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교육학석사학위논문

Factors Influencing English Reading  
Proficiency Among Korean Elementary  
School Students

한국 초등학생들의 영어 읽기 능력에  
영향을 주는 요인 분석

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Factors Influencing English Reading  
Proficiency Among Korean Elementary  
School Students

by  
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# Factors Influencing English Reading Proficiency Among Korean Elementary School Students

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영향을 주는 요인 분석

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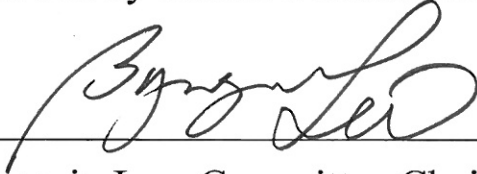
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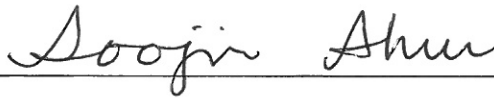
# Factors Influencing English Reading Proficiency Among Korean Elementary School Students

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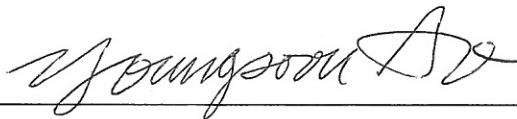
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# **Abstract**

Factors Influencing English Reading Proficiency  
Among Korean Elementary School Students

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Reading is an important skill that needs to be established in the early stages of learning to read, but many second language learners find it difficult to successfully form its foundations. In order to verify the potential sources of English reading difficulty of Korean-speaking children learning English, the present study conducted a Component-skills analysis to L2 reading comprehension with four major linguistic variables—word decoding, vocabulary, morphosyntax, and listening comprehension. To this end, a total of eighty-seven students in fourth and sixth grades were asked to take both standardized and non-standardized tests specifically designed for elementary school students according to four different language skills. A series of correlation analyses and multiple regression were conducted using SPSS in order to analyze how the students' performance on each component correlates with

their level of reading comprehension. The results showed that the model including word decoding, vocabulary, morphosyntax, and listening comprehension as predictors was suitable for explaining reading comprehension for both fourth grade ( $R^2 = .616$ ) and sixth grade ( $R^2 = .578$ ). While all component skills were correlated with reading comprehension, regression results indicated that the power of predictability among component skills was different by grade. In fourth grade, word decoding was the most powerful predictor of reading comprehension but was no longer salient in sixth grade. On the other hand, vocabulary and listening comprehension, which were not significant in fourth grade, exerted a great contribution to reading comprehension in sixth grade. This result substantiates the previous research that there exists a developmental trajectory in L2 reading comprehension: Once word decoding skills are fully acquired, the impact of other language skills such as vocabulary and listening comprehension to reading is increased in later stages of reading development. Findings from the current study shed light on using the componential approach as a diagnostic tool to evaluate one's level of L2 reading and apply this knowledge in further educational practices.

Keywords: L2 reading comprehension, Component-skills approach to reading, elementary school learners, correlations, multiple regressions

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# **Chapter 1. Introduction**

The present study investigates the linguistic factors that affect the English reading proficiency of Korean elementary school students. The background and purpose of the study are addressed in Section 1.1, followed by the specific research questions in Section 1.2. Section 1.3 provides an overview of the structure of the thesis.

## **1.1 Background and Purpose of the Study**

Reading provides a foundation for academic success in a literate society (Whitehurst & Lonigan, 2001). It has been known that underachievement of reading skills at early stages of learning has a high probability of resulting as low proficient learners at later stages (Language and Reading Research Consortium [LARRC] & Chiu, 2018; Lee, 2014; Mancilla-Martinez, Kieffer, Biancarosa, Christodoulou, & Snow, 2011). Stanovich (1986) terms such phenomenon as the “Matthew effect,” in which advanced readers develop richer reading skills while poor readers fall further behind. A substantial amount of Korean elementary school students learning English were found to struggle in reading (Lee, 2014; Oh, 2006; Park, 2009), their poor reading skills likely to have resulted from the accumulation of previous literacy underachievement (Lee, 2014; Oh & Kang, 2019). Defining the key variables that lead to successful reading would help address the source of reading difficulties for fledging Korean readers of English.

The Component-skills approach to reading seeks to explain reading comprehension by drawing on the operation of underlying component skills (Grabe, 2009; Jeon, 2011; Jeon & Yamashita, 2014; Koda, 2005; Perfetti, Landi, & Oakhill, 2005). It is viewed that multiple components including word decoding skills, vocabulary, morphosyntax, and listening comprehension work together to build reading comprehension. These component skills would interact with each other to compensate for the deficiencies of certain subskills as stated in the Interactive-compensatory model of reading (Stanovich, 1980; 1986). It is important to note however that fundamental skills have to be automatized for fluent reading because the deficiency of certain skills is compensated by others at the cost of cognitive resources which otherwise would have been used for the meaning-making process (Cunningham & Stanovich, 1998; Nassaji, 2003; 2014). Examining the relations between the main component skills and reading can be useful in identifying which component the reading problem has rooted from and where to focus on when developing reading curriculums and interventions.

One of the aspects frequently explored in the Component-skills approach to reading is verifying the prominent component skills at each developmental stage in learning to read. In first language (L1) research, a general tendency has been observed where the relative contribution of the component skills on reading comprehension changes as children become more proficient in their L1. That is,

in lower grades, L1 children tend to rely on word decoding skills for reading comprehension but as they proceed to upper grades, the role of oral language prevails (Gough, Hoover, & Peterson, 1996; Hoover & Gough, 1990; LARRC & Chiu, 2018; Lonigan, Burgess, & Schatschneider, 2018). Oral language is known as “the ability to produce or comprehend spoken language, including vocabulary and grammar” (Lonigan & Shanahan, 2009, p. 4). The division of component skills largely into two, i.e., word decoding and oral language, has been the central idea running through L1 studies because it well depicts the characteristics of L1 readers. At the beginning of learning to read, L1 readers are already equipped with a fair degree of oral language, thus the instructional emphasis is given in mastering word decoding skills to link the existing oral language with print (Ediger, 2001; Koda, 2005).

L2 reading research seems to converge on the idea that there is a developmental trajectory in reading comprehension among L2 learners. Some studies have found that L2 learners develop their reading abilities at a similar rate and pattern to their native peers, as indicated by the increased prominence of oral language abilities to reading comprehension in upper grades of elementary school and older participants (Cho, Capin, Roberts, Roberts, & Vaughn, 2019; Droop & Verhoeven, 2003; Jeon, 2011; Tilstra, McMaster, Van den Broek, Kendeou, & Rapp, 2009; Verhoeven, 1990). The critical components that contribute to L2 reading comprehension in upper grades were pointed out as

vocabulary (Cho et al., 2019; Droop & Verhoeven, 2003), morphosyntax (Jeon, 2011; Verhoeven, 1990), and listening comprehension (Tilstra et al., 2009). However, some other studies revealed that L2 learners lag behind the developmental trajectory compared to L1 learners (Kang et al., 2011; Mancilla-Martinez et al., 2011; Nakamoto et al., 2008). Reading comprehension of some older participants were still heavily influenced by their word decoding skills, which may be explained by their novice word decoding skills and a lack of general language abilities.

The analysis of multi-skills of reading has begun to extend to the domain of the second language (L2) reading, although the attempt is rarely conducted in foreign language contexts. Most of the English reading studies regarding the Korean-speaking school-aged participants have centered on one or two components skills such as word decoding skill (Kang et al., 2011; Kim & Cho, 2017), focused on only the lower-level skills (Bae, 2017), or conducted mainly in secondary schools or above (Jeon, 2011). Componential analysis to reading at the elementary school level is gravely necessary because language learning is cumulative and ergo early diagnosis and intervention are critical for further learning.

By evaluating the student's current level of reading comprehension, we can sort out the component that the student is missing. If an L2 learner's reading comprehension is greatly explained by word decoding skills even at upper grade,

this would imply that he has not acquired fluent word decoding skills to move on to the stage where he was supposed to use other linguistic skills in understanding the meaning of the text. This analysis would be useful in diagnosing the reading development of elementary school students and provide effective intervention according to their developmental level. Furthermore, we could gain a clearer understanding of the mechanism of reading comprehension if we include more component skills in the analysis.

The central foci of this study are to examine the factors that contribute to the reading comprehension of the elementary school students learning English in Korea and whether the relative contributions of main components to reading are different by age. By comparing the relations between reading comprehension and each component this study diagnoses the current reading development status of Korean elementary students and discusses what factor has the greatest influence on L2 reading at each grade.

## **1.2 Research Questions**

The following two questions have guided the research of this study:

1. How are various linguistic skills (i.e., word decoding, vocabulary, morphosyntax, and listening comprehension) related to the English reading comprehension of Korean elementary school students?
2. To what extent does the relative contribution of different linguistic

skills differ by grade?

### **1.3 Organization of the Thesis**

The present thesis is comprised of five chapters. The current chapter—Chapter 1—introduces the background that has motivated this study and the research questions. Chapter 2 probes the previous research that explored the process of reading comprehension and multiple linguistic components that engage in the process. Chapter 3 outlines the process of data collection and analysis. Chapter 4 discusses the research findings gained from the statistical analyses. Chapter 5 concludes the current study by summarizing the major findings and presenting their pedagogical implications.



## **Chapter 2. Literature Review**

This chapter reviews the previous literature that investigated the factors that contribute to L1 and L2 reading comprehension. First, the theoretical frameworks that have accounted for the process of reading comprehension are introduced in Section 2.1. Next, Section 2.2 addresses the various linguistic skills that have been pointed out as the major contributors to reading. Lastly, Section 2.3 presents the difference in the key factors of reading comprehension by age or general language proficiency.

### **2.1 Reading Comprehension Studies**

Three models of reading, the bottom-up, top-down, and interactive approach, have been mainly used to explain the intricate process of L1 reading comprehension (Grabe, 2009; Hannon & Daneman, 2001; Nassaji, 2003; Silva & Cain, 2015). The difference among the models lies in the way lower- and higher-level skills are viewed to contribute to the process of reading. Lower-level processing refers to the process engaged in encoding visual information from print, such as letter identification and word recognition, which is in contrast with higher-level processing, the process involved in meaning construction, such as inferencing and inter-sentential text integration (Grabe, 2009; Nassaji, 2003; Perfetti, 1985).

