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Identifying Distinct Sub-groups of English Reading Ability among Korean EFL 6th Graders and Predictive Relationship with English Learning Backgrounds Using a Latent Profile Analysis and a Multinomial Logistic Regression

한국 초등학교 6학년 학생들의 영어 독해능력 잠재 집단 및 영어학습배경과 잠재집단과의 연관성

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외국어교육과 영어전공

김 은 정

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by
EunJung Kim

A Dissertation Submitted to
the Department of Foreign Language Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in English Language Education

At the
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August 2023

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ABSTRACT

Improving English language skills, including reading abilities, is significant concern and burden for young learners in South Korea. In particular, the disparity in English language proficiency at an early age is a social issue that is closely related to income inequality within households. Overcoming such gaps in English proficiency among learners in schools poses a challenging task.

Currently, it is reported that there is a significant difference in language proficiency between students who are new to English education in the third grade and students who have learned English early through private tutoring or other methods. Despite the heterogeneity in public education, there are few studies on the heterogeneity of groups based on empirical studies on this, and some studies on this have focused on screening underdeveloped children.

Therefore, this study aimed to investigate the heterogeneity of sixth graders of a Korean elementary school in the EFL environment, the characteristics of the classified groups, and the learning background of learners who create these characteristics. This study primarily deals with the English reading ability of sixth graders in South Korea studying English as a foreign language (EFL). Specifically, the study is interested in how the sixth graders are differentiated in their L2 reading ability, focusing on their L2 reading ability profiles and what social and educational backgrounds predict their L2 reading profiles.

The present study formulated the following objectives：First, it aims to

examine distinct sub groups of six-grade EFL learners based on their L2 reading profiles using latent profile analysis (LPA). Second, it aims to draw a general characteristic of these distinct subgroups. Third, it also examines the predictive relationship between L2 reading profiles and English learning backgrounds using multinomial logistic regression analysis.

A total of 598 6th graders from seven schools in mid-and low-income neighborhoods were selected as participants to represent the characteristics of 6th graders in elementary schools across five regions. The study identified five constructs to measure students' L2-literacy components and reading comprehension structure: (1) L2 decoding, (2) L2 oral fluency, (3) L2 vocabulary knowledge, (4) L2 syntactic knowledge, and (5) L2 reading comprehension. Among these, L2 decoding aimed to measure learners' overall word reading ability and included two indicators: L2 non-word reading and L2 word reading. Consequently, a total of six indicators were established: L2 non-word reading, L2 word reading, L2 passage reading, L2 vocabulary knowledge, L2 grammar knowledge, and L2 reading comprehension.

This study yields various outcomes and pedagogical implications for EFL reading research. The student groups within real South Korean elementary school classrooms were found to be diverse, and their characteristics were empirically identified. Specifically, the study highlights the challenges faced by students with below-average English reading abilities. For highly skilled learners, reading fluency emerged as a crucial sub-skill, while poor readers exhibited inadequate decoding abilities, negatively impacting their overall reading proficiency. By examining significant predictors for each classified group, the study identifies specific areas on which students should focus to enhance their English achievement.

Regarding experiences with English education, the study indicates that early English education had limited influence on English proficiency in the upper grades of elementary school. Rather, learning experiences during elementary school demonstrated more substantial outcomes compared to pre-formal English education experiences. These findings emphasize the importance of early literacy experiences and the potential benefits of initiating reading instruction at a young age to foster optimal language development and reading skills. Additionally, the results underscore the significance of targeted learning at the beginning of public education, which offers a more cost-effective approach.

Key Words: L2 Reading ability, L2 learning background, heterogeneous groups, L2 decoding ability, L2 language comprehension ability, latent profile analysis, multinomial logistic regression analysis.

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CHAPTER 1

INTRODUCTION

This study primarily focuses on the English reading abilities of sixth-grade students in South Korea who are learning English as a foreign language (EFL). The study aims to examine the variation in L2 reading ability among these students, specifically investigating their L2 reading profiles and the social and educational factors that predict these profiles. This chapter addresses the significance of English reading education and factors influencing the reading abilities of young learners, including reading sub-skills and learners' educational backgrounds. It also highlights the disparity in English proficiency levels among Korean EFL learners and the resulting challenges. The chapter begins with the background, problem statement, and research questions of the study. It subsequently discusses the significance, organization of the study.

1.1. The Background of the Study

Krashen (1993) emphasized that reading is an important source of *comprehensible input* and consequently contributes significantly to overall language skills development. In addition, researchers (e.g., Carrell, 1988; Mikulecky & Jeffries, 1986) argue that learners should strive to improve their *effective reading* ability in *foreign language learning,* emphasizing reading as the most effective language ability to achieve their ultimate language learning goals.

Developing these reading skills is especially important for early learners in both LI and L2 contexts. Chall et al. (1990) emphasized that it is crucial to learn reading comprehension at the initial reading stage and diagnose any difficulty early to obtain proficient reading comprehension, the ultimate goal of reading in the LI environment. Oladel (2016) agreed that instructions to improve English reading skills in an EFL setting are vital for young learners beginning to learn a foreign language.

The primary significance of engaging young learners in reading activities lies in the fact that difficulties in second language (L2) reading tend to accumulate as they progress in formal L2 education. These reading challenges often arise during the transition from the initial "learning stage" of reading. Consequently, it becomes crucial to provide appropriate educational interventions, particularly during the early learning stages, as these learners may accumulate reading difficulties over time. The texts they encounter in tests and reading materials typically become more advanced, surpassing their current capabilities. Therefore, proactive intervention becomes necessary to ensure they can keep up with the increasing complexity of texts and reading materials in their later years.

The reading proficiency of these learners is demonstrated through various sub-skills, and the absence of any one of these sub-skills hinders successful reading. When even one skill is lacking among multiple reading sub-skills, it hampers overall reading achievement. Therefore, reading abilities are primarily based on a combination of reading sub-skills that form a complex reading ability (e.g., Edwards et al., 2009; Grabe, 2011; Koda, 2007; Proctor et

al., 2005). Analyzing these skills' overall aspects has greatly contributed to the study of reading abilities in learners, particularly those with learning disabilities (Grabe, 2009; Jeon, 2011; Jeon & Yamashita, 2014; Koda, 2005; Perfetti et al., 2005).

Several components work in concert to develop reading comprehension. These components include word decoding (Droop & Verhoeven, 2003; Gottardo & Mueller, 2009; Hoover & Gough, 1990; Jeon & Yamashita, 2014; Kang et al., 2011; Nakamoto et al., 2008; Verhoeven & van Leeuwe, 2012), reading fluency skills (Rasinski et al., 2009; Torgesen, 2002; Torgesen & Hudson, 2006), vocabulary (Cho et al., 2019; Hutchinson et al., 2003; Muter et al., 2004; Roth et al., 2002; Verhoeven et al., 2008), and syntactic knowledge (Bernhardt, 2000; Droop & Verhoeven, 2003; Jeon, 2011; Jeon & Yamashita, 2014; Shiotsu & Weir, 2007; Verhoeven, 1990). Furthermore, these components interact with each other to compensate for deficiencies in specific sub-skills (Stanovich, 1980).

In contrast, the recently emerged social cultural perspective argues that variations in students' language proficiency stem from diverse English education backgrounds (Lee, 2018). According to this viewpoint, differences in learners' reading abilities are influenced by disparities in their English education backgrounds, with socioeconomic and family differences (Cheung & Anderson, 2003; Coleman, 1988; D'Angiulli et al., 2004; Duncan & Brooks-Gunn, 2000; Jung et al., 2011; Kim & Kim, 1999; Kim, 2000; Kim, 2005; Kim, 2017; Kwak, 2006; Matsen et al., 1999; Park, 2011; Pong, 1997; Rothstein, 2010; Sirin, 2005), the presence and duration of private tutoring in English education (Choi & Lee,

2019; Kim & Lee, 1995; Kim & Lee, 2015; Kim & Lee, 2018; Lee, 1998; Lee, 2003; Lee, 2006; Lee, 2018; Oh & Kang, 2012; Park, 2012), family literacy environment (Bae, 1990; Brown, 2007; Duursma et al., 2007; Gass & Selinker, 1994; Inoue et al., 2018; Jeoung & Kim, 2008; Lee & Cha, 1996; Leseman & Jong, 1998; Liu et al., 2018; Puglisi et al., 2017; Sénéchal, 2006; Sénéchal & LeFevre, 2014; Van Bergen et al., 2017; Weigel et al., 2006) and affective domains of L2 learners (Heckhausen, 1991; Mega et al., 2014; Pekrun et al., 2002; Sainsbury & Sc Hagen, 2004; Schunk et al., 2012; Wigfield et al., 2008), etc.

As we have seen so far, reading education in early foreign language learning is highly important. In particular, the contrasting perspectives of analyzing reading ability as a set of specific skills and considering it as a product of social backgrounds have emerged as key backgrounds for this study. These two perspectives serve as the main foundation for initiating this research.

1.2. Statement of the Problem

In South Korea, like in other countries where English is learned as a foreign language, there is a significant concern and burden on young learners to improve their English language skills, particularly in reading. The gap in English language proficiency among students at an early age has become a social issue, and addressing this disparity within the same region and even the same class presents a challenge. Parents also bear the burden of spending a considerable amount of money on private English education. Jin and Kwon (2020) argue that

one of the most serious problems is not only evident within the same region but also within the same class.

Currently, studies show a noticeable difference in language proficiency between third-grade students who are new to English education and those who have received early English instruction through private tutoring or other methods (Lee & Choi, 2009; Shin & Kim, 2009, 2012). Park (2012) found that 73.7% of first- and second-year elementary school students have not yet received English education in public schools but have already received or are currently receiving it through private tutoring. Moreover, 87.2% of kindergarten students and 83.4% of elementary school students have already been exposed to English language learning through various means. She argues that this discrepancy in the starting point of English education before formal English education begins in public schools is a critical issue. This situation undermines the learning motivation of many young students in English classes at school and lowers teachers' morale (Jang & Han, 2018; Jung, 2002, Kim, 1998; Oh & Kim, 2022; Park & Kim, 2014).

Despite the current situation, English receives less attention compared to other subjects such as the Korean language (their first language) and mathematics in elementary schools. Unlike middle and high schools, where English is a main subject, it is not given the same level of educational interest and support in elementary schools (Lee, 2018).

Given the seriousness of this issue, researchers have been actively conducting studies to gain a deeper understanding of the diverse learning

backgrounds of young English learners. These studies examine various factors such as social, familial, and educational backgrounds of the learners (Burgess et al., 2002; Chang, 2012; Cheung & Anderson, 2003; Cho, 2007; Grolnic & Ryan, 1989; Hwang, 2007; Jung & Kim, 2008; Kang et al., 2015; Kim et al., 2018; Kim et al., 2008; Kohl et al., 2007; Leitcher, 1984; Park & Chang, 2012; Park, 2015; Park & Kim, 2015; Park, 2015; So, 2013; Yu, 2006). Additionally, researchers have explored the experiences of private tutoring and the duration of private learning (Choi et al., 2019; Kim & Park, 2005; Korea Institute for Curriculum Evaluation, 2005; Moon & Moon, 2018; National Statistical Office, 2017). Studies have also investigated the home literacy environment and affective domains of young learners, not only in an English as a Foreign Language (EFL) context but also in various other contexts. These studies have revealed that academic achievement in English significantly varies depending on students' socio-economic status (Caro, 2011; Ginsberg, 1993; Jeong & Kim, 2008; Kim & Byun, 2007; Kim & Yim, 2012; Kim et al., 2012; Kim, 2021; Lee & Cha, 1996; Park, 2010; Park & Kim, 2015; So, 2013; Song, 2011).

The "2021 Elementary, Middle, and High School Private Education Expenses Survey" conducted by the National Statistical Office revealed significant disparities in monthly private education expenses for English subject between low-income and high-income classes. According to the survey, low-income classes spent an average of 116,000 won per month, whereas high-income classes allocated a significantly higher amount of 593,000 won. This survey underscored the substantial difference in additional private expenditures between these two income groups, with the gap widening even further each year.

In Korea, early and private engagement in English education is driven by various factors. One of these factors is the belief in the effectiveness of learning English from a young age and the positive perception of English private tutoring (Lee, 2004; Park & Abelman, 2004). Additionally, the home literacy environment plays a vital role in shaping a learner's English learning background, as parents' interest in English education influences their children's early English acquisition.

Against this backdrop, the present study seeks to explore the diversity of English reading abilities among sixth-grade students in Korean elementary schools. While previous studies have predominantly focused on identifying variables associated with English proficiency in elementary school learners, this study aims to shift the focus towards individual students. Drawing on profiling studies, as proposed by Landers (2008), this research aims to uncover "hidden groups" within potential hierarchies, revealing individual diversity and facilitating person-centered research. Moreover, employing a model-based approach allows for mathematically sound data analysis, ensuring the reliability and generalizability of the findings.

While acknowledging the existence of diverse student groups within public education, there is a lack of research focusing on the heterogeneity of these groups based on individual characteristics rather than solely relying on variables associated with English abilities. This study seeks to address this gap by exploring and providing insights into the individual variations in English reading skills among sixth-grade students.

1.3. Research Questions of the Present Study

In the context outlined above, the primary aim of this study was to investigate the heterogeneity of sixth-grade students in a Korean elementary school within an English as a Foreign Language (EFL) environment. Specifically, the study aimed to classify the students into latent groups based on their English reading abilities and determine the unique characteristics of each group. Additionally, the study sought to explore the learning backgrounds of students within these classified groups.

The study was conducted in two main stages. Firstly, the researchers employed the latent profile analysis (LPA) method to categorize the students into distinct latent groups based on their lower-level English reading skills. This approach differed from previous studies in the field of second language (L2) research, which often utilized regression-based approaches with arbitrary cutoff points. By utilizing LPA, the study aimed to capture the individual diversity and employ a human-centered research approach. Furthermore, the use of a model-based approach allowed for mathematical validation of data analysis, ensuring reliability and generalizability.

Secondly, the study investigated the learning backgrounds of students exhibiting the characteristics of each classified group. This was achieved through a questionnaire-based multinomial logistic regression analysis. In addition to examining the English reading abilities of the students within the classified groups, the analysis also considered sociocultural factors that may influence their abilities. By incorporating a broader range of factors, the study aimed to provide a more comprehensive understanding of the students' English

reading abilities, distinguishing it from previous research.

The research on the reading abilities of sixth-grade students during their transition to middle school, where there is an increased focus on written curriculum, is highly valuable for predicting potential challenges and identifying relevant issues (Kim, 2014; Lee & Jung, 2015; Lee et al., 2001).

With the aforementioned understanding, the present study formulated the following objectives：First, it aims to examine distinct sub groups of six-grade EFL learners based on their L2 reading profiles. Second, it aims to draw a general characteristic of these distinct subgroups. Third, it also examines the predictive relationship between L2 reading profiles and English learning backgrounds.

Hence, the present study formulated the following research questions：

1. How many distinct sub-groups will exist among Korean EFL six-graders with regards to their L2 reading ability?
2. What characteristics will each distinct group demonstrate with respect to their L2 reading skills?
3. What are the predictive relationship between these distinct subgroups and their English learners' backgrounds?

1.4. Significance of the Study

This study has significance for the following reasons：

First, this study applied the advantages of the statistical method of latent profile analysis (LPA) to the study of English reading and derived different

results from previous studies. In Korea's EFL situation, the problem that arises from differences in the educational level of learners is not the only topic of discussion in recent years. However, there are currently no objective data on the student level differences since the abolition of the national level achievement evaluation in 2012. Therefore, this study applied the latest statistical method of LPA to analyze the group heterogeneity and characteristics based on the L2 reading ability of Korean EFL sixth-grade students. These results can provide objective data on the heterogeneity of this group and useful information for appropriate pedagogical approaches. In addition, this study can provide a new information by applying a human-centered-model-based statistical method.

Second, this study attempted to investigate the relationship between the profiles of the L2 reading ability and the sociocultural experiences and backgrounds of these young EFL readers. This study also can provide helpful information to teachers, parents, and administrative policy makers on the causes of differences in English language abilities among learners.

Finally, this study attempted to provide useful information to sixth graders in elementary school. Unlike the elementary school English education more focusing on spoken language skills, the middle school curriculum more focuses on L2 literacy skills such as effective L2 reading strategies and reasoning skills. Therefore, this study will provide a useful information on secondary English education in terms of the secondary school English teachers understand and approach incoming their students.

1.5. Organization of the the Desserataion

This research is organized into six chapters. Chapter 1 introduces the background of the study, purpose, significance, and current study. Chapter 2 provided the theories underlying this study were introduced. Chapter 3 describes the research methodology including participants, instruments, procedure, and analysis. Chapter 4 reports the result of the study and Chapter 5 discusses central issues of research results. Chapter 6 summarizes major findings and concludes with pedagogical implications, limitations, and suggestions for future study.

CHAPTER 2

LITERATURE REVIEW

This chapter provides a comprehensive review of the relevant literature to find research gaps and establish the rationale for the current study. This chapter covers two main areas. First, this chapter investigates two models of early EFL students' reading activities: (1) the simple view of reading (SVR) and (2) the four phrases of word reading. Second, this chapter examines two other views of reading: One perspective considers reading ability as a set of sub-skills and analyzes the interactions and drawbacks of each element. The other perspective perceives reading ability as a competency whereby the individual learner is influenced by their society and culture and sees reading as a broad domain. Finally, the aforementioned theories and literature are summarized.

2.1. Theories on Reading Ability

The SVR and developmental stage theory of word recognition are representative among the theories on reading ability related to early learners in elementary school. The SVR offers useful information on the reading skills of early learners, especially because it explains reading ability concerning the student's capacity to decode. Furthermore, the word recognition developmental stage theory considers the student's word recognition process. This section examines these two theories.

2.1.1. The Simple View of Reading

The SVR provides a useful framework for considering reading comprehension and its development. In this theory, the term decoding refers to the ability to read real and pseudowords quickly and accurately, while language comprehension refers to the general linguistic capacity to process and understand spoken languages. Within the SVR (R = D x C), decoding skills and language comprehension exhibit a highly significant impact on reading comprehension, which is the ultimate goal of reading. The absence of either factor leads to the failure to understand what one is reading.

