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교육학석사학위논문

Developmental Phases in English Word Recognition
and the L2 Reading Experience
of Korean Elementary School Students

한국 초등학교 영어 학습자들의
영어 단어 인지 발달 단계와 제 2언어 읽기 경험

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Developmental Phases in English Word
Recognition and the L2 Reading Experience
of Korean Elementary School Students

by

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Developmental Phases in English Word Recognition
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of Korean Elementary School Students

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Abstract

The present thesis attempts to investigate the developmental phases of English word recognition as a L2 among Korean elementary school students, combined with their L2 reading experiences. Based on Ehri's (2005a, 2005b) phase model of English word recognition, demonstrated as occurring during reading development among native English-speaking children, this thesis explores the question as to whether Korean-speaking L2 learners in learning to read follow the four developmental phases of English word recognition; from the pre-alphabetic phase, to the partial alphabetic phase, to the full alphabetic phase, and finally to the consolidated phase. According to Ehri's phase model, the acquisition of knowledge about grapheme-phoneme correspondences and phonemic awareness facilitates the formation of connections between letters, sounds and meanings of words in memory so that beginning readers are able to recognize more words accurately and rapidly and accumulate a larger lexicon of sight words.

In the current study, 195 Korean elementary school students – 49 third graders, 50 fourth graders, 46 fifth graders, and 50 sixth graders – completed two types of word reading tasks, i.e., the English Pseudoword Reading task and the Isolated English Word Reading task, followed by post semi-structured oral interviews. When it comes to the developmental phases in English word recognition, detailed analysis from students' performances in the English

Pseudoword reading task verified that young students followed the four phases of English word recognition development, according to the presence of alphabetic knowledge about the target language writing system. The following statistical analysis determined that those at a more advanced phase were able to recognize more words accurately and quickly. The results drawn from the word reading measurements provide evidence that L2 learners in learning to read English as a foreign language, acquire literacy in ways similar to that of native English-speaking children.

Regarding the L2 reading experiences that contributed to English word reading acquisition, the results revealed that there were significant differences in the total amount of out-of-class L2 reading activities and home literacy environments among L2 learners, specifically between the skilled readers and the less-skilled readers within the same grade. This indicates that continuous and extensive L2 reading practices, with a supportive and positive environment, enables, facilitates, and accelerates the mastery of linguistic skills and knowledge prerequisite for automatic word recognition. The results and the pedagogical implications regarding L2 reading instruction are discussed.

Key Words: L2 word recognition development, Ehri's phase model, L2 word recognition, Developmental path of English word reading

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CHAPTER 1.

INTRODUCTION

This chapter introduces the motivation and the organization of the present study. The background and the purpose of the study are first discussed in Section 1.1. Then, Section 1.2 presents the set of research questions, and the overall organization of the thesis is outlined in Section 1.3.

1.1 The Purpose of the Study

Literacy is the cornerstone of students' academic success, whether it is their first language (L1) or, the second or foreign language (L2). With a growing demand for L2 reading competency in Korea, children begin to read in English in the third grade of elementary school. However, a high degree of success in public schools, regarding reading skills, is not likely to be achieved by all. Studies on students' L2 reading performance have revealed that many elementary school students fall behind in their English classes. Oh (2006) and Park (2009), for example, found that about 30 percent of sixth graders experience difficulty in

reading their English textbooks. Some are even unable to read a single word.

Reading is not a simple and automatic skill; rather, it entails a complicated cognitive process. Even at the lowest level, the act of reading involves an intricate combination of numerous processing strategies and linguistic knowledge about the target writing system (Birch, 2006; Koda, 2005; Grabe, 2009; Nassaji, 2014). While reading, a reader should visually recognize each printed word, access semantic information from memory with their phonological information, and connect these representations to construct or derive the meaning of the sentences (Kendeou & Trevors, 2012; Kendeou, van den Broek, Helder, & Karlsson, 2014). Without a mastery of these fundamental skills and linguistic knowledge at the lower-level processing, such as letter identification, phonic rules, or word recognition, readers are not able to comprehend texts correctly and completely.

The ability to recognize words, i.e., *word recognition*, is one of the necessary skills of the lower level processes to be mastered during early reading stages. It is now widely accepted by researchers studying reading practice as a major predictor of successful reading comprehension in the L2, as well as in the L1. A myriad of studies have emphasized the importance of mastering automatic word recognition in that this skill activates a word's sound and meaning in an instant from memory, and hence allows readers to consume their attention in comprehending texts correctly and completely (Stanovich, 1990, 2000; Torgesen,

2002; Honig, 1996; Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996; Segalowitz, Poulsen, & Komoda, 1991; Geva, 2000; Birch, 2006; Koda, 1994, 1996, 2005; Grabe, 2009; Grabe & Stoller, 2011; Nassaji, 2014). Particularly, since this ability contributes to L2 reading comprehension “independently” from other general comprehension skills such as oral proficiency (i.e., listening comprehension and speaking) or even vocabulary proficiency, the researchers contend that it is necessary to understand how children experience the development trajectory that leads to later expertise in terms of automatic and effortless word recognition ability (Geva & Wang, 2001; Geva, 2009; Wang, Koda, & Perfetti, 2003; Yin, Anderson, & Zhu, 2007; Grant, Gottardo, & Geva, 2011; Chiappe, Siegel, & Wade-Woolley, 2002; Nassaji, 2014).

Ehri’s “phase model” (2005a, 2005b) is the best well-known source for a description of the overall developmental stages in the acquisition of automatic word recognition. This model, which emphasizes the role of phonological information in lexical representation of the words, postulates that native English-speaking children go through four phases of word recognition development, depending on the presence of alphabetic knowledge and skills: from the pre-alphabetic, to the partial alphabetic, to the full alphabetic, and to the consolidated alphabetic phase. These developmental phases are identified to accurately mirror the predominant type of letter-sound knowledge that is applied to retain specific words in one’s mind. According to the model (Ehri, 1992, 1998, 2005a, 2005b),

readers in each phase employ different types of reading strategies (e.g., prediction, decoding, and analogy) when they encounter unfamiliar words, and form connections between the printed letter strings and sounds of the words. At a more advanced phase in which the letter-sound knowledge becomes more elaborated, readers are able to constrain and refine their expectation to the spellings, and hence remember words more easily (Ehri, 1991, 1992, 1998, 2005a, 2005b, 2014; Ehri & McCormick, 1998; Farrington-Flint, Coyne, Stiller, & Heath, 2008). That is, readers are able to build huge vocabulary of sight words in memory with ease when they possess sufficient knowledge of grapheme-phoneme relations because it has a more powerful mnemonic system than grapho-semantic connections (Share, 1995, 1999, 2004; Ehri, 2005a, 2005b, Perfetti, 1992). In this sense, Ehri (2005a, 2005b, 2014) proposed that expert guidance and extensive reading exposure be provided for children in learning to read in order to move them toward a higher phase.

However, few studies have focused on ascertaining what steps readers in EFL contexts go through whilst acquiring L2 word recognition proficiency. As a handful of studies on L2 literacy acquisition have asserted, L2 word recognition ability is influenced by the reader's L1 experience, the amount of L2 experience, and the L1-L2 orthographical differences (Muljani, Koda, & Moates, 1998; Koda, 1994, 1996, 2005; Akamatsu, 1999, 2006; Chikamatsu, 1996; Wang et al., 2003; Wang & Koda, 2005; Lesaux, Koda, Siegel, &

Shanahan, 2009). In this sense, it is speculated that different patterns in L2 word recognition development may emerge among young beginning learners, particularly those who are still building their L1 literacy skills. The research by Yin et al. (2007) backed up that argument, showing that the consolidated phase did not form an independently separate stage in English word recognition development among young Chinese L2 readers whose L1 orthography is non-alphabetic. Moreover, concerning learning environment, the majority of beginning learners in EFL contexts are not sufficiently exposed to the spoken language; instead, they largely rely on the written input of the language (Nassaji, 2014). Such a greater dependence on the orthographic input may have some effects on the development of word recognition in the L2.

To date, English literacy education as an L2 in Korean elementary school has not received much attention due to the relatively weighted curriculum towards spoken language skills (Lee, 2004, Lee, 2005; Park, 2005, 2008, 2010; Choi & Hong, 2008), along with a dearth of research on English word recognition as an L2. Not knowing how Korean L2 readers acquire fundamental reading knowledge and skills, nor how long it takes to get fluent word recognition ability, the teachers and educators usually apply the “look and say” method – a so-called controversial teaching strategy – in their reading class, which is mostly composed of copying or reciting.

In this respect, an understanding of how L2 word recognition ability is

developing among Korean elementary school students in learning to read, whose L1 orthography is of non-roman alphabetic origins, is required to further pedagogical implications in the way we go about teaching literacy. Moreover, given the fact that, unlike L1 readers, L2 readers are very limited in their exposure to reading practice in the L2 and, they have a wider range of L2 language proficiencies including vocabulary knowledge, it needs to be explored as to what kind of L2 reading experience is involved in the successful and the delayed development of English word recognition. Along with the understanding of the experiential factors, the knowledge of the developmental steps in L2 word recognition will certainly provide valuable information on syllabus design or on-the-spot teaching strategies so that young Korean L2 readers can build fluency in an authentic manner.

1.2 Research Questions

The current study sets out to investigate the developmental phases of English word recognition among young L2 learners in Korean EFL settings from the following two perspectives. First, this study explores as to whether reading in English among Korean elementary school students conform to Ehri's phase model of literacy development demonstrated among native English-speaking children: from pre-alphabetic phase, to partial alphabetic phase, to full alphabetic

phase, and to consolidated phase. Secondly, this study looks into which experiential differences are involved in development of L2 word recognition among the skilled readers, who are in the consolidated alphabetic phase, and the less-skilled readers, who are in the pre-alphabetic phase. Considering the very limited amount of L2 exposure and the lack of vocabulary knowledge possessed by L2 beginning readers in EFL contexts, it is assumed that a remarkable difference in the trajectory of the L2 literacy acquisition process will be present. Every experimental process was generated and administrated to address the following research questions:

1. Do Korean elementary school students follow Ehri's phases of English word recognition development by grades similar to those of native English-speaking children: the pre-alphabetic, the partial alphabetic, the full alphabetic and the consolidated alphabetic phase?
2. What kind of L2 reading experiences do the pre-alphabetic and the consolidated alphabetic readers have among the same grade level?

1.3 Organization of the Thesis

The present thesis is composed of five chapters. Chapter 1 introduces the

purpose of the study and proposes the research questions. Chapter 2 presents an overview of extant theoretical and empirical studies on English word reading processes and the developmental path of word recognition, combined with L2 experiential factors that facilitate the acquisition processes. Chapter 3 then describes the methodology conducted in this thesis in terms of the participants, the instruments, the procedure, and the data analysis. The results from the study and research findings will be presented and discussed in Chapter 4. Finally, Chapter 5 terminates the research with a summary of the major findings, and discusses the implications of the present study and the suggestions for further research.

Chapter 2.

LITERATURE REVIEW

This chapter presents the literature overview related to the development of English word recognition and the experiential differences involved in the successful and the delayed development of word reading in the L2. Section 2.1 establishes the definitions of reading and word recognition. Section 2.2 discusses component processes during English word recognition. In Section 2.3, the developmental path of word recognition is addressed, and is primarily focused upon Ehri's phase model. Subsequently, Section 2.4 overviews previous studies on the general trajectory of acquisition processes in L2 word recognition among ESL and EFL readers. Finally, Section 2.5 deals with the experiential variance that may contribute to the development of word recognition in the L2.

2.1 Definitions of Word Recognition

Word reading involves complicated cognitive processes. It essentially entails the ability to map the sounds and/or the meanings onto the printed forms of the word (Dehaene, 2010; Wang & Koda, 2005, Koda, 2005; Grabe, 2009). Many adults take the reading of words for granted as if it is a simple and effortless skill;

however, it requires knowledge about writing systems and linguistic skills in the target language, which is developed over many years. In other words, word reading becomes available only after the reader figures out the association between the sound, the letters, and the semantic information regarding the word.

A clear definition of *reading* should be first established in the current study. Although reading is defined differently in various literatures, there is widespread agreement that the ultimate goal of reading is to comprehend the meaning of the texts; that is, readers should be able to figure out what they are seeing and actively respond to the content of the texts (Anderson, Hiebert, Scott, & Wilkinson, 1985; Urquhart & Weir, 1998; Grabe, 2009). The definition of reading as the process that extracts oral language equivalents from printed symbols is, therefore, incomplete: the readers should be able to identify the printed forms of words and translate them into meaningful language, whether they go through phonological processes or not. Simply being able to “pronounce” the printed letters without building up their meaning of the words, therefore, is not reading (Anderson et al., 1985; Grabe, 2009; Koda, 2005; Dehaene, 2010).

One of the important early reading skills is *word recognition*. In the literature, it has often been used with *word identification* or *decoding* interchangeably. The *Literacy Dictionary* (Harris & Hodges, 1995) defined *word recognition* and *word identification* in two ways: 1) “the process of determining the pronunciation and some degree of meaning of a word in written or printed

form”, and 2) “the quick and easy identification of the form, pronunciation, and appropriate meaning of a word previously met in print or writing” (pp. 282-283). For the word which exists in a reader’s lexicon, *decoding*, i.e., the literacy skill to transcode the printed letters into its spoken language, leads to the word’s meaning. However, for the word which is not in his or her mental vocabulary list, *decoding* may allow one to figure out its pronunciation, but not its lexical information. In the L1 context where readers already have extensive vocabulary knowledge, being able to extract the sound from a specific printed word constitutes the act of accessing the word’s meaning (Chard, Pikulski, & Templeton, 2000). In the L2 context, however, due to the lack of vocabulary knowledge, the ability to pronounce a word does not necessarily imply that the reader can grasp the word’s meaning. Considering that reading must amount to the construction of meaning, if the reader is unable to understand a word’s meaning, then it must be concluded that he or she has not fully read the word.