Bottom-up approach views reading as a series of discrete stages

(Stanovich, 1980, p. 33). Reading operates in a sequence of first decoding the grapheme-phoneme correspondences and further engaging in the higher-level meaning construction (Gough, 1972; Gough & Tunmer, 1986; LaBerge & Samuels, 1974). In contrast, the top-down approach assumes that the reader actively engages in a “psycholinguistic guessing game” (Goodman, 1967), which means that the reader constantly infers the meaning of the text from their background knowledge. It emphasizes the use of higher-level contextual knowledge when comprehending the written text. The eclectic approach is the Interactive model, where both the lower- and higher-level processing skills are believed to operate simultaneously (Grabe, 2009; Nassaji, 2003; Rumelhart, 1977; Stanovich, 1980). Stanovich (1980) further suggests the Interactive-Compensatory model, in which various component skills are thought to compensate for the deficiencies of other components.

As an extension of the bottom-up approach, Simple View of Reading (SVR) has been the major theoretical framework running through the literature to explain the reading comprehension development of L1 learners. SVR claims that reading comprehension is the product of decoding and linguistic comprehension (Gough & Tunmer, 1986). Decoding is “the ability to recognize printed words accurately and quickly to efficiently gain access to the appropriate word meanings contained in the internal mental lexicon” (Hoover & Tunmer, 2018, p.304). Linguistic comprehension, also known as language

comprehension, refers to “the ability to take lexical information (i.e., semantic information at the word level) and derive sentence and discourse interpretations” (Hoover & Gough, 1990, p.131) from spoken input. The two main components in SVR reflect the two characteristics of the beginner L1 readers: first, they are already fluent in listening and speaking in their L1, but second, they cannot break down the printed codes yet. In many L1 SVR studies, children’s performance on word decoding, linguistic comprehension, and reading comprehension was measured and tracked down in several years to compare the relative contribution of each component to reading comprehension by age. The construct of linguistic comprehension was usually measured with various oral language assessments such as listening comprehension test (Mancilla-Martinez et al., 2011; Tunmer & Chapman, 2012; Verhoeven & Leeuwe, 2012), receptive vocabulary test (Kang et al., 2011), and expressive vocabulary test (Nakamoto et al., 2008; Proctor et al., 2005).

Most of the L2 reading research has been derived from those of L1, and only a few L2-specific reading models such as Bernhardt’s (2005) exist in literature. However, it is important to note that L1 and L2 readers are dissimilar in many aspects—language background and exposure to input, to name a few. One prominent difference lies in oral language proficiency at the starting point of learning to read. Oral language is “the ability to produce or comprehend spoken language, including vocabulary and grammar” (Lonigan & Shanahan, 2009, p.

4). L1 users are usually already equipped with adequate oral language proficiency at the beginning of reading instruction, so the instructional goal in reading is mainly oriented to breaking the codes and linking the print with existing oral language knowledge. However, at the brink of learning to read, L2 users are deficient in both the L2 decoding skills and L2 oral language. Therefore, instructional practices for L2 readers have centered on establishing foundations for various linguistic skills of the target language (Koda, 2005; Nassaji, 2014). Even though L1 research findings have much to offer to L2 readers, it may be inappropriate to directly use the findings of L1 to L2 considering the differences that lie between L1 and L2 acquisition.

Recently, the Components-skills approach to reading has gained much attention in the field of both L1 and L2 reading. First proposed by Carr and Levy (1990), this approach views reading comprehension as comprised of multiple underlying component skills. These component skills are operationalized as separable constructs, thus are measured in isolation. Component skills include both linguistic skills such as word reading, vocabulary, grammar, listening comprehension, and higher-level cognitive skills such as inference, working memory, and comprehension monitoring (Bernhardt, 1991; Carr & Levy, 1990; Grabe, 2009; Jeon & Yamashita, 2014; Kim, 2017). In the Componential approach to reading, the components contribute to reading comprehension both independently and interactively. Various statistical methods have been used to

explore the relations between the component skills and reading, such as the structural equation modeling (Adlof, Catts, & Little, 2006; Foorman, Herrera, Petscher, Mitchell, & Truckenmiller, 2015; Kendeou, Van den Broek, White, & Lynch, 2009), path analysis (Muter, Hulme, Snowling, & Stevenson, 2004), and hierarchical multiple regression analyses (Cutting & Scarborough, 2006; Gottardo, Mirza, Koh, Ferreira, & Javier, 2018).

Measuring the proficiency of each component skill has some difficulties in that “no task is a pure measure of a single component skill” (Carr & Levy, 1990). In componential approach research, a certain task is chosen or constructed to assess a specific component skill. While solving the task, however, children are also likely to use various skills other than the target component skill. Thus using only one or two tasks may not be sufficient to fully reflect the target component skill. However, using multiple tasks entails another problem regarding test-taker characteristics and testing environment; administering multiple tasks would be realistically difficult due to students’ exhaustion in the testing process and limited time to conduct the study. Therefore, in componential analysis, it is crucial to select a task that depicts the component skill as fully as possible and relatively weakens the influences of other skills as much as possible (Carr & Levy, 1990).

Despite the possible drawbacks, the Component-skills approach to reading has been suggested as an effective approach to explaining the individual

differences in reading. This approach can generate findings on the individual or interactive characteristics among component skills in each developmental level and reveal what sources create differences among individuals who are presumed to be in the same developmental level (Carr, Brown, Vavrus, & Evans, 1990; Haynes & Carr, 1990; Shiotsu, 2009). Analysis of multiple component skills can help verify the main predictors of reading, which thereafter can be reflected in curriculums and instructional efforts (Jeon & Yamashita, 2014). Furthermore, analyzing the component skills can serve as a diagnostic tool in reading problems because a certain component skill or a combination of skills may be the source of reading difficulties (Grabe, 2009).

The pivotal role of four linguistic factors in L2 reading has been evidenced by a number of studies (Babayiğit, 2015; Droop & Verhoeven, 2003; Gottardo et al., 2018). The following section discusses the role of each factor in reading comprehension evidenced by previous studies.

## **2.2 Factors Influencing Reading Comprehension**

As elaborated in Section 2.1, the Component-skills approach to reading views that reading comprehension is constructed by a combination of underlying component skills (Grabe, 2009; Jeon, 2011; Jeon & Yamashita, 2014; Koda, 2005; Perfetti et al., 2005). Several linguistic skills have been pointed out as the main components of reading comprehension: word decoding, vocabulary, and

listening comprehension. The definition of each component skill and its role in predicting L1 and L2 reading comprehension are illustrated in the following sections.

### **2.2.1 Word Decoding**

Word decoding is referred to as the ability to identify the sounds of printed words fast and accurately (Hoover & Gough, 1990; Jeon & Yamashita, 2014). In other words, it is word recognition accomplished through phonological coding (Hoover & Tunmer, 1993). Several scholars have stressed the crucial role of efficient word decoding skills in early L1 reading development (Cain, 2006; Carr & Levy, 1990; Ehri, 1992; Perfetti, 1992). It is important to establish fluent graphophonic processing skills at the beginning stages of learning to read because automatized word decoding would enable more cognitive resources available for the comprehension process, facilitating fluent processing and understanding of a text (Perfetti, 1985; Stanovich, 1980, 1986).

The importance of word decoding skills in reading comprehension has been supported by numerous empirical L1 studies (Adlof et al., 2006; Cain, 2006; Gottardo, Stanovich & Siegel 1996; Perfetti et al., 2005; Siegel & Ryan 1988). For instance, in the analysis on second-grade American children's reading abilities using structural equation modeling, word decoding explained 35 % of the variance in reading comprehension whilst listening comprehension explained

4.9% (Adlof et al., 2006). However, it is notable that in the upper grades the contribution of listening comprehension to reading comprehension increased, as much to the point where all of the variance in eighth-grade reading comprehension was accounted for by listening comprehension. Similar results have been reported with other studies where word decoding abilities significantly contributed to reading comprehension at the initial stage of learning but its impact gradually diminished as students gained proficiency (LARRC & Chiu, 2018; Perfetti, 1992).

Word decoding has been pointed out as one of the major predictors of L2 reading as well, especially for young learners (Droop & Verhoeven 2003; Gottardo & Mueller, 2009; Hoover & Gough, 1990; Jeon & Yamashita, 2014; Kang et al., 2011; Nakamoto et al., 2008; Verhoeven & van Leeuwe, 2012). For instance, Droop and Verhoeven (2003) compared the contribution of various components to reading between the native Dutch children and bilingual children and found out that for both groups decoding skills showed a moderate correlation with reading comprehension. The role of word decoding was significant in L2 reading with older participants as well (Jeon, 2011; Mancilla-Martinez et al., 2011; Nassaji, 2003). Efficient decoding skill was found to be a prerequisite for skilled L2 reading; word decoding skill was found to account for 59% variance of discriminating between skilled readers and poor readers among adult ESL learners in Canada (Nassaji, 2003).



### **2.2.2 Vocabulary**

Another important linguistic factor that contributes to reading comprehension is vocabulary. Vocabulary has been known to be one of the greatest contributors to reading comprehension, affecting L1 reading comprehension both directly and indirectly (Cho et al., 2019; Hutchinson, Whiteley, Smith, & Connors, 2003; Muter et al., 2004; Roth, Speece, & Cooper, 2002; Verhoeven & van Leeuwe, 2008). The direct effect of vocabulary was notable for high school students (Cromley & Azevedo, 2007) and struggling readers (Elleman, Lindo, Morphy, & Compton, 2009). The indirect effect of vocabulary was documented in several studies, where vocabulary was found to influence reading through listening comprehension (Kendeou et al., 2009) and word reading (Hoover & Tunmer, 1993; Nation & Snowling, 2004; Tunmer & Chapman, 2012). This evidence suggests that vocabulary is a unique predictor of reading comprehension for monolingual readers (Muter et al., 2004; Silva & Cain, 2015).

A strong relationship has also been observed between vocabulary and L2 reading comprehension (Cho et al., 2019; Grant, Gottardo, & Geva, 2011; Jeon & Yamashita, 2014; Kim & Kang, 2014; Verhoeven, 2000). A meta-analysis of previous literature conducted by Jeon and Yamashita (2014) revealed that L2 vocabulary was one of the strongest correlates of reading. In addition,

vocabulary not only had the strongest correlation with reading comprehension but also was helpful in discerning lower-level readers in a sample of adult L2 learners (Nassaji, 2003).

