at understanding what they have read.

2.3 Reading comprehension of ESL students

Few studies have examined the comprehension skills of children who are ESL learners. The findings of the existing studies demonstrated contrasting results: one group of studies indicated that reading comprehension is an area of academic difficulty for ESL students, and that these children performed at significantly lower levels than their monolingual peers on measures of reading comprehension (e.g., Aarts & Verhoeven, 1999; Droop & Verhoeven, 1998, 2003;

Garcia, 1991; Verhoeven, 1990, 2000). Another group of studies indicated that there were no differences between the ESL and L1 on reading comprehension performance (e.g., Low & Siegel, 2005, Lesaux, Rupp & Siegel, 2007). There are several explanations for these contradicting findings, which relate to contextual differences in SES and instruction.

Among monolingual populations, oral language competence has been strongly linked to reading comprehension outcomes (Biemiller, 2003). Theorists that study second language agreed that oral proficiency assumes increasing importance as children become more facile decoders and enter into second language text reading that is context reduced and cognitively demanding (Cummins, 1986; Nation, 2001). Therefore, ESL learners may be at disadvantage when they are require to comprehend a text because they need to understand background knowledge that they do not necessarily have.

2.4   The cognitive processes of reading and their relations to reading comprehension

Three cognitive processes, namely phonological awareness, working memory and syntactic awareness, have been found to be significant in the development of word reading skills of native English speakers and found to be distributed in students with reading disabilities (for a review see, Siegel, 1993).

Phonological awareness is the ability to segment speech into smaller units such as syllables and phonemes, and is related to word reading skills (e.g., Share & Stanovich, 1995; Stanovich & Siegel, 1994). The vast majority of studies have demonstrated that phonological awareness, particularly in the first few years of instruction, has a robust association with word decoding skills (e.g., Ehri, 1998; Perfetti, Bell, Beck & Hughes, 1987). In a similar manner, for ESL students, phonological awareness is a reliable predictor of word reading skills (e.g., Geva, Yaghoub-Zadeh, & Schuster, 2000; Gottardo, 2002; Muter & Diethelm, 2001). Furthermore, phonological awareness has been found to be an important factor in reading comprehension. When phonological awareness was examined simultaneously with measures of working

memory and syntactic processing, it was shown to be an accurate predictor of reading comprehension in monolingual samples (Gottardo, Stanovich, & Siegel, 1996).

Working memory is the ability to hold information over the short-term, while transforming or manipulating it in some way. Working memory has received increased attention in the monolingual literature for its vital role in reading processing (for a review, see Swanson & Siegel, 2001). Working memory is important for encoding and decoding words. Beginner readers need to retrieve the appropriate grapheme-phoneme correspondences. Using long term memory, they must hold these correspondences in the appropriate sequence, and blend them to produce the appropriate pronunciation of the target word. For example, working memory tasks have been found to be important predictors of word reading performance (e.g., Siegel & Ryan, 1989; Swanson & Howell, 2001).

The third process, syntactic awareness, is the "ability to reason consciously about the syntactic aspects of language, and to exercise intentional control over the application of grammatical rules" (Gombert, 1992, p.39). Syntactic awareness is important for reading comprehension since it requires making predictions about the word that should come next in a sequence. Willows and Ryan (1986) reported a predictive relationship between syntactic processing and early reading achievement, even when general cognitive ability and vocabulary levels were controlled. Similarly, Tunmer, Nesdale, and Wright (1987) found that poor readers were deficient in syntactic awareness even when compared to a sample of reading-matched controls. A group of studies also demonstrated that ESL typical reader students had difficulties in this area, compared to their native English speakers peers (e.g., Da Fontoura & Siegel, 1995; Lesaux & Siegel, 2003). This heavily loaded language based component is of particular interest in the context of ESL students and its contribution to comprehension skills.

Morphological assessment, the sensitivity to the morphemes in words, is another process that is essential for successful word reading and reading comprehension. The ability to segment words into meaning subunits ease the load on working memory, and thus facilitate spelling and even reading comprehension (Arnbak & Elbro, 2000). In addition, the contribution of morphological awareness to reading comprehension has been shown to be higher than that of phonological awareness (Carlisle & Stone, 2005; Siegel, 2008). Vocabulary skills of ESL students knowledge also appears to be of critical importance for ESLs reading in English. Carlisle et al. (1999), working with primary-level struggling Latina/o readers, noted that both vocabulary and phonological awareness made independent contributions to reading comprehension of ESL learners.

2.5   Method

Students in grade seven, from the eighth wave of a longitudinal study, participated in this study. The students were from 30 different schools within one school district in Canada. Children were classified as ESL if they spoke a language other than English at home with their parents, siblings and grandparents. Most of the ESL speakers immigrated to Canada at an early age, although some were born in Canada. In order to examine the first and second objectives, the entire longitudinal population of 674 students (572 L1 and 102 ESL) was included. In order to examine the third objective, the students were classified into three reader groups by their reading and reading comprehension abilities. There were 523 students (478 L1 and 45 ESL). A description of the groups according to their reading classification is provided on the third objective section.