Given that the aim of the present study is to explore the question of whether L2 beginning readers in Korean elementary schools follow a similar development trajectory in English word reading as their L1 counterparts, the *word recognition* skill should be distinguished from *decoding* (i.e., sounding out words by assembling letters). Throughout this paper, as Koda (2005) defined, the term *word recognition* refers to “the processes of obtaining words’ sounds and meanings (p. 29)” from printed forms of individual words, in particular, without

the benefit of surrounding words for contextual help.

2.2 Reading Processes Involved in Word Recognition

Understanding the significant role of effortless and automatic word recognition in successful reading comprehension, reading researchers have attempted to delineate the “components” of word recognition in the L1 context, whilst primarily remaining focused on the early reading skills and prerequisite knowledge of readers. In learning to read, readers should first recognize the writing system in the target language: they should understand which spoken language elements are encoded in the printed forms of the words, and how the sound, letters, and meaning are directly connected (Koda, 2005). That is, fluent word recognition occurs when readers attain the complete knowledge about its visual form (i.e., orthographic knowledge), its sound (i.e., phonological knowledge), and its meaning (i.e., lexical knowledge) (Perfetti, 1999, 2007; Ehri, 1992, 1995, 2005a, 2005b, 2014; Birch, 2006; Koda, 2005; Dehaene, 2010). Each of these three different knowledge criteria does their own work in association with the others so that readers are able to read the words successfully.

On the purely cognitive side, the current models of reading postulate that word recognition goes through in two underlying cognitive processing routes; the so-called *Dual Route Model* theorizes that two separate information

processing routes exist and supplement each other during reading (Coltheart, 2005; Stuart, Dixon, Masterson, & Quinlan, 1999; Jackson & Coltheart, 2001; Dehaene, 2010). On the one hand, when words are unfamiliar and are not stored in the mental lexicon, a reader preferentially recognizes them using an “indirect route (or phonological/sub-lexical)” in which the reader deciphers the printed word form, then converts it into sound information, and finally attaches meaning to it. On the other hand, when the reader encounters words which have been presented frequently and whose pronunciation are exceptional, reading is based on a “direct route (or visual-orthographic/lexical)” that first identifies the letter strings and then accesses its meaning straight (Coltheart, Rastle, Perry, Langdon, & Ziegler, 2001; Jackson & Coltheart, 2001; Coltheart, 2005; Dehaene, 2010). In young beginning readers, in particular, the two separate routes often interact poorly with each other (Dehaene, 2010). Some children rely predominantly on the direct lexical route, while others cannot access the semantic representation of the specific words from their loosely assembled sounds. Within this dual route model, it is speculated that fluent reading is built on the close coordination between these two reading process routes, each of which is likely to operate to a different degree according to the type of words to be read, for example, known or unknown, frequent or less frequent, and regularly spelled or irregularly spelled (Coltheart et al., 2001; Jackson, & Coltheart, 2001; Coltheart, 2005; Dehaene, 2010). The authors of this theory contend that, therefore, years of reading

practice is necessary in order for the two processing pathways to become closely coordinated and integrated (Dehaene, 2010).

Some researchers argued that phonological reading was just a beginning reader's trait, and in more skilled readers, reading was primarily based on the direct lexical route. However, recent studies on the networks of brain areas support the dual route model, providing valuable evidence that, even in proficient readers, both independently separated routes simultaneously operate in a mutual exchange of information and reinforce each other (Jobard, Crivello, & Tzourio-Mazoyer, 2003, Dehaene, 2010).

Ehri's (2005a, 2005b) phase model is a partly modified dual route model that postulates that the direct lexical route is underpinned by phonological knowledge and the skills it entails (Stuart et al., 1999). From the developmental perspective, this model describes how components of the lexical and phonological routes are likely to operate and interact with each other, as the child's reading acquisition progresses. A more detailed description of Ehri's model will be presented in the following section.

2.3 Ehri's Phase Model of Word Recognition

A myriad of reading theories in the L1 have been proposed in order to uncover the question as to whether the reading process system differ between

beginning and skilled readers. Early reading development models were stage theories (Rhyner, Haebig, & West, 2009; Jackson & Coltheart, 2001; Ehri, 2014). These traditional models, like Piaget's model of development, presumed that a child experiences a qualitative improvement in their reading acquisition, as he or she goes through the stages step by step (e.g., Chall, 1983; Frith, 1985). However, these classic models of reading development did not work well in the frame of the dual route model. The stage theories presumed that a different reading process system operates in each stage of development, with no overlap in reading strategies between the different stages (Jackson, & Coltheart, 2001; Ehri, 2014). In this respect, these models have been called into question by some researchers who contend that the processes involved in acquiring automatic word recognition ability, what is called *sight word reading*¹, is not separable into individual discrete stages (Ehri, 1991, 1992, 1998, 2005a, 2005b, 2014; Ehri & McCormick, 1998; Cunningham, Nathan, & Rather, 2010)

Ehri's (1991, 1992, 1998, 2005a, 2005b, 2014) phase model is different from the traditional stage models in that it postulated the succession of phases of development as not being completely distinct stages, and that the mastery of one

¹ In the literature, the term, *sight word*, is defined differently in varying context: 1) the very common words that do not conform the English phonetic rules (e.g., *was, were, said*), 2) any words a reader can identify instantly without phonological processing (McKenna & Stahl, 2009). It is often confused with *sight word approach*, which is a method of teaching children to learn words as "wholes" (Chard, Pikulski, & Templeton, 2000). In the literature by Ehri (1992), the term sight word reading signifies the ability to identify specific words automatically from memory, including information about their pronunciations, meanings, and typical roles in sentences.

phase is not necessarily required to move into the next phase. In this model, sight words are purported to accumulate continuously in memory, and to change with the developmental phase. According to Ehri (1992), sight words are not restrictively defined to high-frequency or strangely spelled words; rather, it refers to “all words [that,] when practiced become read from memory” (p.5). In order to store sight words in one’s mind, readers should form grapheme-phoneme connections to link the spelling, the pronunciation, and the meaning of the words, in what is called “orthographic mapping” (Ehri, 2014). In this formation of the connections, they need some prerequisite alphabetic knowledge; that is, phonemic awareness (i.e., the literacy skill to segment and/or blend phonemes in speech), and knowledge of the grapheme-phoneme correspondence of the writing system (Ehri, 2014; p. 7). Depending on the presence of alphabetic knowledge, Ehri proposed that sight word learning develops in four phases: the pre-alphabetic, the partial alphabetic, the full alphabetic, and the consolidated alphabetic phase (1991, 1992, 1998, 2005a, 2005b). In each phase, readers apply different types of skills and strategies (e.g., *prediction, decoding, analogy*) when reading unfamiliar words, and these strategies, in the course of orthographic mapping, activate sight word reading (Ehri, 1998, 2014). At a more advanced phase, readers are able to use more sophisticated reading strategies that have a more powerful mnemonic system, and hence they can learn sight words more quickly and become efficient in word reading.

Ehri's (2005a, 2005b) phase model, which describes the acquisition of rapid, accurate and effortless word recognition ability, also explains the development of one's word reading strategies that facilitate sight word reading. Ehri labeled each developmental phase to reflect "the predominant types of connections that are formed to remember how to read words" (Ehri, 2014; p.7). During the pre-alphabetic phase, due to the lack of knowledge about the writing system, readers depend primarily on salient visual or contextual cues which are not associated with grapheme-phoneme relations (e.g., the *M* and *D* letters on the *McDonald* sign) to identify words. Although they may pretend to read words, readers cannot notice the change when one letter is altered in the print (Masonheimer, Drum, & Ehri, 1984; Ehri, 1998). Also, at this point the connections between the visual cues and the meaning of the specific words are arbitrarily linked; therefore, they are unable to remember words completely and accurately.

Readers in the next phase, the partial alphabetic phase, have the capacity to recognize sight words by identifying partially assembled grapheme-phoneme connections. Because their alphabetic knowledge is not complete, some salient letters, mostly initial and/or final letters, are often used as the cues. Empirical studies revealed that, for example, as illustrated in Ehri (1998), in remembering the word *jail* children might link the initial letter *J* with its naming sound of the word's pronunciation (i.e., /je/ for *J*). However, since this connection is based on limited letter-sound knowledge, they have difficulty remembering letters in the middle of

words correctly, particularly vowels (Ehri & Wilce, 1985; Ehri & Saltmarsh, 1995). Therefore, readers heavily relied upon the prediction of words based upon their first or final letters or contextual cues when unfamiliar words are seen (Ehri, 2005a; Farrington-Flint et al., 2008).

Readers proceed to the next step, the full alphabetic phase, along with the complete or near complete alphabetic knowledge of the writing system (Ehri, 1991, 1992, 1998, 2005a, 2005b; Ehri & McCormick, 1998). At this phase, they are able to manipulate the knowledge about letter-sound relations and form the connections in order to remember specific words, combined with the meanings in memory (Ehri, 1991, 1992, 1998; Ehri & McCormick, 1998; Perfetti, 1992). These connections are enabled by more systematic grapheme-phoneme correspondence rules, and hence, readers' word recognition becomes much more accurate. For example, when reading *spoon* the full alphabetic readers figure out how the five letters in the print (i.e., *s, p, o, o, n*) correspond to four phonemes in the pronunciation (i.e., /s/, /p/, /u/, /n/) of that word, including how the middle vowel *oo* presents /s/, as described in Ehri (1998). With a little practice, they become capable to read words rapidly and effortlessly to transcode the printed letters into sounds (Ehri & Wilce, 1983; Ehri, 2014).

In the full alphabetic phase, the decoding strategy (i.e., sounding out words by assembling letters) appears to be the predominant reading strategy. The empirical study by Ehri and Wilce (1987) showed the great advantage of

using this decoding strategy in order to facilitate fluent word reading. In comparison between the full alphabetic readers and the partial alphabetic readers, the former ones were able to identify the words having similar shapes as well as letters, for instance, *bend* and *blond*, *lap* and *lamp*, whereas the latter ones exhibited a difficulty in distinguishing these confusing words from one another. This indicated that the full alphabetic readers were able to connect each letter's details fully to the pronunciation stored in their memory (Ehri & Wilce, 1987; Ehri, 1998).

Finally, readers progress forward to the consolidated alphabetic phase when they acquire the complete ability to segment and/or blend phonemes with letters in the word. At this phase, as more and more fully connected words remain in one's memory, specific letter patterns experienced repeatedly across various words are retained as consolidated units including morphemes, onsets or rimes (Ehri, 1992, 1998, 2005a, 2005b, 2014). These larger letter units enable readers to read the new words more accurately and quickly, and activate sight word reading, since they ease the memory load in the formation of the connections between the printed letters and sounds pronounced. As illustrated in Ehri (1998, 2014), for instance, the spelling pattern *-est* might be consolidated and retained in one's mind by repeatedly appearing in different words – *nest*, *west*, or *test*. In learning to read a new word, say *chest*, the consolidated alphabetic readers might make only two connections, linking the graphemes *ch*

and *-est*, to the phonemes /tʃ/ and /est/, respectively. Use of these consolidated units enables them to access words more quickly and accurately than the full alphabetic readers who might form four individual connections, binding *ch*, *e*, *s*, *t*, to the phonemes /tʃ/, /e/, /s/, /t/, respectively (Ehri, 1998, 1999, 2005a, 2005b, 2014). Figure 2.1 displays examples of reading strategies to form the connections between the graphemes and phonemes at each phase of development.

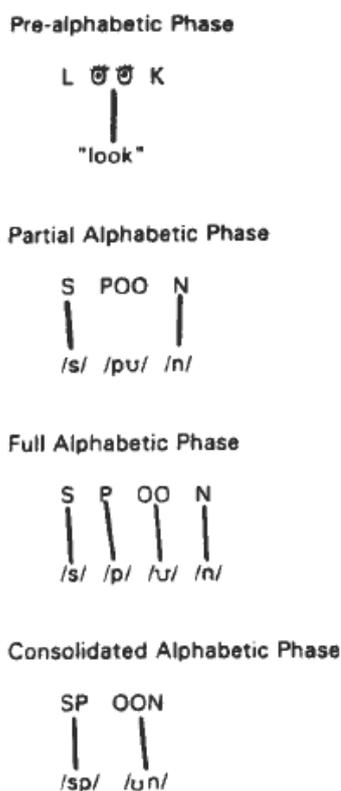


Figure 2.1

Examples of the reading strategies at each phase of development.

Note. Adapted from “Grapheme-Phoneme Knowledge Is Essential for Learning to Read Words in English” by L. C. Ehri, 1998. In J. L. Metsala and L. C. Ehri (Eds.), *Word Recognition in Beginning Literacy* (pp. 223-260).

The phase theory describes how children in learning to read are able to retrieve words from memory by sight throughout the reading development (Ehri, 1992, 1999, 2005a, 2005b, 2014; Farrington-Flint et al., 2008; Jackson & Coltheart, 2001). This model, therefore, presents a much more satisfactory account of word recognition development in that it not only explains the acquisition of one's sight word reading ability, but also describes variability in different reading processes and strategies that activate efficient and automatic word recognition.

2.4 Development of Word Recognition in the L2

With the understanding that effortless and automatic word recognition is the foundation of successful L2 reading comprehension (Grabe, 2009; Koda, 2005; Nassaji, 2014), a growing body of research has attempted to explore whether L1 and L2 literacy share many of the same components when it comes to reading skills in the development of word recognition (e.g., Wang et al., 2003; Yin et al., 2007). According to Koda (1996), L2 word recognition development is influenced by three specific factors: “(a) amount of L2 orthographic processing experience, (b) L1-L2 orthographic distance, and (c) interaction between L1 and L2 orthographic knowledge” (p.453). In particular, major studies contend that L2 readers are likely to use different word recognition strategies, depending on their L1 literacy

background (e.g., Chikamatsu, 1996; Akamatsu, 1999, 2006; Koda, 1994, 1996; 2005; Wang et al., 2003; Wang & Koda, 2005) For example, the research by Akamatsu (2002) presented the effects of reader's L1 writing system on word recognition in the L2 among Chinese, Japanese, and Iranian ESL readers. Results demonstrated that Chinese and Japanese readers, whose L1 orthography is logographic, were more sensitively influenced by visual information when reading words, than Persian speaking readers. Wang, Koda, and Perfetti (2003), who compared the predominant strategies in L2 word recognition between Korean-speaking readers and Chinese speaking readers, showed similar results: they asserted that Korean-speaking readers, whose L1 orthography is of non-roman alphabetic structure, relied more on phonological processing strategies, while Chinese readers, whose L1 orthography is logographic, depended on visual information. These results add to the increasing body of literature showing that different word reading strategies are involved in different types of orthographies and that these L1 word reading strategies are likely to transfer to L2 word recognition (Birch, 2006).