Most studies regarding this theory in the L1 category have demonstrated the mutual effect of decoding and linguistic comprehension (Adlof et al., 2006; Carver, 1997; Chen & Vellutino, 1997; Conners, 2009; Cutting & Scarborough, 2006; Dreyer & Katz, 1992; Georgiou et al., 2009; Gough et al.,1996; Jobnston & Kirby, 2006; Josbi & Aaron, 2000; Nation & Snowling, 1998; Hoover & Tunmer, 1992; Savage, 2001, 2006; Savage & Wolfortb, 2007; Vellutino et al., 2007). However, there is no consensus regarding which of the factors of L1 affects reading comprehension ability more than the other factors. While some studies have indicated that decoding exerts a greater influence on reading comprehension (Adlof et al., 2006; Mancilla-Martinez et al., 2011; Nakamoto et al., 2008), others have reported language comprehension to exert a stronger influence on the same (Droop & Verhoeven, 2003; Hoien-Tengesdal, 2010; Hoover & Gough, 1990; Proctor et al., 2005; Royer & Carlo, 1991; Savage, 2001).

Research on the SVR and its components have expanded its scope for L2 learners, revealing its wide applicability to them (e.g., Bowyer-Crane et al., 2017; Gottardo & Mueller, 2009; Gottardo et al., 2018; Mancilla-Martinez & Lesaux, 2010; Proctor et al., 2005; Uchikoshi, 2013). Studies of the model include bilingual (Spanish-English) children (e.g., Goodwin et al., 2015; Gottardo & Mueller, 2009; Hoover & Gough, 1990) and those who learned Dutch as their L2 (e.g., Droop & Verhoeven, 2003; Verhoeven & van Leeuwe, 2012). These studies' results—not unlike those of L1 research, albeit with some differences in the instruments employed to measure the target components suggest that both language comprehension and decoding are important predictors of L2 reading comprehension. Therefore, in the study of the SVR model in the L2 category, both decoding and language comprehension are factors with strong predictive power in terms of reading comprehension (Droop & Verhoeven, 2003; Gottardo & Mueller, 2009; Hoover & Gough, 1990; Mancilla-Martinez et al., 2011; Nakamoto et al., 2008; Proctor et al., 2005; Royer & Carlo, 1991). For instance, Gottardo and Mueller (2009) argued that language comprehension and decoding are two major components contributing to reading comprehension, and this relationship validates the SVR as a model for developing reading comprehension in young English learners. Additionally, English language proficiency and word reading abilities equivalent to decoding significantly and strongly predict English reading comprehension among Spanish-speaking English learners in the early stages of English literacy. However, like the study of L1, all studies have revealed different results regarding which variable exhibits stronger predictive power over another one

(Mancilla-Martinez et al., 2011; Nakamoto et al., 2008).

Most longitudinal studies on these components have indicated that the proportion of dependence on the two factors varies according to the student's age (Catts et al., 2005; Chen & Vellutino,1997). They have predominantly reported that lower grade learners in elementary schools depend more on decoding than language ability, while upper-grade learners depend more on language ability than decoding (Carver, 1997; Chen & Vellutino, 1997; Gough, 1996; Vellutino et al., 2007). For instance, Chen and Vellutino (1997) investigated several reading sub-skills and found that decoding and language comprehension had different weights in predicting reading comprehension according to the student's grade level. Hence, they argued that the contribution of language comprehension becomes stronger than word recognition as grade level increases. Based on these findings, it can be inferred that students probably attain a certain level of decoding ability before language comprehension takes over as they progress through the grades. Therefore, it can be proposed that the increasing reliance on linguistic comprehension observed over time is attributable to the overall development of students' language competencies in conjunction with their acquisition of decoding skills.

Apart from examining issues related to developmental stages according to age, studies have used the SVR and separate students by level. In particular, in relation to decoding, research on children with learning difficulties has been actively conducted. For instance, Nation (2019) found that the SVR provided a framework for classifying children and significantly improved the understanding of the link between oral language and word reading development.

She argued that this theory laid the foundation for the cultivation and automation of basic decoding skills (Castle et al., 2018), suggesting that reading, according to the SVR, provides rich and diverse opportunities for language learning as children are exposed to new vocabulary and syntactic structures (Montag & MacDonald, 2015). Stanovich (1986) maintained that the SVR serves as a reminder of the importance of students' literacy experiences. He described the Matthew effect in relation to one's reading experiences, suggesting that lower-level processes make reading more difficult and precipitate greater differences in reading ability compared to one's peers, consequently leading to growing disparities. Such research on reading and literacy experiences must be carefully considered because it is closely tied to when elementary school EFL learners first begin studying English.

As the SVR became the basis for studying young students' reading ability, several studies were performed regarding its applicability to early EFL learners in South Korea (Kang et al., 2011; Lee et al., 2021, Kang, 2021). For example, Kang et al. (2011) examined South Korean EFL fifth graders' English reading ability in relation to oral language comprehension and decoding. They investigated whether the SVR framework was supported among elementary EFL learners and the relative contribution of word decoding and language comprehension. They measured the decoding ability, listening, and English reading comprehension of 99 fifth-grade South Korean elementary school students and found decoding and language comprehension to be important indicators of reading comprehension, confirming the SVR's applicability to South Korean elementary school EFL learners. Furthermore, they revealed that

decoding explained more of the variance in reading comprehension compared to language comprehension. Lee et al. (2022) studied the structural relationship to the extent that two elements of decoding and language comprehension could explain reading comprehension based on the SVR. Using meta-analysis structural equation modeling, they investigated 81 samples, including 10,526 participants across different ages and levels of L2 proficiency. In their study, L2 language comprehension and decoding accounted for greater than 60% of the variation in L2 reading comprehension, with the former contributing more than the latter. Considering age and L2 proficiency as mediating variables, they found that L2 decoding played a less important role for more proficient and older learners, while L2 comprehension remained important across different ages and levels of L2 proficiency. Further, Kang (2021) examined the contribution of English comprehension and general comprehension skills to the reading comprehension of South Korean EFL fifth graders and confirmed the feasibility of the SVR for South Korean EFL readers in elementary school. Her results support the SVR and reveal that oral language comprehension and phonological awareness indirectly affect reading comprehension through the effect of comprehension ability.

As observed thus far, there is a clear interaction between decoding ability and language comprehension, which both have a significant impact on reading comprehension. This holds true for learners regardless of whether they are native speakers (L1) or second language learners (L2). Therefore, it is crucial to foster and develop these skills in both L1 and L2 learners.

2.1.2. Four Phrases of Word Reading.

The most fundamental skill to successful L2 reading comprehension is automatic word recognition (Grabe, 2009; Koda, 2005; Nassaji, 2014). The automatic recognition of words is completed sequentially according to the developmental phases of early learners. Hence, the reading development of English-speaking children has been extensively studied in the field of first language acquisition, focusing on the stages of word recognition (Chall, 1990; Ehri & Wilce, 1983; 1985; Ehri, 1991, 2005a, 2005b; Ehri & McCormick, 1998; Gough & Hillinger, 1980). Considering this development of reading, Ehri (1991, 1992, 1998, 2005a, 2005b, 2014) proposed four phases of word reading in the early stages of students' development, focusing on word acquisition: (1) pre-alphabetic, (2) partially alphabetic, (3) fully alphabetic, and (4) consolidated alphabetic.

According to Ehri (1991, 1992, 1998, 2005a, 2005b, 2014), pre-alphabetic learners perceive words using visual and contextual factors instead of analyzing letters or words. In the partially alphabetic stage, learners begin obtaining textual information and remember how to read in relation to their partial memory. In this stage, words are recognized by their first and last letters. For instance, JAIL is recognized as the first letter J and the last letter L. Upon reaching the fully alphabetic stage, the reader has grapho-phonemic knowledge that allows them to associate decoding skills with spelling and sound in their memory, predominantly in the first and second grades of elementary school in the L1 category. In the L1 category, third graders reach the consolidated alphabetic stage, which builds a grapheme–phoneme connection based on sight

words that can be read by relying on memory rather than decoding. Typically developing readers begin the fully alphabetic phase by late kindergarten or early first grade in the L1 category as their phonics instruction progresses and their phonemic awareness develops. In this phase, instruction should focus on segmenting and blending phonemes and getting children to attend to each grapheme individually. Repeated exposure to words with grapheme–phoneme correspondences is necessary for growth throughout this phase. Exposure promotes orthographic mapping, i.e., it strengthens associations between graphemes and phonemes "to bond the spellings, pronunciations, and meanings of specific words in memory" (Ehri, 2014, p. 5).

This phase model describes how children learning to read can visually retrieve words from memory throughout their reading development (Ehri, 1992, 1999, 2005a, 2005b, 2014; Farrington-Flint et al., 2008; Jackson & Coltheart, 2001). Thus, this model provides significantly more useful information for learners than traditional reading models in that it not only describes the acquisition of sight word reading skills, but also the variability of different reading processes and strategies that activate efficient and automatic word recognition.

Few studies have examined the development of reading in L2 learners; nevertheless, most studies agree that the word reading recognition stages between L1 and L2 learners are similar (e.g., Chiappe & Siegel, 1999, 2006; Chiappe et al., 2002; McBride Chang & Treiman, 2003; Geva & Verhoeven, 2014, Yin et al., 2007). For instance, Chiappe (2002) compared the acquisition of English words in one's L2 from different L1 language backgrounds among

children whose L1 was English. He found that L2 readers acquisition of L2 literacy was like the English word recognition process of native English speakers, indicating that an L1 literacy background does not account for the development of L2 literacy. Rather, alphabetic knowledge or phonological processing strategies that allow one to easily and quickly read words are more important than one's L1 literacy background. Further, Chiappe (2002) argued that ESL learners with other L1 writing systems could proceed through literacy stages like native English-speaking children.

Additionally, Jeon (2016) attempted to combine the L2 cognitive developmental stage and L2 reading experiences of South Korean elementary school students in measuring word reading. Based on Ehri's model (which appeared in the reading development process of English-speaking children), she explored whether L2 students learning Korean follow the four stages of the development of English word recognition. She discovered evidence for L2 students learning to read in English and asserted that foreign languages allow one to acquire the ability to read and write in a manner similar to that of English L1 learners.

Consequently, effortless and automatic language recognition is essential for successful L2 reading comprehension. Existing studies demonstrate that this process allows students to develop word recognition through the same process, irrespective of L1 or L2 contexts. Therefore, word recognition can be easily and automatically performed by increasing alphabetic knowledge and using L1 like processing strategies.

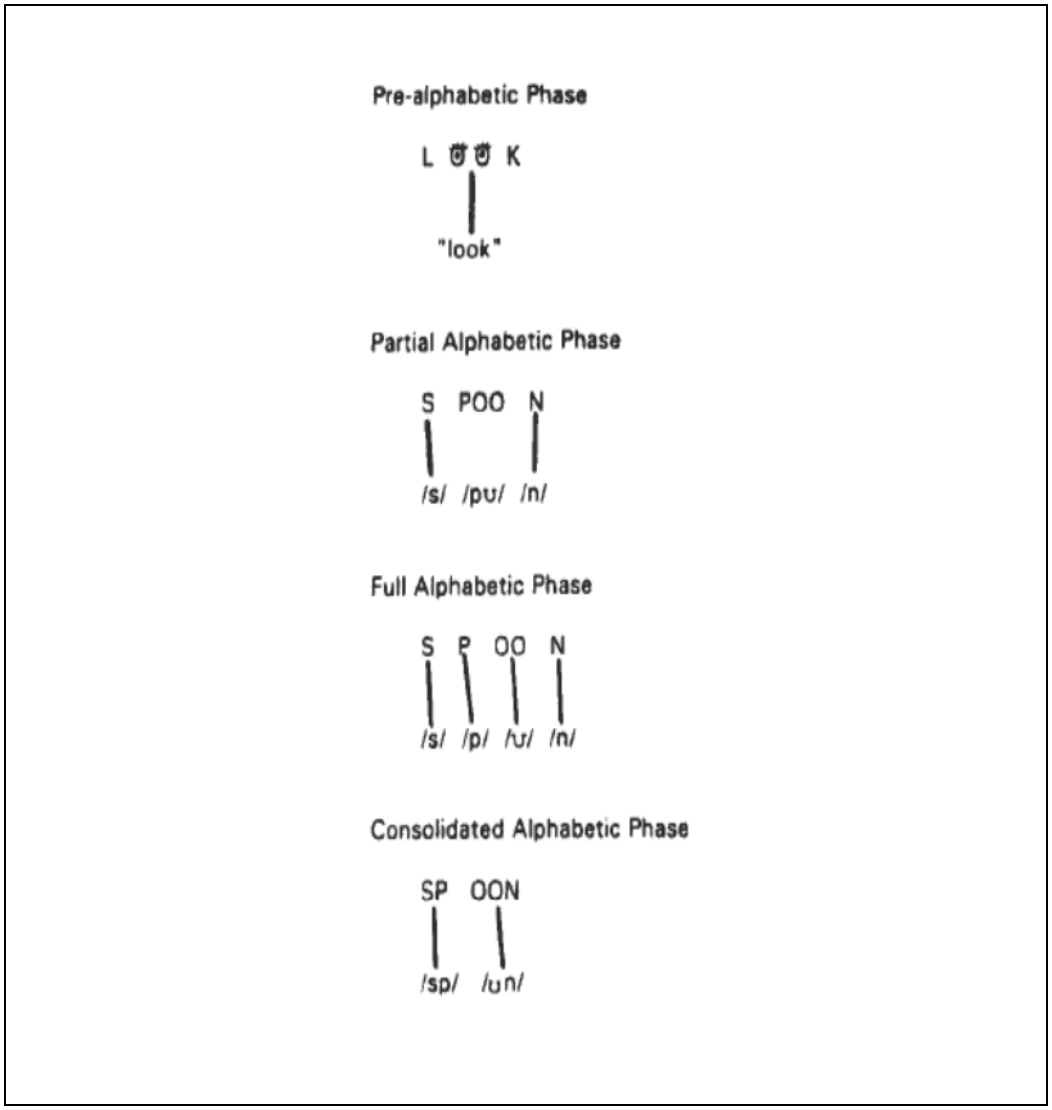


Figure 2.1.

Examples of the Four Phases of Word Reading (Ehri)

Note. Adapted from "Grapheme-phoneme knowledge is essential for learning to read words in English" by L. C. Ehri, 2013. In J. L. Metsala and L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 223–260).

2.2. Different Perspectives on Reading

Traditional views on reading have focused primarily on improving the accuracy and speed of reading based on behaviorism and cognitive psychology (e.g., Edwards et al., 2009; Grabe et al., 2011; Koda, 2007; Proctor et al., 2005). This reading perspective argues that a lack of any of the subcomponents of reading affects the reading process' success. Hence, this standpoint describes reading comprehension primarily based on a sub-function of reading ability (i.e., reading as a complex subfunction). Recently, unlike existing opinions, the social background of students learning to read has also been considered important. Further, reading ability has been perceived from a broader angle (reading as a socially constructed activity) compared to traditional views.

The perspective on reading as a set of composite subskills has limitations in understanding students' learning process because it uses empirical analysis to study reading ability. By contrast, from the standpoint of reading as a socially constructed activity, L2 reading development is more dynamic and complex than previous perspectives. Therefore, from this angle, the performance of literacy skills is socially intertwined and has the advantage of allowing for a wider range of studies than previous perspectives (Cummins, 2003; García, 2000; Hudson, 2007; Koda, 2005). Based on this background, this section introduces the subcategories of reading ability and considers two perspectives of reading: reading as a (1) set of composite sub-skills and (2) socially-constructed activity.

2.2.1. Reading as a Set of Composites of Sub-skills

This perspective explains reading ability as an aggregate based on several components of reading skills (Grabe, 2014; Jeon, 2011; Jeon & Yamashita, 2014; Koda, 2005; Perfetti et al., 2005). In other words, several components work together to build reading comprehension, including word decoding, reading fluency, vocabulary, and syntactic knowledge. Additionally, these components interact with each other to compensate for the deficiencies of specific sub-skills specified in the interactive compensatory model of reading [1] (Stanovich, 1980). These basic competencies must be automated for reading fluency as deficits in certain skills are compensated for at the cost of cognitive resources used in meaning formation (Cunningham & Stanovich, 1998; Nasaji, 2003). For instance, if learners have poor reading ability, they pay excessive attention to character decoding, making it difficult to achieve text comprehension.

While all component skills have been correlated with reading comprehension, several studies have suggested that the predictive power of component skills differs by grade or age in the L2 category (Garcia & Cain, 2014; Lonigan & Burgess, 2017; Lonigan & Schatschneider, 2018; Tilstra et al., 2009). In fourth grade, word decoding is the most powerful predictor of reading

[1] The interactive compensatory model of reading emphasizes the idea that reading abilities are not isolated and independent, but rather interrelated and interactive. Instead of viewing reading skills as separate components, this model recognizes that these abilities can compensate for each other. For example, if a reader has weaker decoding skills, they may rely more on their vocabulary knowledge and comprehension skills to understand the text. This model underscores the importance of considering the synergistic effects of various reading abilities and their combined contribution to overall reading performance.

comprehension but is no longer salient by sixth grade. By contrast, vocabulary and syntactic knowledge, which are not significant in fourth grade, contribute greatly to reading comprehension in sixth grade. Furthermore, once word decoding is fully acquired, the impact of other language skills (e.g., vocabulary, syntactic knowledge) on reading increases in later stages of reading development.

The reading perspective, based on reading sub-skills, uses a narrow, more traditional approach. However, it is pivotal because it considers basic language skills, including decoding, reading fluency, vocabulary, and syntactic knowledge.

2.2.2. Reading as Socially Constructed Activity

Reading as a socially constructed activity recognizes that reading is not an isolated process but is influenced by social and cultural factors. It acknowledges that reading practices and meanings are shaped by the social context, including the cultural norms, values, and beliefs of a community or society. Researchers have found significant connections between students' socio-cultural traits, their background knowledge, and their learning experiences (Burgoyne et al., 2011; García, 2000; Jiménez et al., 1995, 1996).

Scholars adopting a socio-cultural perspective on reading emphasize the importance of students acknowledging their own learning backgrounds and making their background knowledge and experiences meaningful when reading texts (Hudson et al., 2007). They have also examined the link between students'

diverse backgrounds and their second language (L2) reading ability. According to Bernhardt (2000), L2 reading is an active process that involves understanding and reconstructing the meaning of a text, going beyond surface-level reading. From a social perspective, L2 reading should be seen as a skill that is practiced and developed over time. Therefore, a lack of information about students' reading background can have negative consequences for their reading performance.

Several factors associated with socio-cultural background can influence L2 reading ability. Firstly, socio-cultural background encompasses the characteristics, values, norms, and culture of the society in which an individual is situated. Socio-cultural factors such as language use culture, reading habits, and cultural values can have an impact on L2 reading ability. For example, a language use culture that encourages L2 reading or a cultural background that promotes reading habits can positively influence L2 reading ability.