Vocabulary was shown to both directly and indirectly affect L2 reading comprehension (Cho et al., 2019; Proctor et al., 2005). Research conducted by Proctor et al. (2005) showed that the vocabulary of Spanish children learning English (aged 10) had a direct effect on reading comprehension and also an indirect effect mediated by listening comprehension. The indirect effect of vocabulary on reading comprehension was also found in a recent study with bilingual students in the US (Cho et al., 2019), where the fourth-grade bilingual students' vocabulary was mediated by listening comprehension and word reading. Another indirect effect of vocabulary on reading was identified with syntactic knowledge and morphological awareness with Spanish-speaking children learning English, showing a large amount of shared variance together (Gottardo et al., 2018).

### **2.2.3 Morphosyntax**

Syntactic and morphological knowledge is critical to reading development (Hagtvet, 2003). Also termed as “grammar knowledge,” it is the “knowledge about a variety of morphosyntactic properties such as tense, aspect, word order, subject-verb agreement, and articles” (Jeon & Yamashita, 2014,

p.165). It has been generally accepted that the role of morphosyntactic knowledge becomes significant to L1 reading comprehension at later stages of learning as one acquires a fair degree of word decoding proficiency (Lyster, 1995; Nation & Snowling, 1997). For example, Droop and Verhoeven (2003) found that in the case of Dutch monolingual children, the effect of morphosyntax on reading comprehension was mediated by oral text comprehension in third grade but in fourth grade the influence of morphosyntax became direct. Morphosyntax has also been found to be useful at discerning struggling readers from average readers (Adlof & Catts, 2015; Tong, Deacon, & Cain, 2014). Poor readers were found to produce sentences with a simpler syntax (Scarborough, 1989), performed poorly on tasks of understanding complex syntax (Crain, Shankweiler, Macaruso & Bar-Shalom, 1990; Mann, Shankweiler & Smith, 1984), and had trouble finding and correcting grammatically incorrect sentences (Tunmer, Nesdale & Wright, 1987).

Morphosyntax of L2 learners has been observed to significantly affect L2 reading comprehension (Bernhardt, 2000; Droop & Verhoeven, 2003; Jeon, 2011; Jeon & Yamashita, 2014; Shiotsu & Weir, 2007; Verhoeven, 1990; Wang, Cheng, & Chen, 2006). Jeon (2011) investigated the contribution of morphological awareness to the reading variance of 188 Korean high school students, focusing on derivational morphological knowledge and verbal suffixes. The hierarchical multiple regression results showed that morphological

awareness was a significant predictor of L2 reading even when other powerful predictors (i.e., phonological decoding, vocabulary knowledge, listening comprehension) were controlled for. A similar result was reported with older participants in Japan (591 university students learning English), where it was found that syntactic knowledge was a relatively more significant predictor of reading comprehension (72% explained) compared to vocabulary knowledge (Shiotsu & Weir, 2007). However, the same result did not materialize in the study of Zhang (2012) where the vocabulary knowledge of Chinese adult English as a Foreign Language (EFL) learners was found to be more predictive of reading abilities than syntactic knowledge.

#### **2.2.4 Listening Comprehension**

Listening comprehension is a significant predictor in L1 reading (Hoover & Gough, 1990; Kendeou et al., 2009; Proctor et al., 2005; Verhoeven & van Leeuwe, 2012). Listening comprehension is defined as the ability to understand the literal and inferred meaning from spoken language (Hoover & Gough, 1990; Kim & Pilcher, 2016). A significant relation between listening comprehension and reading comprehension was found in beginning L1 readers (Catts, Adlof, Hogan, & Weismer, 2005; Catts, Hogan, & Fey, 2003; Kendeou et al., 2009). Catts and his colleagues (2003) investigated the predictive power of word recognition skills and listening comprehension on reading comprehension with

183 American children, comparing their performances in kindergarten, second grade, and fourth grade. The findings revealed that second graders' performances on word recognition and listening comprehension were predicted by their scores in kindergarten and that the predictability was stable through second grade to fourth grade as well. Similar results were reported with children with moderate word decoding skills but with poor reading comprehension abilities (Catts et al., 2005), where they were found to have problems in comprehending oral texts. Low performance in discourse comprehension by poor comprehenders was consistent through kindergarten to eighth grade, indicating that early listening comprehension predicts reading comprehension development.

L2 listening seems to make considerable contributions to L2 reading comprehension for both the young (Cho et al., 2019; Droop & Verhoeven, 2003; Proctor et al., 2005) and adolescent and adult learners (Haynes & Carr, 1990; Yamashita & Shiotsu, 2017). Yamashita and Shiotsu (2017) investigated the predictability of several component skills of reading with 325 Japanese university students using TOEFL. Their research revealed that L2 listening, along with L2 vocabulary, was the most significant predictor of L2 reading. Similar results were driven from bilingual fourth-grade children in the US, where the combined effects of listening comprehension and vocabulary were found to be greater than word reading in predicting reading comprehension (Cho et al., 2019). The contribution of listening comprehension to reading was highlighted

in a longitudinal study with Spanish-English bilingual elementary school students, where it was found that listening comprehension, overriding word decoding skills, and vocabulary knowledge, was the strongest predictor of reading comprehension. Correspondingly, a meta-analysis on 59 L2 reading studies published between 1979 and 2011 concluded that listening comprehension had a strong average correlation ( $r = .77$ ) with reading comprehension (Jeon & Yamashita, 2014).

### **2.3 Reading Comprehension Factors by Age/Proficiency**

A general finding reported by several L1 SVR studies is that at the initial stage of learning to read the contribution of word decoding to reading outperforms that of linguistic comprehension, but in later grades, the relation reverses (Catts et al., 2005; Chen & Vellutino, 1997; Gough et al., 1996; Hoover & Tunmer, 1993; LARRC & Chiu, 2018; Lonigan et al., 2018; Storch & Whitehurst, 2002). For example, Chen and Vellutino (1997) found that word decoding abilities of Grade 2 and 3 students carried more weight in explaining reading comprehension, but linguistic comprehension (measured by listening comprehension test) to be more influential for Grade 6 and 7 students. Difference by age was stark in a longitudinal study with 604 American children (Adlof et al., 2006) where it was found that in second grade, 4.9% of the variance in reading comprehension was explained by linguistic comprehension

(measured by a listening comprehension test) and 35% by word decoding (measured by nonword reading decoding test and real word accuracy test), whereas, in eighth grade, linguistic comprehension accounted for most of the variance in reading comprehension, and no unique variance explained by word decoding skills.

Hoover and Tunmer (2018) explain this developmental shift as greater development of one component than the others. As word decoding skills tend to reach the ceiling and become more automatized, more cognitive resources are left for developing other skills related to comprehending the message of the text such as oral language proficiency skills (Hoover & Gough, 1990; Perfetti, 1985). In this way, the role of higher-level processes becomes more critical in reading comprehension at later stages of reading development (Droop & Verhoeven, 2003). Indeed, some studies have shown that the correlation between word decoding skills and reading comprehension diminishes as reading comprehension abilities develop (Gough et al., 1996; Landi, 2010). It should be noted however that this does not mean word decoding is no longer important in fluent reading. Rather, it may indicate that skilled readers have become proficient enough to read words at a fast speed without putting much effort into the process (Nassaji, 2014).

Second language learners seem to follow a similar developmental trajectory in reading comprehension as L1 learners, but at a different pace

depending on their level of language proficiency. For the participants at upper-grade elementary school and middle school, oral language proficiency was found to a stronger predictor of reading comprehension than word decoding skills (Babayigit, 2015; Cho et al., 2019; Droop & Verhoeven, 2003; Jeon, 2011; Proctor et al., 2005). A common feature found in these studies is that non-native students gained moderate or above-average scores on word decoding skills. As word decoding skills improved over time, the role of word decoding diminished and the contribution of other linguistic skills to reading comprehension became more pronounced in upper grades. In some samples, although equipped with sufficient word reading skills students were found to underperform in reading (Cho et al., 2019). Low performance on reading, despite fluent word decoding skills, was explained by their lack of general oral language abilities, implying the increased contribution of oral language abilities to reading in later grades.

On the other hand, some studies found that word decoding skills play a bigger role in reading comprehension even at later stages of learning (Kang et al., 2011; Mancilla-Martinez et al., 2011; Nakamoto et al., 2008). For instance, Mancilla-Martinez and her colleagues (2011) conducted a study with language minority middle-school students in the US and revealed that learners in upper grades were still more dependent on word decoding than on language comprehension. This was accounted for by their low level of L2 proficiency which may have made reading in L2 more demanding compared to the L1



children. In a similar sense, fifth-grade Korean students from the study of Kang et al. (2011) were found to be more dependent on word decoding skills than listening comprehension abilities. This was explained by their lack of word decoding skills, which would have hindered the students to move further to the step where they could use other linguistic skills in comprehending the meaning of the text. Therefore, it can be driven that the developmental shift from word decoding to other language skills can be delayed for L2 learners with a lack of word decoding skills or general language abilities (Mancilla-Martinez et al., 2011).

This study focuses on the contribution of L2 linguistic factors to L2 reading comprehension, drawing on the research findings from the recent meta-analysis conducted by Jeon and Yamashita (2014). Motivated by the famous question “Is L2 reading a reading problem or a language problem?” (Alderson, 1984), Jeon and Yamashita compared the correlation between L2 reading comprehension and the ten most frequently investigated correlates, including both the language-related variables and cognitive variables, across 58 previous studies. Their meta-analysis across vast literature concluded that L2 grammar knowledge, L2 vocabulary knowledge, L2 decoding, and L2 listening comprehension are the four most high-evidence correlates to L2 reading comprehension. In line with the findings from the meta-analysis, the current research intends to narrow the scope of the component skills only to linguistic

variables and explore the role of the four linguistic component skills in reading comprehension of Korean elementary school students learning English.

The method of simultaneously comparing the multiple component skills has not gained much attention in the context of foreign language learning. Most of the English reading studies regarding the Korean-speaking school-aged participants have centered on one or two components skills such as decoding skills (Kang et al., 2011; Kim & Cho, 2017), focused on only the lower-level skills (Bae, 2017). Even if so, most studies have been conducted mainly in secondary schools or above (Jeon, 2011; Yamashita & Shiotsu, 2017). Componential analysis of reading at the elementary school level is gravely necessary for that language learning is cumulative in nature and thus early diagnosis and intervention are critical for further learning.