Despite the differences, however, there is some evidence that English L2 readers in an ESL or EFL context also follow a similar developmental trajectory of word recognition established among native English-speaking children (e.g., Chiappe & Siegel, 1999, 2006; Chiappe, Siegel, & Gottardo, 2002; McBride-Chang & Treiman, 2003; Geva & Verhoeven, 2014). In study of Chiappe et al.

(2002), for example, young ESL children from various L1 linguistic backgrounds were compared with children whose L1 is English, in terms of English literacy acquisition. The results demonstrated that ESL readers acquired their L2 literacy in a similar manner of English word recognition, although their performance was to some extent behind that of native English-speaking children. This indicates that L1 literacy background per se did not account for the L2 literacy development. Rather, it is deemed that alphabetic knowledge or phonological processing strategy was more important when it came to being able to read words quickly and effortlessly. On the evidence of the L2 word reading studies, Birch (2006) also postulated that L2 readers of different L1 writing systems may go through phases of literacy acquisition comparable to those of native English speaking children. In this sense, effortless and automatic word recognition is assumed to be available with the growing alphabetic knowledge and English-like processing strategy use.

There has been very little research at investigating the L2 word recognition among EFL readers. In this respect, the previous study by Yin et al. (2007) is noteworthy in that it sheds light on the development of L2 word recognition in the EFL context, sampling 118 Chinese children ranging from Grade 2 to 6, all from elementary school settings. The results provided evidence that L2 readers, whether in ESL or EFL settings, follow the developmental sequence of word recognition in ways similar to native English speaking children.

Impressively, however, the research also revealed that among those Chinese children in EFL contexts, the consolidated phase² did not form an independent phase; instead, it appeared as an overarching strategy which is available to readers in all grades. This indicated that the developmental path of L2 word recognition seems to be influenced by the transfer of strategies from Chinese character reading to English word reading.

2.5 Experiential Factors on L2 Literacy Development

A reader's literacy progresses in a range of individual and social background (Grabe & Stoller, 2011). In L2 contexts, the issues on literacy development become even more complicated since L2 readers have different levels of language proficiency including vocabulary knowledge in the L2, unlike L1 readers. Also, the very limited amount of L2 learning opportunities significantly affects the acquisition of L2 literacy (Grabe, 2009; Grabe & Stoller, 2011; Birch, 2006; Koda, 2008).

Aware of the differences between L1 and L2 reading contexts, an increasing body of literature has attempted to investigate the myriad factors in L2 reader profiles that affect L2 reading development (e.g., Koda, 2005; Lundberg,

² In the Yin et al. (2007), the researchers hypothesized that the consolidated alphabetic phase would precede the full alphabetic phase, adapted from Goswami's (1993) interactive model.

1999; Goldenberg, Rueda, & August, 2006). Grabe and Stoller (2011), for example, elucidated the various L2 reader profiles in discussing individual and experiential differences such as the level of L1 reading abilities, the amount of L2 print exposure, language sources for L2 readers, motivations toward L2 reading, along with an extensive review of literature. These researchers contended that all these issues can potentially contribute to L2 literacy development. In particular, they emphasized that L2 readers, whilst learning to read must be sufficiently exposed to L2 print, and have opportunities to broaden their knowledge about the writing system in the L2 and to practice acquired reading skills. It is because their L2 reading is continuously influenced by dual conflicting writing systems (i.e., L1 and L2), and consequently if their exposure to L2 print is limited, their literacy development in the L2 will accordingly be delayed (Grabe & Stoller, 2011).

The issue regarding the total amount of L2 reading exposure that a student experiences throughout his or her formal education has been extensively addressed in other literature. In many cases, previous studies provided evidence that point to the fact that the continual L2 reading practice significantly contributes to acquiring reading skills and linguistic knowledge about the writing system (Yamashita, 2008; Dewey, 2004; Birch, 2006; Grabe, 2009). Given the findings that successful reading and automatic word recognition are involved in a number of language processing skills and that these fundamental sub-component skills are acquired in a continuous and extensive period of reading exposure in the target

language, this research goes on to posit that emphasis should be placed on increasing the amount of L2 reading practice. Nuttal (1982) and Coady (1997), in particular, accounted for the relationships between one's literacy skills, reading activity, and language learning experience as, what is called a *virtuous circle*. According to the theory, when the readers have more L2 reading experience, they are better able to obtain linguistic knowledge and literacy skills essential to reading, and consequently, they become more skilled at reading. This results in more frequent reading in a virtuous circle. Prior research conducted from a Korean EFL context also provides support for this argument: it was revealed that a major difference between skilled and less skilled readers lies in the extent of L2 reading practice, through the participation of out-of-class L2 reading (Han, 2002; An, 2013; Jeong, 2002; Kim, 2006; Park, 2009). The less skilled readers in those studies appeared to have considerably less experience with L2 reading compared to the skilled readers.

Home literacy environments which entail elements such as parental involvement, accessibility to reading materials, library-visits, or shared reading has often been discussed in the literature, in terms of a reader's experiential factors that significantly contribute to literacy development. (e.g., Snow, Burns, & Griffin, 1998; Evans & Shaw, 2008; Evans, Kelly, Sikora, & Treiman, 2010; Goldenberg et al., 2006). Although most of the studies on the home environment factors have been conducted in the L1 reading context, their results indicated that

these factors involving home literacy environments all potentially contribute to L2 literacy acquisition, by directly or indirectly affecting the opportunities for extensive L2 reading practice, or for providing motivation towards learning to read in the L2 (Grabe, 2009). For instance, Goldenber et al. (2006) found a positive relationship between the amount of L2 use in the home and L2 literacy achievement in school among the language-minority students, and another study by Evans and Shaw (2008) highlighted the fact that home reading activities with parents significantly support children's emergent literacy proficiency and word recognition development. Prior studies concerned with the Korean context also backed up the argument that supportive home literacy environments strongly correlated with children's literacy development (Han, 2002; Kim, 2006; Yu, 2008; Park, 2009; An, 2013).

In learning to read in the L2, a wide range of experiential factors are involved, and may cause the distinction between successful and delayed L2 readers. The present study looks closely at the important factors that contributes to L2 literacy development, i.e., participation of L2 private tutoring, the amount of out-of-class L2 reading opportunities, parental involvement, book ownership in the L2, use of learning strategies, and attitudes toward studying L2 reading, in order to investigate the experiential differences involved in skilled and less-skilled readers in development of L2 word recognition.

Previous studies related to L2 word recognition explored and

demonstrated the influence of L1 linguistic background and/or the amount of L2 reading experience on the trajectory of the literacy acquisition process in the L2. Yet, there is still a need for further studies on the developmental path of English word recognition in the EFL context in which readers are not sufficiently exposed to the target language, combined with a wide range of L2 reading practice opportunities. Although Yin et al. (2007) demonstrated that the developmental phases of L2 word recognition are likely to vary to some extent depending on the L1 orthography, it did not give a full explanation as to the feasible effects of insufficient L2 reading practices on the feature at developmental stage of Chinese EFL readers. Also, the previous studies in the Korean EFL context mostly neglected how much of a complicated and long process the L2 word recognition acquisition, (which requires an extended exposure to print in the L2) is. Hence, based on the findings and limitations of the previous studies, this plans to look into the reading performance of EFL readers while learning to read along with their diverse experiential factors around the L2 literacy acquisition process. The results of the present thesis are expected not only to build upon the previous studies on L2 word recognition development but also to contribute towards providing pedagogical insights on syllabus design or on-the-spot teaching methodology regarding L2 reading classes in Korean elementary schools.

Chapter 3.

METHODOLOGY

This chapter describes the research design and methodology employed to investigate the research questions of the present study. Section 3.1 presents the participants. Section 3.2 provides detailed information on the research instruments for data collection. The subsequent Section 3.3 and 3.4 discuss the specific data collection procedure and an overview of methods for data analysis, respectively. Lastly, Section 3.5 reports the trustworthiness of the data.

3.1 Participants

This study was performed from September to October, 2015. Complete data for the research were collected from 195 children – 49 third graders, 50 fourth graders, 46 fifth graders, and 50 sixth graders – from an elementary school, located in Samyang-dong, Kangbuk-gu in Seoul. In order to avoid the exterior influence (i.e., regional and/or socio-economic factors) on students' L2 reading acquisition, the experiment was performed only in one elementary school. Table 3.1 provides the proportion of the participants according to gender.

Table 3.1
Descriptive Statistics of Participating students (numbers)

	Grade 3	Grade 4	Grade 5	Grade 6
Male	27	26	24	25
female	22	24	22	25
Total	49	50	46	50

The school has a reputation as a school that draws students from low-income families. According to the survey regarding participants' outclass L2 learning experience, 22.4% of the third graders, 28% of the fourth graders, 22.4% of the fifth graders, and 26% of the sixth graders stated that they are currently participating in private tutoring. The students of this school are assumed to have a relatively small amount of private tutoring experience compared to those of other elementary schools in Seoul. The outcome of the survey was expected to identify the natural development of English word recognition within L2 learners, and to obtain information on their diverse learning environments and the correlation with the varying levels of students' L2 reading performance.

After placing each student into one of the phases of L2 word recognition development, the researcher conducted semi-structured oral interviews with five students who were in the highest stage (i.e., the consolidated alphabetic phase), referred to as the skilled readers, and four students who were in the lowest stage (i.e., the pre-alphabetic phase), referred to as the less-skilled readers, in order to find out what kind of L2 reading experiences are involved in the development of English word recognition in the L2. The general information about the

interviewees is shown in Table 3.2 below.

Table 3.2
General Information about the Interviewees

Group	Student ID	Grade	Phase
Skilled Reader Group	Student 1 (S1)	Grade 6	Consolidated alphabetic phase
	Student 2 (S2)	Grade 6	Consolidated alphabetic phase
	Student 3 (S3)	Grade 6	Consolidated alphabetic phase
	Student 4 (S4)	Grade 6	Consolidated alphabetic phase
	Student 5 (S5)	Grade 6	Consolidated alphabetic phase
Less-skilled Reader Group	Student 7 (S6)	Grade 6	Pre-alphabetic phase
	Student 8 (S7)	Grade 6	Pre-alphabetic phase
	Student 9 (S8)	Grade 6	Pre-alphabetic phase
	Student 10 (S9)	Grade 6	Pre-alphabetic phase

A typical Korean elementary school student has English classes twice a week during the third and the fourth grades, and three times a week during the fifth and the sixth grades, with each class lasting for 40 minutes. All English subject teachers in this school are Korean native speakers, and during English class the teachers only make use of standard textbooks without any other additional reading materials.

3.2 Materials and Procedures

In this section, the research instruments for data collection and procedures are described. In order to deal with the research questions, two

different types of word reading measures (i.e., the English Pseudoword Reading task and the Isolated English Word Reading task) and semi-structured oral interviews were used in the study. A description of these tasks and the interviews performed will follow.

3.2.1 Word Reading Measures

3.2.1.1 Isolated English Word Reading Task

A curriculum-based measurement was created to diagnose each student's single word reading ability across the phases of English word recognition (see Appendix 1,2,3,4). All stimuli for this Isolated English Word Reading task (hereinafter IWR) were selected from their textbooks³, in order to secure that students retain the words' meaning in the spoken form in their mental lexicon. As in the study of Yin et al. (2007), the test consists of 40 English words: 20 of them were chosen from current-grade vocabulary lists, 15 were from vocabulary students had already learned in preceding grades, and the other five words were selected from vocabulary that students will still be taught in future grades. In case of the test for fourth graders, for example, *book*, *the*, and *father* were obtained from the 3rd grade vocabulary list, *play*, *what*, and *help* was from the 4th grade, *number*, *write*, and *answer* was from the 5th grade. All stimuli were

³ The textbooks (Revised Edition), for the third, the fourth, the fifth and the sixth graders, are published by DAEKYO Press.

frequently appeared in their textbooks and, were also contained in Fry's Instant Word 1000 (Fry, 1997). The word length is varied between the grades.

Each stimulus was presented individually in the center of the screen, and appeared randomly to all the students. The procedure was administered using the program Linger, which enabled the researcher to record each student's response time (in milliseconds). The students were asked to read the words displayed on the screen accurately and quickly. When the student read the word aloud, the experimenter hit a key to proceed to the next word. If no answer was provided within 10 seconds, he or she was advised to move to the following word. The student received 1 point for each correct utterance of one of the given words, and hence, the maximum score of this task was 40.

3.2.1.2 English Pseudoword Reading Task

To determine each student's placement of the word recognition phase, a non-word (i.e., pseudoword) reading task was created (see Appendix 5), adapted from the previous research by Yin et al. (2007). This English Pseudoword task (hereinafter referred to as EPR) consists of 80 words - 60 pseudowords and 20 familiar words as fillers. All stimuli are categorized into four, comprising of 5 filler words and 15 pseudowords in each group: consonant-vowel-consonant (CVC) word group (e.g., *mos, dim, doat*); consonant-vowel-consonant (CVCC) word group (e.g., *mald, nilk, best*); consonant-vowel-consonant (CCVC) word

group (e.g., *prat*, *stop*, *bram*); and words which are not decodable without reading by analogy to familiar and high-frequency words (e.g., *dight*, *mould*, *sake*). The consonant-consonant clusters refers to all blends (e.g., *st-*, *br-*), rather than diagraphs (e.g., *ch-*, *sh-*). The word length is varied from three to six letters.