Secondly, the socioeconomic status (SES) of the household can play a role in L2 reading ability. Economically stable households often have more resources and opportunities, which can contribute to improved L2 reading ability. Higher SES households tend to have better access to reading materials and receive adequate educational support.

Thirdly, supplementary education beyond formal schooling can affect L2 reading ability. Cultures that actively engage in supplementary education for L2 reading provide additional opportunities for reading and learning. Participation in activities such as reading clubs, tutoring, and language institutes can support the enhancement of L2 reading ability.

Fourthly, the reading environment at home can significantly impact L2 reading ability. When reading is encouraged at home, diverse reading materials are available, and specific time and space are dedicated to reading, it can contribute to the development of L2 reading ability. A positive reading culture within the home environment can foster L2 reading skills.

Finally, the affective domain, including learners' motivation and self-efficacy, also plays a crucial role in L2 reading ability. When learners have a strong motivation to learn the L2 language and possess confidence in their reading skills, it can positively impact their reading ability. These socio-cultural background factors, in conjunction with various other factors, collectively influence L2 reading ability.

Recently, there have been active studies conducted in domestic settings from a socio-cultural perspective, focusing on the relationship between students' learning background and English reading abilities. This relationship includes the socioeconomic status (SES) of the family and parents, early English education and tutoring, the home literacy context (including the physical and emotional environment), and students' affective domains.

2.3. How Linguistic Abilities Affect L2 Reading

The first perspective on reading, introduced in the previous section, considered students' reading abilities by analyzing the sub-components of reading. Critical factors contributing to L2 reading comprehension in the upper grades include comprehension skills, reading fluency, vocabulary, and syntactic

knowledge. In this regard, Jeon and Yamashita (2014) investigated the correlation factors of L2 reading comprehension through a meta-analysis 58 papers on L2 reading. They proposed 10 components as correlative factors for L2 reading comprehension: (1) L2 decoding; (2) L2 vocabulary knowledge; (3) L2 grammar knowledge; (4) L1 reading comprehension; (5) L2 phonological awareness; (6) L2 orthographic knowledge; (7) L2 morphological knowledge; (8) L2 listening comprehension; (9) working memory; and (10) metacognition. In their study, L2 syntactic knowledge (r = .85), L2 vocabulary knowledge (r = .79), and L2 decoding (r = .56) had significant correlations (in that order); students' age, some measurement characteristics, and L1–L2 language distance were found to be important mediators for some components of reading.

As examined thus far, regarding factors contributing to reading comprehension, studies have reported somewhat different characteristics per the student's level and age. L1 students learn to decode elements associated with literacy education and language comprehension in spoken language. However, unlike L1 learners, decoding and language comprehension may be different variables for reading comprehension in that spoken language variables that develop under the influence of the LI environment are limited in the EFL setting. Therefore, language comprehension may be a more important determinant for learners than decoding after the early stages of learning English. In particular, among the language comprehension sub-competencies, vocabulary and syntactic knowledge have a higher correlation with reading comprehension than any other factors in the EFL context (Grabe & & Stoller, 2019; Lenters, 2004). Considering this argument, this section tries examining decoding, reading

fluency, vocabulary knowledge, and syntactic knowledge as the most important reading sub-competencies for EFL learners.

2.3.1. Decoding Ability

Word decoding is the ability to identify a word's sound quickly and accurately in its printed spelling form (Hoover & Gough, 1990; Jeon & Yamashita, 2014). In other words, it refers to the process of looking at the individual letters constituting a word, making the corresponding sound, and linking meaning to the word. A myriad of empirical L1 studies has highlighted the importance of this skill in reading comprehension (Adlof et al., 2006; Cain & Oakhill, 2006; Gottardo et al., 1996; Perfetti et al., 2008; Siegel & Ryan 1988).

Word decoding has been elucidated as a major predictor of L2 reading, especially for young learners (Droop & Verhoeven 2003; Gottardo & Mueller, 2009; Hoover & Gough, 1990; Jeon & Yamashita, 2014; Kang et al., 2011; Nakamoto et al., 2008; Verhoeven & van Leeuwe, 2012). The importance of decoding decreases with higher grades, and reportedly, language comprehension variables act more as explanatory variables (Adams, 1990; Chall, 1983; LARRC & Chiu, 2018; Haenggi & Perfetti, 1992; Stahl & Murray, 1994). The high correlation between decoding and English reading comprehension in the L1 environment is predominantly limited to young learners. However, findings are inconsistent among students in the L2 category. Several studies have asserted that the role of word decoding in L2 reading is not limited to young learners but

is essential for older learners as well (Jeon, 2011; Mancilla-Martinez et al., 2011; Nassaji, 2003). For instance, word decoding accounts for 59% of the differences between experienced and poor readers among Canadian adult ESL learners (Nassaji, 2003). Additionally, Kim and Cho (2017) maintained that decoding variables are critical factors because students in the upper grades of South Korean elementary schools (fourth, fifth, and sixth grades) still depend on them. These results indicate that the components of lower-level processing abilities are significantly correlated with each other in the L2 environment, even among older, more proficient readers.

At the beginner level, the most effective way to familiarize children with words is increasing the number of words that they know to a level where they can understand their meaning without analyzing the individual letters that constitute a word. That is, the more sight words learners know, the better their word recognition is. Furthermore, by reducing the energy spent on this process, the energy consumption of the subsequent stage of understanding can be reduced. A myriad of studies (Adams, 1990; Calfee, 1977; Chall, 1983; Lundberg et al., 1988, Stahl & Murray, 1994) has demonstrated that early word recognition is highly correlated with late reading ability, thus underlining the importance of word recognition.

As the importance of word decoding emerged, scholars began using various methods to measure it (e.g., Adlof et al., 2006; Hoover & Gough, 1990). For instance, they argued that they could indicate an apparent “sound-out” of words (sometimes called phonological or alphabetic decoding), while experiments compared real word and non-word readings. On the contrary,

several studies have investigated whether reading fluency is a better indicator of decoding ability (LARRC, 2015, Perfetti et al., 2008).

2.3.2. Reading Fluency

The US National Reading Committee and National Reading Panel have published five major elements of the most effective ways to teach reading (explicit instruction in phonemic awareness, phonics instruction, instruction to improve fluency, teaching vocabulary words, and reading comprehension; National Reading Panel, 2000). Of these elements, recently, in both the L1 and L2 environments, along with decoding and language comprehension, reading fluency has emerged as an important variable in describing reading comprehension (Carver, 1993; Hoover & Gough, 1990).

Reading fluency is the ability to read easily, quickly, naturally, and automatically without concentrating on word decoding in a text. This skill is crucial because it is highly correlated with reading comprehension and is a major cause of poor reading comprehension (Rasinski et al., 2009; Torgesen, 2002; Torgesen & Hudson, 2006). Samuels (2007) found that when word recognition is automated through the fluent reading process, learners can focus on understanding words' meaning instead of decoding them. Thus, he asserted that achieving fluency in reading is vital. Lee (2018) examined the development of English reading fluency in elementary school students. She contended that a lack of reading fluency is a primary cause of poor reading ability and should, thus, be taught explicitly in the early stages. She assessed the fluency of 262

students in the fourth, fifth, and sixth grades and found that students' fluency exhibited a gradual development pattern in the upper grades. Further, the difference in level between the upper and lower groups was large, and the gap widened as students transitioned to the higher-level group.

Reading fluency plays a particularly crucial role in the transitional period of decoding and language comprehension in the SVR. The equation RC = D x LC is suitable for beginning and experienced readers alike, assuming the configuration is properly calibrated, but several studies have suggested that fluency should be added as an additional variable to explain reading comprehension ability (Adlof et al., 2006; Kim, 2012; Yaghoub et al., 2012). For instance, Kim (2012) investigated whether the SVR framework is continuously applicable to South Korean high school students and studied 30 tenth graders regarding whether fluency factors can be effective predictors, in addition to decoding and listening comprehension as part of language comprehension. Kim (2012) found that decoding is not a significant factor in predicting reading ability and indicated that oral reading fluency is a replaceable variable. Accordingly, Kim (2012) suggested that the SVR should be improved in the sense of creating an additional model (listening comprehension + fluency) instead of remaining a productive model.

However, despite its importance, fluency has long been overlooked in the process of learning to read (Allington, 1983). Even in the US, it was only just before 2000 that fluency was reflected in the reading curriculum (NICHD, 2000). Until then, fluency was not considered a learning factor because it was believed that reading comprehension would occur automatically when word

recognition was mastered.

Due to the importance of fluency as discussed above, studies on the fluency of children in the early stages of reading have been actively conducted. Additionally, studies on fluency have revealed higher correlations in elementary school and adolescent students compared to adults; hence, research focusing on the possibility of generating predictive indicators for children's overall reading fluency—especially in the early stages of reading—has been performed (Rasinski, 2003). As automatic decoding helps children focus on understanding the meaning of a text (Rasinski et al., 2009; Torgesen, 2002; Torgesen & Hudson, 2006), reading fluency can be used as a strong predictor of proficient reading skills.

A prerequisite for the development of such reading fluency is the accurate and swift recognition of words. If processing is fast, understanding meaning simultaneously while reading a sentence becomes possible. However, several children in the early stages of reading development do not proceed smoothly and struggle to read each word. Moreover, even after reading "it," they do not understand its meaning well. According to theory of reading automaticity proposed by LaBerge and Samuels (1974), processing two tasks simultaneously is impossible due to the limited functioning of the human brain. To perform both tasks simultaneously, learners must master at least one. Hence, if children focus on word recognition, they will not understand the meaning of the sentence properly. That is, learners should reduce the energy used to decode words to focus on reading comprehension. The factors necessary to automate word recognition are speed and accuracy, which are expressed through practice

(Logan, 1997). With practice, learners can master the rules of correspondence between sounds and spelling patterns, which translate into long-term memory. Consequently, this transition allows multiple letters to be read together, thus speeding up word recognition processing; this additional energy can be used to understand content. In this respect, fluency acts as a bridge between word recognition and reading comprehension (Pikulski & Chard, 2005).

2.3.3. Vocabulary Knowledge

Vocabulary knowledge, which includes morphosyntactic knowledge and reading strategies (e.g., Haynes & Baker, 1993, Koda, 2005), is among the greatest contributors to reading comprehension, affecting reading comprehension both directly and indirectly (Cho et al., 2019; Hutchinson et al., 2003; Muter et al., 2004; Roth, et al., 2002; Verhoeven & van Leeuwe, 2008). Vocabulary knowledge is important in both L1 and L2 contexts (Cho et al., 2019; Hutchinson et al., 2003; Muter et al., 2004; Roth et al., 2002; Verhoeven et al., 2008), and several studies have argued that it is the variable with the highest correlation to reading comprehension (Alderson, 2000; Daneman, 1991; Laufer & Sim, 1985). As knowledge of words helps one understand texts, exposure to reading activities helps one develop the comprehension of words (Grabe, 2009; Koda 2005; Stanovich, 2000); notably, the relationship between them is complementary. Additionally, as word knowledge is strongly correlated with reading comprehension irrespective of a learner's stage of development or the type of text read (e.g., Sonbul & Schmitt, 2010), word acquisition is

continuous and gradual (Nagy et al., 2000; Nation, 2001). For instance, Stanovich (2000) agreed with the view that lexical knowledge, along with other variables (e.g., phonological perception, decoding), is mutually and causally linked with reading comprehension. However, the correlation between vocabulary knowledge and reading comprehension might not be as strong as expected, as reading comprehension involves not only knowing the meanings of words, but also understanding and constructing the meaning of the text.

As vocabulary knowledge plays an important role in the reading of L1 learners, it is also one of the biggest obstacles for L2 readers who do not have enough vocabulary knowledge to help them understand a text. However, some studies of reading comprehension among L2 learners have indicated that L2 vocabulary knowledge is significantly more correlated with L2 reading comprehension than L1 reading ability (Carrell, 1991; Lee & Schallert, 1997; Verhallen & Schoonen, 1998; Van Gelderen et al., 2004).

For instance, Van Gelderen et al. (2004) found that among diverse variables, including the processing speed of word reading, vocabulary knowledge, grammar, and metacognitive knowledge in one's L1 (Dutch) and L2 (English), only L2 vocabulary knowledge explained the significant variation in English reading ability beyond the influence of L1 reading ability. Studies confirming the influence of spoken language have suggested that a certain level of spoken language development, especially vocabulary development, must effectively precede reading education for L2 learners (Koda, 2005). In a longitudinal study of EFL learners with Dutch as their L1, Vermeer et al. (2011) found that basic vocabulary knowledge became a powerful predictor of reading

comprehension in the first and second grades. Additionally, they found that vocabulary knowledge was not only a predictor of reading comprehension, but also had a reciprocal relationship with reading comprehension.

In general, vocabulary knowledge is considered a multidimensional construct that encompasses both breadth and depth. Vocabulary breadth refers to the size or quantity of words known by an individual, while vocabulary depth refers to the richness of understanding and the ability to use words accurately in context (Nation, 1993).

The depth of vocabulary is crucial for reading comprehension as it involves understanding the multiple meanings of words and effectively connecting them with the text. It develops through exposure to words in various contexts and contributes to a reader's ability to comprehend texts beyond mere word processing (Perfetti, 2007). On the other hand, vocabulary size, or breadth, plays a significant role in L2 learners' comprehension of reading texts. It has a stronger correlation with reading comprehension compared to the depth of knowledge (Tannenbaum et al., 2006). The relative importance of vocabulary depth and breadth may vary depending on the L2 learner's reading ability. For young learners, word depth may not be a significant variable, whereas in adult L2 learners, word depth has a higher correlation with reading comprehension (Kang et al., 2012; Qian, 1999).

Numerous studies have emphasized the predictive power of vocabulary breadth in reading comprehension, particularly in early language learners (Beck & McKeown, 1991; Freebody & Anderson, 1983; Nation, 2001; Pasquarella et al., 2012; Torgesen et al., 1997; Verhoeven & van Leeuwe, 2008). Insufficient vocabulary size can lead to reading difficulties, especially in early language learners (Beck et al., 1982; Perfetti et al., 2005). Pasquarella et al. (2012) compared native English speakers with entry-level ESL learners and found that vocabulary

breadth was the sole significant predictor of reading comprehension among English L1 learners. However, for ESL learners with diverse language backgrounds, they discovered that decoding skills, vocabulary breadth, and their interaction were strong predictors of reading comprehension. Qian (1999) reported contrasting results for L2 adult learners, showing a higher correlation between vocabulary depth and reading comprehension compared to vocabulary size. This suggests that having extensive knowledge of L2 vocabulary does not guarantee successful L2 reading.

In summary, vocabulary knowledge is multidimensional, encompassing both breadth and depth. While vocabulary breadth is a strong predictor of reading comprehension, particularly in early language learners, vocabulary depth plays a more significant role in L2 adult learners' reading abilities.

2.3.4. Syntactic Knowledge

Syntactic or morphological knowledge is critical to reading development (Hagtvet, 2003) and has been termed as “syntactic knowledge.” Syntactic knowledge (1) enables the reader to identify the subject–verb–object elements of a sentence, which, in turn, allows them to determine the subject and general meaning of the sentence; (2) enables the reader to relate ideas within or across sentences; (3) is considered a supra-lexical process related to listening comprehension (Share & Leikin, 2004); and (4) is relevant to reading comprehension because it is a component of lexical knowledge (Perfetti & Hart, 2002).

Both vocabulary and syntactic knowledge exert a similar effect on reading comprehension in the L2 category. For instance, Barnetts (1986) measured

grammar, vocabulary, and reading comprehension in L2 separately for research validation and found that learners' reading comprehension depends on both vocabulary and syntactic knowledge in a symmetrical pattern.

Generally, it has long been acknowledged that vocabulary knowledge is the key distinguishing feature in successful L2 reading performance compared to syntactic knowledge (Brisbois, 1995; Nassaji, 2003; Ulijn, 1984; van Gelderen et al., 2004; Zhang, 2012). However, some studies have reported a more significant role of syntactic knowledge in L2 reading comprehension over vocabulary knowledge (Shiotsu & Weir, 2007, Shiotsu, 2010), emphasizing a crucial feature for building coherence in a text during L2 reading (e.g., Alderson, 2000; Fender, 2001; Lesaux et al., 2006; Lipka & Siegel, 2012). For instance, Shiotsu and Weir (2007) found that syntactic knowledge holds stronger predictive power in L2 reading performance than vocabulary knowledge. Alderson (1984, 2000) affirmed that there could be a close link between syntactic knowledge and reading comprehension. Additionally, Kinch (2011) argued that syntactic knowledge is essential for reading comprehension, as understanding the sentence structure is necessary to understanding a text. He proposed that syntactic knowledge is key to constructing a situation model from the most important syntactic cues and semantic-based components.

However, irrespective of the comparison of the important contribution of vocabulary and syntactic knowledge, numerous studies agree that the morphological syntax of L2 learners exerts a significant effect on L2 reading comprehension (Bernhardt, 2000; Droop & Verhoeven, 2003; Jeon, 2011; Jeon & Yamashita, 2014; Shiotsu & Weir, 2007; Verhoeven, 1990). For instance, Jeon

(2011) investigated the contribution of morphological perception to the reading variance of 188 South Korean high school students. Jeon (2011) focused on derived morphological knowledge and verb suffixes, as well as other strong predictors (e.g., phonological decoding, vocabulary knowledge, listening comprehension). Jeon (2011) found that morphological awareness is an important predictor of L2 reading. Similar results have been reported for older participants in Japan (591 college students learning English), and syntactic knowledge has been found to be a relatively more important predictor of reading comprehension (explanation: 72%) than vocabulary knowledge (Shiotsu & Weir, 2007). In a study by Babayig˘it (2014), morphosyntactic skills measured by the sentence recall task were associated with listening and reading comprehension in a mixed group of native speakers and L2 learners. Moreover, several researchers have examined children who were L2 learners and performed worse on measures of syntactic recognition than native English speakers (Lesaux et al., 2006). Within the L2 group, those with poor comprehension performed worse on syntactic knowledge than those with better comprehension (Lipka & Siegel, 2012). These findings suggest that syntactic knowledge could be a strong impediment to learning achievement among young L2 learners.