In order to gain a better understanding of the English reading comprehension of Korean elementary school students, this study aims to investigate how reading comprehension is associated with multiple component skills including word decoding, vocabulary, morphosyntax, and listening comprehension. Defining the key components in each developmental stage is important because it can affect the focus of the reading instruction and teaching practices in each stage. Thus the current study seeks to compare the results of sixth grade with fourth-grade students to examine whether the relative contribution of component skills to reading changes as learners are exposed to

more input and instructions by age. Analyzing the multiple factors to reading would bring a clearer picture to the underlying mechanism of L2 text comprehension among Korean-speaking children learning English in an EFL context.

## **Chapter 3. Methodology**

This study aimed at examining the relationship of the four component skills (i.e., word decoding, vocabulary, morphosyntax, and listening comprehension) and reading comprehension of Korean learners of English at elementary school. To this end, each component skill was measured and compared according to the age of participants, under the premise that students in upper grades would have higher English proficiency than the lower grades due to more exposure to input and learning experiences. This chapter outlines the whole process of this research including the participant recruitment, types of measurement, data collection procedure, and the analysis of data.

### **3.1 Participants**

A total of 87 students (43 fourth grade and 44 sixth grade) from four different classes in a public elementary school in Seoul participated in the study. At first, fourth-grade ( $N = 48$ ) and sixth-grade students ( $N = 48$ ) were recruited to represent the lower and upper-grade students respectively. Even though students begin learning English from third grade in Korea, this study did not select the third grade to represent the lower grade because they were considered to have insufficient English proficiency to participate in the tasks which require a minimum degree of English word decoding skills and comprehending skills. The sample was recruited from two intact classes per grade, which were randomly

selected. Data were eliminated in the analysis when it applied to any of the following: complete unavailability of word decoding, absence in any of the tasks, and more than one year of study-abroad experience in an English speaking country or international school. At last, data collected from 43 fourth-grade (mean age = 9.5 years) and 44 sixth-grade students (mean age = 11.5 years) were included in the analysis.

Students had been taught English since the third grade in the form of non-immersed classes; third and fourth grade are assigned two hours of English classes per week in the school curriculum while fifth and sixth grade are assigned three hours. According to the performance assessment results during 2019, most of the fourth graders were proficient enough to read and understand English words and simple sentences, while sixth-grade students were able to read and understand short sentences and even up to simple paragraphs. The teacher of the students reported that the English proficiencies among the students varied, and the gap between the low- and high-level students were fairly large. Survey results indicated that only one student in sixth grade had experienced learning English overseas and most students started learning English in the first grade at a private institute outside school.

Two examiners, the researcher, and the native English speaker teacher, participated in the grading of oral tasks. Both had experience teaching English to the recruited participants. The native English speaker teacher, whose nationality

was the US, had a General American English accent.

## **3.2 Materials**

This section illustrates the selection of the materials used in the experiments. At the beginning of the testing, one survey was used to collect background information from the participants. A total of five tasks were selected and adapted from previous studies to measure *reading comprehension, word decoding, vocabulary, morphosyntax, and listening comprehension*. In order to minimize the effect of study-irrelevant factors, the same materials were distributed to the participants regardless of age based on the premise that different test items would have different impacts on the assessment of each construct.

### **3.2.1 Word Decoding**

Word decoding ability was assessed by a word reading fluency test, using the Word Reading Fluency (WRF) subset of Dynamic Indicators of Basic Literacy Skills (DIBELS) 8th Edition Grade 3. Level of Grade 3 was selected for the study to correspond to the level of the vocabulary stated at the 2015 National Curriculum of Korea. WRF subset measures the ability to rapidly and accurately read aloud real-words, through which we can identify the automaticity in recognizing the word-specific orthographic knowledge (Tunmer & Chapman,

2012). The correlation between reading speed and accuracy for real-word reading was well identified in Proctor et al. (2005); on average, it was observed that the higher the reading speed, the greater the possibility of reading the word accurately. In the WRF subtest, students were asked to accurately read aloud real sight words as many as possible within one minute. The score was calculated by the sum of the words read correctly, and accordingly, the highest possible score was calculated as 140 (see Appendix A).

### **3.2.2 Vocabulary**

A curriculum-based measurement was designed by the researcher to measure the vocabulary knowledge, all stimuli retrieved from the recommended vocabulary list of 2015 National Curriculum of Korea (See Appendix B). The test assessed the ability to understand the meaning of the words when the students heard them, which was structured to exclude the effect of print knowledge on vocabulary. Students were asked to point to one picture among four picture options that best matches the word spoken by the examiner. Scores were graded by a percentage score of the number of the items correctly responded out of the whole 20 items.

Stimuli were selected based on its imageability, comprised of concrete nouns ( $n = 11$ ), verbs ( $n = 6$ ), and adjectives ( $n = 3$ ), following the design of the Peabody Picture Vocabulary Test Fourth Edition (PPVT-4). Test items contained

more nouns than verbs or adjectives because a high proportion of verbs in receptive vocabulary tests were found to be too difficult for young children (Eigsti, 2017). The difficulty of the stimulus words was adjusted through a pilot study with two classes, one from each grade. The pilot version included 12 words recommended for elementary school level, 2 from secondary school level, and 8 from unmarked ones, to discriminate between students at different levels. However, the pilot version turned out to be too difficult for the students: among 20 items, a majority of sixth grades scored below 10 while fourth grades scored below 6. Thus the final version was modified to include only the words at the elementary school level.

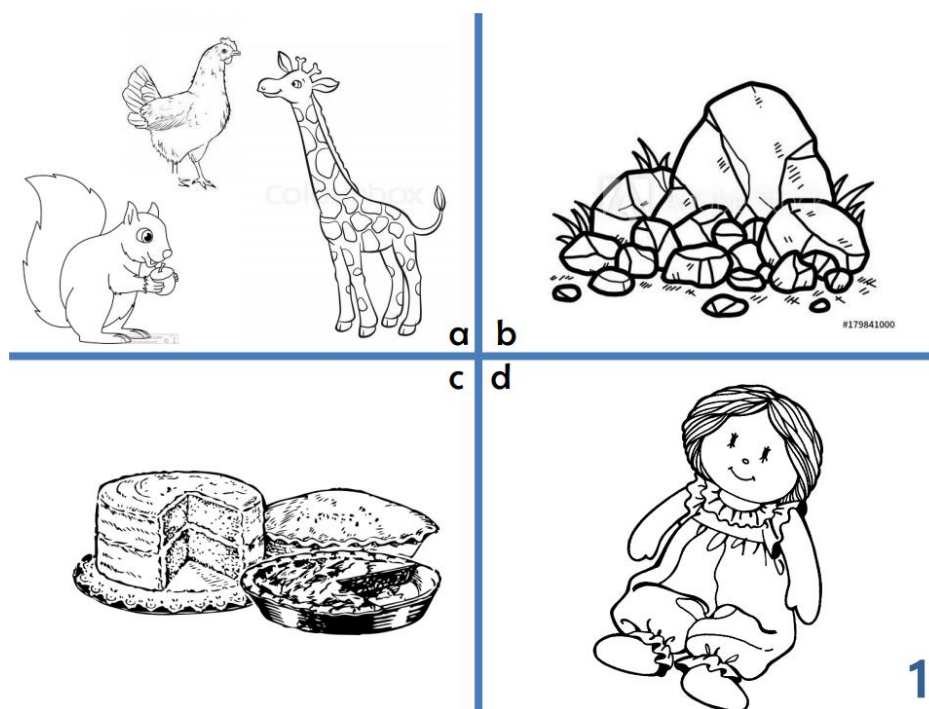


Figure 3.1. An example set in the vocabulary test



### **3.2.3 Morphosyntax**

Morphosyntax was assessed with the use of a sentence imitation task (See Appendix C). The sentence imitation task measures the ability to listen and repeat after the sentences presented in audio files as accurately as possible. The rationale behind the sentence imitation task is that the ability to recall the sentence longer than their word span is not dependent merely on their short-term memory but on the syntactic knowledge retrieved from their long-term memory (Slobin & Welsh, 1968). It has been found that the sentence imitation task successfully draws on syntactic knowledge for both monolinguals and bilinguals (Chiat et al., 2013; Seeff-Gabriel, 2006; Seeff-Gabriel, Chiat, & Dodd, 2010).

The sentence imitation task was comprised of 20 sentences (88 morphemes) varying in length and syntactic structure. Stimuli were initially retrieved from the study of Seeff-Gabriel (2006) but were adjusted to meet the students' level after a pilot study with two classes, one from each grade. Pilot results indicated that the unedited, original task from Seeff-Gabriel (2006) had failed to meet the students' level; among 20 sentences in the sentence imitation task, sixth grades were able to produce only 7 sentences and the fourth grades less than 5 on average. Since the items included sentences with embedded or coordinated clauses, which are not the syntactic structures recommended in the 2015 National Curriculum of Korea, it was too difficult for the students to repeat the sentences at all. Accordingly, the syntactic structure of the sentences was

simplified into only three types, reflecting the recommended syntactic structure list from the 2015 National Curriculum of Korea: imperatives, questions, and statements. The adjusted sentences were designed to follow the ratio of the syntax types presented by Seeff-Gabriel (2006): 3 imperatives, 2 questions, and 15 statements. In addition, some British English words were changed into American English words. For instance, "mummy" and "daddy" were changed into "mom" and "dad" because Korean-speaking learners are generally more accustomed to American English than British English.

In the sentence imitation task, students were asked to listen to a sentence recorded by a native English speaker and repeat it as completely as possible. Considering the level of the students, students were given enough time to respond to each item, and the testing proceeded to the next item once the student had either produced a sentence or relinquished to produce any. For grading, the answered sentences were broken down into morphemes of three categories: content word, function word, and inflection, following the detailed scoring method of Seeff-Gabriel et al. (2010). If answered correctly, one point was given for each morpheme in the category.<sup>1</sup> For instance, if the student correctly

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<sup>1</sup> Morpheme count followed the method presented in Brown (1973) and Miller and Chapman (1981).

1. Proper names are counted as single words.
2. Irregular past tenses of the verb are counted as one morpheme.
3. Auxiliaries and inflections (plural, third person singular -s, regular past -ed, progressive -ing) are counted as one morpheme.

repeated the item *Sally go-es*, two points would be given for *Sally* and *go*, and one point for *-es*. Eventually, all points from the categories were summed to present the percentage of correct morphemes out of the whole 88 morphemes. Previous studies had presented both the total score and the separate scores for each morpheme category because their primary focus of the study was an in-depth investigation on the effectiveness of sentence imitation tasks on assessing morphosyntax (Moll, Hulme, Nag, & Snowling, 2012; Seeff-Gabriel et al., 2010). However, this study has used only the total score in the analysis, because including the scores for each morpheme categories is believed to be above the scope of inquiry of the current study.