To read a strange word such as *bilk* by analogy to a familiar word *milk*, students have to have knowledge of grapheme-phoneme correspondence and segmentation skills (Siegel, 1998; Rathvon, 2004). Goswami (1986) claimed that analogizing could emerge before having complete decoding skills, when the spelling patterns of new words were sufficiently familiar to readers. Therefore, care was taken to construct test items for the analogy category: 5 words were read by analogy to the words from the third grade reading list or earlier (e.g., *kapple*, *sake*), 5 were read by analogy to the words in the fourth grade (e.g., *pime*, *praw*), and 5 were read by analogy to the words in the fifth grade (e.g., *knop*, *mould*).

This EPR task, as a computerized version of experimental reading test using the *Linger* program⁴, was conducted with the same procedure as that of the IWR task. The experimenter hit a key to proceed to the next word when a student gave a correct response or when no answer was given within 20 seconds. The student obtained 1 point for each correct utterance. The maximum score was 60.

⁴ *Linger* is a free software program for conducting listening, reading or other cognitive processing experiments. This program is designed for masked and/or self-paced reading experiments. It is available on the website, <http://tedlab.mit.edu/~dr/Linger>.

3.2.2 Semi-structured Oral Interview

The semi-structured oral interviews were performed in order to elicit comprehensive information as to which individual and experiential differences were involved in the successful and the delayed development of L2 word recognition. After every student were designated into each of the phases of L2 word recognition, five students who arrived at the consolidated alphabetic phase in word recognition development and four students who were in the pre-alphabetic phase were selected among 6th graders.

The interviews were guided by Lindlof and Taylor (2002). Through an extensive review of L2 reading development in ESL and EFL settings, a list of questions was generated in advance (see, Appendix 6). Additional interview questions were sometimes derived from their answers, for a deeper understanding. Each interview was administered individually in a quiet classroom after school, and usually lasted for 10 to 15 minutes. For analysis and interpretations, firstly, all verbal reports were transcribed in Korean, and then, some parts which needed to be extracted were translated in English.

3.3 Data Analysis

3.3.1 Developmental Phases in L2 Word Recognition

The first research question of this thesis is whether Ehri's model of English word recognition could account for English word reading by Korean elementary school students. In order to address this question, the results from the scores of the EPR task were analyzed in detail. The rationale for using the EPR task lies in the fact that the alphabetic knowledge a child acquires cannot be precisely detected by real word reading tasks (Rathvon, 2004): children are able to read words they have encountered before by rote memory, without alphabetic knowledge at adequate levels, even at the very beginning of the reading development. For this reason, major studies posit emphasis on use of pseudoword tests, as an important tool in explaining students' reading deficits related to alphabetic knowledge acquisition and, provide useful information for diagnosis (Vellutino, Scanlon, & Tanzman, 1994; Ehri, 1992; Ehri & Saltmarsh, 1995; Rathvon, 2004).

According to Ehri's model of word recognition, children in the pre-alphabetic phase are nonreaders; they pretend to read words that have been encountered many times before, or they guess words from contextual cues like pictures (Ehri, 1998, 2005a, 2005b). In the next following phase, the partial

alphabetic readers are limited in their recognition of words and heavily rely on the initial and/or final letters which are easier to detect, leaving out medial letters, especially vowels (Savage, Stuart, & Hill, 2001; Ehri, 2005a, 2005b). Then, children proceed to the full alphabetic phase when they build up the knowledge of grapheme-phoneme correspondence rules and phonemic awareness. They are able to decode unfamiliar words by connecting the letters in the spellings and sounds in the pronunciation. Lastly, at the consolidated phase, the letter-sound connections of the words develop into consolidated units such as morphemes, rimes and syllables. Children in this phase are able to detect letter patterns which recur across words (Ehri, 1998, 2005a, 2005b).

Considering the characteristics of each phase of word recognition development, six variables and three phase indicators were set up to evaluate the hypothesized model, adopted from the previous research of Yin et al. (2007): initial consonant (C) and final consonant (C), for the partial alphabetic phase indicator; initial consonant-consonant cluster (CC), final consonant-consonant cluster (CC), and middle vowel(s) (V), for the full alphabetic phase indicator; analogy (analogy), for the consolidated phase indicator. By illustration, the scores of the six variables were constructed in the following manner. The initial C score is used to designate the number of correctly read first letter pronunciations in all the words the subjects were exposed to; the middle V score in turn refers to the total number of correct answers with regards to the vowels and so forth.

Students were designated into different phases of word recognition by assigning them three separate cut scores, namely, the 25th percentile (specifically, the 25th percentile on the whole-sample standardized distribution of the initial C and final C scores), the 50th percentile (specifically, the 50th percentile on the whole-sample standardized distribution of the initial CC, the final CC, and the middle V scores), and the 75th percentiles (specifically, on the whole-sample standardized distribution of analogy reading scores).

The different phases of L2 word recognition development was similarly defined by researchers in Yin et al., (2007). The first phase (i.e., pre-alphabetic phase) was defined as being under the 25th percentile of the whole-sample distribution of the scores of the partial alphabetic phase indicators (i.e., the initial C and the final C scores), under the 50th percentile of the whole sample distribution of the scores of the full alphabetic phase indicators (i.e., the initial CC, the final CC, and the middle V scores), and below the 75th percentile of the whole-sample distribution of the scores of the consolidated phase indicator (i.e. the analogy scores).

The second phase (i.e., the partial alphabetic phase) was conversely allocated above the 25th percentile of the whole-sample distribution of the scores of the partial alphabetic phase indicators, but below the 50th percentile of the whole-sample distribution of the scores of the full alphabetic phase indicators, and further, below the 75th percentile of whole-sample distribution of the scores

of the consolidated phase indicator.

The third phase (i.e., the full alphabetic phase) was adjudged to be above the 25th percentile of the whole-sample distribution of the scores of the partial alphabetic phase indicators, above the 50th percentile of the whole-sample distribution of the scores of the full alphabetic phase indicators, and below the 75th percentile of the whole-sample distribution of the scores of the consolidated phase indicator.

The final phase (i.e., the consolidated alphabetic phase) was determined to be above the 25th percentile of the whole-sample distribution of the scores of the partial alphabetic phase indicators, above the 50th percentile of the whole-sample distribution of the scores of the full alphabetic phase indicators, and above the 75th percentile of the whole-sample distribution of the scores of the consolidated phase indicator.

In order to determine the significant difference in the distribution of each phase according to the grades, a *Chi-squared* test was employed. Also, a set of analysis of variance (one-way ANOVA) were performed to verify the gradual improvements in IWR task between the phases, in terms of correct rate and the response times. Subsequently, Scheffe was used for the *post hoc* analysis, and cohen's *d* was employed for the effect size. All statistical analyses were employed using the IBM Statistical Package for the Social Sciences (SPSS) version 21.0.

3.3.2 Experiential Factors Involved in L2 Word Recognition Development

Concerning the second research question, qualitative data was obtained from semi-structured oral interviews. Once the interview transcripts were arranged by the researcher, the subject data was coded for content analysis according to the conventions, i.e., *open coding* and *axial coding*, suggested by Strauss and Corbin (1998), and then, major themes were identified.

As stated in Strauss and Corbin (1998, p. 61), *open coding* refers to “the process of breaking down, examining, comparing, conceptualizing, and categorizing data”. In order to distinguish major patterns from the data, the transcripts were read repeatedly, and specific descriptive phrases were labeled with what Strauss and Corbin (1998) called “concepts”. Then, all of the labeled phrases, which were related in meanings or conceptually similar in nature, were clustered together as one relevant “category.”

The following step, *axial coding*, which involves a set of procedures wherein all of the identified categories were refined to make connections between categories, was then performed. Once one main category was selected, then, all other sub-categories were related to it. By this mechanism, the learner characteristics, which were expected to affect the development of L2 word recognition, emerged in the way that the students reported their learning experiences.

3.5 Trustworthiness of Qualitative Data

In this thesis, the qualitative data (i.e., the transcripts of interviews), was addressed in accordance with the individual and experiential differences between the skilled and less-skilled readers of L2 word recognition. For the trustworthiness of the study, the researcher conducted triangulation – an elaborate description of the response, member checking, and translation verification. This triangulation is the method generally performed in the literature (e.g., Creswell & Miller, 2000; Merriam, 1998).

For the data reliability, the researcher delineated the students' responses about their L2 reading experience. For the member checking, the researcher checked her interpretation about their practices involving L2 reading during the interviews. Lastly, the researcher transcribed the whole interviews in Korean, and translated the parts that needed to excerpt in English. The accuracy of the translation was double-checked by her colleagues in both Korean and English.

Chapter 4.

RESULTS AND DISCUSSION

This chapter displays the results of the statistical analysis and the following interviews, and discusses the major findings. Section 4.1 reports the evaluation of Ehri's model addressing the first research question and the components of L2 reading experiences involved in L2 word recognition development. Section 4.2 discusses the results drawn from the data.

4.1. Results

Section 4.1.1 addresses the first research question, the developmental phases of English word recognition through validation of Ehri's phase model. Section 4.1.2 describes the results of the second research question as to which experiential differences are involved in the successful and delayed development of L2 word recognition through the following interviews.

4.1.1 Developmental Phases of English Word Recognition

To explore the question as to whether Ehri's phase model of word recognition, which is established among native English speakers, provides a satisfactory account for Korean elementary school students' English word recognition development as an L2, the participants (50 third graders, 49 fourth graders, 46 fifth graders, and 50 sixth graders) completed two types of word reading measures (i.e., EPR and IWR tasks). The correct rate to identify the words from both EPR and IWR tasks and their response times were analyzed.

4.1.1.1 Performances across grades

Comparison between grades was made in students' performance on EPR and IWR tasks to determine whether a gradual improvement in English word reading across grades was identified. Table 4.1 exhibits the mean proportion correct and the standard deviations of IWR and EPR tasks across grades. For the two word reading measures taken by the students in all grades, a set of one-way ANOVAs (one for the correct rate in IWR and the other for the correct rate in EPR) was performed, followed by a *post hoc* comparison. A detailed analysis will now follow.

By conducting an ANOVA, the difference between the means of the four grades for the IWR task was found to be statistically significant, $F(3, 191) =$

4.971, $p < .05$. The following *post hoc* comparisons reveals, as seen in Table 4.2 below, where the difference was coming from: the fifth and sixth graders read significantly more words correctly than the third graders, but the differences between the third and the fourth graders, between the fourth and the fifth graders, and between the fifth and the sixth graders were not statistically significant, respectively. These results suggest that there was a gradual progression across grades in English word reading in isolation.

Table 4.1
Descriptive Statistics on Word Reading Performance by Grades

Grade	IWR		EPR	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Grade 3 (n=49)	.47	.36	.27	.31
Grade 4 (n=50)	.65	.32	.41	.33
Grade 5 (n=46)	.67	.28	.57	.28
Grade 6 (n=50)	.69	.29	.68	.27
Total (n=195)	.62	.33	.48	.34

Note. EPR = English Pseudoword Reading Task; IWR = Isolated English Word Reading task.

Concerning the performance on the EPR task, the mean difference between the grades was also statistically significant, $F(3, 191) = 18.339, p < .05$. The result of the ANOVA, followed by *post hoc* comparisons, revealed that the sixth graders recognized significantly more pseudowords than the third and the fourth graders. However, it was found that the differences in EPR mean scores between the third and the fourth graders, and between the fifth and the sixth graders was not statistically significant.

Table 4.2
Post hoc for Mean IWR and EPR scores (correct rate)

Grade	IWR	EPR
	Post hoc (<i>Sig.</i>)	Post hoc (<i>Sig.</i>)
Grade 3 and Grade 4	.057	.147
Grade 3 and Grade 5	.024*	.000*
Grade 3 and Grade 6	.010*	.000*
Grade 4 and Grade 5	.984	.057
Grade 4 and Grade 6	.937	.000*
Grade 5 and Grade 6	.997	.407

Note. The mean difference is significant at the 0.05 level. (* $p < .05$)

4.1.1.2 The distribution of graders among the four phases

To assess the appropriateness of Ehri's model of word recognition to Korean elementary school students in learning to read, a precise analysis of the results derived from the EPR task was performed. Table 4.3 displays the mean of correct rate and the standard deviation on the six variables according to the phase.

The results indicate that all participants across all the grades (i.e., Grade 3, 4, 5, and 6) conform to Ehri's phase model. Concerning the correct rates in absolute terms, students in the pre-alphabetic phase read 23.91% of initial C and final C correctly, 12.3% of initial CC clusters, final CC clusters and middle V(s) correctly, and they read 6.51% of items correctly by analogy. The corresponding rates on these categories were 79.90%, 56.47%, and 27.68%, respectively, for the partial alphabetic phase readers, 91.20%, 78.72% and 46.50%, for children in the full alphabetic phase, and 95.35%, 89.36% and 73.35%, respectively, for children in the consolidated phase.

Table 4.3
Descriptive Statistics on Six Variables from the EPR Task

Phase	Initial C		Final C		Initial CC		Final CC		Middle V		Analogy	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Pre-alphabetic (n=49)	.31	.29	.16	.28	.07	.22	.10	.25	.15	.26	.07	.20
Partial alphabetic (n=48)	.87	.21	.73	.25	.33	.24	.58	.26	.64	.21	.28	.18
Full alphabetic (n=51)	.94	.12	.88	.17	.59	.25	.86	.22	.83	.18	.46	.16
Consolidated alphabetic (n=47)	.97	.12	.94	.13	.83	.24	.93	.17	.90	.17	.73	.23
Total (n=195)	.77	.33	.68	.38	.45	.37	.62	.39	.63	.36	.38	.31

Note. initial C = initial consonant, final C = final consonant, initial CC = initial consonant-consonant cluster, final CC = final consonant-consonant cluster, middle V = middle vowel.