In the elementary schools in this school district, children with ESL backgrounds, despite very limited oral proficiency, received the same early classroom instruction in English as their non-ESL peers. Since the sample included an entire school district in a Canadian district, the sample represented a wide range of socioeconomic status (SES) backgrounds.

The ESL children came from a variety of linguistic backgrounds - the full sample included a total of 33 languages. The predominant native languages for the ESL children were Cantonese, Mandarin, Korean, Farsi and Spanish. Table 2.1 provides a description of the dominant ESL groups in both samples.

Table 2.1: Descriptive statistics of language groups

Measures	Sample 1 (ESL=102)	Sample 2 (n=45)
Cantonese	20	7
Mandarin	8	4
Korean	7	2
Farsi	12	7
Spanish	6	2

Trained graduate and undergraduate students conducted the assessments in the schools. Each child was individually assessed in a quiet room. The reading comprehension tasks were administered in group settings in classrooms.

2.6   Measures

The measures administered to the children in grade 7 were organized into five categories: reading, reading comprehension, memory, phonological processing, and language skills.

Reading

WRAT-3 reading subtest, blue form *(Wilkinson, 1993): Children were asked to read as many words as possible from a list containing words of increasing difficulty (e.g., "in", "cat", "stretch", "triumph"). When 10 consecutive words were read incorrectly, the examiner discontinued the task.*

The Test of Word Reading Efficiency (TOWRE; Torgesen, Wagner, & Rashotte, 1999). The: Sight Word Efficiency (SWE) assessed the ability to read aloud real words. The subtest consists of a list of graded words printed on a single page. The student was given 45 seconds to read as many items as possible.

Reading Comprehension

Reading comprehension was measured with two tasks: one standardized and one experimental.

The Stanford Diagnostic Reading Test (Karlsen & Gardner, 1994) is a standardized reading comprehension test whereby each child was asked to read short passages from a booklet and respond to multiple-choice questions about each passage within a time limit.

Planet Filk and Greb, the experimental reading comprehension task, is comprised of short stories containing novel and made-up information. For this task, each child was asked to read two short stories and respond to 14 multiple-choice questions about the stories. The maximum score on this task was 14. The *Planet Filk* and *Greb* task was designed to reduce the effects of vocabulary and prior knowledge on reading comprehension. Such a task is valuable to the study of ESL reading since the current debates in the assessment of ESL children not only surrounds the issue of oral language proficiency, but also that of tasks requiring some

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criterion degree of vocabulary and culturally-based knowledge. With the use of novel or made-up information, the children are required to rely more heavily on the information explicitly provided within the cognitive processes underlying reading comprehension text, as well as information inferred from the text. Furthermore, *Planet Filk* and *Greb* is composed of text that is easily readable by children at the upper-elementary grades, and thereby better equating the accessibility of the text for readers with a range of vocabulary. The stories with the related questions are presented in appendix A.

Memory

Verbal working memory was measured with the *Working Memory for Words* task by Siegel and Ryan (1989). The student was orally presented with a set of sentences missing the final words and was asked to provide the missing word for each sentence. To minimize word finding, the sentences were chosen so that the word was virtually predetermined. The student was then asked to repeat the word that s/he provided for the end of each sentence. The number of sentences in each set increased, beginning with 2 sentences and increasing by an additional sentence, up to a possible 5 sentences (2, 3, 4, 5). Sample sentences include: *"Running is fast, walking is ___. At the library people read ___. An apple is red, a banana is ___."* Administration was discontinued when all items on a given level were incorrectly answered. The maximum score on the task was 12.

Working memory for numbers (Siegel & Ryan, 1989): Examiners asked children to count yellow dots within a field of blue dots arranged in a randomly determined irregular pattern on a 5 X 8 inch index card. For each set, the student was asked to recall the number of yellow dots on each card and the order in which s/he presented with three trials within each set of cards. The number of cards in each set increased one at a time, starting with two cards and ending with a possible five cards. When all items in a given set were failed, the examiner discontinued the task.

Phonological processing

Comprehensive Test of Phonological Processing (CTOPP; Wagner, Torgesen, & Rashotte, 1999). The Elision subtest was administered to each participant. An increasingly difficult series of words were presented verbally and students were asked to delete syllables and phonemes, deleting smaller units as the items became more difficult (e.g., say "popcorn" without "pop").

The Test of Word Reading Efficiency (TOWRE; Torgesen, Wagner, & Rashotte, 1999). The non word subtest assessed pseudoword reading. Students were given 45 seconds to read aloud as many words as possible from a list of nonwords. The nonwords followed regular spelling patterns, requiring students to quickly decipher pronunciations on the basis of their existing knowledge of grammar.

Woodcock Reading Mastery Test - Revised: Word attack, Form G (Woodcock, 1987*):* This subtest is made up of a list of pseudowords of increasing difficulty (e.g., "dee", "ap", "straced") to measure decoding skills. Students were required to decode as many words as possible from the list. When all items in a given level were failed, the examiner discontinued the task.

Woodcock Johnson III Spelling of Sounds: The task requires the written spelling of nonwords according to English spelling rules.