#### **3.2.4 Listening Comprehension**

Listening comprehension was measured by the listening comprehension subset from *TOEFL Primary Preparation Book Step 1* (See Appendix D). It is a paper-and-pencil based test consisted of 36 multiple-choice items. Students were instructed to choose among three options per item for approximately 30 minutes. All items were presented in English, including the answer options and the audio and written instructions. Presented under five different sections, questions included both the inferential and literal comprehension questions. Part I and II required the students to choose one among the three picture options that best matches the sentence read by the speaker. Part III asked the students to listen to a

short conversation and choose the item that correctly relates to the conversation from three spoken options. In Part IV and V, after listening to a short dialogue students were asked to choose the correct answer from three written options. One point was rewarded for the correct answer to each test item. The score was given as a percentage score of the number of correct items out of the whole 36 items.

### **3.2.5 Reading Comprehension**

Reading comprehension was measured by the reading comprehension subset from *TOEFL Primary Preparation Book Step 1* (See Appendix E). Comprised of 36 items, students were required to silently read either a sentence or a short passage and respond to questions for approximately 30 minutes. All items were presented in English, including the instructions, options, and reading passages. Part I asked the students to choose the word among three options that best matches the picture cue. Part II asked the students to choose a word among three options that correctly matches the depiction of an item. In Part III, students were asked to read a short passage that contains an invitation, letter, or advertisement, and respond to 2–4 questions. One point was rewarded for the correct answer to each test item. The score was given as a percentage score of the number of correct items out of the whole 36 items.

### **3.2.6 Survey**

Prior to testing, a paper-based survey comprised of four question items (See Appendix F) was conducted to collect the language learning backgrounds of the participants and eliminate those who did not fulfill the recruitment standards. Accordingly, a sixth-grade student who had studied in an English-speaking country for more than one year was excluded from the sample. Survey items contained questions asking the age and place (institution) of starting English learning, and whether they had studied in English-speaking countries or international school.

## **3.3 Data Collection**

Data collection was administered in two steps: first, a pilot study was conducted with a smaller sample before the main study, and second, the main study was implemented with a total of 87 students. Details on the procedure of data collection are illustrated in the following sections.

### **3.3.1 Pilot Study**

This study administered a pilot study before the main study to verify the difficulty of the test items and identify possible problems during the examination. Two separate pilot studies were designed: paper-and-pencil tests and oral tests.

For the paper-and-pencil test, two intact classes (1 fourth grade, 1 sixth grade) were selected at random from each grade and were recruited. Pilot tests on listening comprehension and reading comprehension were conducted in a row during regular school hours for thirty minutes each, one hour in total without any break. Once finished, students were asked to respond to a written survey which took approximately one minute. The written survey asked about the difficulty of the written and oral text, difficulty of vocabulary used in the tests, and the comprehensibility of questions and items which were presented in English. Students were required to answer within the scale of 1–3; 1, 2, 3 indicating easy, moderate, difficult, respectively. In the last section of the written survey, students were told to write any free opinions regarding the tests.

Oral piloting included the measures of word decoding (i.e., WRF subsets), morphosyntax (i.e., sentence imitation task), and vocabulary. For the word decoding pilot assessment, a total of four students (2 fourth grade, 2 sixth grade), whose English proficiency was intermediate, were recruited. The purpose of the word decoding piloting was to check if the materials meet the level of the students with a lower level of English proficiency and find out any possible problems that might occur during the main study. Word decoding pilot was administered during after-school hours for approximately 5 minutes per individual.

For the measures of morphosyntax and vocabulary, two intact classes (1

fourth grade, 1 sixth grade) were selected at random from each grade. All students were tested individually in the piloting. The purpose of the piloting for the two measures was to verify the difficulty of the test items so that it would prevent any ceiling or floor effects. Piloting took place during regular school hours for approximately ten minutes per individual. Sentence imitation task was conducted first, followed by the vocabulary test without any break.

Pilot test results were used for adjusting the difficulty of the test items and adding more details to the planning of the main study. Based on the examiner's observation, listening comprehension and reading comprehension tests were decided to be taken without any breaks, because no one explicitly requested breaks nor expressed fatigue during the piloting. The pilot results of paper-and-pencil tests indicated that the difficulty of items was moderate or a little difficult. Students reported on their written surveys that the questions and the test items were comprehensible. However, several students mentioned in the last free opinion section of the written survey that they had trouble following up Part III of the listening comprehension test due to ambiguous numberings on the testing sheet. Accordingly, Part III of the listening comprehension test was modified to include clear visual instructions. Oral pilot results of the word decoding test were used in planning the amount of testing time needed for the main study. The pilot results indicated that on average, it took five minutes to finish all oral tasks. Thus, in the main study, seven minutes were allotted to

finish all oral tasks per student. At last, oral pilot results of morphosyntax and vocabulary were used in re-selecting the stimuli and adjusting the sentence structures. Details of the oral pilot results and the process of adjusting the test items are illustrated in Sections 3.2.2 and 3.2.3.

### 3.3.2 Main Study

In the main study, participants were assessed with a total of five measures, excluding the survey, for two sessions (see Table 3.1). Measures were administered over two days in the same order to all participants. In the first session, students were assessed individually on oral tests (i.e., word decoding test, sentence imitation task, and vocabulary test) at a quiet place. All tasks were conducted consecutively without any break, for approximately 15 minutes. During each task, students were asked to give oral responses to the questions and instructions that were presented orally. Responses were scored manually on answer sheets by the examiner during the session.

Table 3.1

#### *Data Collection Procedure*

Session	Task	Time (min)
1	Word Decoding Test	2
	Sentence Imitation Task	5
	Vocabulary Test	5
2	Listening Comprehension Test	30
	Reading Comprehension Test	30



In the second session, paper-and-pencil tests (i.e., listening comprehension and reading comprehension test) were group-administered to each of the four intact classes for one hour. All tests were conducted consecutively without any break, following the pilot results that students expressed no fatigue and were observed to be tireless during the one-hour-test. In each test, students were asked to solve 36 questions within 30 minutes.

All audio files except for the listening comprehension test were recorded by the native English speaker. In order to maintain the consistency of the grading, the examiners were asked to read aloud printed instructions during the oral tests and were fully trained before the actual testing.

### **3.4 Data Analysis**

Statistical analysis of the collected data was conducted using SPSS (v. 18.0.0 for Windows). Firstly, to investigate the relations of reading comprehension with four linguistic skills, the descriptive statistics were computed, followed by bivariate correlation analyses for each grade. Correlation analyses were conducted to compare the strength of correlation among the four linguistic skills and reading comprehension.

Afterwards, standard multiple regression analysis was employed for each grade to examine the contribution of the multiple components to reading comprehension. All four linguistic skills were entered simultaneously to find out

how much each skill explains the variance of reading comprehension. Lastly, the results of both the correlation analysis and the multiple regression analysis were compared by grade.

## **Chapter 4. Results and Discussion**

This chapter presents the quantitative results and discusses the findings in order to address the research questions posed in Chapter 1. Section 4.1 reports on the results retrieved from statistical analyses. Section 4.2 discusses the research findings concerning the statistical results.

### **4.1 Results**

The current study used a series of correlational analyses and multiple regressions to seek answers for the main inquiries. The following sections illustrate the summary of descriptive statistics retrieved from the statistical analyses and compare this by grade.

#### **4.1.1 Relations Between Reading Comprehension and its Component Skills**

Participants' mean scores on each task are reported in Table 4.1. The descriptive statistics show that on average, sixth grades performed better than the fourth grades in all tasks, most notably in word decoding ( $M = 52.16$ ). In the case of word decoding, students were found to perform at different levels by grade; on average, sixth-graders performed within the green range based on the

benchmark goals<sup>2</sup> set for monolingual English speakers, whereas fourth-graders performed in the yellow range. Standard deviations reported for the measures of word decoding show that the variability is larger among sixth-graders than fourth-graders. This indicates that although the word decoding proficiency of the sixth-graders is higher than the fourth, scores are more widely dispersed among individuals in sixth grade. The range between the highest and the lowest raw score for word decoding was more extreme for the sixth grade than the fourth; The highest and the lowest scores for fourth-graders were 68 and 3, whereas for sixth grade 115 and 10.

Table 4.1

*Descriptive Statistics of the Measures of Four Linguistic Skills and Reading Comprehension*

	Highest possible score	4G (n = 43)				6G (n = 44)			
		M	SD	Min	Max	M	SD	Min	Max
1. Reading comprehension	100	71.19	16.51	25	97.22	85.48	14.22	50	100
2. Word decoding	140	30.37	15.72	3	68	50.16	23.32	10	115
3. Vocabulary	100	73.49	13.07	45	100	88.86	10.94	50	100
4. Morphosyntax	100	82.61	12.03	42.05	97.73	90.06	8.54	61.36	98.86
5. Listening comprehension	100	55.94	15.92	16.67	83.33	68.24	17.40	36.11	100

<sup>2</sup> DIBELS 8<sup>th</sup> Edition provides benchmark goals for each subset, comprised of four ranges: blue goal, green range, yellow range, and red range. The blue goal indicates that almost all students in this range score at or above the 40<sup>th</sup> percentile rank on criterion measure. The green range indicates that about 80% of students in this range score at or above the 40<sup>th</sup> percentile rank. The yellow and red range indicates that about 80% of students who score below the 40<sup>th</sup> or 20<sup>th</sup> percentile on criterion measure fall in this range. For WRF, the cutoff score for the blue goal is 60, and green range 40.

The blue and green range indicates that the students are at negligible or minimal risk in word decoding, whereas the yellow and red range indicates some or definite risk.

In both grades, students were found to perform relatively more poorly on listening comprehension tests than on measures of other linguistic skills. This may be explained by the EFL-specific characteristics, where students are exposed to very little input, especially oral input, compared to L1 or ESL environments. Other than the two or three hours of regular English classes at school, only a few English inputs are available outside the school for those who do not attend private institutes. According to the English teachers, students were observed to struggle in discourse-level listening comprehension during English classes. Thus the relatively low scores on the listening comprehension test may be attributed to the lack of opportunities to practice text-long aural comprehension in classrooms.