*All means statistically different at the 0.05 level.

Table 4.4 and Figure 4.1 display the distribution of the pre-alphabetic, the partial alphabetic, the full alphabetic and the consolidated alphabetic readers according to the grade. As can be seen in Table 4.4, the third graders consisted of 49% of the pre-alphabetic readers, 29% of the partial alphabetic readers, 10% of the full alphabetic readers, and 12% of the consolidated alphabetic readers; the fourth graders were composed of 30% of the pre-alphabetic readers, 30% of the partial alphabetic readers, 26% of the full alphabetic readers, and 14% of the consolidated alphabetic readers; the fifth graders kept 10% of the pre-alphabetic readers, 26% of the partial alphabetic readers, 33% of the full alphabetic readers, and 28% of the consolidated alphabetic readers; lastly, the sixth graders held 8%

of the pre-alphabetic readers, 14% of the partial alphabetic readers, 36% of the full alphabetic readers, and 42% of the consolidated alphabetic readers.

Table 4.4
Frequency, Expected Frequency and Percentage of each Alphabetic Reader

		Phase				Total
		Pre-alphabetic	Partial alphabetic	Full alphabetic	Consolidated alphabetic	
Grade 3	Count	24	14	5	6	49
	Expected Count	12.3	12.1	12.8	11.8	49.0
	% within Grade	.49	.29	.10	.12	1.00
Grade 4	Count	15	15	13	7	50
	Expected Count	12.6	12.3	13.1	12.1	50.0
	% within Grade	.30	.30	.26	.14	1.00
Grade 5	Count	6	12	15	13	46
	Expected Count	11.6	11.3	12.0	11.1	46.0
	% within Grade	.13	.26	.33	.28	1.00
Grade 6	Count	4	7	18	21	50
	Expected Count	12.6	12.3	13.1	12.1	50.0
	% within Grade	.08	.14	.36	.42	1.00
Total	Count	49	48	51	47	195
	Expected Count	49.0	48.0	51.0	47.0	195.0
	% within Grade	.25	.24	.26	.24	1.00

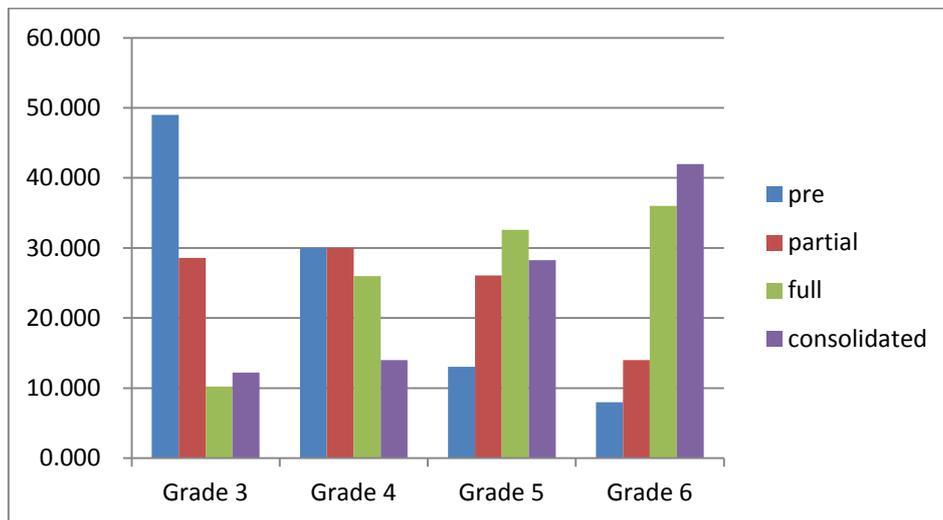


Figure 4.1
Percentage of each Alphabetic Reader by Grade

On the whole, the pre-alphabetic reader rate was remarkably high in the third grade, and the proportion decreased as the grades rose. On the contrary to this, the full alphabetic readers and the consolidated alphabetic readers increased as the grades rose and, each was the largest group in the fifth and the sixth grade, respectively. The partial alphabetic readers, however, were evenly dispersed among the third grade, the fourth grade and the fifth grade. In particular, the pre-alphabetic, the partial alphabetic, and the full alphabetic readers took up a similar proportion in the fourth grade. Similarly, in the fifth grade the gap in the ratio between the partial alphabetic, the full alphabetic, and the consolidated alphabetic readers was not large. This indicates that students with different levels of alphabetic knowledge exist in these two middle groups.

Table 4.5
Chi-Square Tests for the Distribution of each Grade according to the Phase

	<i>Value</i>	<i>Df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	42.610 ^a	9	.000*
Likelihood Ratio	44.214	9	.000*
Linear-by-Linear Association	36.866	1	.000*
N of Valid Cases	195		

In order to determine whether the difference in the number of students in each phase statistically significant across grades, the *Chi-square* test was conducted. The *Chi-square* test at the .001 level (2-tailed) and 9 degrees of freedom gives a critical χ^2 value of 42.610, summarized in Table 4.5. This statistical analysis of the results ensured that the distribution of students in each

phase significantly differs between the grades.

Following the *Chi-square* test, *adjusted residual analysis* was employed to determine where the significance was coming from. As seen in Table 4.6, in the third grade the distributions of the pre-alphabetic readers and the consolidated alphabetic readers differed significantly at the adjusted residual significant level, $p < .0031$, and at the nominal significant level, $p < .05$, respectively; in the fifth grade, the distribution of the pre-alphabetic readers appeared significant at $p < .05$; in the sixth grade, the distributions of the pre-alphabetic and the consolidated alphabetic readers were significant at $p < .0031$, and that of the partial alphabetic readers emerged significantly at $p < .05$. As illustrated in Figure 4.1, there was no significant difference between the phases in the fourth grade, indicating the students of all phases were relatively evenly dispersed.

Table 4.6
Adjusted z-score and p-values from the Adjusted Residual Analysis

		Phase			
		Pre- alphabetic	Partial alphabetic	Full alphabetic	Consolidated alphabetic
Grade 3	Adjusted z-score	4.45	.74	-2.94	-2.24
	<i>p</i> -value	.00001**	.45930.	.00328*	.02509*
Grade 4	Adjusted z-score	.92	1.03	-.03	-1.94
	<i>p</i> -value	.35757	.30301	.97607	.05238
Grade 5	Adjusted z-score	-2.16	.27	1.14	.75
	<i>p</i> -value	.03077*	.78716	.25429	.45325
Grade 6	Adjusted z-score	-3.24	-2.02	1.84	3.43
	<i>p</i> -value	.00120**	.04338*	.06577	.00060**

Note. * $p < .05$, ** $p < .0031$ (adjusted significant level).

Drawn from the results, it can be concluded that the number of students assigned in each phase significantly differs across grades; overall, the sequence of word recognition development in the L2 is likely to be aligned with the grades. This indicates that Korean children’s early reading of English words conform to Ehri’s phase model of word recognition.

4.1.1.3 Relationship between the placement of the developmental phase and isolated word reading ability.

Each student was placed into one of Ehri’s four phases of word recognition development, based on their EPR task scores. To investigate the relationship between the placement of the developmental phases and the isolated English word reading ability, a set of one-way ANOVAs (one for the correct rate and the other for the response times) were employed. Table 4.7 shows the mean performance and standard deviations of the IWR task scores (correct rate) and their response times (in seconds).

Table 4.7
Mean performance and standard deviation of the IWR task scores (correct rate) and the response times (in seconds)

	Correct rate		Response Time	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-alphabetic (n=49)	.20	.21	3.790	1.645
Partial alphabetic (n=48)	.58	.20	2.561	1.190
Full alphabetic (n=51)	.77	.18	2.040	1.020
Consolidated alphabetic (n=47)	.93	.14	1.460	0.421
Total (N=195)	.62	.33	2.468	1.435

Note. All means statistically different at the 0.05 level.

Regarding the correct rate, the independent variables were the four phases of word recognition, and the dependent variables were the students' IWR scores. The results of the ANOVA were presented in Table 4.8 and Figure 4.2 below. It was revealed that IWR scores (correct rate) were significant among the four recognition phase, $F(3, 191) = 143.64, p < .05$.

Table 4.8
The results of ANOVA from the IWR scores (correct rate)

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	144813.958	3	48271.319	143.637	.000*
IWR Within Groups	64188.413	191	336.065		
Total	209002.372	194			

Note. The mean difference is significant at the 0.05 level.

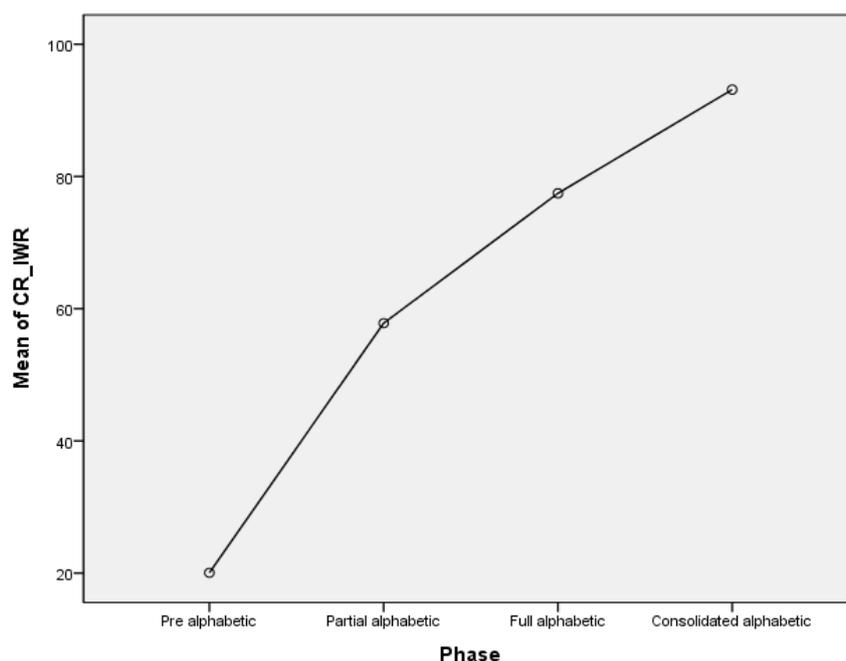


Figure 4.2
The result of ANOVA from the IWR scores (correct rate)

Post hoc analysis, Scheffe, was used to determine which mean IWR score of the four word recognition phases differed significantly. The results showed that all four phases had significantly different mean IWR scores. Cohen's *d* – a local effect size measure indicating the size of the statistically significant differences between two means –also revealed the large effect size between two means of the word recognition phases (see Table 4.9). Drawn from the results, it can be concluded that students at a more advanced phase, along with elaborated alphabetic knowledge about the writing system, are able to recognize more words correctly.

Table 4.9
Post hoc and Local Effect Size for Mean IWR scores (correct rate)

Phase	Post hoc (<i>Sig.</i>)	Cohen's <i>d</i>
Pre alphabetic and Partial alphabetic	.000*	1.84
Pre alphabetic and Full alphabetic	.000*	2.99
Pre alphabetic and Consolidated alphabetic	.000*	4.15
Partial alphabetic and Full alphabetic	.000*	1.03
Partial alphabetic and Consolidated alphabetic	.000*	2.03
Full alphabetic and Consolidated alphabetic	.001*	.98

Note. The mean difference is significant at the 0.05 level. (**p* < .05)
d=0.2 indicates a 'small' effect size, 0.5 a 'medium' effect size and 0.8 a 'large' effect size.

In the second ANOVA, the dependent variable was each student's solution times to identify words correctly. Comparing the total response times between the phases, it was delivered that there was significant enhancement in the response times according to the developmental phases, $F(3, 191) = 35.533$, $p < .05$ (see Table 4.10 and Figure 4.3). Based on the results aforementioned, the

conclusion can be drawn that students in higher phases were able to read single words more rapidly than those who were in lower phases, which implies the advanced readers became more reliant on sight word reading from memory.

Table 4.10
The results of ANOVA from the IWR scores (Response Time)

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
	Between Groups	143263724.982	3	47754574.994	35.533	.000*
IWR	Within Groups	256692043.028	191	1343937.398		
	Total	399955768.010	194			

Note. The mean difference is significant at the 0.05 level.

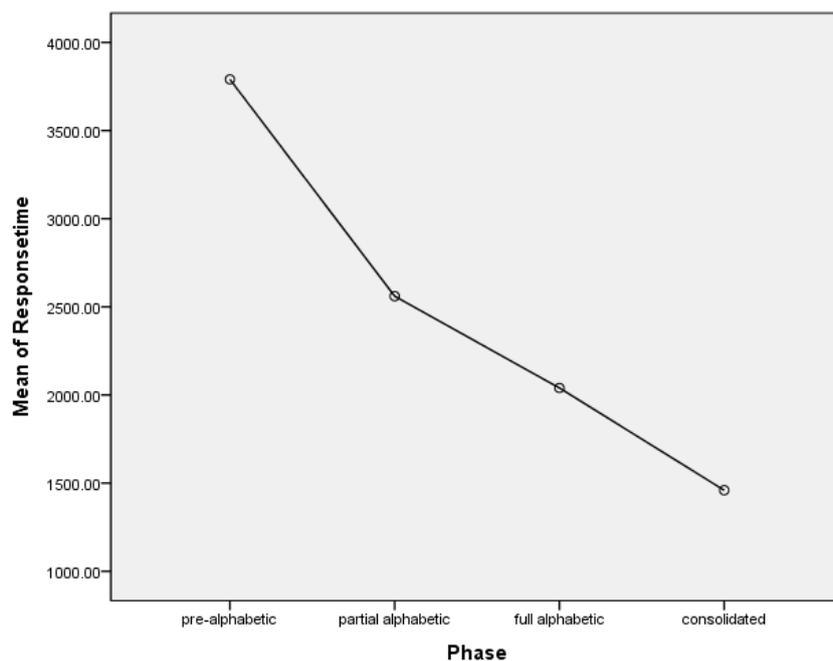


Figure 4.3
The result of ANOVA from the IWR response times

Post hoc analysis was also used to determine which mean IWR response times of the four word recognition phases differed significantly. Scheffe revealed that there was significant improvement in response times among the phases, except between the partial alphabetic and the full alphabetic phase, and between the full alphabetic and the consolidated phase. Cohen's *d* also revealed the large effect size between two means of the word recognition phases. These results are summarized in Table 4.11 below.