Language

Syntactic awareness: The Oral Cloze task was used to assess syntactic awareness (Siegel & Ryan, 1988; Willows & Ryan, 1981). Each student was required to listen to the examiner read 20 sentences, each with a missing word, and for each sentence the student was told to provide a word that created a semantically and syntactically well-formed sentence. The

class of the missing words varied, including nouns, adjectives, prepositions, and verbs. The items are shown in the Appendix B.

Prefix/Suffix knowledge: In this task, students were presented with affixes and required to provide the meaning. Students were also asked to give an example that included the affix. The task was a paper and pencil task and was not timed.

2.7   District wide reading and comprehension programs

In the North Vancouver school district, all children received phonological awareness instruction in kindergarten. The phonological awareness program, "Firm Foundations" (North Vancouver School District, 2001), was a classroom- based program for both L1 and ESL students. The students that were identified as being at risk for reading problems received additional phonological awareness training provided by the classroom and resource teachers in small groups and on an individual basis. This phonological awareness training was based on the prototype of the program*, Launch into Reading Success* (Bennett & Ottley, 2000). In addition, the Firm Foundations program consisted of early literacy skills development, letter–sound relationship, and language development. For instance, small groups and individuals were provided with different activities in a play format such as rhymes, sound–symbol, early writing activity (journals), and letter identification activities (baking letter-shaped cookies). Overall, the intervention was provided three to four times a week for 20 min. The intervention occurred in the context of developing a language and literacy rich environment with story reading and retelling, journals, and reading children's books of different levels. In Grades 2 to 7, the district implemented the Reading 44 program (North Vancouver School District, 1999), a classroom program that was written by the teachers of North Vancouver. The program included the "Daily Dozen" or 12 reading strategies and instructional activities and graphic organizers for classroom use to encourage students to learn these strategies.

2.8 Results

The first objective of this study was to compare the reading comprehension skills of ESL and L1 students in grade seven. Group comparisons between L1 and ESL speakers were conducted using a series of *t*-tests. To minimize the chance of a Type I error, the α level was set at .01. Cohen's *d* was used as a measure of effect size, with .20 being small, .50 being medium and .80 being large (Cohen, 1992).

For the purpose of these analyses, the entire longitudinal population of 674 students (572 L1 and 102 ESL) was included. Table 2.2 summarizes the descriptive statistics of the grade 7 students in this sample. Within the monolingual group, there were 300 females and 272 males and their mean age in months was 153.16 (SD=6.95). Within the ESL group, there were 54 females and 48 males, and their mean age in months was 153.01 (SD=3.37).

Table 2.2: Descriptive statistics by language group

Measures	ESL (n=102)	L1 (n=572)
Female	59	300
Male	48	272
Age (months)		
M	153.01	153.16
SD	3.37	6.95

Table 2.3 summarized the scores for both language groups on the battery of reading

comprehension tasks. There were no significant differences on the standardized and

experimental reading comprehension tasks. Specifically, there were no significant differences

between the ESL and the L1 on the STRD, $t(673)=.34$, $p = .73$, *ns,* the Greb task, $t(673)=1.16$, p

$= .24$, *ns,* and the Filk task*,* $t(673)=.31$, $p = .75$, *ns.*

Table 2.3: Performance on reading comprehension tasks by language group

Measures	ESL (n=102)	L1 (n=572)
SDRT Comprehension percentile		
M	64.23	64.49
SD	24.47	25.11
Filk raw score (max 10)		
M	7.25	7.25
SD	1.31	1.51
Greb raw score (max 4)	3.15	3.05
M	83	.85
SD		

The second objective of this study was to examine the overall achievement of ESL students

compared to English L1 students on measures of phonological processing, syntactic

awareness, morphological awareness and working memory. Table 2.4 summarizes the scores

for both language groups on these factors. There were no significant differences between the

groups on all the measures, except on two measures. The L1 group performed better than the

ESL group on the measure that assessed Working Memory for Words, $t(673) = 2.45$, $p=.014$, $d=$ 0.26 and on the measure that assessed syntactic awareness, Oral Cloze, $t(673)=2.70$, $p=.006$, $d=0.18$.

Table 2.4: Cognitive processes underlying reading comprehension by language group

Measures	ESL (n=102)	L1 (n=572)
Phonological Awareness		
Word Attack percentile		
M	74.18	75.24
SD	24.69	24.53
CTOPP Elision percentile		
M	61.36	62.31
SD	18.75	18.30
WJ-III Spelling of sounds percentile		
M	67.35	70.26
SD	22.46	22.10
TOWRE Pseudowords percentile		
M	74.27	71.49
SD	22.64	23.37

Continuation of table 2.4: Cognitive processes underlying reading comprehension by language group

Measures	ESL (n=102)	L1 (n=572)
Language measures		
Oral Cloze raw score (max 20)		
M	15.24	15.77*
SD	2.47	2.26
Prefix/Suffix knowledge raw score (max 17)		
M	5.30	4.73
SD	3.25	3.07
Working Memory		
Working Memory Number raw score		
M	9.33	9.42
SD	1.72	1.89
Working Memory Words raw score		
M	6.14	6.67*
SD	1.99	2.01