Several studies have highlighted the usefulness of syntactic knowledge for the following reasons: First, in terms of the timing of learners' development, it has generally been accepted that morphosyntactic knowledge plays a crucial role for L1 learners after acquiring word decoding ability (Lyster, 1995; Nation & Snowling, 1997). For instance, Droop and Verhoeven (2003) found that for

monolingual Dutch children, the effect of morphological syntax on reading comprehension was mediated by oral text comprehension in the third grade but was directly affected by morphological syntax in the fourth grade. Second, syntactic knowledge has been useful in identifying general and struggling readers (Adlof & Catts, 2015; Tong et al., 2014). Struggling readers generate sentences with simpler syntax (Scarborough, 1989), perform poorly in understanding complex syntax (Crain et al., 1990; Mann et al., 1984), and have difficulty identifying and correcting grammatically incorrect sentences (Tunmer et al., 1987).

2.4. Sociocultural Background Affecting L2 Reading

Socio-cultural background factors provide opportunities to examine reading development and directly or indirectly influence reading ability (Goldenberg et al., 2007). Recent research has focused on exploring learners' reading variables within the context of their socio-cultural traits (Pennycook, 2001; Street, 2003; Street & Street, 1995; The New London Group, 2000). In contrast, traditional methods have primarily analyzed language components to investigate linguistic comprehension ability. However, this expanded concept of literacy not only situates literacy within a socio-cultural context but also highlights the significance of cultural and linguistic diversity that language learners bring to the learning environment (Barton & Hamilton, 1998; Bloome & Katz, 1997).

Considering this context, this section aims to examine the relationship

between reading and socio-cultural background factors, including individual differences, family socioeconomic status (SES), private tutoring education, home literacy environment, and affective domains. These factors play a crucial role in shaping reading abilities and experiences.

2.4.1. Individual Difference and L2 Reading

Among the various factors that influence L2 reading proficiency, individual variables such as gender, learning strategies, cultural background, and cognitive processing differences play important roles. On average, females tend to demonstrate superior performance in reading tasks, including L2 reading. However, it is important to note that these differences are based on group averages and do not determine an individual's reading ability. Factors such as intrinsic motivation exert the greatest influence on participants' reading abilities, as revealed by Yoon's (2003) study that examined various factors, gender differences, and disparities in reading ability. Furthermore, he argued that there are gender-specific differences in the learner factors that impact reading ability. Specifically, male students rely solely on intrinsic motivation, while female students exhibit a tendency to optimize their reading abilities through the diversification of learning strategies and interaction with intrinsic motivation. Understanding and addressing these individual variables enable learners and educators to make effective efforts towards enhancing L2 reading abilities. Given that each learner possesses unique individual differences, it is crucial to consider factors such as motivation, learning strategies, and cultural

background in order to provide tailored support and education.

2.4.2. Family's Socioeconomic Status and L2 Reading

Research on the association between parents' socioeconomic status (SES) and school achievement has been conducted extensively. Studies have actively investigated the role of family SES in educational disparities (Cheung & Anderson, 2003). The Coleman Report (Coleman, 1966) emphasized the influence of family background on students and argued that "school has minimal impact on student school achievement when controlling for students' background and environment." Numerous studies support the findings that higher SES and greater parental expectations and involvement in their children's education contribute to the students' school achievement (Park, 2011; Plowden report, 1967). While these studies are not limited to reading alone, considering that reading activities form the foundation of all academic performance, it can be inferred that there is a strong correlation.

In general, parents' SES is measured by a combination of their income, education, and occupation, and it exhibits a strong relationship with reading achievement, accounting for a significant portion of school academic performance (Coleman, 1988; Pong, 1997; Sirin, 2005). For example, Hess and Shipman (1965) revealed that family SES is a crucial factor influencing children's language development. They concluded that parents' interactions with their children during problem-solving situations differed based on household income levels, leading to differences in children's language abilities (Bloom,

1981). Additionally, Jensen (1976) analyzed social-hierarchical differences in language and cognition and found that interactions between parents and children at home play a vital role in language learning. They discovered that lower parental SES was associated with lower language abilities during interactions with their children, ultimately impacting the children's language proficiency negatively.

As the relationship between family SES and students' school achievement has been investigated, there has been an increased interest in understanding the school's role in learning outcomes, resulting in various studies. However, there is an ongoing debate regarding whether the educational disparity is primarily caused by students' lack of educational attainment (influenced by the school) or by the socio-economic characteristics of families that are not influenced by the school, or a combination of both factors.

If family SES significantly affects school achievement, interventions solely within the schooling system may have limited efficacy. For example, Philips (2004) explained that the home environment accounts for more than half of the achievement gap between white and black students at the start of schooling. Rothstein et al. (2005) argued that the claim that effective schooling narrows the achievement gap between middle- and low-income students has not been adequately tested. Rothstein (2010) concluded that evaluating the effectiveness of schooling in reducing socio-economic inequality and improving academic performance is challenging. These findings suggest that the role of schools is limited because home SES is considered a major influence on students' academic success.

Domestic studies have consistently shown a positive correlation between SES and learning achievement, particularly in English achievement based on reading skills (Kim et al., 2006; Kim et al., 2008). For instance, Park and Chang (2012) compared student and school-level factors related to changes in study achievement in sixth grade. Among English and math subjects, students studying English exhibited the greatest deviation at the school level, and the average SES of students at the school positively correlated with achievement in English class. Furthermore, Jung and Jung (2015) investigated the relationship between parents' education level and children's language development, finding that higher parental education levels were associated with better reading abilities in children.

Overall, prior studies have confirmed that parents' role in raising and educating children at home is more influential than children's individual characteristics in terms of their reading abilities. Moreover, especially in English class, parents' SES and support for a literacy-rich environment are more directly linked compared to other subjects.

2.4.3. Private Tutoring and L2 Reading

Private tutoring in South Korea, particularly in the context of early English education, has generated significant controversy. Quantitative studies have focused on evaluating the effectiveness of early English education and tutoring in elementary school, as well as examining the tutoring status of students. Qualitative studies, on the other hand, have primarily delved into the

perceptions of students and parents regarding English tutoring. These studies have shed light on the stark educational inequality that exists in relation to private English education (Lee, 2012). Notably, approximately 70% of students receive private education before entering school, resulting in a noticeable disparity in English proficiency when formal English education begins in the classroom (Choi, 2017; Lee, 2012; Park, 2012; Park, 2013).

Numerous studies have been conducted on private English education in South Korea, with a focus on its effectiveness and the early initiation of English education. Several studies have reported a positive correlation between the cost of private education and academic achievement, highlighting the efficacy of private education in areas such as listening and affective learning (Choi & Baek, 2017; Lee, 2012; Park & Jang, 2012; Park et al., 2013). Jung (2016) found a slight correlation ($r = .301$) between total private education spending and academic success. Choi and Lee (2019) investigated the impact of early English education before elementary school on the affective domains of English learning in elementary school. They discovered statistically significant differences in self-efficacy, interest, and attitude, but no significant difference in motivation and anxiety.

Qualitative studies on private English tutoring have primarily centered around students' and parents' perceptions. Case studies have explored the experiences of elementary and middle school students with regards to English tutoring. For instance, Park (2012) conducted in-depth interviews with fifth-grade students and found that the primary difference in their perceptions of tutoring classes was the instructional focus and amount of time devoted to

teaching. Students viewed English taught at school as enjoyable and interesting, while private tutoring was considered the foundation for studying and acquiring English. Similarly, Ryu and Kang (2013) examined how students' perceptions of English learning evolved from elementary to middle school. The students recognized the necessity of English tutoring to improve their language skills.

Research on parents' perceptions of English education has also been actively pursued. In South Korea, where English exposure is limited, parents wield the greatest influence on early English education and the English education of elementary school students (Lee, 2015). Studies have shown that parents' enthusiasm for early English education and their active involvement in their children's learning significantly correlate with the effectiveness of English learning (Cho, 2012). Furthermore, due to the shortage of English education time in schools and limited exposure to native speakers, many parents provide English tutoring for their children (Park, 2005). Surveys have indicated that the majority of elementary school parents recognize the importance of early English education and arrange for their children to receive tutoring before third grade (Lee, 2005).

In summary, a substantial proportion of students in South Korea receive private tutoring, and the expenditure on tutoring and early English education is higher among families with higher income levels. This indicates the presence of educational inequality in English education. Moreover, English education in South Korea heavily relies on parent-centered private education rather than student-centered education.

2.4.4. Family Literacy Environment and L2 Reading

According to Bloom (1964), the environment is a major factor in determining the scope and type of change that humans experience. The environment is essential because it exerts a sensitive influence during the most rapid shifts in human development. Based on this view, recent studies have focused on the effects of the family environment on academic achievement (Park & Kim, 2015). The family environment includes support and encouragement from one's family members, trust and tolerance among them, and parents' social networks. Leitcher (1984) classified the family environment, which affects children's experiences related to literacy, into the following three categories: (1) the physical environment, such as the family's SES, the type of visual stimulus, and the level of provision of physical components in the home for the child's literacy-based experiences; (2) the child's interactions with their parents, siblings, or other family members, including conversations regarding literacy, explanations, or providing feedback; and (3) support for children's literacy-based experiences with an emotional and encouraging atmosphere provided at home (Jung & Kim, 2008).

Park and Kim (2015) examined the differences in children's English proficiency according to the support offered by the family literacy environment by dividing it into two perspectives— specifically, physical and emotional. In terms of the physical environment, both quantitative and qualitative analyses have revealed that the higher the literacy support in the physical setting, the greater the child's English ability. The emotional environment manifests in the form of parents' support for students' school activities and positively affects

their academic achievement. For instance, Fan and Chen (2001) found that parents' academic expectations and support exhibited a strong, positive relationship with academic success in their meta-analysis on the link between parental involvement and academic performance. Additionally, they asserted that the more parents support learning activities, the higher their children's learning motivation and academic achievement.

Parental stimuli—such as the amount and content of verbal stimuli that parents provide to their children, emotional and verbal responsiveness, and the degree of participation in children's activities—affect children's reading ability (Carew, 1980; Elardo et al, 1975; McGowan & Johnson, 1984). For example, Hess and Shipman (1965) reported that when mothers' language and attitudes toward their children were persuasive and rational (versus imperative and directive), the child's intellectual development level was higher than when they were not. Additionally, Coleman (1996) found that school did not significantly affect academic achievement, and that one's home (rather than school characteristics) was the biggest variable influencing learners' academic achievement. By contrast, several studies have reported that the sociocultural status of the home can indirectly affect students' learning achievement in the home environment instead of the immediate context itself. For instance, Bernstein et al. (1993) found that students' socio-economic environment affected their academic achievement through cultural factors such as level of desire, language, and interaction. Grabe (2009) highlighted that language in the home, family literacy stimuli, parents' SES, and attitudes and beliefs related to reading influence L2 learners. These findings suggest that when parents have an

interest and expectations for their children's education, talk a lot, and support their children's learning, their children's educational performance can be improved.

2.4.5. Affective Domains and L2 Reading

Factors related to affective domains, such as students' learning attitudes and motivations, considerably explain their academic performance (Kim et al., 2008; Lee et al., 2011). According to prior studies (Akkakoson, 2013; Du, X. ,2009; Choi, 1989; Jeon, 2008; Kondo-Brown, 2006; Lee, & Kim, 2020; Kim, 2007; Kim, 2010; Lee, 2012; Oh, & Cha, 2017; Park, 2011), the cognitive and affective factors impacting academic achievement include academic efficacy, learning motivation, learning attitudes, and learning strategies. Such psychological variables have a high correlation with academic success in all subjects, including English (Jeon, 2008; Kondo-Brown, 2006; Lee, & Kim, 2020; Kim, 2007; Kim, 2010; Lee, 2012; Oh, & Cha, 2017; Park, 2011). Kellaghan (1977) demonstrated a high correlation (.50–.55) between the affective domains and English proficiency. Oh and Cha (2017) applied second-year data from *The Korean Education Longitudinal Study 2013* and a multi-level structural equation model (SEM) to present the structural relationship between students' and the school's characteristics that affect the English academic achievement of elementary school sixth graders. At the student level, there was a structural link between the intrinsic motivation to learn English, academic self-efficacy, test anxiety in relation to class commitment, parents' support, and parents' SES. Based on their results, they suggested that to increase the English academic proficiency of elementary school students, paying attention

to students' affective characteristics and school level is necessary. Additionally, Jin et al. (2016) explored the effect of variables such as learning motivation, academic self-efficacy, learning attitude, and learning strategy on the academic success of elementary school students. They found that academic self-efficacy exerted a significant effect on learning motivation, learning attitude, and learning strategy.

As such, students' emotional factors in English class are highly important, especially for EFL learners, and further research is needed because they affect learning achievement in addition to individual factors (Akkakoson, 2013; Kondo-Brown, 2006).

CHAPTER 3

METHODOLOGY

This chapter provides an overview of the research methodology employed, encompassing the research design, participants, data collection, and data analysis procedures used to address the research questions.

3.1. Participants

The study recruited 678 students from seven elementary schools in mid-income areas of five provinces in Korea. The students were 12 or 13 years old when they were recruited and were all sixth graders who had been learning English.

Out of the initial sample of 678 students, 80 were excluded from the study due to various reasons such as absences, missing test values, and failure to submit questionnaires. As a result, the final number of participants in the experiment was reduced to 598. The gender distribution of the participants was also provided, with 327 male students (54.7%) and 271 female students (45.3%). This information provides an essential context for understanding the sample characteristics of the study. All of the 598 participants were in their sixth year of elementary school and had been learning English as a regular subject for more than three years. The participants in this study were enrolled in public schools that followed the Korean National English Curriculum and shared the same achievement goal. Data collection took place at the start of the second semester following the summer vacation in 2021. This timeframe was considered representative of the English

proficiency and learning experiences of Korean sixth-grade students.

The seven schools were chosen to represent the characteristics of sixth graders in various regions. The participating schools were located in Seoul, Incheon, Suwon, Changwon, and Jeonju. Specifically, two schools in Seoul accounted for 27.1% of the total number of students, and two schools in Incheon accounted for 28.1% of the total number of students who participated in the experiment. In Suwon, Jeonju, and Changwon, one school from each city participated, and the ratios were 19.1%, 12.2%, and 13.4% respectively. Four schools in the metropolitan areas (Seoul and Incheoun) and three schools in provincial urban regions (Suwon, Changwon, and Jeonju) were included in the final analysis. According to national statistics on educational resources, housing, and land prices (Korean Statistical Information Service, 2021), all seven schools were in mid and low-income areas. According to the results of the National-Level Basic Academic Ability Diagnostic Test [2], each class had 1.5-2 students who were underperforming. Three schools (i.e., Schools A, B, and E) had native English teachers and Korean English teachers conducting cooperative classes, while one school (i.e., School E) operated an innovative curriculum (See Table 3.1)

The participating students were recruited through their teachers, who distributed the experiment consent form to parents and students before the start of the study. This form included information about the research and sought consent

[2] The National-Level Basic Academic Ability Diagnostic Test is conducted once a year in March at the national level. It aims to measure students' academic ability and learning skills in the main subject areas. This assessment is led by national educational institutions or authorities and is intended to evaluate the overall national level rather than individual school or student achievements. After the assessment, students who receive low scores are identified, and corrective measures are implemented through additional learning support.

to collect and use the students' scores. Table 3.1 provides a summary of the schools that participated in the study.

TABLE 3. 1

Information on Participating Schools

	School A	School B	School C	School D	School E	School F	School G
Total number (N) [1]	87 (82)	94 (80)	93 (83)	94 (85)	133 (114)	115 (79)	124 (78)
Region of schools [2]	*Seoul	*Seoul	*Inch-eoun	*Inch-eoun	**Suwon	**Chun-Ju	**Chang-won
Cooperative class [3]	Impleme-ntation	Impleme-ntation			Impleme-ntation		
Average number (N) [4.]	20.4	18.5	20.5	19.9	24	25	24
Note					Innovation school[5.]		

[1.] Total number of students in the school (Grades 6). "N" in parentheses refers to the number of participants involved in this study.

[2.] * Metropolitan city ** Medium-sized city

[3.] Schools where native English-speaking teachers are in schools and classes are conducted with Korean teachers.

[4.] Average number of students in a class

[5.] A type of school that devises and applies a new curriculum, unlike the uniform curriculum of public education.

Although individual students' English proficiency was not assessed in this study, data were collected through a questionnaire regarding their overall experiences with learning English. Table 3. 2 provides an overview of the

participating students' English learning experiences, including factors such as living in an English-speaking country, attending an English-speaking kindergarten, owning English books at home, and engaging in English learning activities outside of school. There were notable discrepancies in the number of English books at home and the extent of English exposure before and during elementary school.

In terms of private tutoring during kindergarten, School B had a higher proportion (71.2%) of students receiving more than 3 hours of English tutoring per week, while School C had a lower proportion (27.7%). Conversely, among students who did not have any English education experiences during kindergarten, School B accounted for only 3.8%, whereas School C had 33.7%, indicating significant differences in pre-school English experiences among the seven schools.

The prevalence of private English education during elementary school also varied across schools, with a maximum of 76.8% and a minimum of 46.8% of students receiving private English education for more than 3 years. The percentage of students with less than one year of English learning experiences in elementary school also differed by at least 11.2%, ranging from a maximum of 35%. Although there was a noticeable difference, it was less pronounced compared to the variation in private English tutoring experiences before elementary school.

The information presented in Table 3.2 suggests that while there are slight variations among schools, the majority of participants come from similar socioeconomic backgrounds and have comparable English learning levels. In other words, the table indicates that the participants predominantly belong to middle or low-income families with limited English-speaking experiences both inside and outside of school, and their English proficiency seems to range from intermediate

to low.

It is worth noting that among the sixth-grade students, the estimated number of students with overseas experience of 3 years or more is around 0-2. The proportion of students who attended full-day English kindergartens ranges from 4.8% to 30%, and the percentage of households with 11 or more English books ranges from 21.7% to 41.9%. Additionally, students who received English supplementary education more than 3 times a week before starting school accounted for 27.7% to 71.2%. Furthermore, students who received English education for 3 years or more after starting school ranged from 46.8% to 76.8%.

While the study did not analyze the research results on an individual school basis, information on English learning in each school was collected to provide a general understanding, as depicted in Table 3.2. It is important to highlight that, apart from two schools with a similar proportion of students attending full-day English kindergartens as found by Kang (2017) (25%), the percentage was generally low in the other schools.