Table 4.11
Post hoc and Local Effect Size for Mean IWR Response Time

Phase	Post hoc (<i>Sig.</i>)	Cohen's <i>d</i>
Pre alphabetic and Partial alphabetic	.000*	.85
Pre alphabetic and Full alphabetic	.000*	1.27
Pre alphabetic and Consolidated alphabetic	.000*	1.94
Partial alphabetic and Full alphabetic	.176	.47
Partial alphabetic and Consolidated alphabetic	.000*	1.23
Full alphabetic and Consolidated alphabetic	.110	.74

Note. The mean difference is significant at the 0.05 level. (* $p < 0.05$)
 $d=0.2$ indicates a 'small' effect size, 0.5 a 'medium' effect size and 0.8 a 'large' effect size.

The first research question was to assess the validation of Ehri's phase model in the Korean EFL context: Do Korean elementary school students in learning to read follow the phases of English word recognition development by grades comparable to those of native English-speaking children (namely, the pre-alphabetic phase, the partial alphabetic phase, the full alphabetic phase, and the consolidated alphabetic phase)? Two English word reading tasks, i.e., the EPR

task and the IWR task, were carried out, and then analyzed. The results exhibited that the English literacy acquisition processes of the L2 readers in Korea are in resemblance to those of the native English-speaking children. Further, it was verified that students at a higher phase of English word recognition are able to identify more words correctly and quickly. These results will be discussed in much detail in the following section, Section 4.2.

4.1.2 L2 Reading Experiences Involved in L2 Word Recognition Development

In respect to the second research question - what kind of L2 reading experiences are involved in the successful and the delayed development of L2 word recognition, semi-structured oral interviews in small-scale were conducted. For the skilled reader group, five of the sixth graders who reached the consolidated phase were selected for the interviews. For the less-skilled reader group, four of the sixth graders who were in the pre-alphabetic phase, were selected.

The major findings from the qualitative data were organized into two separate frameworks in relation to L2 reading experiential differences, i.e., the total amount of outclass L2 reading exposure, and their home literacy environment in the L2. The former is discussed in two sub-aspects, i.e.,

participation in private tutoring, and home L2 reading activity; the latter is also explained in another two sub-aspects, i.e., parental involvement when it comes to L2 reading practice, and accessibility to L2 reading materials in the home. Excerpts from the students' interviews provide the evidence for the findings.

4.1.2.1 Participation in Private Tutoring

A major difference with regards to L2 word recognition development between the skilled and the less-skilled readers was the total amount of exposure to L2 reading that a student has experienced, in particular, through out-of-class L2 learning practice. Overall, among the skilled readers, the amount of L2 exposure through participating in private tutoring could be expanded in two ways. The first aspect, described as “early-start L2 learning” in kindergarten, emerged repeatedly in all of the responses of the skilled readers, which was three years earlier than that of the general start provided for by the Korean National Curriculum. Although their learning experience regarding learning activities in the kindergarten was to some extent varied between the students, their early-start to learning appeared to significantly contribute to expand the *learning-to-read* period and to acquire early reading skills.

Secondly, the expansion of L2 exposure among the skilled readers was furthermore enhanced by their continuing participation in out-of-class L2 learning, primarily through private tutoring. All of the students who started

learning English in kindergarten were still continuously participating in private tutoring. Those students had about six classes a week, on average. The course works related to L2 literacy at *hakwon* ranged from studying English reading (e.g., practicing translation and reading aloud), memorizing a list of vocabulary, learning English grammar, to writing English essays. The following extracts from the interviews with the skilled readers are particularly illustrative as to their experience of private tutoring.

Interview Extract 1 (S1)

I have learned English at *Hakwon* since I was the first grader. The English class happens for two days a week, and lasts for three hours. For the first two years, I usually learned phonics, with songs or interesting activities like games. ... Currently, I am learning about English grammar and practicing English reading with a list of vocabulary. I read a variety of English reading passages and write down new or useful words or phrases.

Interview Extract 2 (S2)

I began learning English in kindergarten. I enrolled an afterschool program at *S English Village* when I was the second grader. ... Since the third grade, I have participated in *hakwon* for three hours twice a week. ... I practice reading passages in English, and learn about English grammar. Teachers give me a list of useful vocabulary to study as homework. And I have to practice reading in the English language online using the *hakwon* website.

On the other hand, it was delivered that, unlike skilled readers, the majority of the less-skilled readers began learning English later than others; four delayed students reported they were initially introduced to L2 learning in the third grade. Moreover, participation in private tutoring among the less-skilled readers seemed to operate differently to that of the skilled readers. Two delayed readers reported they recently enrolled a one-hour course at the so-called

Gongbubang, which mostly covered as to *learning to read* (i.e., phonics learning). The rest of the less-skilled readers reported virtually no L2 literacy learning through the participation of private tutoring at all.

Interview Extract 3 (S9)

I suppose I started learning English in the third grade. At that period, I was initially introduced English alphabet letters, or short conversation expressions. ... Recently, I have attended one-hour English course at *Gongbubang*, starting from this summer. I am learning English phonics in this class.

Interview Extract 4 (S7)

... I began learning English when I was the third grader. I have never participated in *hakwon*. But, two years ago, I believe, I studied some home-study materials for some months. That's all I did in order to learn English, except regular English class at school.

Comments like this implied the regular participation of out-of-class L2 learning resulted in generating a serious gap between the skilled and the less-skilled readers. For example, it was revealed that the student who started learning English from the first grade and attended out-of-class L2 learning for six hours per week was ahead of the other students who began L2 reading in the third grade and had no out-of-class L2 learning experience, with 1,870 hours of L2 exposure.

More impressively, by participation of out-of-class L2 learning, students have continuously been provided with valuable learning opportunities to engage in L2 literacy practices with reading materials in the home. This appeared to facilitate them to build a mastery of the required skills for successful reading. This issue will be discussed further in the following section.

4.1.2.2 Home L2 Reading Activity

Another remarkable difference concerning experiential differences between the skilled and the less-skilled readers was whether they were actively engaged in home reading activities. The skilled readers all agreed that there should be many self-study opportunities to practice L2 reading out of class in the home, as a result of perceiving the regular school course as being insufficient in order to acquire prerequisite L2 reading skills such as automatic word recognition. Echoed in previous studies of L2 reading that emphasized the role of extensive book reading activities on L2 literacy development (e.g., Coady, 1997; Pulido & Hambrick, 2008; Grabe, 2009; Wei & Zhou, 2013), the result drawn from the interviews showed that the skilled readers appeared to be characterized by extensive L2 reading practices, whether through homework assignments or reading for pleasure. Four of the interviewees answered that they were spending more than half an hour reading-for-pleasure almost every day, and the rest of them were also spending about an hour to complete reading assignment given by *hakwons*. When it comes to the reasons for the continued home reading, most of them answered that not only were they enjoying L2 reading for fun, but they were also reading to reinforce reading processes in the L2. The following extract from the interview with Student 5 is particularly illustrative of the benefits of out-of-class L2 reading as a means of reaching a higher level of reading competency.

Interview Extract 5 (S2)

For about 15 hours a week, I am occupied with reading activities, which are mostly home assignments. I should read three or four passages and, solve the following questions about them. ... I also enjoy reading books for fun. The books I am reading usually deal with history, science, social-studies, or the arts. I suppose, I spend five hours a week on reading-for-pleasure.

Interview Extract 6 (S3)

... Since I was five years old, I have learned English using the website, *Little Fox*, for one hour every day. On the website, I usually listen and read along with the story. My mother and aunt always encourage me to read in English and they help me when I get stuck while reading. ... Recently, I started using another English reading workbook to practice problem-solving.

Interview Extract 7 (S5)

... I spend half an hour a day reading storybooks. I suppose, I read seven books a week. ... I believe that reading storybooks is immensely helpful when it comes to enhancing reading skills such as vocabulary knowledge and my translation ability, so I have gradually increased the amount of reading. It seems true that, the more I read, I the more skilled and confident at reading I become.

Furthermore, combined with L2 reading practices, vocabulary learning was also commonly mentioned. One skilled reader (Student 4) described her reading with vocabulary acquisition to improve L2 literacy skills: “During reading, I have difficulties with unfamiliar words or phrases. So, during reading I write down new or useful words and try to remember them.”

It is noted that the majority of the less-skilled readers also acknowledged the need for further practice in L2 reading at home, however, their recognition of that fact did not materialize into actual reading practice in the L2. Unlike the skilled readers, these students who remained in the pre-alphabetic phase were rarely engaged in active L2 reading at home. To quote one interviewee: “In fact, I rarely have time for L2 reading, except only if there was homework assignments required of me. I have never read books in English at home.

(Student 8)” They gave the impression that they were not able to cope with daily reading practice in the L2. They seemed to find L2 reading a daunting task because of their weakness in L2 literacy skills, and therefore the reading practice in the L2 consumed too much of their time and energy, as can be gathered from the following interview excerpts.

Interview Extract 8 (S9)

... “I don’t like reading in English. While reading, I encounter too many unfamiliar words, so I feel very frustrated and annoyed. I cannot guess the meaning of each word, and I hate spelling the words.”

Interview Extract 9 (S7)

... “I cannot identify words quickly, nor guess the meaning of them. I feel emotionally irritated when I read English texts in class, because I cannot read words. ... Some words are very confusing.”

Explicit in the students’ responses was the fact that the amount of home reading activities differed significantly between the successful readers and the delayed readers, which seemed to greatly contribute to the pace of development of L2 word recognition. It is worth noting that all of the delayed students reported virtually no L2 reading activities at all outside of class time. They expressed the fact that they read very few or no books at all, and did not practice with any other reading materials either, except homework assignments from school. In contrast, all of the skilled readers were spending at least half an hour on L2 reading every day.

4.1.2.3 Parental Involvement in Studying L2 Reading

A number of researchers have looked at differential home literacy environments as a contributing factor to literacy development (e.g., Guthrie & Greaney, 1991; Baker, Fernandez-Fein, Scher, & Williams, 1998; Barker & Scher, 2002; Cunningham, 2009). In the literature, home literacy environments, which is a very inclusive concept, entails a child's literacy experiences, attitudes, and/or reading materials that he or she encounters and interacts with at home (Roberts, Jurgens, & Burchinal, 2005). In this research, the researcher describes specifically two distinct aspects of home literacy: parental involvement and access to L2 reading materials at home, respectively.

Talking about parental involvement in their L2 reading practice, most of the skilled readers noted that their parents not only talked them into studying hard, but also got actively involved in studying L2 reading. Shared reading with parents, which commonly came up as parental involvement, was not found in students' responses. Instead, those parents, described as being their closest teachers, mentioned that they helped their children to build vocabulary or decode some unfamiliar words during reading. Two of the successful students commented in their responses that their parents set a good example by reading books together beside them, or sometimes studying L2 reading, for instance, to prepare for an English examination while they were engaged in L2 reading. The following extracts offer the evidence.

Interview Extract 10 (S2)

... My parents are supportive and they encourage me to study English harder and to read more English books. In particular, my mom helps me to practice reading in English, by teaching me some vocabulary or sentence structures. ... She has bought many English books for me. ... She also frequently reads English books at home.

Interview Extract 11 (S4)

My mom requires me to work harder. It was not just words, however. She always helps me to improve my reading skills, letting me know the meaning of some unfamiliar words or sometimes letting me memorize a list of vocabulary.

Interview Extract 12 (S1)

When I began learning to read, my mother taught me how to read in English with some workbooks. ... She is still checking whether the assignment was done or not, before class at *hakwon*. ... Sometimes, my father studies English with me on weekends because he needs to prepare for an English examination. He helps me doing my reading assignments.

In contrast to skilled readers, parental involvement in L2 learning among the less-skilled readers appeared to operate differently. The majority of them mentioned repeatedly that their parents were not actively involved in helping with L2 learning, even though they pushed to study harder. The following extracts from the interviews are illustrative of the weak role their parents played with regards to their L2 reading practice.

Interview Extract 13 (S8)

... My mom asks me to study English, maybe once a week. At times, she helped me when I was struggling with certain unfamiliar words or complicated sentences. ... But mostly, when my mom thinks that I don't work hard enough, she nags me to study.

Interview Extract 14 (S6)

... Hmm, not very often, but my mom also requires me to work harder. However, she does not help me to practice reading in English.

More strikingly, some less-skilled readers reported that they did not want

their parents' help when it came to L2 reading practice. Student 7, for instance, commented in this interview: "At times, my mom tried to help me when I had some difficulty in completing my L2 reading assignment, but I said it was not necessary." Although they did not elaborate as to the reasons for their negative attitude towards parental involvement, one participant shed light on this issue; she noted that she did not want to let her parents know that she was struggling with L2 reading, because it usually resulted in them nagging her. This answer indicated that parental negative feedback might cause their children to become discouraged, and it might, in turn, lead them to become less involved.

Overall, the skilled readers' response pointed out that supportive parental involvement in children's L2 learning made a difference in L2 literacy development. At the same time, however, the remarks from the delayed students were also likely to back up the findings from Desforges and Abouchaar (2003), which contended that active and positive parental involvement appeared to be determined by a student's level of academic attainment. The two factors, a child's achievement and active parental involvement, are deemed to be strongly correlated.

4.1.2.4 L2 Books of their Own

The importance of the home literacy environment has been emphasized for years, anchored on the notion that it is the place that a child first encounters

literacy and engages in literacy activities or language learning (Bracken & Fischel, 2008). One of the distinct differences in the interviewees' home L2 literacy environments was the accessibility of L2 reading materials at home. In the literature, the accessibility of reading materials has been defined in many different ways, including the frequency of library visits, the frequency of shared reading with parents, and the availability of literacy materials at home. However, in this thesis the researcher specifically described the difference between the two groups in terms of the number of books in the target language, because this factor only appeared remarkably different.