The third objective of the study was to examine the profiles of students with reading comprehension difficulties. The students in this study were classified into three reader groups by their reading and reading comprehension abilities: eight grade seven students (7 L1 speakers and 1 ESL-speaker) who scored at or below the 25th percentile on the WRAT3 reading subtest *and* on the SDRT were classified as Poor Readers (PR). Fifty six students (50 L1 speakers and 6 ESL speakers) who scored at or above the 35th percentile on the WRAT3 reading subtest *and* at or below the 25th percentile on the SDRT were classified as Poor Comprehenders (PC). Good

Comprehenders (GC) were defined as students who scored at or above the 35th percentile on both WRAT3 reading subtest and SDRT. Initially, there were 553 students (85 ESL and 468 L1) who scored above the 35th percentile on both tests and were classified as good comprehenders. In order to match this group on word level to the PC group, a randomized selection was conducted and in the final matched group of the GC there were 279 grade seven students (38 ESL and 241 L1).

Overall, approximately 88 percent of the students in the L1 and 85 percent of the students in the ESL group were classified as good comprehenders. Almost 10 percent of the L1 students and about 13 percent of the ESL students were classified as poor comprehenders. For both groups, about 2 percent of the students were classified as poor readers.

Table 2.5 contains the classification of the three groups based on the WRAT3 Reading Subtest and the SDRT.

Table 2.5: Group characteristics of poor readers, poor comprehenders, and good comprehenders

Measures	Good Comprehenders		Poor Comprehenders		Poor Readers	
	L1	ESL	L1	ESL	L1	ESL
	(n=421)	(n=38)	(n=50)	(n=6)	(n=7)	(n=1)
WRAT 3 reading percentile						
M	65.16	69.13	61.94	64.16	16.25	23.00
SD	13.52	11.86	16.27	24.26	5.54	
SDRT Comprehension percentile						
M	69.24	62.71	17.58	14.00	12.13	17.00
SD	17.79	18.09	6.76	6.03	8.84	

The next goal was to examine the profiles of the three language groups. Since there were only 6 students in the ESL PC group and 1 ESL student in PR group, there was a need to combine the two language groups into one. In addition, there were only 10 students in the poor reader group, and statistical analyses were not conducted. Instead, a description of the performance of the PR group will be discussed.

First, the performance of the poor and good comprehenders was compared on measures of reading and reading comprehension.

For the two reading measures, Table 2.6 presents means and standard deviations by reader group on the reading measures, WRAT3 reading and TOWRE word reading. There were no significant differences between the groups on the WRAT3 reading measure, $t(334)= 1.75$, p=.080, *ns.* There was a significant difference between the poor and the good comprehends on the fluency measure, TOWRE word reading, $t(334)= 6.19$, *p <.001 ,d=.9*.

Table 2.6: Means and standard deviations by reader group on measures of word reading

Measures	Poor comprehenders (n=56)	Good Comprehenders (n=279)
WRAT3 reading percentile		
M	62.17	65.79
SD	17.03	13.41
TOWRE Words percentile		
M	50.75	69.62*
SD	23.53	20.22

Reading comprehension was measured by a standardized measure, SDRT, and by two experimental measures, Greb and Filk tasks. Table 2.7 presents means and standard deviations by reader group on the reading comprehension measures. By definition, the good comprehenders performed better than the poor comprehenders on the SDRT, $t(334)=21.06$, $p=0.00$, $d=3.09$. However, the good comprehenders performed significantly better than the poor comprehenders on the two experimental tasks: Greb, $t(334)=6.51$, $p<.001$, $d=.96$ and Filk, t(334)=7.84, $p<.001$, $d=1.16$.

Table 2.7: Means and standard deviations by reader group on measures of reading comprehension

Measures	Poor comprehenders (n=56)	Good Comprehenders (n=279)
SDRT percentile		
M	17.20	68.36*
SD	6.73	17.90
Greb raw score (4 max)		
M	2.33	3.11*
SD	0.90	0.80
Filk raw score (10 max)		
M	5.71	7.28*
SD	1.75	1.27

As for the comparison between the poor and good comprehenders on the cognitive process that underlie reading, Table 2.8 presents means and standard deviations by reader group on measures of phonological processing. The good comprehenders performed better than the poor comprehenders on all the phonological tasks. The good comprehenders performed better than the poor comprehenders on the WJ word attack, $t(334)=2.34$, $p=.02$, $d=.34$; on the CTOPP Elision task, $t(334)=2.50$, $p=.01$, $d=.37$, on the fluency measure TOWRE $t(334)=4.58$, $p<.001$, $d=.67$ and on the WJ spelling of sound test, $t(334)=4.64$, $p<.001$, $d=.68$.

Table 2.8: Means and standard deviations by reader group on measures of phonological awareness

Measures	Poor comprehenders (n=56)	Good Comprehenders (n=279)
Word Attack percentile		
M	62.52	70.88*
SD	27.71	23.70
CTOPP Elision percentile		
M	53.55	60.43*
SD	20.04	18.48
WJ-III Spelling of sounds percentile		
M	55.29	70.43*
SD	24.15	19.69
TOWRE Pseudowords percentile		
M	55.29	70.14*
SD	25.33	21.45

Language skills were assessed by the Oral Cloze task and by the Vocabulary task. Table 2.9 presents the means and standard deviations by reader group on the language measures. The good comprehenders group performed significantly better than the poor comprehender group on the Oral Cloze task, $t(334)=6.56$, $p<.001$, $d=.96$; and on the prefix/suffix knowledge task, $t(334)=5.54$, $p<.001$, $d=.87$. The meaning is that the poor and good comprehender groups differ on language skills.