Table. 3. 2
English Learning Backgrounds of the Participants by Schools

***N* (%)[1]**

		School A	School B	School C	School D	School E	School F	School G
Residency in English speaking countries	No	80 (97.6)	78 (97.5)	82 (98.8)	84 (98.8)	113 (99.1)	79 (100)	76 (97.4)
	Yes	2 (2.4)	2 (2.5)	1 (1.2)	1 (1.2)	1 (0.9)	0 (0)	2 (2.6)
Attending Full-day English Kindergarten	No	78 (95.1)	59 (26.2)	79 (95.2)	79 (92.9)	104 (91.2)	75 (94.9)	58 (74.4)
	Yes	4 (4.9)	21 (30.0)	4 (4.8))	6 (7.1)	10 (8.8)	4 (5.1)	20 (25.6))
Presence of English books at home	None	15 (18.2)	13 (16.3)	23 (27.7)	28 (32.9)	18 (15.8)	21 (26.6)	18 (23.0)
	10 or less	35 (42.7)	35 (45.7)	42 (50.6)	31 (36.5)	51 (44.7)	34 (43.0)	27 (35.1)
	11 or more	32 (39.1)	32 (40.0)	18 (21.7)	26 (30.6)	45 (39.5)	24 (30.4)	33 (41.9)
Private [2] education in English during kindergarten	None	15 (18.2)	3 (3.8)	28 (33.7)	18 (21.2)	29 (25.4)	14 (17.3)	2 (1.4)
	Around 2 hours	41 (50.0)	20 (25.0)	32 (38.6)	35 (41.2)	38 (33.3)	31 (40.0)	24 (31.1)
	More than 3hours	26 (31.8)	57 (71.2)	23 (27.7)	32 (37.6)	47 (41.3)	34 (42.6)	52 (67.5)
Private education in English during elementary school	Less than 1 year	10 (12.2)	9 (11.2)	29 (35.0)	23 (27.1)	24 (21.1)	13 (16.0)	12 (14.9)
	Less than 2 years	9 (11.0)	16 (20.0)	11 (13.3)	23 (27.1)	12 (10.5)	9 (10.7)	13 (16.2)
	More than 3 years	63 (76.8)	55 (68.8)	43 (51.7)	39 (46.8)	78 (68.4)	57 (73.3)	53 (68.9)

Note. [1] The number of students who participated in the survey and responded to the items. The percentage is indicated in parentheses for each item.
[2] Approximate conversion of private tutoring hours received per week.

3.2. Instruments

3.2.1. Indicators of Latent Profile Analysis

To evaluate the L2 reading-related abilities of the participating students and identify distinct groups based on their L2 reading skills, the study employed a set of indicators. These indicators were established to capture various variables associated with the students' reading abilities.

The NICHD research has extensively investigated various aspects of reading skills, including phonology, fluency, vocabulary, and reading comprehension. Taking insights from these findings, the present study specifically focused on decoding ability as an indicator of phonological skills in reading contexts. Decoding skill was evaluated using two distinct measures: nonword reading and word reading. The intention behind this differentiation was to explore whether students' decoding abilities relied more on phoneme-grapheme correspondence or word recognition itself, thus providing insights into the nature of their decoding skills. The study also took into account language comprehension ability, particularly in an English as a Foreign Language (EFL) context, with a specific emphasis on syntactic knowledge.

In light of these considerations, the study identified six indicators of reading abilities: L2 non-word reading, L2 word reading, L2 passage reading, L2 vocabulary knowledge, L2 syntactic knowledge, and L2 reading comprehension. These indicators were then consolidated into five constructs: L2 decoding ability (which encompassed non-word and word reading), L2 reading fluency (measured through passage reading), L2 vocabulary knowledge, L2 syntactic knowledge, and L2 reading comprehension. The study employed measurement tools to assess these constructs and other variables associated with students' L2 reading-related skills.

To capture the different dimensions of decoding ability in L2 reading, the study distinguished between two primary routes: the phonological route, which involved matching graphemes to corresponding phonemes, and the lexical route, which involved accessing whole words. While traditional definitions of word reading emphasized the importance of phonological processing and sound recognition, some researchers argued that accessing whole words should also be considered in decoding to fully understand its relationship with reading comprehension. Consequently, this study defined decoding ability to encompass both non-word reading (assessing the phonological route) and word reading in English (assessing the lexical route). By employing separate measures for non-word reading and word reading, the study aimed to investigate the extent to which students relied on phoneme-grapheme correspondence or word recognition in their decoding skills.

The study also addressed the important aspect of reading fluency, which is closely connected to reading comprehension. While some studies used word reading as an indicator of fluency, this study defined reading fluency in terms of passage reading. Passage reading encompasses factors such as reading speed, accuracy, and comprehension. However, due to limitations in the experimental setup, elements such as intonation and expression were not included in the measurement of fluency.

To assess vocabulary and syntactic knowledge in L2 learners, the study employed clear and theoretically grounded definitions. L2 vocabulary knowledge was defined as a comprehensive understanding of lexical entries, encompassing a broad range of knowledge about words and their meanings. This definition was particularly relevant for lower-level L2 learners and supported reading

comprehension. On the other hand, L2 syntactic knowledge involved a thorough understanding of the rules and principles that govern the structure and usage of a language.

Lastly, L2 reading comprehension (RC) was regarded as the ultimate objective of reading ability and was evaluated using multiple-choice reading comprehension tests.

3.2.2. Measurements

This study used six indices to measure the variables of students' L2 literacy components and reading comprehension, including L2 decoding ability (measured by two measures: non-word reading and word reading), L2 oral reading fluency, L2 vocabulary knowledge, L2 syntactic knowledge, and L2 reading comprehension. Each of these measures was used as an indicator to assess students' L2 reading-related abilities.

A pilot test was conducted before the experiment to establish the research method for measuring the students' literacy components and reading comprehension. The three tasks used to measure decoding and oral fluency abilities, which were non-word reading, word reading, and passage reading, had a time limit to prevent the ceiling effect. The remaining three tasks, syntactic awareness, vocabulary knowledge, and reading comprehension also had a time limit, but the limit was relatively relaxed to allow the participants to complete all items. Each measurement tool underwent a pilot test to reduce participant fatigue, and only items with high validity and reliability were included in the final test. The supporting data and sources of each test tool, the number of items, and the test

duration are detailed in Table 3.3

Table 3. 3

A Summary of Instruments and Procedures

Constructs	Measures	Source	Time (sec/ min)	Session
L2 decoding	1.Non-word reading	TOWRE [1]	45 sec	1
	2. Word reading	TOWRE [1]	45 sec	1
L2 reading fluency	3. Oral passage reading	DIBELS Step 1 [1]	1 min	1
L2 vocabulary knowledge	4.Vocabulary size test	Researcher-made/ Nation [2]	30min	2
L2 grammar knowledge	5. Grammar knowledge test	Researcher-made [2]	40min	2
L2 reading comprehension	6. Reading comprehension test	Researcher-made [2]	40min	3

Note. [1] Tasks to count the number of words read quickly in a limited time
[2] Tasks that can solve all problems within the specified time

3.2.2.1. L2 Non-word Reading Test

Nonword reading, specifically in the context of the Test of Word Reading Efficiency (TOWRE), refers to the Phonemic Decoding Efficiency subtest. This subtest is designed to assess an individual's ability to accurately and fluently read pronounceable nonwords, which are letter combinations that follow phonetic rules

but do not correspond to real words. Nonword reading performance on the TOWRE provides insights into an individual's phonological decoding skills, as it requires them to apply their knowledge of letter-sound relationships to accurately pronounce unfamiliar letter strings.

During the Phonemic Decoding Efficiency subtest, participants are presented with a series of nonwords and are instructed to read them aloud as quickly and accurately as possible. The number of correctly pronounced nonwords within a specific time limit (45 seconds in this study) is used to calculate the individual's nonword reading efficiency score. This score reflects their ability to apply phonological decoding strategies to decode unfamiliar letter combinations, which is a crucial component of overall reading ability.

In this particular study, the researcher utilized two forms (Forms A and D) of the Word Reading subtest from the Test of Word Reading Efficiency–Second Edition (TOWRE-2; Torgesen et al.) to measure nonword reading. All 66 words in these forms were nonwords, meaning they had no real meaning or existence in the English language. The order of the nonwords was slightly modified, but the overall structure of the instrument remained the same. Participants performed two reading tests using Forms A and D, and their scores were averaged to represent their nonword reading performance.

During the assessment, participants were required to read aloud as many words as possible within the given time limit. The total score was determined by counting the number of correctly read words within the 45-second time frame. This measurement approach allowed for an evaluation of participants' proficiency in decoding and identifying nonwords efficiently.

Overall, the TOWRE nonword reading subtest served as a tool for assessing

participants' phonological decoding skills, providing insights into their ability to decode unfamiliar letter combinations and contribute to their overall reading ability. The final version of the test can be found in Appendix 1.

3.2.2.2. L2 Word Reading Test

In this study, the researcher utilized the Sight Word Efficiency (SWE) subtest from The Test of Word Reading Efficiency (TOWRE) to assess participants' word reading proficiency. The TOWRE is specifically designed to measure how well individuals can quickly and accurately recognize and read common sight words. Sight words are frequently encountered words in written texts that are expected to be instantly recognized rather than phonetically decoded. The SWE subtest focuses on evaluating automaticity and fluency in sight word reading. Similar to non-word reading, this study employed two forms (Forms A and D) of the Sight Word Efficiency (SWE) subtest from the Test of Word Reading Efficiency–Second Edition (TOWRE-2) to measure participants' ability to read sight words. The SWE subtest aims to assess the size of an individual's sight word vocabulary, which refers to words that can be recognized quickly and effortlessly as whole units without the need for phonetic decoding. These are words that L2 readers have memorized and can readily identify. The SWE subtest involves a timed task where participants are required to read actual words from a vertical list. It is considered a reliable and efficient measure of individuals' sight word reading ability, which is a crucial component of reading proficiency.

During the SWE subtest, participants were presented with a list of words and instructed to read as many words as possible within a designated time limit

(45 seconds in this study). The words chosen for this subtest were selected based on their high frequency of occurrence in written materials. The number of sight words correctly read within the given time frame was used to calculate each participant's sight word reading efficiency score. Proficiency in sight word reading is essential for effective reading comprehension, as it allows cognitive resources to be allocated to understanding the overall meaning of the text.

Additionally, a word reading test was conducted to measure the number of words that participants could read within 45 seconds. Test administrators instructed participants to read high-frequency words at a fast pace, and the task was concluded if participants made three or more consecutive errors or failed to respond within five seconds. The presented words were arranged in order of difficulty, ranging from easy to difficult, with 'go' as the first word and 'transfusion' as the last word (e.g., go/dog/not/meat/best/start/question/custom/inquire/straight-ten/particular). The final version of the test can be found in Appendix 2.

3.2.2.3. L2 Oral Reading Fluency Test

In this study, the researcher utilized the Dynamic Indicators of Basic Early Literacy Skills assessment [3](5th ed.; Good, Kaminski, Smith, Laimon, & Dill, 2001) to assess oral reading fluency. DIBELS is a tool specifically designed to evaluate literacy acquisition and measure specific reading skills that have been identified and empirically validated as predictors of overall reading proficiency. The assessment aims to provide insights into future reading development.

[3] Driven from Testing Materials | DIBELS® (uoregon.edu)

To measure reading fluency, the researcher specifically employed the "Oral Reading Fluency (ORF)" component of DIBELS. Students engaged in one-on-one sessions with their teachers, during which they were instructed to read a provided passage consisting of three paragraphs. The assessors recorded the students' reading speed and accuracy throughout these sessions. The measurement criteria included the number of words read within one minute, the accuracy of reading, and the speed of reading. These criteria were combined to assess the students' overall reading fluency.

In this study, participants were given the task of reading a total of 170 words within a one-minute timeframe. It was important for the participants to comprehend the meaning of the text as they read. After completing the reading, a brief comprehension quiz was administered. The difficulty level of the passage was carefully considered, aiming for an appropriate level that allowed intermediate-level students in a pilot study to read approximately 70 words per minute. The selected sentences were adjusted to match the reading level of first-grade students, as specified in the DIBELS materials.

To ensure consistency and objectivity in the measurement, errors such as hesitations, omissions, and substitutions were counted as mistakes and not included in the calculation of oral reading fluency (the number of words read in the end). The final version of the test can be found in Appendix 3.

3.2.2.4. L2 Syntactic Knowledge Test

The syntactic knowledge test was developed by collecting data on syntactic knowledge from fourth to sixth-grade students, aligning with the current

curriculum. The test consisted of 25 multiple-choice questions to be completed within a 40-minute time limit. The initial nine questions assessed participants' comprehension of real-life sentences and their grammatical knowledge, drawing from the Clinical Evaluation of Language Fundamentals (CELF-4; Semel et al., 2003). Participants were presented with a sentence and required to select the picture that best represented the sentence's intended meaning. This portion of the test assessed their ability to comprehend sentence structure, identify the subject of an action, and choose an appropriate picture accordingly.

Furthermore, participants' understanding of the future tense was evaluated, as they were asked to identify instances where the subject would engage in a future action based on the provided pictures. These types of questions aimed to assess participants' comprehension skills utilizing their knowledge of grammar.

Questions 10 to 25 were specifically designed to assess the grammar knowledge acquired by sixth-grade students according to the Korean elementary school curriculum. Based on the research conducted by Kim & Lee (2015) on the most common grammatical errors made by elementary school students, these questions covered four grammar categories: verbs, auxiliary verbs, nouns, and possessive adjectives/possessive pronouns. The questions included aspects such as word order and spelling errors. The final version of the test can be found in Appendix 4.

3.2.2.5. L2 Vocabulary Knowledge Test

The vocabulary knowledge test used in this study aimed to evaluate a student's vocabulary skills comprehensively. The test was divided into two

sections, with one unit including words from the current curriculum and the other including words commonly used in daily life. This approach helped identify gaps in a student's vocabulary knowledge and ability to use words in various contexts. The questions were based on the participants' curriculum level, and they had to find the Korean meaning of 35 English words within a 30-minute time frame. The test focused on measuring word breadth rather than depth, especially for young learners. Out of the 35 items, 25 items were based on the level of the Korean elementary school curriculum and were used to measure proficiency at that level. The remaining 10 items were designed to assess the knowledge of words used in real-life communication situations. The test included five words from the 1000-word families [4] and five from the 2000- word families. The final version of the test is available in Appendix 5.

3.2.2.6. L2 Reading Comprehension Test

The reading comprehension test was objective and covered material learned from 4th to 6th grade, and students were given 40 minutes to complete them. The gap-fill test required the completion of sentences or words based on pictures and choosing the right word or phrase for a blank based on 2-3 short sentences.

The test items for reading comprehension were developed based on the

[4] Word family refers to a group of words that are related in meaning and share the same base word, also known as the root word. For example, the word family for the root "act" would include words like actor, acting, action, and active. The concept of word families is often used in teaching phonics and vocabulary to help students recognize patterns and relationships between words.

Clinical Evaluation of Language Fundamentals (CELF-5; Semel et al., 2013) and the Qualitative Reading Inventory (Leslie & Caldwell, 2006). Additionally, items were created by incorporating the content of the current educational curriculum to assess reading comprehension skills. The final version of the test is available in Appendix 5.

Unlike the vocabulary test, which consisted of simple questions asking for the English word corresponding to a given Korean meaning, the reading comprehension test focused on understanding the meaning of sentences and selecting the appropriate word to complete the given sentence. For example, participants were presented with a sentence such as "The bird sits on the ....." and were asked to choose the word "nest" from the provided options. Similarly, they were given a sentence like "He is sitting in a ....." and had to select the word "boat" from the given options.

Other question types included choosing the sentence that accurately described a given picture and reading paragraphs consisting of 4-5 sentences to grasp the content and select the correct matching statement. However, questions that required inference based on background knowledge or relied heavily on prior information were excluded, considering the current level of education in the public curriculum. The final version of the test can be found in Appendix 6.

3.3. Measuring Learners' L2 Learning Backgrounds

3.3.1. Variables to Predict Learners' Learning Backgrounds

The survey questions consisted of items related to personal information (such as place of residence and gender), household environment and parental

information, questions about before elementary school experiences, and questions about during elementary school experiences.

The learning experiences questionnaire included several items, asking about experience period, with English experience before elementary school measuring the presence of early English education and the student's likeness and confidence in English before entering elementary school. In contrast, the English learning experience during elementary school was measured by the presence or absence of private tutoring, the amount of English learning outside school, and the student's likeness and perceived necessity of English. The survey comprised 24 questions (See Table 3.4). The survey was administered through Google Forms and completed during online classes.

In the original questionnaire used in this study, there was a question regarding parents' educational background. However, only 311 out of the total 598 participants responded to this question as it required a separate survey involving the parents. Since this study aimed to explore various factors related to English learning environments in the home, such as parents' language use, learning support, and book availability, apart from parents' educational background, the question regarding parents' educational background was removed from the questionnaire.

The survey questions on learners' English learning backgrounds were presented in the form of eight categorical scales and sixteen interval scales, summarized in Table 3.4. The detailed composition of the questionnaire is shown in Appendix 7.

Table. 3. 4.
Survey Information

Domains	Types of Scale	Number of items	Item
Gender	Categorical	1	1
Location		1	2
Father Education		1	3
Mother Education		1	4
Household English book holdings	Interval	1	5
English support from parents		5	6,7,8,9,10
English experience before elementary school		3	11,12,13
Types of English learning activities taught in elementary school	Categorical	4	14,18,20,21
Elementary school English learning experiences	Interval	4	15,16,17,19
Intrinsic motivation for current English		3	22,23,24
Total		24	

3.4. Procedure

The experiment process for this study involved first openly recruiting teachers interested in participating. Then, students were recruited through these teachers. Approximately 700 students were initially recruited, but data from students who did not ultimately complete the test and survey participation and 100 students who did not wish to participate were discarded. One to two teachers, including native speakers, were selected at each school to distribute the student

recruitment documents. The selection of teachers was based mainly on representing various regions where they were employed.

The data collection for this study started in September 2021 and ended in December 2021 when participants were in the second semester of sixth grade in elementary school. It was also conducted three times during scheduled English classes at each elementary school. All procedures were governed by protocols developed by the researcher, and English teachers administered the assessment at participating schools. The researcher held two online meetings with participating teachers before the experiment to explain how to implement each measurement.

The assessment involved 5 tasks: a face-to-face test, 3 online or paper-based tests, and a questionnaire. The face-to-face test included three tasks to measure decoding and fluency ability. At the same time, the online assessment measured word knowledge, syntactic awareness knowledge (each taking 40 minutes), and English reading comprehension ability (also taking 40 minutes). The questionnaire took 10 minutes and investigated the learner's background and overall learning experience. Two measures of decoding and oral reading fluency abilities were given strict time constraints. The total measurement time was approximately 2 hours and 30 minutes, and the test was divided into three weeks. Oral reading tests were conducted outside of class only for applicants, while online group tests were conducted during class regardless of whether students wished to participate. The data of students who did not wish to participate in the online test afterward were discarded.