In Reflection of the fact that most of the skilled readers were actively participated in L2 reading activities at their house, whereas most of less-skilled readers were not, the interviews demonstrated that a strong correlation between L2 book ownership and L2 literacy achievement existed. That is, the number of books in L2 among the skilled readers significantly surpassed those of the less-skilled readers: the majority of the skilled readers reported to have more than 50 English books of their own, while most of the less-skilled readers admitted to having less than ten books of their own at home. Alarmingly, two of the less-skilled students commented that they did not have any English books at all. This result would support the recent research by Evans et al. (2010) that purported the number of books in the home has a significantly impact on a child's literacy attainment. The following comment in the interview with a skilled reader and a

less-skilled reader illustrates the difference in book ownership as it relates to L2 literacy attainment.

Interview Extract 15 (S3)

... I cannot answer the exact number of books I have. There are too many! I suppose I have roughly, more than two hundred of books in the Korean language, and about fifty books in English. The English books, as I said, include picture books, chapter books, and workbooks intended for English reading practice.

Interview Extract 16 (S11)

I have about fifty books in the Korean language at my home. And I have five or six books in English, which includes workbooks for intended for studying English.

4.2 Discussion

The goals of the present study were to investigate the developmental phases among Korean elementary school student's reading ability when it came to reading English words, and to ascertain which kind of L2 reading experiences were involved in the development of word recognition between the skilled readers who were in the consolidated phase, and the less-skilled readers who were in the pre-alphabetic phase.

4.2.1 Developmental Phases of English Word Recognition

In order to address the first research question, the researcher analyzed

the students' performance by drawing from two types of word reading measurements i.e., the English Pseudoword Reading task (EPR) and the Isolated English Word Reading task (IWR), and explored whether the placement of phases in word recognition development was closely associated with the ability to read more words accurately and quickly.

In the present study, the results drawn from the EPR task demonstrated that Korean elementary school students in EFL settings typically acquire English literacy skills in ways identical to that of native English-speaking children, as portrayed by Ehri (2005a, 2005b); starting from the pre-alphabetic phase, through to becoming partial alphabetic readers, further to becoming full alphabetic readers, and finally moving on to become consolidated alphabetic readers. The statistical analysis, *Chi-square* test, followed by *adjusted residual analysis*, confirmed that students progressed through four phases of word recognition development by grades, in accordance with a growth in knowledge about grapheme-phoneme correspondences within the writing system. They began with a heavy reliance on salient visual cues such as shapes, or on the first and/or final letter of the word. They then gradually developed into being able to decode words, letter by letter. Finally, as fully connected spellings of words accumulated in memory, they were able to recognize more words accurately and quickly by using the consolidated chunks of the words such as rimes or syllables. These findings indicate that the developmental trajectory of English word

recognition is likely to emerge similarly in L2 beginning readers studying English as a second or foreign language as it does with native English-speaking children, echoed by the result from previous research (Chiappe & Siegel, 1999; Ciappe et al., 2002; Geva et al., 2000; McBride-Chang & Treiman, 2003; Geva & Verhoeven, 2014).

It is worth noting that, the fact that Korean elementary school students progress through Ehri's four phases of English word recognition development, does not mean that there is no influence from the L1 literacy experience. Impressively, there was found to be a discrepancy between the result of the present study and that of the previous study by Yin et al. (2007). In the former study, the consolidated phase of English word recognition formed a distinct stage following the full alphabetic phase, whereas orthographic analogy (i.e., the consolidated alphabetic phase) emerged as an all-encompassing skill applied by Chinese-speaking children at all grade levels in the latter. A possible explanation for this conflicting result may lie in the fact that L1 literacy experiences influence cognitive processes in L2 reading for learners learning to read (Akamatsu, 1999; Koda, 1998, 1999, 2008; Wang, Koda, & Perfetti, 2003; Wang & Koda, 2005; Grabe & Stoller, 2011). In particular, the major findings from Wang et al. (2003) and Wang and Koda (2005) showed supportive evidence that, in learning to read an L2, the readers with an alphabetic L1 orthography (i.e., Korean-speaking L2 readers) appeared to be more aware of phonological

information in recognizing English words, in particular at the letter-sound correspondence level. The readers with a non-alphabetic L1 (i.e., Chinese-speaking L2 readers), on the other hand, were likely to be more attentive to visual orthographic similarities within the English spelling of words. Reflecting that cross-linguistic contribution of L1 reading processing strategies does get transferred to L2 reading practice, it can be hypothesized, therefore, that an L1 background exerts some influence on English word recognition development for L2 beginning readers. That is, unlike Chinese-speaking L2 learners who have a large amount of experience using orthographic analogy strategy, Korean-speaking L2 learners develop the phonological decoding strategy before the orthographic analogy strategy in English word reading, influenced by their shallow alphabetic L1 writing system (Wang et al., 2003, Wang & Koda, 2005).

Concerning the ability to recognize words effortlessly and automatically, in order to assess the validation of Ehri's phase model, a set of one-way ANOVAs, Scheffe, and Cohen's *d* were conducted. Ehri (1992, 1998, 2005a, 2005b) have contended that readers become efficient in their word reading by forming connections between the spellings of the printed form and the sounds of the words. The result of this study fortified the argument by showing a gradual improvement in the correct rate of single word reading and the times it took to produce a correct response: the consolidated alphabetic readers recognized the most words, and took the least time to respond correctly, followed by the full alphabetic

readers, then the partial alphabetic readers, and finally, the pre-alphabetic readers. The results not only support Ehri's (2005a, 2005b) phase model of English word recognition but also align the findings from previous research which proposed that the acquisition of letter-sound knowledge about the writing system facilitates and accelerates the formation of the connections because it constitutes a more powerful mnemonic system (Ehri & Wilce, 1987; Masonheimer et al., 1984; Perfetti, 1992; Dehaene, 2010; Share, 1995, 1999; Ebert, 2009). Comparing phonetic cue reading (i.e., partial alphabetic reading) and cipher reading (i.e., full alphabetic reading), Ehri and Wilce (1987) found that greater word recognition occurred by children who learned to read words by cipher knowledge than those who learned to read by phonetic cues. The findings from the present study also students placed into full alphabetic phase read more words correctly and quickly than those placed in the partial alphabetic phase. More recently, Ebert (2009) surveyed that the word recognition abilities of students with different level of alphabetic knowledge, using a large scale database. The researcher found that the children with more sophisticated grapheme-phoneme correspondence knowledge had advanced word recognition skills and were able to identify a greater number of words. Like Ebert, the current research also demonstrated that students at a higher phase of development significantly recognized more words correctly and quickly. In particular, with regards to the controversial issue of whether the use of analogy strategies precedes the use of the decoding strategies while learning to

read (Goswami, 1986, 1990, 1993; Ehri & Robbins, 1992; Yin et al., 2007), the findings of this study provide supports for the research by Ehri and Robbins (1992), in which the consolidated alphabetic readers were shown to identify more words correctly than the readers in the other three phases of development. As described in Goswami (1990, 1993), analogizing could emerge once spelling patterns become sufficiently familiar to the readers in learning to read. The result, however, presented that the majority of students, even those who are in the full alphabetic phase, were not likely to employ analogy strategies ($M = .38$) when reading novel words. This indicates that letter patterns across different words could be consolidated and stored in one's memory only when a large amount of L2 print exposure is provided (Ehri, 1998, Ehri & Robbins, 1992). Hence, use of analogy strategies in the L2 would be a much longer and a more complex process due to the limited L2 reading practices and print exposure.

From the pedagogical perspective, what is important to note is that students with different levels of alphabetic knowledge exist in the same grade level. This result should be discussed with the national curriculum and evaluation standards for school English in Korea in mind. According to the English curriculum⁵, students are initially introduced to English alphabetic letters late in third grade, and they are to read at single word- and short sentence-levels in the fourth grade. Subsequently, they are expected to read texts at a short

⁵ The 2009 Revised Korean National Curriculum and evaluation standards were referred in this study.

discourse-level in the fifth and the sixth grade. However, about one third of students in both the fifth and sixth grade (i.e., 36% of the fifth graders and 26% of the sixth graders, respectively) were shown to remain in the pre-alphabetic or the partial alphabetic phases, implying they might be behind the regular English reading classes at school. This result substantiates the contention that the current English textbooks, derived from the English curriculum, do not offer children a sufficient amount of reading practice to acquire prerequisite reading knowledge and skills (Ahn, Kang, & Son, 2007; Park, 2008). Further, it also supports the claim that the reading contents of these textbooks are not graded at a gentle pace between the grades, and hence that many children are likely to have difficulty in keeping up in class (Kwak, 2007; Choi, J., 2012; Park, 2005, 2008). On the basis of the findings aforementioned, hence, it can be inferred that the development of L2 word recognition is a much bigger deal for L2 readers, in particularly within the EFL context due to the lack of reading practices and exposure in the L2.

4.2.2 L2 Reading Experiences Involved in L2 Word Recognition Development

The major implication for the automatic word recognition development from well-thought-out reading theories is that reading practice should entail an extensive amount of materials in the L2 over a number of years (Grabe, 2009;

Shiotsu, 2010). In this respect, a set of semi-structured oral interviews were conducted in this thesis in order to develop an understanding of L2 word recognition development, combined with diverse experiential factors. Four less-skilled readers, who still remain in the beginning stage of the development, and another five skilled readers, who reach the most advanced phase, were selected among the sixth graders. The experiential factors involved in word recognition development, derived from the interviews appeared differently between the skilled and the less-skilled readers, in terms of the total amount of outclass L2 reading activities (i.e., participation in private tutoring and home reading L2 activities), and the home literacy environment (i.e., parental involvement in studying L2 reading, and the accessibility to L2 reading materials in the home).

In the present study, the skilled readers were shown to be engaged in a great amount of outclass L2 reading practices through continuous participation of private tutoring and home L2 reading activities, while the less-skilled readers were not. This remarkable difference in the amount of L2 reading exposure between the two groups can be explained as being what Nuttall (1982) and more recently Coady (1997) called a *vicious circle* and a *virtuous circle* which portray the relationships between the literacy skill acquisition, the amount of reading activities, and the amount of language learning experience. According to the study, the less-skilled readers who lack sufficient experience with L2 reading practice tend to perform weakly when it comes to the required reading skills (e.g.,

alphabetic knowledge), and hence experience difficulties when they read. This may, in turn, lead them to read less, perpetuating the vicious circle of underachievement in L2 word reading. On the other hand, some readers are able to acquire prerequisite literacy skills by being given more L2 processing opportunities, and consequently, they become more skilled at reading. This results in more frequent reading, a virtuous circle. The opinions of the skilled and the less-skilled students conducted during the recorded interviews fortified Nuttall's arguments. Reading an extensive amount of materials in the L2 outside the of the class environment among the skilled readers undoubtedly prove the necessity to provide a large amount of L2 reading practices and print exposure over a long period of time to completely grasp the prerequisite processing skills and knowledge for accurate and automatic word recognition, as is echoed by Grabe (2009).

In regards to the home literacy environment, in the present study it was presented that, as Weigel and Martein (2005) purported, the beginning readers' literacy acquisition is likely to be accelerated when their literacy environment in the home is rich and supportive. In particular, positive and supportive parental involvement, being referred to have a greater influence on children's literacy development than anything about the school (Desforges & Abouchar, 2003), was associated with the skilled development of L2 word recognition. The overall supportive home environment is deemed to facilitate efforts to overcome

difficulties in reading and to encourage the persistence in pursuing L2 reading practices, as illuminated by many previous studies (e.g., Desforges & Abouchaar, 2003; Cunningham, 2009; Evans & Shaw, 2008).

The description of emerged differences in L2 reading experiences between the skilled and the less-skilled readers clarified the fact that the different levels of L2 word recognition acquisition might be the outcome of an extensive amount of L2 reading practice, combined with a supportive and literacy-enriched environment. For L2 students in learning to read, it is absolutely certain that the development of fluency of word recognition ability is a long and complex process.

Chapter 5.

CONCLUSION

This chapter is composed of three sections. Section 5.1 summarizes and presents the major findings of the current study and the implications on English education in the Korean context. In the following section, Section 5.2, some limitations of this study are discussed. Lastly, Section 5.3 makes suggestions for further studies.

5.1 Major Findings and Pedagogical Implications

The present study was designed to explore the development of English word recognition among Korean elementary school students, combined with the experiential factors, i.e., L2 reading experiences, which might contribute to the acquisition process of L2 literacy. This study dealt with two key points in the research questions: 1) the developmental path of English word recognition in learning to read, and 2) experiential differences involved in the successful and the delayed development of L2 word recognition. The key findings of the current study are summarized below.

Firstly, the elementary school students in this study were shown to go through developmental phases in English word recognition by grades comparable to those of native English-speaking children: from the pre-alphabetic phase, to the partial alphabetic phase, to the full alphabetic phase, and finally through to the consolidated phases. In spite of the specific factors involved in L2 word recognition development, Ehri's phase model appeared to give a full and satisfactory explanation to Korean children's English literacy acquisition processes. The results provides support for the previous studies that confirmed the development trajectories of English word recognition appear similarly in L1 and L2, indicating that there may exist a universal collection of developmental phases regarding the development of literacy in English.

Secondly, the present study backed up the contention that the acquisition of alphabetic knowledge about the target language facilitates and accelerates the formation of connections between the printed forms, the sounds, and the meanings of the words, by constraining and refining readers' expectation of the spelling of words, and hence, beginning readers come to recognize words more rapidly and accurately from memory by sight. A gradual improvement appeared in the correct rate of single word reading and the time it took to produce a correct response: the consolidated alphabetic readers recognized the most words, and took the least time to respond correctly, followed by the full alphabetic readers, then the partial alphabetic readers, and finally, the pre-alphabetic readers.