Table 2.9: Means and standard deviations by reader group on measures of language skills

Measures	Poor comprehenders (n=56)	Good Comprehenders (n=279)
Oral Cloze raw score (max 20)		
M	13.59	15.65*
SD	2.63	2.09
Prefix/Suffix knowledge raw score (max 17)		
M	2.08	4.40*
SD	2.05	2.79

Working memory was measured by the verbal memory and numeracy tasks. Table 2.10 presents means and standard deviations by reader group on the working memory tasks. The good comprehenders performed significantly better than the poor comprehenders on the two working memory tasks: on the working memory for words, $t(334)=3.57$, $p<.001$, $d=.53$ and on the working memory for numbers $t(334)=3.44$, $p=.001$, $d=.5$.

Table 2.10: Means and standard deviations by reader group on measures of working memory

Measures	Poor comprehenders (n=56)	Good Comprehenders (n=279)
Working Memory words raw score (Max 12) M SD	5.50 1.93	6.48* 1.86
Working Memory number raw score (Max 12) M SD	8.41 1.94	9.34* 1.83

Overall, there were significant differences between the good and poor comprehenders on the phonological, working memory and language measures. In addition the good comprehenders performed better than the poor comprehenders on word fluency, although the performance between the two groups was similar in terms of accuracy. The good comprehenders also

performed better than the poor comprehenders on the two experimental reading comprehension measures.

Table 2.11 provides means and standard deviations of the cognitive and reading performance of the poor reader group. A descriptive analysis of the performance of the poor reader group demonstrated that on all of their reading, cognitive and language standardized tests they performed below the 24th percentile. Only on two phonological awareness tests, CTOPP Elision and WJ spelling of sounds, they performed between the 30-33 percentiles.

Table 2.11: Cognitive processes underlying reading comprehension of poor reader

Measures	Poor Readers (n=8)
Phonological Awareness	
Word Attack percentile	
M	24.38
SD	12.93
CTOPP Elision percentile	
M	30.63
SD	23.02
WJ-III Spelling of sounds percentile	
M	36.13
SD	14.14
TOWRE Pseudowords percentile	
M	18.75
SD	16.99

Continuation of table 2.11: Cognitive processes underlying reading comprehension of poor reader

Measures	Poor Readers (n=8)
Language measures	
Oral Cloze raw score (max 20)	
M	15.25
SD	2.66
Prefix/Suffix knowledge raw score (max 17)	
M	1.25
SD	2.38
Working Memory	
Working Memory Number raw score	
M	7.88
SD	2.75
Working Memory Words raw score	
M	6.00
SD	1.60

2.9   Conclusion

Reading comprehension is a multidimensional process and as such, there can be many sources of reading comprehension difficulties. Grade 7 is a vital year, were students in British Columbia are facing with transition to high school. Reading comprehension is essential for successful learning and understanding the comprehension skill and profiles in grade 7 will inform teachers, schools and school psychologists about the needed support. In addition, this information can inform investigators about the needed research in the field.

The first objective of this study was to examine the differences and similarities in reading comprehension performance between ESL and English L1 grade seven students. When the two groups were compared, there were no significant differences found on standardized and experimental reading comprehension tests. Of particular importance is the use of the two experimental tasks, *Filk* and *Greb*. The ESL students performed similarly to the English monolingual students on the tasks that controlled for background knowledge. The *Planet Filk* and *Greb* tasks were designed to reduce the effects of vocabulary and prior knowledge on reading comprehension. Such a task is valuable to the study of ESL reading since the current debate in the assessment of ESL children not only surrounds the issue of oral language proficiency, but also that of tasks requiring some criterion degree of vocabulary and culturally-based knowledge. In grade 7, after 8 years of exposure to schooling in English, there were no significant differences between the ESL and the monolinguals students, demonstrating that the experimental tasks did not use background knowledge or vocabulary that may put students with ESL at a disadvantage due to their language background. Another reason that these experimental tasks reduce the effects of language background comes from the examination of the underlying processes that contribute to reading comprehension.

The second objective of the study was to examine the processes that underlie reading comprehension. There were no significant differences on the cognitive measures that underlie reading comprehension, except on the oral cloze and memory for words tasks. These two tasks

are sensitive to language background. The syntactic awareness tasks required from the student to listen to the examiner and to provide a word that created a semantically and syntactically well-formed sentence. The class of the missing words varied, including nouns, adjectives, prepositions, and verbs. The working memory for words is another task that is sensitive to language as it required the students to provide a word and remember the content of a sentence. Both tasks are open ended and demand from the student to provide a word. This task may also involves vocabulary skills. Therefore, the syntactic awareness and the working memory for words tasks differentiated between the ESL students and their monolingual peers, although the effect size was small.

In general, these results demonstrate that the ESL students in this district were able to perform in a similar manner to the L1 students on reading comprehension. It is important to note that these students were supported by phonological awareness and reading comprehension programs during their elementary schooling.