3.5. Statistical Analysis Plans

This study's statistical data analysis method includes descriptive statistics, latent profile analysis (LPA), exploratory factor analysis (EFA), and multinomial logistic regression. Descriptive statistics were used to describe the sample characteristics and the variable distribution. The selected data analysis methods were chosen to address the study's research questions. For the first and second research questions, LPA was used to identify the homogeneity or heterogeneity of participants and investigated sub-group-specific characteristics related to English reading ability. ANOVA was conducted to determine whether statistically significant group differences between the classified groups. The questionnaire on learners' English learning backgrounds was analyzed using EFA to answer the third research question. Finally, a multinomial logistic regression analysis was used to examine the relationship between the students' L2 reading profile, and their English learning characteristics. Each analysis method was explained in more detail in the following sections.

3.5.1. Latent Profile Analysis

In this study, the researcher utilized latent profile analysis (LPA) to investigate the existence of multiple latent profiles or subgroups characterized by distinct patterns of reading skills among a sample of EFL (English as a Foreign Language) students. The students' reading scores, assessed during the sixth grade, served as the basis for this analysis.

LPA is a statistical technique employed to identify unique latent profiles or classes within a population based on observed variables. When applied to

linguistic heterogeneity, LPA can help identify different groups of individuals with varying levels of language skills or diverse patterns of language use. By systematically exploring and understanding the underlying latent profiles or subgroups within a given population, LPA provides a statistical framework for comprehending linguistic heterogeneity.

For this study, the researcher determined that latent profile analysis (LPA) was the appropriate approach based on the recommendations of Gibson (1959) and Vermunt and Magidson (2002). LPA was utilized to classify students into latent classes or subgroups, taking into account their response patterns across multiple variables. The selected variables were carefully chosen to differentiate students based on various aspects of their reading abilities.

Latent profile analysis estimates potential subgroups within the population that are not directly observed, resulting in a relatively accurate classification. LPA is a model-based technique that employs categorical latent variables to characterize the data structure. Since this study utilized continuous indicators, the modeled data structure consisted of means and covariances. LPA assumes the presence of multiple normal distributions underlying the overall sample distribution, with class-specific mean scores used to characterize the latent classes. As a result, a finite number of mutually exclusive and collectively exhaustive latent classes are assumed.

3.5.2. Exploratory Factor Analysis

In this study, the survey questions were not initially designed based on latent factors. Therefore, Exploratory Factor Analysis (EFA) was employed to

establish the validity of each item. The primary objective of EFA was to extract latent factors by measuring the components of reading through observed variables. The EFA served as a preliminary phase in examining the educational backgrounds of the learners and assessing construct validity.

The EFA is a statistical technique commonly used to examine construct validity. It helps in identifying the underlying structure or dimensions within a set of observed variables. By analyzing the patterns of relationships among the variables, EFA aims to uncover the latent factors or constructs being measured. The goal is to reduce the complexity of the data and determine if the observed variables are indeed measuring the intended constructs.

During the EFA process, factors are extracted from the data and factor loadings are estimated, representing the relationships between the observed variables and the latent factors. The interpretation of these factors is based on the pattern of loadings. Additionally, techniques like rotation (e.g., orthogonal or oblique rotation) may be applied to enhance the interpretability of the factors.

Overall, EFA aids in exploring the underlying structure of the data and understanding the relationships between observed variables, thereby contributing to the assessment of construct validity.

3.5.3. Multinomial Logistic Regression

In the final stage of this study, after extracting the factors, an analysis was conducted to determine the likelihood of each factor category belonging to the profiles. This analysis aimed to predict the learning backgrounds of distinct learners within different profiles. Multinomial Logistic Regression was employed

for this analysis.

Multinomial logistic regression is used when the dependent variable is nominal or categorical, meaning it falls into multiple categories that cannot be ordered meaningfully. The dependent variable has more than two categories, while the independent variables can be categorical or continuous. The goal of multinomial logistic regression is to examine the relationship between the predictors and the probabilities of each category of the dependent variable. It differs from linear regression in terms of the mathematical framework and the nature of the outcome variable. Consequently, the concept of R^2, commonly used in linear regression, does not directly translate to multinomial logistic regression. In linear regression, R^2 represents the proportion of the total variation in the dependent variable explained by the independent variables. However, multinomial logistic regression involves a categorical outcome variable with multiple levels, making it challenging to define and interpret R^2 in the same way.

The model estimates separate sets of parameters, called logits or log-odds, for each category of the dependent variable relative to a reference category. These logits represent the relationship between the predictors and the probability of each category compared to the reference category. Interpretation of multinomial logistic regression involves examining the estimated coefficients (logits) for each predictor variable. These coefficients indicate the change in log-odds or the relative increase or decrease in the odds of being in a particular category, compared to the reference category, for a one-unit change in the predictor variable.

The use of multinomial logistic regression in this study offers several advantages: First, it is a linear model that allows for classification using a linear

relationship between independent variables and the dependent variable, making it easily interpretable. Second, it enables statistical hypothesis testing. Third, it is suitable for multi-class classification problems, accommodating the presence of more than two classes and capturing relative priorities among classes. These aspects were well-suited for measuring the predictor variables between latent variables and profiles in this study. Finally, multinomial logistic regression provides probability predictions for each class, allowing for the assessment of classification result confidence.

3.6. Statistical Package

In this study, two statistical packages were used: SPSS and Mplus. The SPSS program (version 22) was used for descriptive statistics, EFA, and multinomial logistic regression, while Mplus software (version 8.7) was used for LPA. To be specific, first, SPSS was used for descriptive statistics and statistical analysis in this study. SPSS (Statistical Package for the Social Sciences) is a software package widely used for statistical analysis and data management. It provides a comprehensive set of tools and procedures for analyzing and interpreting data in various fields, including education, social sciences, and more. In this study, SPSS provided a variety of descriptive statistics such as means, medians, standard deviations, frequencies, and percentiles for both categorical and continuous variables. Additionally, it offered a wide range of statistical techniques for hypothesis testing and inference. It included parametric tests such as ANOVA, regression analysis and supported advanced statistical techniques like factor analysis. Finally, it was used to import and export data to other statistical Excel

software packages, such as Excel.

In addition to SPSS, the Mplus program was used in the present study. Mplus offered capabilities for latent profile analysis, which is a statistical technique used to identify unobserved subgroups in a population based on categorical indicators. This statistical tool was developed and maintained by Muthén & Muthén and a statistical modeling software package that was widely used in the field of education. It allows researchers to analyze data using a variety of advanced statistical techniques, including structural equation modeling (SEM), latent variable modeling.

CHAPTER 4

RESULTS

This chapter reports the research findings based on the research questions; The first research question of this study was to identify distinct subgroups of English reading ability in the 6th grade of elementary school in Korea. The second research question was what characteristics each classified profile group would exhibit with respect to the L2 reading sub-skills. The third research question was to investigate the predictive relationship between 6th graders' L2 learning backgrounds and their belonging to a specific profile. In this chapter, the results are presented for descriptive statistics of the students' L2 reading ability measurement and L2 reading proficiency profiles of Korean 6th graders, characteristics of the six profiles, and the learning background affecting English reading ability of EFL learners.

4.1. Descriptive Statistics of the Students' L2 Reading Ability Measurements

The descriptive analysis of all L2 reading related measures, including mean, standard deviation, skewness, kurtosis, and Cronbach alpha, has been reported. In order to satisfy the assumptions for preliminary analysis and maximum likelihood estimation, skewness and kurtosis values were checked to confirm the normality of the data. The distributional properties of the variables were appropriate as indicated by skewness (< |2|) and kurtosis (< | .8|). All the

measures except for the oral reading skills have acceptable-to-excellent reliabilities indicated by Cronbach alpha values, .74 ≤ αs ≤ .95. The reliability of L2 oral reading ability including decoding and passage reading fluency cannot be obtained from the current study. Nevertheless, it is assumed to be satisfactory, according to the publisher-reported reliability by the Kuder-Richardson formula, which is from .90 to .92 (Mather et al., 2014). Table 4.1 presents the descriptive analysis (including mean, standard deviation, skewness, kurtosis, and Cronbach's alpha) of all measures related to L2 reading.

Table 4.1.
Descriptive Statistics *(N = 598)*

Measures	Total	Mean	SD	Min	Max	Skewness	Kurtosis	Cronbach alpha
Decoding Ability								
NW	66	29.24	15.195	0	64	.032	-.610	
WR	108	49.80	20.507	0	90	-.514	-.287	
Oral Reading Fluency								
PR	170	85.99	45.150	0	170	.060	-.740	
Written Linguistic Knowledge								
WK	35	25.09	8.638	3	35	-.829	-.467	.95
SK	25	14.48	5.174	3	25	.004	-.785	.74
Reading Comprehension								
RC	25	17.88	5.265	0	25	-1.026	.437	.76

Note. NW = L2 non-word reading; WR= L2 word reading; PR= L2 passage reading; WK =L2 word knowledge; SK=L2 syntactic knowledge; RC=L2 reading comprehension. The reliability of NW, WR, PR cannot be obtained from the current study, but the publisher-reported reliability by Kuder-Richardson Formula is .90 to .92.

In the context of latent profile analysis (LPA) applied to L2 reading ability variables, the coefficients estimate the parameters that capture the relationships between the observed L2 reading ability variables and the latent classes identified in the analysis. These coefficients indicate the strength and direction of the associations between the observed variables and the latent classes.

The coefficients are instrumental in understanding the relative contributions of different L2 reading ability variables to the formation of the latent classes. They help identify which specific variables have a significant impact on distinguishing the latent classes and provide insights into the underlying structure of L2 reading abilities.

It is important to note that the interpretation of these coefficients should be considered within the specific study and the variables included in the analysis. Additionally, the coefficients are not standalone measures but are part of a comprehensive statistical model that incorporates other parameters, such as class probabilities or class proportions. These additional parameters further enhance our understanding of the results obtained from latent profile analysis (Berlin et al., 2014; Ferguson, et al., 2020; Nylund, 2007; Peugh & Fan, 2013; Tein et al., 2013; Williams & Kibowski, 2016).

In LPA, the correlation coefficients between the observed variables are not used to determine independence but rather to explore the interrelationships among the variables within each latent class. These coefficients provide valuable insights into how the variables are related to each other within the identified subgroups. Moreover, it is worth noting that LPA does not rely on strict thresholds or specific values for correlation coefficients to assess independence. The primary focus is on

understanding the relationships and patterns within the latent classes, rather than evaluating independence between variables.

In the present study, the correlation coefficients of oral reading indicators, including non-word reading, word reading, and passage reading, were examined. While these indicators represent specific aspects of L2 reading abilities, it is acknowledged that they may not be completely independent of each other. However, since the main objective is to identify essential elements for reading comprehension, the study still holds significant research value even with relatively high correlations. The correlation values for each indicator are presented in Table 4.2.

Table 4.2.
Coefficients among L2 Reading Ability Variables *(N = 598)*

	1	**2**	**3**	**4**	**5**	**6**
1 NW	1					
2 WR	.799***	1				
3 PR	.798***	.789***	1			
4 WK	.585***	.705***	.692***	1		
5 SK	.624***	.715***	.729***	.677***	1	
6 RC	.580***	.705***	.704***	.714***	.726***	1

Note. Correlation coefficients are all significant at .001 level.
NW = L2 non-word reading; WR= L2 word reading; PR= L2 passage reading; WK =L2 word knowledge; SK=L2 syntactic knowledge; RC=L2 reading comprehension

4.2. Research Question 1:

L2 Reading Ability Profiles of the Korean 6th Graders

The first research question involved a three-step process to identify distinct sub-groups based on their profiles of English reading ability. Firstly, a latent profile analysis (LPA) was conducted, using six indicators including L2 non-word reading, L2 word reading, L2 oral passage reading, L2 word knowledge, L2 syntactic knowledge, and L2 reading comprehension. The most appropriate model was selected based on the latent profile analysis results. In the second stage, ANOVA was employed to each profile was different from the other sub-groups. Finally, each profile group was named to represent specific characteristic of the group.

4.2.1. Latent Profile Analysis Results

Six indicators [5] (L2 nonword reading, L2 word reading, L2 oral passage reading, L2 word knowledge, L2 syntactic knowledge, and L2 reading comprehension skills) were used in the EFL learners' English reading ability profile analysis model in this study. For LPA analysis, model suitability was judged by sequentially reviewing the suitability indices from Profile 1 to Profile 8 in the Table 4.3.

[5] In this study, decoding skill was measured separately as nonword reading and word reading, using five predictor variables. The reason for this was to determine whether students' decoding abilities rely on phonological and orthographic processing or if it is primarily driven by whole-word recognition.

4.2.1. 1. Model Selection and Interpretation

In terms of the LPA, selecting a model and interpreting it needs to be conducted first. A series of LPAs was conducted, following McLachlan and Peel's (2000) suggestions of appropriate statistical tests and indices to determine an optimal number of profiles to retain. The present study adopted AIC, BIC, and SABIC indices for model fit type, entropy index for classification quality, LMR, and BLRT for model comparison validation. AIC, BIC, and SABIC are all information criteria that assess the goodness of fit of a model by balancing the model's complexity against its ability to explain the data. A lower value indicates a better fit for these indices. The entropy index measures the precision with which individuals are classified into their respective latent groups. A higher value indicates a better classification quality. LMR and BLRT are both likelihood ratio tests that compare the fit of a model with k-1 latent groups to that of a model with k-1 latent groups. By combining these indices, the study can determine the optimal number of potential groups for subcomponent analysis of reading skills.

In this study, for the three information indexes (AIC, BIC, and SABIC), their values continued to decrease across the range of models considered, but only marginally so between the six-class solution and the eight-class one. For model comparison validation, the adjusted likelihood ratio test (LMR) became nonsignificant with the seven-class model, meaning that the six-class model was optimal. On the other hand, there was no discriminating difference in the BLRT index in all profile models. In classification quality, the entropy values were higher than the suggested 0.80 value and almost identical among the two-class and eight-class solutions.

It is necessary to further examine the meaning of the fitness of each index in relation to the heterogeneity between profiles. Looking at the six fitness indices (AIC, BIC, SABIC, Entropy, LRT, BLRT) in Table 4.3, it displays the fit of profile models. Comprehensively, looking at all profiles, the AIC, BIC and SABIC values were sequentially decreased from the Profile 2 model to the Profile 8 model, and the BLRT results of all profiles were significant ($p < .001$). In addition, the average posterior probability range of all profiles presented in the Table 4.3 was .79 to .91, indicating that the average posterior probability value was close to 1.0, confirming that the classification error was small (Nagin, 1999). Finally, the Profile 7 model showed the lowest AIC, BIC and SABIC values and LMR and BLRT was also significant. Therefore, the best-fit model indices so far from the Table 4.3 can be seen in Profile 7, although the LMR index is not statistically significant.

However, simply analyzing the model fit indices is insufficient to determine the number of profiles. Nylund et al. (2007) proposed certain considerations for determining the number of profiles, and this study applied those considerations to determine the number of profiles. Firstly, special attention was given to Profile 6 and Profile 7 models among all the profiles, as they exhibited detailed characteristics of the student group that slightly deviated from the average of all indicators and showed statistical significance. Secondly, the profile graph pattern in Figure 4.1 was analyzed, and Profile 6 model was found to have a more diverse group information compared to other profiles, making it a potential candidate for analysis. Thirdly, the study ensured that the minimum number of students in each profile exceeded 30. In the case of the Profile 6 model, all profiles had a hierarchical frequency exceeding 30 (minimum frequency 7.2% = 43

students), thereby avoiding any classification ratio falling below the minimum frequency. However, the group with the lowest score in the Profile 7 model did not meet the minimum frequency for latent profile classification (n=30) at 4.2% (n=25) (Berlin et al., 2014; Ferguson, et al., 2020; Nylund, 2007; Pearson et al, 2015; Peugh & Fan, 2013; Tein et al., 2013; Williams & Kibowski, 2016).

The Profile 6 model was ultimately chosen based on the following criteria. The six-profile model demonstrates high practicality as it exhibits a distribution that approximates normality, with a minimum classification rate of 7.2%, surpassing the 5% threshold, and a minimum frequency exceeding 30. Table 4.3 indicates that the Profile 6 model exhibits relatively even and diverse information, with classification rates ranging from 7.2% to 28.8%. Furthermore, the Profile 6 model achieved a classification Entropy of .90 after careful analysis and selection.

Table 4.3.
Model Fit Indices of Latent Profile Analysis

Number of Profile	[1]AIC	[2]BIC	[3]SABIC	Entropy	[4]LMR	[5]BLRT	Latent Classification Rate (%)							
							1	2	3	4	5	6	7	8
2	8459.17	9019.50	8959.17	0.90	0.0008	0.00	36	64						
3	7481.87	7963.92	7881.37	0.91	0.0006	0.00	16.0	49.6	34.4					
4	7144.28	7449.06	7344.28	0.91	0.0009	0.00	10.7	30	43.6	15.7				
5	7001.13	7311.12	7184.123	0.89	0.0208	0.00	9.0	15.5	25.8	31.6	18.1			
6	6934.42	7163.94	7014.72	0.90	0.0455	0.00	10	16.8	7.2	28.8	22.0	15.2		
7	6252.34	6923.91	6752.48	0.89	0.0513	0.00	8.9	13.5	4.2	15.6	25.7	19.7	12.4	
8	6123.72	6423.31	6352.32	0.79	0.0678	0.023	6.9	9.5	3.2	14.4	21.3	17.4	17.4	9.9

Note. [1] AIC= Akaike information criterion; [2]BIC =Bayesian Information Criterion; [3]SABIC=Sample adjusted BIC; [4] LMR= adjusted Lo-Mendell-Rubin likelihood ratio ; [5] BLRT=Bootstrap Likelihood Ratio Test ($p < .001$) , Correlation coefficients are all significant at .001 level. NW = L2 non-word reading; WR= L2 word reading; PR= L2 passage reading; WK =L2 word knowledge; SK=L2 syntactic knowledge; RC=L2 reading comprehension

Using an Elbow Plot, the model fit based on these information indices can be validated. Nylund-Gibson & Choi (2018) suggested to plot the values of the information index values such as AIC, BIC, SAIC, and to visually display the values and provide for easy interpretation. In general, they continue to decrease for each additional class added and the plot elbow can be particularly useful to inspect for an "elbow" of point of "diminishing returns" in model fit. In this study, Figure 4.1 shows a sharp decrease up to the 6 profile and shows a gentle decrease from the Profile 6 model.