Bivariate correlations were conducted among the measures of reading comprehension and the four linguistic skills: word decoding, vocabulary, morphosyntax, and listening comprehension. All of the variables entered showed a positive correlation with one another (see Table 4.2). In fourth grade, reading comprehension was correlated with all variables, showing the weakest correlation with listening comprehension ( $r = .445, p < .01$ ). The strongest correlation was reported between reading comprehension and word decoding,  $r = .731, p < .001$ . In sixth grade, reading comprehension had the strongest correlation with measures of vocabulary ( $r = .701, p < .001$ ), whereas the weakest correlation was found with morphosyntax ( $r = .511, p < .001$ ). Measures

of the four linguistic skills had statistically significant correlations with one another.

Table 4.2

*Correlations Among Measures of Reading Comprehension and its Component Skills*

	1	2	3	4	5
<b>Grade 4</b>					
1. Reading comprehension	-				
2. Word decoding	.731***	-			
3. Vocabulary	.615***	.649***	-		
4. Morphosyntax	.590***	.563***	.393**	-	
5. Listening comprehension	.445**	.432**	.449**	.390**	-
<b>Grade 6</b>					
1. Reading comprehension	-				
2. Word decoding	.581***	-			
3. Vocabulary	.701***	.598***	-		
4. Morphosyntax	.511***	.674***	.578***	-	
5. Listening comprehension	.590***	.720***	.475**	.517***	-

Note. \*\* $p < .01$ , \*\*\* $p < .001$

#### 4.1.2 The Contribution of Component Skills to Reading

##### Comprehension

To answer the second research question, standard multiple regression was employed to assess the extent to which the four language skills contribute to the reading comprehension of each grade. Two regression analyses were conducted by grade. Next, the regression results were compared by grade to seek any differences.

In the first analysis, all predictor variables of fourth grade (i.e., word

decoding, vocabulary, morphosyntax, and listening comprehension) were entered simultaneously. Preliminary analyses were conducted to check the assumptions of normality, homoscedasticity, and no multicollinearity<sup>3</sup>, and as a result, was found that there is no violation of the assumptions.

As shown in Table 4.3, the model as a whole accounted for a significant degree of variance in fourth-grade reading comprehension ( $R^2 = .616$ ,  $F(4, 38) = 15.208$ ,  $p < .001$ ). Among the predictor variables (i.e., word decoding, morphosyntax, vocabulary, listening comprehension) only word decoding explained unique variance in reading comprehension ( $\beta = .431$ ,  $t = 2.912$ ,  $p < .01$ ). This indicates that the students with higher scores in word decoding in fourth grade would score higher on reading comprehension.

In the second analysis, a similar analysis was conducted with the sixth-grade data. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, homoscedasticity, and multicollinearity. As shown in Table 4.3, the total variance accounted for by the model as a whole was 57.8%,  $F(4, 39) = 13.368$ ,  $p < .001$ .

Among the predictor variables (i.e., word decoding, morphosyntax, vocabulary, listening comprehension) only the measures of vocabulary and

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<sup>3</sup> No deviations on the assumptions of normality and homoscedasticity was based on the distribution of the sample in the scatterplot. That the sample had not violated multicollinearity assumption was judged based on the tolerance value, VIF value, and the Pearson correlation coefficient among the independent variables.

listening comprehension explained the unique variance in reading comprehension. This finding suggests that the students with higher scores in vocabulary and listening comprehension in sixth grade would be more likely to score higher on reading comprehension. Moreover, the beta weight was the highest in vocabulary ( $\beta = .52, t = 3.825, p < .001$ ), followed by listening comprehension ( $\beta = .307, t = 2.037, p < .05$ ). This indicates that vocabulary exerted the strongest influence in predicting reading comprehension of sixth grade among all predictor variables, followed by listening comprehension.

Table 4.3

*Regression Results Investigating the Role of Linguistic Variables on Reading Comprehension of Two Grades*

Predictor Variables	Outcome Variables					
	4G Reading Comprehension ( $R^2 = .616$ )			6G Reading Comprehension ( $R^2 = .578$ )		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Word decoding	.494	.170	.431**	.017	.120	.026
Vocabulary	.288	.188	.209	.738	.193	.520***
Morphosyntax	.354	.186	.236	.061	.268	.034
Listening Comprehension	.075	.122	.072	.251	.123	.307*

Note. \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

In sum, the findings indicated that the model including word decoding, vocabulary, morphosyntax, and listening comprehension as predictors was suitable for explaining reading comprehension ( $p < .001$ ). However, the



predictive power of components was different by grade. In fourth grade, only word decoding exhibited a significant unique contribution to reading comprehension but was no longer significant in sixth grade. In sixth grade, the contribution of vocabulary and listening comprehension to reading comprehension was more salient, a bigger contribution exerted by vocabulary ( $\beta = .738$ ) than listening comprehension ( $\beta = .251$ ).

## **4.2 Discussion**

In section 4.2.1, research findings derived from the results of correlational analyses and standard multiple regressions are discussed. Section 4.2.2 discusses the extent to which the component skills contribute to reading comprehension and compares the findings by grade.

### **4.2.1 Relations Between Reading Comprehension and its Component Skills**

The first research question concerns how the four linguistic skills, i.e., word decoding, vocabulary, morphosyntax, and listening comprehension, are related to L2 reading comprehension of Korean elementary school students of different grades. The statistical results from correlational analyses indicated that the component skills were all significantly correlated to reading comprehension, albeit its strength of relationship differed by variables. Notable was the change in

the correlational strength between reading comprehension and the component skills by grades. Word decoding was found to have a stronger correlation with reading comprehension in the fourth grade ( $r = .731$ ) than in the sixth grade ( $r = .581$ ). On the other hand, listening comprehension had a greater strength of correlation with reading comprehension in the sixth grade ( $r = .590$ ) than the fourth grade ( $r = .445$ ). Vocabulary was strongly correlated with reading comprehension in both grades ( $r = .615$  in fourth grade), most notably in the sixth grade ( $r = .701$ ).

Standard multiple regression results revealed that the model using word decoding, vocabulary, morphosyntax, and listening comprehension as predictor variables was useful in explaining the variance of reading comprehension in both grades; 61.6% was explained for fourth grade and 57.8% for sixth grade. This corroborates with the previous claim that the developing L2 reading comprehension is influenced by word decoding skills, lexical knowledge, morphosyntactic knowledge, and listening comprehension (Bernhardt, 2000; Droop & Verhoeven, 2003; Jeon & Yamashita, 2014).

#### **4.2.2 The Contribution of Component Skills to Reading Comprehension**

Regarding the second research question, this study compared the statistical results by grade to investigate whether there exists a shift in the

prominent predictor to reading comprehension. The influential predictors to reading comprehension, as indicated by the beta weight in standard multiple regression analyses, were dissimilar by grade. To begin with, word decoding was the only predictor that showed a statistically significant contribution to fourth-grade reading comprehension but was no longer prominent in sixth-grade multiple regression. This result corroborates with the results of L1 studies that revealed a strong influence of word decoding on reading at early stages of language learning (Adlof et al., 2006; Cain, 2006; Perfetti et al., 2005). As pointed out by several L2 studies, the current findings showed that L2 readers experience a similar rate and pattern of reading development with that of L1 readers (Droop & Verhoeven 2003; Jongejan, Verhoeven, & Siegel, 2007). To elaborate, word decoding was evidenced to be influential for predicting later reading development for beginning readers but its impact was less salient in later grades (Gottardo & Mueller, 2009; Hoover & Gough, 1990; LARRC & Chiu, 2018; Verhoeven & van Leeuwe, 2012). The difference in the predictive power of word decoding by grade can be explained by the different levels of word decoding skills. In this study, 67% of fourth-grade students performed in the yellow range, which indicates a relatively poor level of word decoding proficiency, whereas only 32% of students were in the yellow range in sixth grade. A higher level of word reading fluency in the sixth grade indicates that word decoding became relatively automatized, thus allowing more attentional

resources to other linguistic skills in comprehending the written text. In other words, as word decoding skills reach a fluent level, the contribution of other skills such as vocabulary and listening comprehension to reading comprehension increases. This was also supported by the results from the correlational analyses, where the correlation between reading comprehension and word decoding was stronger in the fourth grade ( $r = .731$ ) compared to the sixth grade ( $r = .581$ ).

Moreover, vocabulary and listening comprehension, which were statistically insignificant in fourth-grade regression, were the only influential predictors of sixth-grade reading comprehension. Notably, the predictability of vocabulary to reading comprehension was more influential in sixth grade than the fourth, which is in line with previous observations on the strong impact of vocabulary on upper-grade elementary school students and older participants in L2 studies (Cho et al., 2019; Droop & Verhoeven, 2003; Huh, 2014; Hutchinson et al., 2003; Kim & Kang, 2014; Silverman et al., 2015; Verhoeven & van Leeuwe, 2008). For example, the study of Huh (2014) conducted with 54 seventh-grade students revealed that vocabulary, specifically paradigmatic vocabulary knowledge, was the most prominent predictor of reading comprehension (26.1%) even after all other variables were controlled for. Thus it seems that the association of vocabulary knowledge with reading comprehension becomes even more prominent in the later stages of learning (Kim & Wagner, 2015; Kim, Wagner, & Lopez, 2012).

According to Nation (2001), the relationship between vocabulary and reading comprehension is bidirectional; one has to cross a vocabulary threshold to understand a written text, and in turn, reading as a medium for vocabulary instruction (e. g., intensive or extensive reading) facilitates the acquisition of the vocabulary. Also known as the “Matthew effect,” this relation of vocabulary and reading enlarges the gap among the students with low and high reading proficiency, where “the rich get richer and the poor get poorer” (Stanovich, 1986, p.381). Hart and Risley (1995) investigated the impact of early vocabulary growth in later reading development among children with different socioeconomic status (SES) backgrounds. Research findings indicated that children with low-SES homes were likely to be exposed to less amount of vocabulary compared to their high-SES peers, which would consequentially influence the development of vocabulary, listening, speaking, syntax, and after six years, to reading ability. All in all, the current finding that the role of vocabulary was particularly salient in later stages of learning may be attributable to its mediating role to other component skills’ effect on reading comprehension and its bidirectional relationship with reading comprehension (Cho et al., 2019; Gottardo et al., 2018).