Thirdly, the present study uncovered that students with different levels of alphabetic knowledge exist even within the same grade. A series of semi-structured oral interviews illustrated that the factors related to L2 reading experiences appeared differently between the skilled readers who have reached the final consolidated alphabetic phase, and the less-skilled readers who still remain in the initial pre-alphabetic phase. The skilled readers have been engaged in a large amount of L2 reading practices over a long period time, through participation in private tutoring and home L2 reading activities such as reading-for-pleasure, whereas the less-skilled readers have rarely engaged in extracurricular reading activities. In addition, the active and supportive parental involvement in L2 reading practice, and the high accessibility of L2 reading materials in the home, differed greatly between the two groups. This points out that continuous and extensive L2 reading practices, with a supportive and positive reading environment, only enables, facilitates and accelerates the mastery of many processing skills and knowledge for automatic word recognition.

Based on the major findings aforementioned, the conclusions drawn from the present study propose the following implications for L2 literacy education and syllabus design. First of all, by reflecting the fact that rapid, accurate, and automatic word recognition are only attainable with the building of prerequisite linguistic knowledge and processing skills, it is necessary to develop the reading curricula that presume a long and complex developmental process

toward reading fluency even at the lower level. Also, impressively, in view of the finding that the skilled readers in this paper have been engaged in continuous and extensive out-of-class L2 reading activities, it is of ultimate importance to provide a large amount of L2 reading practice and exposure to the readers. Further, it is also of importance to facilitate and enable them to learn to read over a long period of time, not only in the instruction time provided during formal education, but also in the home.

Subsequently, the present study offers valuable insights into the way teachers in Korea go about the process of teaching students how to read. Explicit in the results of this study is that elementary school students in learning to read in a L2 context are progressing through various developmental phases of word recognition, and are showing different levels of reading processing strategies and alphabetic knowledge. Understanding the quality of each phase of mapping, between the printed word forms and sounds, by beginning readers will certainly help teachers provide appropriate guidance while conducting on-the-spot instruction. For example, as suggested in Birch (2006), teachers could deliver explicit and direct instruction on syllabic or morpheme units such as *-ing* or *-ake* to the full alphabetic readers in a meaningful and authentic manner. This would facilitate the accumulation of the consolidated units into the lexicon of those readers, therefore enables them to move toward to the next phase.

Noted, this study does not make any declaration about how reading

processes should be taught. Although Ehri (2005a, 2005b)'s phase model has focused on the role of the phonology underpinning in the lexical representation of words, she did not provide any suggestions as for how to teach the process. What the present study hopes to achieve is to create awareness among teachers that the process of L2 reading is long and complex, even at a lower level, and that they should understand and gauge a student's performance based upon the student's progress along the discussed trajectories required to master the reading process.

More importantly is the implication that a substantial amount of L2 reading practice and exposure to print over a long period of time should be given. As Grabe (2009, 2011) asserted, the ultimate goal of word recognition ability is to read effortlessly, accurately, and automatically so that one is able to build a more coherent meaning structure of the texts rather than only being able to "recognize" or "pronounce" words.

5.2 Limitations of the Study

The present study has some limitations that need to be considered concerning the methodology, in spite of the fact that each experiment and the semi-structured interviews were meticulously designed.

The first purpose of the study was to evaluate Ehri's (1991, 1992, 1998, 2005) developmental model of word recognition among Korean elementary school

students. It was not possible, however, to use a standardized measurement to place students participating in the study into one of the phases, because there was no available test form to measure their word recognition development according to Ehri's phase model. Due to this practical constraint, the present study relied on the created measurements adapted from Yin et al. (2007), and assigned each student into each of the phases by the arbitrarily established three cut scores – the 25th, the 50th, and the 75th percentiles on the whole-sample standardized distribution of the three phase indicators. Although this data analysis method showed the general pattern of the development of English word recognition across grades, the measurement per se did not provide detailed information on the level of alphabetic knowledge each student required in order to be assigned into each of developmental phases. Therefore, it might be possible that some students placed into a developmental phase did not possess prerequisite alphabetic knowledge or skills representative of that word recognition phase.

Secondly, in terms of measuring students' sight word reading ability according to the phases, the Isolated English Word Reading task was created, composed of the words that they have been taught during their English classes. According to Koda (2008), word recognition refers to the cerebral act of processing in order to access the meaning and the sound of the words. In this sense, it was hypothesized that students were able to access each meaning of the words when they read it aloud. Nevertheless, the measurement cannot ensure whether a

student accessed the meanings of the words through phonological processing (i.e., read aloud), or he or she was able to decode the sounds of the word. A more refined and standardized task measuring Korean elementary school students' vocabulary knowledge also should be implemented along with the sight word reading task.

Thirdly, most of students in this study did not perform well enough in the analogy use category of the English Pseudoword Reading Task. A possible explanation for the failure may lie in the difficulty of the stimuli used in terms of word length. Given the fact that the number of letters has a significant effect on young children's ability to recognize words while learning to read (Dehaene, 2010), the lack of control of word length in the analogy category might, to some extent, influence their performance. Also, the stimuli might not be sufficiently familiar to younger students. Even though each item used in the analogy category was analogous to the words drawn from their textbooks, it might be possible that the words selected were not stored in the memory owing to the very limited exposure. A more refined measurement design and analysis would be needed to ensure that the use of analogy strategy emerges in the final phase of word recognition.

Lastly, only nine students participated in the semi-structured interview in order to understand the experiential factors involved in L2 word recognition development. In addition, the result drawn from the interviews did not present any

causal relationships between the level of word recognition ability and experiential factors. Therefore, a lot of care is required in order to generate the effects of each experiential factor involved in L2 word recognition development.

5.3 Suggestions for Future Research

Since the role of word recognition in the L2 has received little attention in the Korean EFL reading research area, there are many issues that could benefit from further research. As was seen in this study, Ehri's four phases of English word recognition development emphasize the role of phonological knowledge in word lexicon representation. It does not explain in detail as to which subcomponent of processing knowledge is involved in each phase of development. Therefore, an investigation of L2 word recognition among Korean EFL students should address the question of which, and to what extent processing knowledge and skills are involved and interact in the development of English word recognition. In particular, which, and to what extent are combined factors L2 specific.

Another interesting area for further study would be how L2 word recognition cooperates with other aspects of reading skills and knowledge including grammar and vocabulary knowledge, and how they contributed to successful reading comprehension in the L2. If automatic and effortless word

recognition can be shown to promote successful L2 reading comprehension over and beyond the contribution of other linguistic knowledge, this would provide theoretically or pedagogically valuable insight into L2 reading development.

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Appendix 1.

Isolated English Word Reading Task for Grade 3

1.	I	jam
2.	a	cow
3.	am	it
4.	you	potato
5.	the	no
6.	is	kiwi
7.	he	do
8.	she	pen
9.	are	cup
10.	this	ball
11.	my	big
12.	an	don't
13.	apple	not
14.	can	school
15.	dog	help
16.	that	like
17.	pig	know
18.	cat	what
19.	father	go
20.	book	name

*Curriculum-based test measurement. 15 words from preceding grades, 20 words from current grade, 5 words from following grades.

Appendix 2.

Isolated English Word Reading Task for Grade 4

1.	am	good
2.	you	many
3.	is	time
4.	the	one
5.	are	play
6.	this	help
7.	apple	study
8.	my	look
9.	ball	run
10.	cat	up
11.	they	long
12.	your	eat
13.	don't	want
14.	go	home
15.	not	music
16.	like	number
17.	name	there
18.	school	drink
19.	what	write
20.	have	answer

*Curriculum-based test measurement. 15 words from preceding grades, 20 words from current grade, 5 words from following grades.

Appendix 3.

Isolated English Word Reading Task for Grade 5

1.	the	very
2.	you	know
3.	my	easy
4.	what	give
5.	like	there
6.	not	some
7.	school	will
8.	have	drink
9.	study	work
10.	time	said
11.	where	answer
12.	went	picture
13.	read	about
14.	start	after
15.	think	different
16.	kind	house
17.	write	under
18.	speak	children
19.	them	country
20.	doesn't	always

*Curriculum-based test measurement. 15 words from preceding grades, 20 words from current grade, 5 words from following grades.

Appendix 4.

Isolated English Word Reading Task for Grade 6

1. the	cannot
2. my	different
3. have	because
4. school	going
5. where	strong
6. read	visited
7. think	animals
8. very	always
9. went	first
10. doesn't	better
11. didn't	vacation
12. after	become
13. grade	products
14. heard	together
15. should	something
16. between	bought
17. every	important
18. next	himself
19. world	decided
20. young	however

*Curriculum-based test measurement. 15 words from preceding grades, 20 words from current grade, 5 words from following grades.

Appendix 5.

English Pseudoword Reading Task

1. CVC

cat	pig	not	cup	team
kal	nak	sut	ren	mos
wug	ved	paz	bil	fet
dim	cop	jik	leav	doat

2. CVCC

best	milk	hand	must	toast
fesk	nilk	temz	yort	vils
palt	mald	dimp	cons	turk
fand	jest	hors	foast	leamt

3. CCVC

skip	frog	clap	stop	blog
skul	sniz	cruk	spim	trep
dren	stov	prat	bram	clas
blod	gras	frug	dreak	smoat

4. Analogy (spelling pattern)

time	cake	draw	played	right
jook	plue	sake	kapple	vow
pime	mite	praw	blayed	dight
knop	loffee	kneem	mould	pation

Appendix 6. Interview Questions

<Out-of-class L2 reading>

1. 영어를 처음 배운 것이 언제였고, 어디에서 배웠나요?
2. 현재, 학원이나 학습지 등 학교 외에서 영어를 배우고 있나요?
3. 수업은 주로 어떻게 이루어지며, 참여 시간은 어느 정도 인가요?
4. 학원 외에 집에서 혼자 영어공부를 하나요? 영어 읽기 공부는 주로 어떻게 하고 있나요?
5. 학교에서의 수업은 어떻게 이루어지고 있나요?
6. 해외에 나가본 경험이 있나요?

<Home Literacy Environment>

1. 집에 책이 많이 있나요? 한글로 된 책과 영어로 된 책 각각 어느 정도 인가요?
2. 가족들과 함께 책을 많이 읽나요?
3. 집에서 영어로 된 책을 읽나요? 일주일에 몇 권 정도 읽나요?
4. 부모님 혹은 다른 식구들이 영어 공부를 많이 하라 하시나요? 영어 공부에 많이 도움을 주시나요?
5. 도서관이나 서점에 영어 책을 읽기 위해 자주 방문하나요?

국문초록

본 연구는 한국인 초등학교 영어 학습자를 대상으로 제 2언어로서의 영어 단어 인지 능력이, 다양한 수준의 리터러시 관련 경험 속에서 어떠한 과정을 거쳐 발달하게 되는지를 살펴보고자 한다. Ehri (2005a)가 제시한 단계 모형(Phase Model)을 토대로 우리나라 초등학교 영어 학습자들 또한, 영어 모국어 학습자들이 거쳐가는 단어 인지의 4과정, 즉 pre-alphabetic, partial alphabetic, full alphabetic, consolidated alphabetic의 네 단계를 거쳐가는지를 알아보려고 한다. Ehri의 주장에 따르면, 철자-소리 대응 규칙과 음소 인식에 대한 이해는, 단어의 철자, 소리, 그리고 뜻을 서로 연결하여 기억하게 되는 과정이 수월해질 수 있게 도우므로, 초기 영어 리터러시 학습자가 더욱 많은 일견 어휘를 습득할 수 있게 한다. 그러나 그간 외국어로서의 영어 학습자가 제 1언어 학습자와 같은 발달 단계를 밟아 나가는지에 대한 연구는 많이 행해지지 않았기에, 한국어 리터러시 학습 배경을 갖고 있는 한국인 초기 영어 학습자들의 영어 발달 단계 과정이 Ehri의 모형에 따라 설명될 수 있는지 살펴보고자 한다.

본 연구의 참여자인 195명 (49명의 3학년, 50명의 4학년, 46명의 5학년, 50명의 6학년)의 한국 초등학교 학습자는 두 개의 ‘영어 유사 단어 읽기 과업’과 ‘독립된 영어 단어 읽기 과업’을 수행하고, 이 후 분석 결과에 따른 총 9명의 학습자가 사후 인터뷰에 응하였다. 영어 유사 단어 읽기 과업에서의 수행 정도를 분석한 결과, 학년별로 영어 단어 인지 능력 수준이 서로 달랐고, 학년이 올라감에 따라, Ehri의 네 단계를 따라 밟아간다는 것을 확인하였다. 또한, 상위 단계에 있는 학습자일수록

더 많은 영어 단어를 정확하고, 빠르게 읽어낸다는 결과를 보였다. 이는 외국어로서 영어를 학습하는 한국의 초등학교 학생들도 제 1 언어로서의 영어 학습자들과 같은 단계를 거쳐 영어 리터러시를 습득한다는 것으로 볼 수 있을 것이다.

한편, 영어 단어 인지 능력 습득에 관련된 제 2 언어 읽기 경험에 대한 학습자 인터뷰는, 교실 밖 제 2 언어 읽기 활동의 양과 가정 내 리터러시 환경의 측면에서 같은 학년 내에서의 숙련된 읽기 학습자와 덜 숙련된 학습자 간에 큰 차이가 있었음을 보였다. 즉, 가정 내의 적극적, 긍정적인 리터러시 환경과, 지속적이고 많은 양의 제 2 언어 읽기 연습 과정이 숙련된 학습자들의 자동적 단어 인지 능력 습득과 관련되어 나타났다. 결과에 근거하여, 본 연구는 읽는 방법을 배우는 시기의 영어 읽기 수업에 대한 시사점과 이후 연구에 대한 제언을 결론부에 제시한다.

주요어: 제 2 언어 단어 인지 발달, Ehri의 단계 모형, 제 2 언어 단어 인지, 영어 단어 읽기의 발달 단계

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