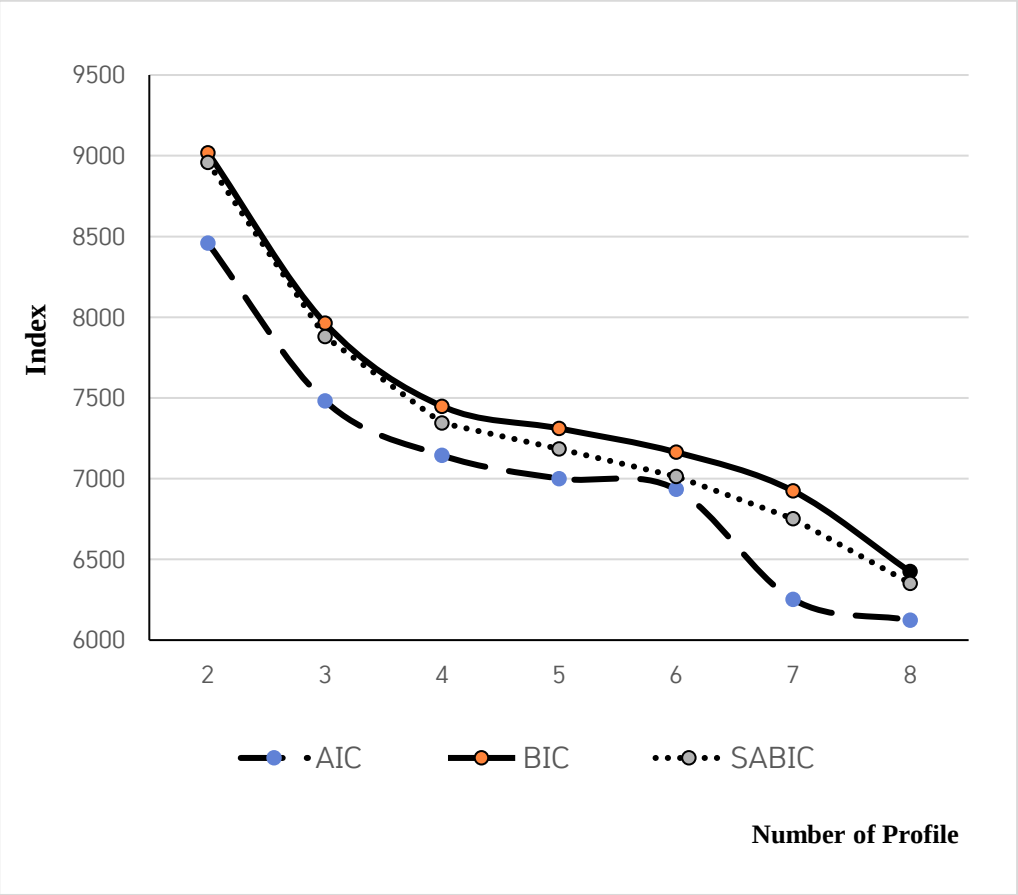
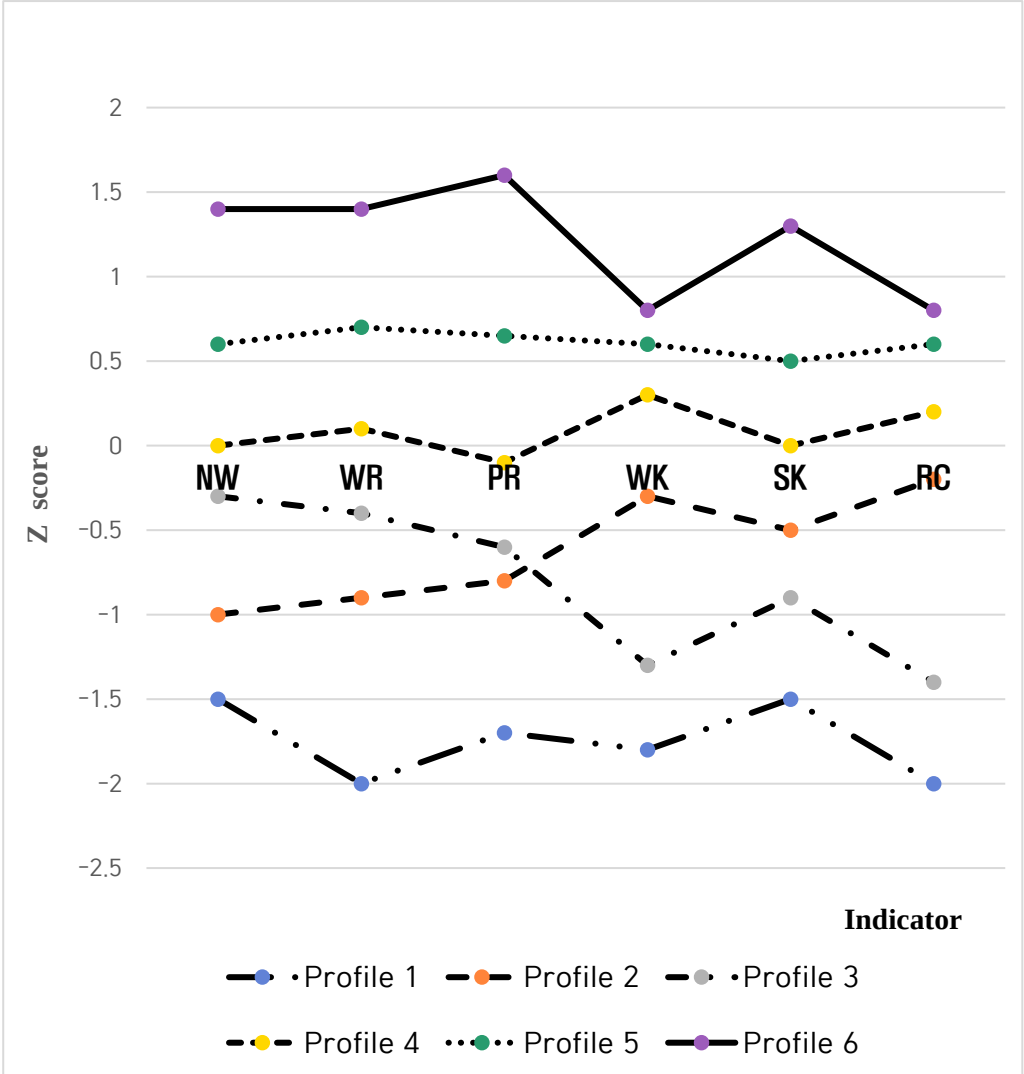


Figure 4.1.
Elbow Plot for Identification of the Optimal Number of Latent Profiles

After selecting the six profiles as the best-fit model in LPA, Figure 4.2 presents an analysis of each profile based on the Z-scores of each reading subskill. The overall pattern of the six profiles demonstrates a parallel trend, but Profile 3 and Profile 4 exhibit a crossing pattern.



Note. NW = L2 non-word reading; WR= L2 word reading; PR= L2 passage reading; WK =L2 word knowledge; SK=L2 syntactic knowledge; RC=L2 reading comprehension

Figure 4.2.

Z Scores of the Six Profiles of 6th Grader EFL Readers *(N = 598)*

4.2.1.2. Differences in English Reading Abilities by Profile

In latent profile analysis, ANOVA (Analysis of Variance) is conducted as a post hoc analysis to examine the statistical significance of the latent variables. Consistent with previous studies (Berlin et al., 2014; Ferguson, et al., 2020; Nylund, 2007; Pearson et al, 2015; Peugh & Fan, 2013; Tein et al., 2013; Williams & Kibowski, 2016), ANOVA was also conducted in this research to assess the significance of post hoc analyses.

Following the identification of the latent profiles, a series of one-way ANOVA analyses was performed to explore potential mean differences among the six profiles. Additionally, a post hoc test was conducted, which revealed significant group differences in six reading subskills (please refer to Table 4.4 for the ANOVA results).

The purpose of conducting the one-way ANOVA analysis after the latent profile analysis was to compare means. While the initial findings of this study might have already indicated some variations among the proficiency levels, a post-hoc analysis was specifically carried out to examine the reading comprehension abilities between groups 2, 3, and 4, where the statistical significance of mean differences was inconclusive.

The results of the ANOVA demonstrated statistically significant differences among the six profiles. Subsequent post-hoc analyses (Table 4.4) indicated no significant difference in L2 non-word reading between Profiles 3 and 4, as well as no significant difference in syntactic knowledge between Profiles 2 and 3. However, significant differences were observed in all other variables across all six profiles.

Table. 4.4.
ANOVA Results on Each Reading Measure and Post Hoc Test Results

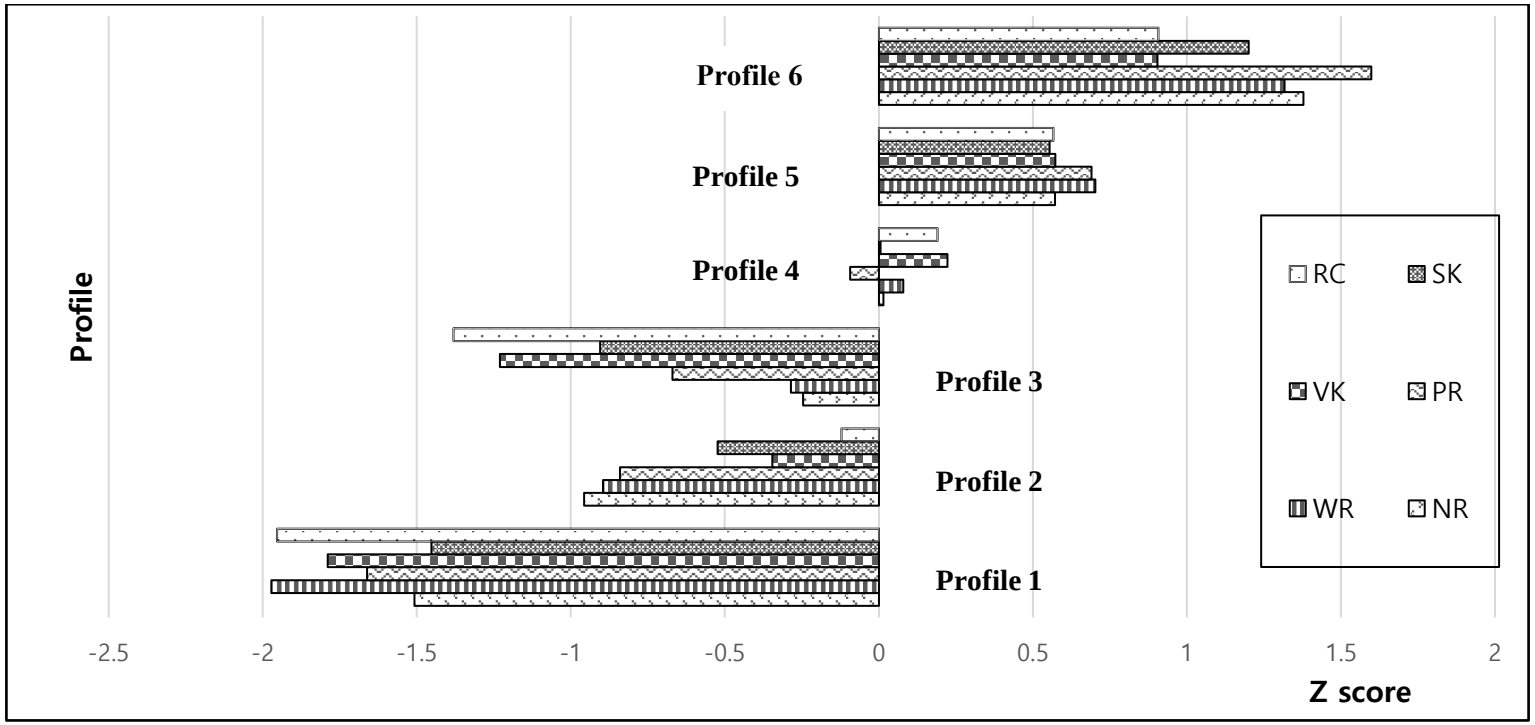
		SS	df	MSD	F	p	Post- hoc
NW	Between group	100064.603	5	20012.921	291.122	.00	1,2,3,4,5 < 6 *** 1,2,3,4 < 5 *** 1,2,3 < 4 *** 1,2 < 3 *** 1 < 2 ***
	Within group	40696.447	592	68.744			
	Total	140761.050	597				
WR	Between group	215240.903	5	43048.181	710.921	.00	1,2,3,4,5 < 6 *** 1,2,3,4 < 5 *** 1,2 < 4 *** 1,2 < 3 *** 1 < 2 ***
	Within group	35847.210	592	60.553			
	Total	251088.114	597				
PR	Between group	1082284.524	5	216456.905	819.993	.00	1,2,3,4,5 < 6 *** 1,2,3,4 < 5 *** 1,2,3 < 4 *** 1 < 3 *** 2 < 3 * 1 < 2 ***
	Within group	156272.687	592	263.974			
	Total	1238557.211	597				
WK	Between group	29057.539	5	5811.508	210.573	.00	1,2,3,4 < 6 *** 5 < 6 * 1,2,3,4 < 5 *** 1,2,3 < 4 *** 2 < 3 *** 1 < 3 * 1 < 2 ***
	Within group	16338.354	592	27.599			
	Total	45395.893	597				
Syn	Between group	9264.798	5	1852.960	161.513	.00	1,2,3,4,5 < 6 *** 1,2,3,4 < 5 *** 1,2,3 < 4 *** 1 < 2 *** 1 < 3 *
	Within group	6791.739	592	11.473			
	Total	16056.537	597				
RC	Between group	11371.821	5	2274.364	261.617	.00	1,2,3,4 < 6 *** 5 < 6 ** 1,2,3,4 < 5 *** 1,2,3 < 4 *** 2 < 4 ** 1,2 < 3 *** 1 < 2 ***
	Within group	5146.541	592	8.693			
	Total	16518.363	597				

Note. NW = L2 non-word reading; WR= L2 word reading; PR= L2 passage reading; WK =L2 word knowledge; SK=L2 syntactic knowledge; RC=L2 reading comprehension

4.3. Research Question 2:

Characteristics of the Six Profiles

The second research question was what characteristics each profile would demonstrate in relation to L2 reading abilities. Comprehensively reviewing the patterns and analysis results of the profiles in Figure 4.3, the six profiles could be classified into three above-average and three below-average according to their English reading abilities. The Figure 4.3 below shows the z-scores of reading abilities for each index in each profile. Based on Figure 4.3, six profiles were named considering their L2 reading skills from Overall severe deficit L2 readers to 6.



Note. NW = L2 non-word reading; WR= L2 word reading; PR= L2 passage reading; WK =L2 word knowledge; SK=L2 syntactic knowledge; RC=L2 reading comprehension

Figure 4.3.

Characteristics of Six Profiles

In Table 4.5, **the first profile** (n = 60, 10 %) is the group that has difficulty in all the L2 decoding word, syntactic, reading comprehension. Therefore, this profile group has been named **'Overall severe deficit L2 readers'.** Despite the four-year English education at school, this group does not seem to have basic L2 literacy skills across the six L2 indicators.

The second profile group (n = 100, 16.8%), all L2 literacy sub-skills below average, but compared to Overall severe deficit L2 readers, it seemed to have decoding ability even though they were not still high enough compared to other profiles. The peculiarity of this profile is that L2 oral reading skills, such as L2 word decoding ability and L2 oral reading fluency, are at a relatively low level. In contrast, vocabulary, L2 grammar, and L2 reading comprehension were not as low as the former three skills. Therefore, this profile group was named **'Severe deficit in L2 oral decoding and reading skills readers'.** One intriguing feature of this group is that although basic L2 decoding skills are not well learned, this group seems to have some basic vocabulary and syntactic knowledge compared to Profile 3 and Profile 1.

The third profile group (n = 43, 7.2 %) is slightly below average in decoding and reading fluency ability but has significantly lower L2 linguistic knowledge, such as vocabulary and syntax knowledge. Therefore, this profile group was named **'Severe deficit in L 2 linguistic knowledge readers'.**

The remaining 4, 5, and 6 profiles were groups with average or above-average reading ability. Among them, **the fourth profile** (n = 173, 28.8 %) group was named **'Average L2 readers'** because the six L2 reading-related indicators were in the middle among the six groups.

The fifth profile group (n =132, 22%) was named **'Above average L2 readers'** because all the L2 indicators were slightly above average.

Finally, **the sixth profile group** (n = 90, 15.4%) was named **'Proficient L2 readers'** because the group was the highest in all the six L2 indicators. This group was 1 or 1.5 SD higher than the average L2 readers (Profile 4 and 5 in the six L2-related reading indicators).

The overall profile characteristics range from Profile 1, which shows a lack of decoding ability and limited development in other specific reading abilities, to Profile 6, which demonstrates the highest proficiency across all specific abilities. These profiles exhibit a leveled pattern in terms of proficiency levels. However, Profile 2 and Profile 3 exhibit a crossover pattern in the oral passage reading measure, indicating contrasting weaknesses in specific reading abilities. Conversely, these two profiles also demonstrate contrasting strengths in less vulnerable (closer to average) specific abilities.

Table 4.5.

Characteristics of Each Profile

Profiles	Names	Characteristics
1	Overall severe deficit L2 readers	A group with difficulties in all subcomponents of L2 reading skills, including basic decoding skills
2	Severe deficit in L2 oral decoding and reading skills of readers	A group with slightly below-average oral reading skills and below-average syntactic knowledge and reading comprehension. A pattern of crossover is observed with Profile 3 at the point of the oral passage reading indicator.
3	Severe deficit in L 2 linguistic knowledge readers	A group with below-average oral reading skills and slightly below-average syntactic knowledge and reading comprehension. A pattern of crossover is observed with Profile 2 at the point of the oral passage reading indicator.
4	Average L2 readers	A group with average reading comprehension and subcomponent skills
5	Above average L2 readers	A group with slightly above-average reading comprehension and sub-component skills
6	Proficient L2 readers	A group with better-than-average reading comprehension and subcomponent skills

4.4. Research Question 3: Learning Background Affecting English Reading Ability of EFL Learners

The third research question aimed to investigate the relationship between the L2 reading profiles of sixth-grade students and their English learning backgrounds. To achieve this, the participants completed a questionnaire, and the responses were analyzed using exploratory factor analysis (EPA) to identify common factors. The validity of the factors was analyzed, and multinomial logistic regression analysis was used to determine which learning background predictors affected the participants' English reading ability.

4.4.1. Exploratory Factor Analysis of Students' Leaning Backgrounds

To assess the validity of the survey results and examine the predictors of English reading ability, an exploratory factor analysis (EFA) was conducted on the 16 Likert scale items. Before performing multiple regression analysis, the construct validity of the items was evaluated following the procedure outlined by Hatcher (2013).