The increased significance of listening comprehension in sixth grade confirms the previous findings that once word decoding is well established, the ability to comprehend the oral text becomes significant in later reading

development (Cho et al., 2019; Hoover & Gough, 1990; Tilstra et al., 2009). Similar results were discovered in the research of Tilstra et al. (2009), in which listening comprehension served as a better predictor of reading comprehension in seventh grade than the fourth grade. Thus despite the lack of aural input compared to the L1 environment, the contribution of listening comprehension seems to be significant for L2 learners as well. Taken into account the increased significance of listening comprehension in reading comprehension in upper grades revealed in the current study and previous literature, teaching practices and instructions that accentuate listening comprehension deserve more attention.

Despite the importance of listening comprehension especially in later stages of L2 reading development, students in both grades were found to perform relatively poorly in listening comprehension compared to other linguistic skills. Listening, due to its momentary nature, is considered to be difficult even for L1 learners. Several factors have been pointed out as the contributors to listening difficulty: linguistic factors such as speech rate and pronunciation, learner factors such as concentration or anxiety, and cognitive factors such as working memory and metacognitive strategies (Bloomfield et al., 2010; Brown, 2007; Underwood, 1989). Listening comprehension becomes more demanding in the case of L2 listeners because they are caught up in identifying each word and cannot reach top-down processing (Osada, 2004). Since listening is not recurrent in its nature, students are loaded with too much burden in comprehending the

aural text and easily lose concentration when they miss the next part of the speech.

Emphasizing vocabulary in instructional efforts can promote listening comprehension, which would in turn support reading comprehension. The importance of vocabulary in augmenting listening comprehension was evidenced in several L2 studies (Bonk, 2000; Boyle, 1984; Nation, 2001). Furthermore, vocabulary was found to have an indirect effect on reading comprehension mediated by listening comprehension in both L1 and L2 studies (Cho et al., 2019; Kendeou et al., 2009; Proctor et al., 2005; Van den Broek et al., 2005). Accordingly, augmenting listening comprehension through vocabulary instruction can facilitate reading comprehension in the long run.

Although morphosyntax was highly correlated with reading comprehension in all grades, it failed to show a statistically significant impact in regression analyses for all grades. The lack of significance in morphosyntax in regressions is surprising, considering the previous studies that involved children (Droop & Verhoeven, 2003; Gottardo et al., 2018; Kieffer & Lesaux, 2008; Wang et al., 2006) and with EFL studies that involved adolescent-and-above participants (Jeon, 2011; Shiotsu & Weir, 2007). One possible explanation of the insignificance of morphosyntax in all grades is its close relationship with vocabulary. That is, less saliency does not mean that morphosyntax is not a critical component in reading comprehension, rather it may indicate that the role

of vocabulary has increased in the later stages. Knowledge of root words and derived forms may have been incorporated into vocabulary knowledge, considering the previous studies that have evidenced the indirect effect of morphosyntax on reading comprehension through vocabulary (Adlof & Catts, 2015; Bowers, Kirby, & Deacon, 2010; Carlisle, 2000; Goodwin, Huggins, Carlo, August, & Calderon, 2013).

Incorporating all findings, a simultaneous evaluation of the component skills can be used as a useful tool for diagnosing one's level of reading comprehension. This study has added to the previous literature that there exists a developmental shift among the component skills of reading comprehension. Therefore, a deficiency in a certain skill would indicate the stage the learner is situated in. For instance, if an underachieving reader at an upper-grade of elementary school were found to perform poorly in word decoding, it would imply that he is still in the prior stage of reading development. Thus, it would be necessary to acquire adequate word decoding skills in order to proceed to the next level of reading. As such, one's developmental trajectory can serve as a useful tool for diagnosing his level of reading comprehension.



## **Chapter 5. Conclusion**

This chapter provides a summary of the major findings of the current study. The significance of current research findings is discussed, followed by the limitations of the study and recommendations on future research.

### **5.1 Summary of Major Findings**

The present study explored how four linguistic skills (i.e., word decoding, vocabulary, morphosyntax, and listening comprehension) are related to English reading comprehension of Korean elementary school students and sought to compare the results by grades. While answering research questions about the relations of various language skills with L2 reading, this study encountered some interesting and unexpected findings.

Firstly, the four linguistic skills, i.e. word decoding, vocabulary, morphosyntax, and listening comprehension, were found to account for a significant amount of variance in English reading comprehension for both fourth and sixth grades. All variables were correlated with reading comprehension, with the highest correlation found between reading comprehension with word decoding in fourth grade and vocabulary in sixth grade. Accordingly, the current finding supports the Component-skills approach to L2 reading comprehension which includes various components such as word decoding, vocabulary, morphosyntax, and listening comprehension as key contributors to reading

(Grabe, 2009; Jeon, 2011; Jeon & Yamashita, 2014). Analyzing multiple components of reading would promote a better understanding of where the individual differences in reading proficiency are rooted from.

With respect to the developmental shift among the subcomponents of reading by age, this study revealed that the relative contribution of component skills to reading comprehension was different by age. The variables that exerted a statistically significant contribution in accounting for reading comprehension were word decoding in the fourth grade and vocabulary and listening comprehension in the sixth grade. This finding corroborated with previous research findings that word decoding exerts a greater influence in the early stages of language learning and the impact of oral language skills such as vocabulary and listening comprehension becomes more prominent in later stages. That is, as students earn fluent word decoding skills, the role of other linguistic variables becomes more pronounced to reading comprehension development. As noted by Perfetti (1985), since humans have a limited cognitive capacity, as one allots more cognitive resources to one activity, there are fewer resources left for the others. Fluent word decoding skill is a key to successful reading development because automatized word decoding would allow more cognitive resources and less time to comprehending the meaning of the text.

Among the variables, vocabulary was found to be highly correlated with reading comprehension in all grades. Vocabulary was the second strongest

correlate to reading comprehension in fourth grade and the strongest in sixth grade, indicating that its importance in reading is highlighted in all grades but is more salient especially in the later stages of language learning. According to Nagy and Scott (2000), the acquisition of vocabulary is gradual and incremental since learners add more layers of lexical knowledge whenever they encounter a word. Thus it seems that vocabulary is critical to reading comprehension in all periods of language learning (Anderson & Freebody, 1981; Quinn, Wagner, Petscher, & Lopez, 2015; Silverman et al., 2015). Furthermore, vocabulary is known to exert mediating effects on other variables such as morphosyntax and listening comprehension in reading comprehension (Cho et al., 2019; Gottardo et al., 2018). Therefore, even though word decoding skills should be firmly established in the early stages, vocabulary instruction should also be stressed from the beginning of language learning.

Interestingly, listening comprehension, which was not statistically significant in the fourth grade, was found to have a paramount significance in the sixth grade. Although there have been several L2 studies with similar results (Cho et al., 2019; Hoover & Gough, 1990; Tilstra et al., 2009), this finding was relatively unexpected considering the lack of aural input exposed to Korean learners who are situated in an EFL environment. Thus this once again confirms that the ability to understand the listening text becomes significant in later reading development, when word decoding skills are adequately acquired

(Gough & Tunmer, 1986; Hoover & Gough, 1990; Hoover & Tunmer, 2018).

Considering that not much attention on the role of listening comprehension to reading has been shed on children participants in the EFL context, the research finding from the current study sheds a light on the critical role of listening comprehension in early L2 reading, yielding implications that call for more explicit instructions on listening comprehension.

Taken altogether, findings from the current study revealed that the contribution of multiple component skills to reading comprehension of Korean elementary school students was in line with the findings of both the previous L1 and L2 studies. The current findings substantiated the previous findings that once word decoding skills are fully acquired, the role of vocabulary and listening comprehension becomes more salient. Although L2 learners lack the oral language to link with the newly acquired print knowledge as much as L1 readers have, it seems that the impact of aural input and vocabulary becomes significant to later L2 reading development. Therefore, teachers and practitioners should have a keen eye on the developmental trajectory of the students, which could serve as a diagnostic tool to find out at which stage the students are located, and the components that the students are insufficient.

## **5.2 Pedagogical Implications**

In general, this study contributes to the present literature by adding more

evidence on the significance of the four linguistic skills to L2 reading comprehension. Through the simultaneous comparison of the four variables to L2 reading, the present study examined whether the main component skills can account for the reading comprehension of different grades. As a result, the four linguistic variables were found to be strongly correlated to reading comprehension in all grades, and the regression model including the four variables to explain reading comprehension was found to be statistically significant. Overall, this study has confirmed that the Component-skills approach to reading can be applied to young EFL learners in Korea. Given that the various component skills can account for a significant amount of variance in L2 reading, analyzing reading by its multiple components can be useful in detecting the source of reading difficulties. Instructors and practitioners can further utilize this information to supplement the development of the specific component that is lagged in students.

In addition, this study compared the results from the statistical analyses in order to find out whether there are any changes in the prominent factors to L2 reading by age. This has occurred an outcome that word decoding explains a significant proportion of variance in reading for fourth grade, but its significance is not pronounced in sixth grade and the role of vocabulary and listening comprehension is more salient instead. This implies that there exists a developmental trajectory in reading comprehension, where certain component

skills are more salient than others at each stage of language learning. The reason why word decoding did not exert a significant influence on reading comprehension in sixth grade can be attributable to the automatization of word decoding skills which allowed more cognitive resources left for processing the meaning of the text (Babayigit, 2015; Cunningham & Stanovich, 1998; Nassaji, 2003; Perfetti, 1985). Thus analyzing the student's performance on each component skill can reveal the position of the student in the developmental trajectory of reading.

Furthermore, the present study supports the previous claim that vocabulary knowledge is pivotal for the reading development of young L2 learners at any stage of learning (Cho et al., 2019; Kim & Wagner, 2015; Silverman et al., 2015). Listening comprehension, a variable that had not received much attention in reading studies, was also found to exert a great influence on upper-grade reading comprehension. Once acquired sufficient word decoding abilities, the impact of oral language knowledge becomes prominent in further reading development (Gough & Tunmer, 1986; Hoover & Gough, 1990). Since L2 aural input is usually substantially limited in the foreign language learning environment (Yamashita & Shiotsu, 2017), ways to increase exposure to L2 input is left to be solved by teachers, practitioners, and curriculum developers.

### **5.3 Limitations and Suggestions for Future Research**

The current findings have substantiated previous literature that the Component-skills approach to reading with the four linguistic variables was useful in analyzing the English reading comprehension of Korean students in different grades. The present study sheds light on the fact that different variables are more pronounced than others at each stage of reading development. Identifying the skill the student is lagging would help a great deal in specifying at which stage the learner is situated and what kind of intervention would be appropriate at the stage.