The third research question explored differences according to the language groups (L1, ESL speakers). Three groups were examined: children with poor comprehension in the absence of word reading difficulties, (2) children with poor word reading and poor comprehension, and (3) children with both good word reading and comprehension abilities. Approximately 80 percent of the children in the L1 group were classified as good comprehenders, and just under 18 percent were classified as poor comprehenders. In a similar manner, of the ESL speakers, 85 percent were classified as good comprehenders and 12.5 percent were classified as poor comprehenders. Within both the ESL and L1 groups, approximately 2 percent of children were classified as poor readers. There are several implications of these results. First, ESL and L1 students consisted of similar proportions of reader groups with good comprehenders, probably because of the support of phonological awareness and reading compression intervention programs. In addition, a very small proportion was identified to be experiencing reading challenges associated with difficulties with word skills and reading comprehension. Furthermore,

a group of grade seven students (12-17 percent) were found to have difficulties with reading comprehension skills, despite adequate word reading skills.

This study also examined the profiles of the three reading groups. Since the poor reader group contained only 8 students, statistical analyses were not conducted with this group and the comparison was made only between the good and poor comprehenders. The two groups were matched on their word reading level. There were significant differences between these two groups on all the cognitive measures, demonstrating the contribution of some of the cognitive processes to reading comprehension, even with an absence of any word reading difficulties. The students who had low scores on comprehension tests, but who did not have difficulties with word recognition, performed significantly different from students with the same word reading ability, but with good comprehension skills on cognitive and language measures.

Descriptive analyses of the performance of the poor reader group indicated that relatively, this was the group with the lowest performance on most of the measures. The poor comprehender group also demonstrated difficulties; however their performance was slightly better than the poor reader group. These findings suggest a continuum of reading difficulties. The PR group demonstrated very low performance on word reading, reading comprehension, language skills and cognitive measures. The PC group did not perform as poorly, but their scores were still significantly lower than the GC group on all the cognitive, language and reading measures, which demonstrates the heterogeneous nature of reading disabilities.

This study demonstrated that ESL students who receive good instruction are capable of developing word reading and reading comprehension skills that are as strong as their L1 peers after eight years of schooling in English. The reading 44 program supported the development of comprehension strategies across the curriculum but the influence of this specific program on the reading comprehension skills of the students was beyond the scope of this study.

There are several educational implications of these findings. First, reading comprehension is probably a skill that needs to be taught directly and be implemented in the curriculum, much like

decoding. Having an adequate word reading ability is not a guarantee for adequate reading comprehension ability. Between 12-17 percent of the students in grade seven had an average or above reading ability, but struggled with reading comprehension. In addition, this skill needs to be monitored over the years across all students in order to identify the students that are having difficulties in this area because they will be the students that have challenges "reading to learn" as opposed to" learning to read". In terms of support, the study demonstrated that the performance of the students who were poor comprehenders was significantly low on all of the four underlying processes examined.

The implications of this result are two-fold: first, instruction and interventions that are aimed to target reading comprehension should be tailored to the profile of the student. This study focused on two profiles of readers: poor word readers and poor comprehenders with an absence of word reading difficulties. Interventions should focus on phonological awareness, working memory, syntactic awareness and morphological awareness components. In addition, prevention programs should support those underlying process.

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3 CONCLUSION

3.1   Reading comprehension skills and school psychology

School psychologists help children and youth succeed academically, socially, and emotionally. They collaborate with educators, parents, and other professionals to create safe, healthy, and supportive learning environments for all students, which strengthen connections between home and school (NASP). Specifically, school psychology is the study of how humans learn in educational settings, the effectiveness of educational interventions, the psychology of teaching, and the social psychology of schools as organizations.

The role of school psychologists has been changed over the last years. In the past, school psychologists primarily conducted psycho-educational evaluations of children referred for special education. The roll of the school psychologist has expanded over time.

Educational psychologists bring distinctive approaches to the understanding and teaching of literacy. These approaches focus on understanding the learner's psychological processes and knowledge bases involved in comprehension and understanding. The area of Educational Psychology can contribute to the field of reading comprehension by using vast knowledge of cognitive process, understanding the learner and his/her background and understanding the task demands. School psychologists are encouraged to use data in their everyday decision-making processes. For instance, school psychology students are encouraged to be scientific practitioners in many training programs. In addition, the National Association of School Psychologists (NASP) standards for training and field placement, as well as NASP's professional ethical standards, also encourage school psychologists to engage in data-based decision making (NASP, 2000a, b).

This study suggests several implications to the work of school psychologists especially in relation to their work with at risk populations, such as students with ESL and students who are at risk for reading difficulties. The reading comprehension ability of the ESL students was found to be similar to their English monolingual peers. As well, their word reading, fluency and all of

their underlying processes were similar except for syntactic awareness and memory for words. These two tasks are sensitive to language background, but the effect size was small. School psychologists need to be aware that ESL students who receive intervention programs can develop similar reading and reading comprehension abilities as their monolingual peers. In addition, the prevalence of reading difficulties among ESL and English monolingual students was very similar, demonstrating that the balanced literacy program together with the reading comprehension program that was implemented in the curriculum on a daily basis was beneficial to ESL students and monolingual students. There are several implications in relation to the LD students. From the assessment perspective, the study demonstrated the constant need to continue and assess students' reading comprehension skills. About 14 percent of the students in grade seven demonstrated reading comprehension difficulties although they had average or above average word reading skills. Those students required support as early as possible. In addition, School Psychologists need to be aware of the differences in the reading comprehension assessment tools and must know what they are assessing. Reading comprehension must be part of the assessment battery.

In terms of the diagnosis, the findings suggest a continuum of reading difficulties. The students with the poor word reading performed poorly on all the measures relative to the students with reading comprehension difficulties. Nevertheless, the implications are that there are different profiles of students with reading difficulties that need to be identified to receive support. It is possible to assess students' reading and reading comprehension abilities with a relatively short battery of tests and identify reading difficulties without the use of an IQ test. This will permit School Psychologists to make effective us of time when assessing or screening more students. In terms of intervention, the study demonstrated that the prevalence of students with reading difficulties was about 2 percent. The intervention program and the reading and reading comprehension programs supported the reading development of most of the students in this district. Those programs were created by the district teachers and were designed to address the

students' needs. Teachers implemented the programs, and thus demonstrated the important role the teacher has in the classroom to create and be the agent of change. On the other hand, school psychologists are also in a position to suggest intervention and support programs.

There are several limitations to this study. First, all the district was exposed to this intervention and reading program and the study did not compare the sample with students that were not exposed to the intervention. Second, the study grouped together all the ESL students. Future research could examine reading comprehension in relation to specific language backgrounds. The study was limited to assessing reading comprehension and underlying process. Future studies should examine reading strategies, metacognitive skills, different text's level and different types of questions and the aspects that contribute to motivation.

The next step in the field of reading comprehension is to examine the effectiveness of different reading comprehension intervention programs in relation to the reading profile of the students.

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APPENDICES

Appendix A

Planet Filk

The silver spaceship, Starview, glided to a gentle stop on the planet Filk. Just as the landing

wheels touched down, Pat and Kim, the passengers, both age 12, felt the spaceship bump.

They peered out the window. Pat screamed, "Look at the lake, look at the lake! It's purple!".

Kim said, "That is because it is made out of grape juice."

"You're kidding me. Lakes are not made out of grape juice."

"Yes, they are. They are on Filk."

"Really? Are you fooling me?"

"They are made out of grape juice. Let's go taste what is in the lake. Then you'll believe me."

While strolling along the path to the lake, they heard a rustling in the bushes. "What's that,

Pat?". Pat looked scared, "I don't know". All of a sudden a big bear with blue fur appeared

in front of a bush just a short distance away. The bear stared at them. What should they do?

They tried to remember what to do when you meet a bear. Run? Climb a tree? Make noise?

"What should we do?" asked Kim.

Just then the bear started to come toward them. They were scared. Suddenly, the bear turned

and ran away into the bushes. "Wow, that was close. I hope we don't meet any more bears."

They dashed to the lake and scooped up the purple liquid with their hands. "Yum! This tastes

good, Pat. I wish the lakes on Earth were made of grape juice."

In the distance they spotted a large tree with different coloured flowers on it: red, green, yellow,

white, orange, brown. The flowers were round and very smooth. What strange looking flowers,

they thought. When they reached the tree they saw they were not flowers; they were Smarties.

Pat reached up and grabbed one. So did Kim. The Smarties tasted good. In the distance they

saw a person. It must be someone who lives on Filk. People who live on Filk are called Filkians.

Pat whispered, "Look! The Filkian has three heads! Wow, they must be very smart."

"Having three big brains does not always mean that you are smart. Elephants have big brains and they're not very smart", said Kim.

"The Filkian has no ears!" Kim exclaimed. Pat pointed to the large antenna on each of the Filkian's three heads. "Maybe that's what they use to hear."

"I bet that you're right."

The Filkian had only one mouth in the middle of his head.

"Ellohay, Earth eoplepay." A Filkian walked slowly toward them.

"What did the Filkian say?" asked Pat.

"I don't understand." Kim replied. "It sounds like Martian. I guess he's speaking Filkian."

Pat and Kim spoke to the Filkian, "We don't understand. We speak English. Do you speak English?"

"Onay. I ouldway ikelay ota earnlay. Illway ouya eachtay emay?"

"Okay. When we meet people we say 'hello' ."

Pat and Kim both said, "Hello."

Pointing and smiling, Pat said, "My name is Pat." Pointing to Kim, Pat said, "My friend's name is Kim." Pat pointed to the Filkian. "What is your name?"

"89213."

"Do you have numbers instead of names?"

"Esyay."

The Filkian waved and said "Oodgay ayday."

Pat and Kim said "Goodbye."

They looked ahead of them.

Large and beautiful mountains rose majestically in the distance. They were brown with white tops.

"Let's go visit the mountains."

"How will we get there?"

Pat looked ahead and saw a sign 'TRAIN TO THE MOUNTAINS. 200 KM FROM

HERE TO THE MOUNTAINS. NEXT TRAIN 12 NOON. TRAIN ARRIVES 1400 (2 PM).