Although the present study contributed to a deeper understanding of L2 reading and its subcomponents, several issues remain unexplored. Firstly, the limitations of this study call for variations in the assessment materials. Even though the current study attempted to choose the measurement tasks that best reflect each construct based on previous studies, it is not easy to completely exclude the effect of component skills other than the target skill in each task. For example, the sentence imitation task that originally intended to measure morphosyntax has a possibility of measuring working memory as well. Accordingly, further studies should try out various measures to minimize the effect of untargeted variables.

Another way to extend current findings is to consider the socio-economic factors in the analysis. Even though the present study conducted a survey asking

the language learning backgrounds, its use was limited to sorting out the participants who did not fulfill the recruitment standards. The question can be raised: How does one's starting age of learning English influence his position in the developmental stage of reading comprehension? This information could be beneficial to assist teachers and curriculum developers to design lessons for students with various language learning backgrounds. As such, adding a multitude of socio-economic factors could broaden the scope of inquiry.

Including cognitive component skills in analyzing reading comprehension is one other way to develop the current research findings. This study has focused on the linguistic skills of reading, following the meta-analysis results of Jeon and Yamashita (2014) that the four skills (i.e., L2 grammar knowledge, L2 vocabulary knowledge, L2 decoding, and L2 listening comprehension) are the strongest correlates to reading comprehension across previous literature. However, this does not mean that language-general skills such as working memory and inference are marginal to reading comprehension. Incorporating a wider range of variables could contribute to a richer potential for insight into the L2 reading comprehension of young learners in EFL contexts.



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## Appendices

### Appendix A: Word Decoding Test: WRF (Word Reading Fluency) Subtest

work	of	fine	road	sometimes	(5)
must	away	was	difference	will	(10)
fire	together	ever	love	did	(15)
include	home	community	take	color	(20)
last	difficult	took	good	him	(25)
hand	should	letter	earth	each	(30)
selection	lightning	skill	tale	ruin	(35)
twist	feet	bottom	brand	creature	(40)
valuable	song	wait	percent	brief	(45)
pie	favor	shame	popular	pick	(50)
touch	ball	dog	attack	mile	(55)
wire	prepare	shot	childhood	enjoy	(60)
relation	reward	motion	trace	royal	(65)
operation	sang	sad	label	improvement	(70)
journey	sensible	pride	husband	shell	(75)
arise	dive	covering	decide	expression	(80)
beam	plus	restaurant	hurry	picture	(85)
explain	behavior	clue	bush	loud	(90)
fail	grain	showing	strike	relax	(95)
bet	elementary	treat	building	taste	(100)
stage	fear	icy	girl	combine	(105)
grass	port	blonde	ceiling	leap	(110)
hollow	reflection	waist	eager	thirty	(115)
backward	zone	jay	comedy	adventure	(120)
flower	crop	chase	pin	cloud	(125)
grin	everyday	rotation	pan	hello	(130)
nurse	cruel	belly	surrender	blew	(135)
ton	instantly	shelf	sauce	tin	(140)

## **Appendix B: Receptive Vocabulary Test Stimuli**



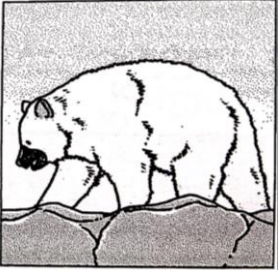

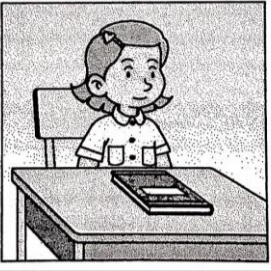
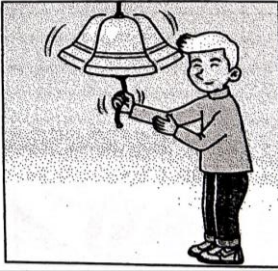
1. animal
2. bird
3. circle
4. draw
5. sick
6. clean
7. fruit
8. exercise
9. map
10. poor
11. finger
12. drop
13. ocean
14. catch
15. factory
16. heavy
17. grass
18. mirror
19. customer
20. protect

### **Appendix C: Sentence Imitation Task Stimuli**

1. They go.
2. Look here.
3. Come down.
4. Sally goes.
5. Big shoes.
6. Where is teddy?
7. Dad poured water.
8. Dad can cook.
9. Mom is eating.
10. Put on your coat.
11. His room is tiny.
12. What is Peter doing?
13. This hat was mine.
14. Tim goes in the house.
15. We have cake at parties.
16. The bears will eat honey.
17. The cat ate a big mouse.
18. A cat was under the bus.
19. She can see the moon at night.
20. There are red houses in my book.

## Appendix D: An Example Set in Listening Comprehension Test

One item is retrieved from each section to represent the rest of the test items.

<p>Part 1</p> <p>Listen to a sentence. Look at the pictures. Choose the correct answer on your test sheet.</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;"><p>(A)</p></div><div style="text-align: center;"><p>(B)</p></div><div style="text-align: center;"><p>(C)</p></div></div>
<p>Part 2</p> <p>Listen to a teacher. What did the teacher tell the students to do?</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;"><p>(A)</p></div><div style="text-align: center;"><p>(B)</p></div><div style="text-align: center;"><p>(C)</p></div></div>
<p>Part 3</p> <p>Listen to the conversations. Which conversation sounds correct?</p> <p style="text-align: center;">(A)                      (B)                      (C)</p>
<p>Part 4</p> <p>What will the girl do next?</p> <p>(A) Call her mom</p> <p>(B) Go to the library</p> <p>(C) Write in her notebook</p>
<p>Part 5</p> <p>What did Pat call about?</p> <p>(A) Comic books</p> <p>(B) A comedy</p> <p>(C) A letter from an old friend</p>

## Appendix E: An Example Set in Reading Comprehension Test

One item is retrieved from each section to represent the rest of the test items.

### Part 1

Look at the picture. Which words go with the picture? Choose the correct answer on your test sheet.



(A) Cloudy

(B) Snowy

(C) Rainy



(A) She reads a big book.

(B) The woman is buying a newspaper.

(C) The woman is reading a newspaper.

### Part 2

It is sweet. It is a type of food. There is a hole in the middle of it.  
What is it?

(A) A cone

(B) A donut

(C) A tire

(continued)

Part 3

Read the invitation. Then answer questions 28 to 31.



Please Join the Graduation Party for.....

**Hannah Meyer!!**

And her fellow sixth grade friends

Saturday, May 25th at 2 p.m.

Hannah's Home

210 29th Ave

*Respond to Cathy(Hannah's mom) 701-334-2222*

30. Where is the party?

- (A) School
- (B) Hannah's home
- (C) A restaurant

Part 4

Read the letter. Then answer questions 36 and 37.

Dear Mom,

You are the best cook in the whole world! The cookies you baked last week were the best. I liked the chocolate chip cookies the most! I shared all of the cookies with my friends in class. Even our teacher wants you to bake them again. Everyone loved them so much. Maybe next time we can bake them together. You can teach me how to make these delicious cookies.

Love, Tanya

36. What does Tanya want?

- (A) To eat more cookies
- (B) To bake cookies together with her mom
- (C) Her mom to always bake cookies



Appendix F: Survey

<h2>설문조사지</h2>	
서울○○초등학교	
( ) 학년 ( ) 반 번호 ( )	
영어공부를 시작한 나이(학년)는?	
영어공부를 시작한 장소는?	( 집 / 초등학교 / 유치원/ 학원 )
해외에서 공부한 적 있나요?	( 예 / 아니오 )
어느 나라에서 얼마 동안 공부했나요?	나라: ( ) 기간: ( 년/개월)

# 국 문 초 록

한국 초등학생들의 영어 읽기 능력에 영향을 주는 요인 분석

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읽기 능력은 학습 초기에 반드시 확립되어야 할 중요한 언어기능이나, 많은 제 2 언어 학습자들은 기초적인 읽기 능력을 형성하는 데 어려움을 겪는 것으로 알려져 있다. 영어를 배우는 한국 초등학생들의 영어 읽기 어려움에 기여하는 요인을 밝혀내기 위하여, 본 연구는 네 가지 언어 요인—단어 해독 능력, 어휘 지식, 형태통사지식, 듣기이해능력—을 기반으로 제 2 언어 읽기 능력을 분석하였다. 이를 위해 총 87 명의 4, 6 학년 학생들을 모집하였으며, 네 가지 언어기능과 읽기 능력을 측정하는 다섯 가지 표준화시험 및 비표준화시험에 참여하게 하였다. 각 기능에 대한 학생들의 능력이 자신들의 읽기 능력과 어떠한 관계를 갖는지 분석하기 위하여 상관분석과 다중회귀분석을 실시하였다. 그 결과, 네 가지 기능을 예측변인으로 활용하는 모델이 4 학년과 6 학년 읽기 능력의 변인을 설명하는 데 적합한 것으로 나타났다. 모든 독립 변인은 읽기 능력과 상관관계를 갖는 것으로

나타났으나, 회귀분석 결과에서는 각 변인 간 예측력의 크기가 학년에 따라 다른 것으로 나타났다. 4학년에서는 단어 해독 능력이 읽기 능력을 예측하는 데 가장 큰 설명력을 보였으나, 6학년에서는 통계적으로 유의미한 설명력을 갖지 못하는 것으로 나타났다. 이와 반대로, 4학년에서는 유의미한 설명력을 갖지 못했던 어휘 지식과 듣기이해능력이 6학년에서는 가장 영향력이 높은 예측 변인인 것으로 나타났다. 이와 같은 결과는 제 2 언어 읽기 능력에는 발달 단계가 존재한다는 기존의 선행 연구 결과와 상응한다. 읽기 발달의 초기 단계에서는 단어 해독 능력이 읽기 능력에 큰 영향력을 미치는 데에 반하여, 후기 단계에서는 단어 해독 능력이 능숙해짐에 따라 어휘 능력이나 듣기이해능력과 같은 다른 변인들의 영향력이 높아진다는 것이다. 본 연구는 제 2 언어 읽기 능력을 분석할 때 그 하위 요소를 비교분석하는 접근법이 학습자의 읽기 발달 단계를 진단하는 데 유용하다는 시사점을 이끌어내었다. 읽기 학습 초기에 기초적인 읽기 능력을 확립할 수 있도록 향후 제 2 언어 읽기 지도에 본 분석법을 적극적으로 활용해야 할 것이다.

주요어: 제 2 언어 읽기 능력, 하위요소 비교분석 접근법(Component-skills approach to reading), 초등학생, 상관분석, 다중회귀분석

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