RETURN TRAIN AT 1600 (4PM). FARE: FREE ONLY FOR EARTH PEOPLE. FARE FOR

FILKIANS: 27 PABBERS

"Let's go!"

"Do we have time?"

"Yes. The spaceship leaves at 1900 (7pm). We can catch the train at 1600 and be at the

spaceship in plenty of time."

Pat and Kim took the train to the mountains. They threw snowballs at each other on the top of

the mountains. They had a good time and returned to the spaceship.

Questions

1. If Kim and Pat saw a Filkian wearing a fur coat made of bearskin, the coat would be
a. brown
b. blue
c. white
d. black

2. Which of the following could be a word in Filkian language?
a. latcay
b. otnak
c. onpat
d. ogday

3. Majestic means
a. very big and beautiful
b. very little and beautiful
c. average size and beautiful
d. no way to know

4. How fast does the train to the mountains travel?
a. 200 kilometres per hour
b. 100 kilometres per hour
c. 50 kilometres per hour
d. 150 kilometres per hour

5. Will Pat and Kim return to the spaceship on time?
a. Yes
b. Maybe
c. No

d. If they hurry

6. If Pat and Kim were thirsty and decided to drink from the lake, what would they drink?
a. water
b. grape juice
c. milk
d. hot chocolate

7. Who said, "Yes they are on Filk."
a. Kim
b. Pat
c. Neither Kim nor Pat
d. Both Kim and Pat

8. Were Pat and Kim boys or girls?
a. They were both boys.
b. Pat was a girl and Kim was a boy.
c. Kim was a girl and Pat was a boy.
d. The story does not tell us.

9. What time will the train return from the mountains?
a. 1600
b. 1800
c. 1900
d. 1400

10. The Filkian money is called
a. Filkers
b. Pabbers
c. Dollars
d. Cents

Greb

The spaceship, Starview, drifted silently down from the clouds to the Planet Greb. The passengers, Leslie and Cory, age 11 years old, peered out the large round window and saw a grassy meadow.
"Look at the turquoise coloured leaves on the trees!" shouted Leslie.
"All the trees have turquoise leaves, Leslie," Cory said.
They started off down the path. A large creature stepped in front of them.
"Greb to Welcome! Stay your enjoy you hope I." The creature grinned at them with a mouthful of teeth.
"What did the creature say?"
"I don't know; it must speak the Grebian language."
The creature yelled at them: "Me understand you don't?"
"No, I'm sorry; we only speak English."
"You understand don't I." the creature said and waved goodbye.
"Look at its hand! It has 12 fingers on it, neatly arranged in 3 rows of 4 fingers! The other hand has 12 also, in 3 rows.
"Don't stare. He probably thinks that we are funny looking."

Leslie and Cory ran off to the spaceship.

Questions

1. Leslie kicked a pile of leaves. What colour were the leaves?
a. Green
b. Red
c. Yellow
d. Turquoise
2. Which one of these sentences should be correct in the Grebian language?
a. Strange and scary very is large planet this.
b. Strange and scary very is planet large this.
c. Strange and scary planet is very large.
d. Strange and scary larger very this planet.

3. What is one advantage of having 24 fingers, 12 on each hand, arranged in 3 rows?
a. You could play the piano very easily.
b. You could type on a computer very easily.
c. You could knit more easily than someone with only 5 fingers on each hand.
d. You could pick your nose more easily than someone with 5 fingers on each hand.

4. Which is correct?
a. Cory and Leslie are both boys.
b. Cory is a boy and Leslie is a girl.
c. Cory and Leslie are both girls.
d. There is not enough information to judge from the story.

Appendix B

Oral Cloze- Grade 7

Instructions: I will read something to you and there will be a word missing. Where the word is missing, I will say "blank." I want you to think of a word that would sound right in the blank. For example, I might say, "The moon shines bright in the 'blank'" (pause and repeat) and I want you to say "sky" or "night." "The moon shines bright in the sky." O.k. let's try another one. I'll say, "The children 'blank' with the toys." (pause and repeat). What's the word missing? (If the child fails to respond, say "How about play? The children play with the toys.") Let's try another one. "The little puppy wags its _____" (pause and repeat). "Good!"

1. The _____ little pigs ate corn.

2. Fred put the big turkey _____ the oven.

3. The _____ put his dairy cows in the barn.

4. Jane _____ her sister ran up the hill.

5. It was a sunny day with a pretty _____ sky.

6. Betty _____ a hole with her shovel.

7. Jim set the lamp on the desk so he could _____.

8. With a piece _____ chalk, he sketched her face.

9. The girl _____ is tall plays basketball well.

10. The boy had big brown eyes and a pleasant _____.

11. Because of the rain yesterday, the children _____ inside the house.

12. Nancy knocked _____ before entering the house.

13. The children put on their boots _____ it snows.

14. I want to play with a toy _____ is fun.

15. _____ is Susan going to the doctor today?

16. Jeffrey wanted to go _____ the roller coaster.

17. When we go _____ the building,

18. Dad _____ Bobby a letter several weeks ago.

19. After her broken leg had healed, Laura found it hard to walk _____.

20. Paul's mother picked up the toys _____ books.