Initially, commonality values were computed, and the survey questions were grouped based on shared factors. Subsequently, variables with loading values of 0.4 or less were eliminated, resulting in the extraction of three sub-factors. Variable 16, which measured active participation in English, was excluded due to its limited explanatory power as the extracted factors accounted for less than 0.5 of the variances. The factor matrix in Table 6 presents information about these factors.

Table 4.6.
Factor Matrix

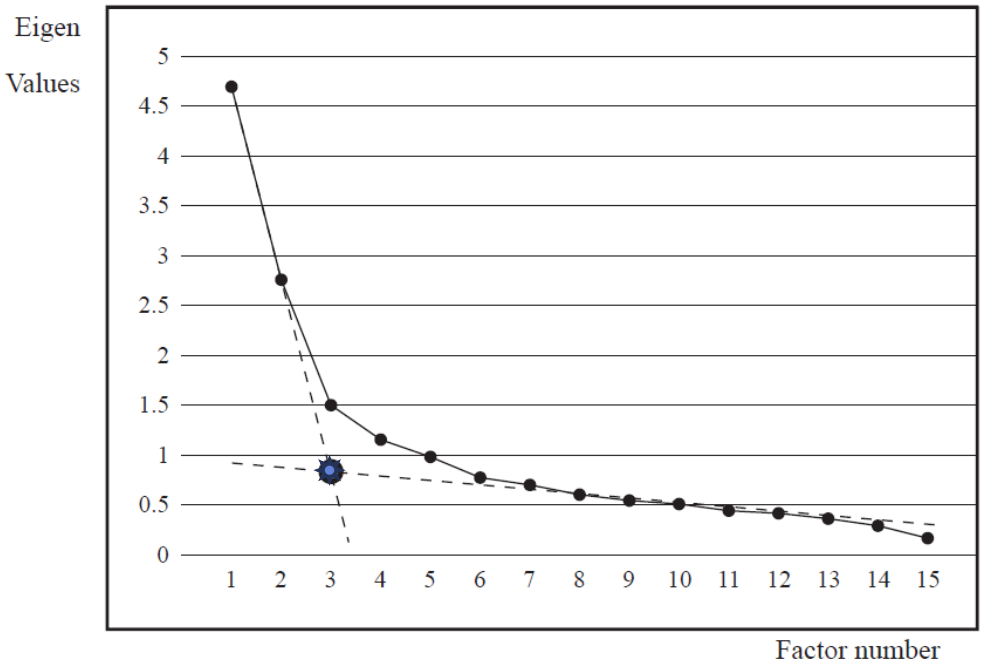
Item	Commonality	Factors		
		1	2	3
9	.525	.744		
8	.485	.730		
10	.408	.634		
6	.320	.596		
7	.343	.571		
5	.301	.509		
13	.849		.939	
12	.797		.923	
11	.467		.564	
19	.577			.715
24	.330			.625
22	.387			.569
16	.246			.540
15	.178			.458
11	.388			.441

Note Loading value> .40；Extraction Method= Maximum likelihood; Rotation Method: Direct Oblimin

To determine the number of factors to retain, it is customary to consider factors with eigenvalues of 1.00 or higher. Figure 4.4 presents the eigenvalues of the factors, indicating that Factors 1 through 4 have eigenvalues greater than 1.00, suggesting their substantial contribution to the shared variance. Therefore, interpreting the first four factors would be appropriate. However, it is important to note that relying solely on the eigenvalue criterion of 1.00 may be unreliable, and alternative methods are often recommended for more accurate results. Upon analyzing Figure 4.4, it is evident that Factor 1 exhibits a relatively large eigenvalue, signifying its significant contribution to explaining the shared variance. The conventional approach involves extending the line representing the steepest slope and the line representing the flattest slope until they intersect, thereby determining the number of factors at that intersection point. Figure 4.4 illustrates this result, suggesting the identification of three factors. In this study, the number of factors was determined using the widely adopted method of an eigenvalue plot (Figure 4.4) among various alternative methods. This specific approach was employed to establish the appropriate number of factors.

Based on the eigenvalue plot (Figure 4.4) using this widely utilized approach, it is concluded that the intersection of lines indicates three factors as the suitable number for further analysis. Although the eigenvalue for Factor 2 may not be as substantial as Factor 1, it still justifies its retention and interpretation. Additionally, Factors 1 to 3 exhibit relatively large eigenvalues, while there is a noticeable drop between Factor 3 and Factor 4. This suggests that retaining Factors 1 to 3 would yield meaningful results, whereas Factor 4 may have less explanatory power. Therefore, based on the scree test, it is recommended to retain and interpret

Factors 1 to 3 as they appear to be meaningful and explain a significant portion of the variance. These factors can undergo rotation and further interpretation. Figure 4.4 portrays the curve illustrating the relationship between the factor number and the eigenvalues of the 15 factors.



Note. The intersection point (✸)where the two dashed lines meet is determined by the number of factors.

Figure 4. 4.
Scree Plot of Factor Analysis

The three extracted factors were named factor one 'English learning environment at home', factor two 'English Experiences before elementary school', and factor three 'English Experiences during elementary school', respectively. The

reliability (Cronbach's alpha) for each factor was as follows: 'English learning environment at home' (.784), 'English Experiences before elementary school' (.859), and 'English Experiences during elementary school' (.601). Table 4.7 shows the questionnaire items that construct factors.

Table 4.7.

Questionnaire Items by Three Extracted Factors

Factor	Number	Questionnaire
English environments at home	9	Are your parents interested in English?
	8	Have your parents ever read a book in English?
	10	Do your parents usually emphasize English a lot?
	6	Do your parents help you learn English a lot?
	7	Have you ever talked to your parents in English?
	5	How many books in English (excluding textbooks and reference books) can you read at home?
English learning experiences before elementary school	13	Were you good at English when you were in kindergarten?
	12	Did you like English when you were learning English in kindergarten?
	11	How much English did you learn in kindergarten?
English learning experiences during elementary school	19	Did you study English a lot in elementary school?
	24	Do you feel the need to study English?
	22	How does it feel to study English recently?
	16	How many years did you attend an English academy in elementary school?
	15	Did you learn much English in elementary school in places other than school?
	11	How many books did you read in English in elementary school? (Excluding English textbooks and workbooks)

4.4.2. Determining Predictor Variables for Learner's Educational Backgrounds.

To investigate the predictive relationship between the English learning experiences of sixth-grade L2 learners and their L2 reading profiles, a multinomial logistic regression analysis was conducted. The analysis included three factors: English environments at home, English learning experiences before elementary school, and English learning experiences during elementary school. Gender was also considered as an individual variable.

To analyze the predictive variables related to English reading ability, the three factors were treated as categorical variables using a 4-point scale ranging from the best (4) to the most vulnerable (1). However, for the sake of readability and data distribution, the 4-category scale was transformed into a 3-category scale. This involved adjusting each variable by setting the mean value as the middle category, and then categorizing the values as higher or lower based on that midpoint. This adjustment resulted in the variables being converted into a 3-category scale.

This adjustment was necessary because the original data showed skewed or imbalanced frequency distributions among the categories. For example, in the case of the variable measuring the absence of English exposure during elementary school (across 4 categories), a frequency of "0" was observed. This imbalance created difficulties when conducting the multinomial logistic regression analysis using the original 4-category scale. Hence, the adjustment was made to align the frequencies of respondents, leading to increased statistical meaningfulness. By utilizing these adjusted variables, the analysis was performed, allowing for a more

accurate examination of the relationships between the predictors and English reading ability.

The final predictors used in this study are as follows: Firstly, gender was selected as the first variable, coded as 1 for male students and 0 for female students, and analyzed as a categorical type. The second predictor variable was L2 home literacy environment, comprising six questions with an average score of 14.4 out of 24 and a standard deviation (SD) of 0.645. For the interpretation of the predictor variables, the sum of the scores of the items was divided into three categories: supportive, moderately supportive, and rarely supportive. The third predictor variable was English learning experiences before elementary school, consisting of three questions with an average score of 6.84 out of 12 and an SD of 0.880. The total score of the items was divided into three levels: much experienced, moderately experienced, and rarely experienced. The fourth predictor variable was English learning experiences during elementary school, comprising six questions with an average score of 16.38 out of 24 and an SD of 1.116. The total score of the items was categorized into three levels: much experienced, moderately experienced, and rarely experienced. Table 4.8 provides a summary of the information regarding these four predictor variables.

Table. 4.8.

Predictor Variables

	M	Sd	Min	Max	Coding
Gender	.55	.498	0	1	Male =1, Female =0
[1] English environment at home	14.4	.645	1.98	24	17-24: Much supportive 13-16: Moderately supportive 0 -12: Rarely supportive
[2] English learning experiences before elementary school	6.84	.880	.00	12	9-12: Much experienced 5- 8: Moderately experienced 0- 4: Rarely experienced
[3] English learning experiences during elementary school	16.38	1.116	.83	24	17-24: Much experienced 13-16: Moderately experienced 0 -12: Rarely experienced

Note

[1] English environment at home (the physical and emotional English language environment at home were included).

[2] English learning experiences before elementary school (all kindergarten private tutoring received before public schooling).

[3] English learning experiences during elementary school (additional English experience other than school English education after the first grade when public education began).

4.4.3. Multinomial Logistic Regression Analysis

This study attempted to find out which predictor variable has the greatest influence on the English reading ability of EFL learners among the factors classified and how much predictive power it has through multinomial logistic analysis. This analysis is similar to binary logistic regression, but the dependent

variable is not limited to two categories. In multinomial logistic regression analysis, the dependent variable must be categorical, and the independent variable must be categorical factors or covariate variables.

In this study, instead of using R^2, to assess the overall performance of the multinomial logistic regression models, two approaches were utilized: model fitting information and Pseudo R-square such as McFadden's or Cox and Snell's pseudo-R^2. The "Final" row in the model fitting information table (Table 4.9) presents statistics related to the significance of the coefficients in the model. When all coefficients are zero, it suggests that the variables included in the model have no significant impact on predicting the dependent variable compared to a model with only an intercept term. However, in this study, the full model yielded significant coefficients, indicating that the additional variables improve the prediction of the dependent variable.

Table 4.9 displays the model fit statistics obtained from the multinomial logistic regression. It is considered appropriate when the -2-log likelihood (846.729) is smaller than the intercept (886.582), indicating a better fit. This finding is consistent with the results of the study.

Table 4.9.

Model Fit Information from Multinomial Logistic Regression

Model fitting Criteria		Likelihood Ratio Tests		
	-2 log likelihood	Chi-square	Df	Sig
Intercept Only:	886.582	39.853	35	. 002 **
Final:	846.729			

*p<0.5; **p<.01; ***p<.001

In multinomial logistic regression, the model's goodness-of-fit using measures similar to the R-squared in ordinary least-squares linear regression can be also assessed. These measures are often referred to as Pseudo R-squared values and are presented in Table 4.10. Pseud R-squared values estimate the proportion of variance in the dependent variable that the model can explain. According to Table 4.10, the explanatory power of this analysis ranges from 14.6% to 40.5.

Table 4.10.

Pseudo R-Square from Multinomial Logistic Regression

Cox & Snell R^2	Nagelkerke	McFadden
.391	.405	.146

Next, the likelihood ratio test, as indicated in Table 4.11, provided insights into the predictive power and influence of the independent variables on the

dependent variable in multinomial logistic regression. By comparing the likelihood ratio test statistic to a chi-square distribution with degrees of freedom equal to the difference in the number of parameters between the compared models, it was possible to determine the statistical significance of the difference in model fit. A significant likelihood ratio test suggested that the model with a greater number of predictor variables exhibited a better fit to the data.

Table 4.11.
Likelihood Ratio Test

	Model fit criteria	Likelihood ratio test		
	-2 log likelihood of scale model	Chi square [6]	df	Significance level
Intercept	846.729			
Gender	865.141	18.412	5	.000***
English environment at home	873.992	27.263	10	.029**
English learning experiences before elementary school	858.634	12.493	10	.000***
English learning experiences during elementary school	895.956	49.815	10	.002**

*p<0.5; **p<.01; ***p<.001

[6] The chi-square value represents the amount by which each independent variable changes the intercept value, indicating the influence of the independent variable on the dependent variable while controlling for other variables.

Lastly, Table 4.12 displays the outcomes of the multinomial logistic analysis, which aimed to predict the factors influencing the English reading ability of sixth-grade EFL students within six distinct groups. The results indicate which predictors have a significant effect on English reading ability among the considered factors, namely gender, L2 literacy environment, English learning experience before entering elementary school, and English learning experience during elementary school. The findings highlight the predictors that have a substantial impact on English reading ability among the sixth-grade EFL students across the various groups.

After verifying the model fit, the predicted values for each variable were analyzed, and the results are shown as follows. First, in the analysis of this study, Profile 1 (Overall severe deficit L2 readers), which is the group with the lowest reading skills in the six L2 reading related indicators, was set as a reference group. In general, the reference group can be selected arbitrarily. In this study, the reference group was chosen as the baseline group because the scores of Profile 1 were the lowest among all six profiles, making it the most straightforward reference point for comparing the six profiles at a glance.

The odds ratio of all variables of Profile 1 (Overall severe deficit L2 readers) was set to 1 to enable relative comparison with the rest of the profile groups. Analysis result of this study, first looking at the predictors of Profile 2 (Severely deficit in L2 oral decoding and reading skills of readers) for Profile 1 (Overall severe deficit L2 readers), the reference group, there was no significant predictor variables.

Second, a comparison between Profile 3 (Severely deficit in L 2 linguistic knowledge readers), and Profile 1 (Overall severe deficit L2 readers) revealed that the very supportive home environment group compared to that of the least supportive home environment group had a positive significant effect ($p < .01$; OR = 4.550). This indicates that the odds ratio of Profile 3 (Severely deficit in L 2 linguistic knowledge readers) of the "very supportive" home environment group increases 4.55 times compared to Profile 1 (Overall severe deficit L2 readers). Additionally, the odds ratio of the female students ($p < .01$; OR = 0.34) compared to that of the male students decreases ($p < .01$; OR = 0. 263) compared to Profile 1 (Overall severe deficit L2 readers). It can be said that the odds ratio value belonging to Profile 3 (Severely deficit in L 2 linguistic knowledge readers) decreases by 74% for female students compared to male students.

Third, a comparison between Profile 4 (Average readers) and Profile 1 (Overall severe deficit L2 readers) indicated that the odds ratio value of the "much-experienced" group during elementary school compared to the "rarely experienced" group during elementary school had a positive significant effect ($p < .05$; OR = 2.588). Additionally, the odds ratio value of "moderately experienced" group during elementary school compared to the value of "rarely experienced" group during elementary school also had a positive significant effect ($p < .05$; OR = 2.445). This indicated that compared to the "rarely experienced" group during elementary school, the "much-experienced" group, and "moderately experienced" group during elementary school increased 2.588 times and 2.445 times respectively compared to Profile 1 (Overall severe deficit L2 readers). In the case of Profile 4 (Average L2 readers), when compared with Profile 1 (Overall

severe deficit L2 readers), the “much-experienced” group during elementary school had 2.5 times the odds ratio value belonging to Profile 4 (Average L2 readers), compared to the “rarely experienced” group during elementary school. In the case of the “moderately experienced” group during elementary school, the odd ratio value increased to 2.445 times the odds ratio value belonging to Profile 4 (Average L2 readers), compared to the “rarely experienced” group during elementary school. Compared to Profile 1 (Overall severe deficit L2 readers), and indicated by the odds ratios, membership in Profile 3 (Sever deficit in L 2 linguistic knowledge readers) is 4.550 times likely for every one-unit increase in the “supportive environment” group of English learning environment at home.

Fourth, in the case of Profile 5 (Above average readers), when compared with the 1 Profile, the “much-experienced” group during elementary school has a significant positive effect ($p<.05$; OR=2.784). That is, in the case of Profile 5 (Above average readers), when compared with Profile 1 (Overall severe deficit L2 readers), the “much experienced” group during elementary school has 2.784 times the odds ratio value belonging to the Profile 5 (Above average readers), compared to the “rarely experienced” group during elementary school. Therefore, compared to the groups who had less exposure to early English language learning, being highly exposed to English language before the elementary school was significantly related to Profile 5 (Above average readers), rather than Profile 1 (Overall severe deficit L2 readers).

In the case of Profile 5(Above average readers), when compared with the reference profile, the “very supportive” group in English learning environment at home has a positive significant effect ($p<.05$; OR=2.601). That is, in the case of

Profile 5 (Above average readers), when compared with Profile 1 (Overall severe deficit L2 readers), “very supportive” group in English learning environment has 2.601 times the odds ratio value belonging to the Profile 5 (Above average readers), compared to the “least supportive” group.

Finally, in the case of Profile 6 (Proficient readers), which appears to be the group with the highest level of English reading proficiency, compared with Profile 1 (Overall severe deficit L2 readers), showed the highest the odds ratio value. In case of the “much supportive” home environment of group, the odds ratio value that would belong to the Profile 6 (Proficient readers), was 4.554 compared to “rarely supportive” group has a positive significant effect ($p<.01$; OR=4.554). In case of the “much-experienced” group during elementary school, the odds ratio value that would belong to the Profile 6 (Proficient readers), is 6.628 compared to “rarely experienced” group during elementary school and had a positive significant effect ($p<.01$; OR=6.628). In the case of “moderately experienced” group during elementary school, the odds ratio value that would belong to the Profile 6 (Proficient readers) is 3.298 compared to “rarely experienced” group during elementary school ($p<.05$; OR= 3.298). Therefore, compared to the groups who had less exposure to early English language learning, being highly exposed to English language before the elementary school was significantly related to Profile 6 (Proficient readers), rather than Profile 1 (Overall severe deficit L2 readers).

When examining the results of the analysis by variables, in comparison to Profile 1 (Overall severe deficit L2 readers), there was no gender disparity in Profile 2 (Severe deficit in L2 oral decoding and reading skills of readers). However, in Profile 3 (Severe deficit in L 2 linguistic knowledge readers), there

was a significant lower likelihood for female students to belong to Profile 3 (Severely deficit in L 2 linguistic knowledge readers) compared to male students ($p<.05$; OR=.263). There were no significant gender differences in the remaining groups.

Regarding the second predictor variable, the English learning environment at home, compared to Profile 1, the group belonging to Profile 3 (Severely deficit in L 2 linguistic knowledge readers) had a 4.550 times higher likelihood of being in the "very supportive" group ($p<.01$; OR=4.550). Profile 5 had a 2.601 times higher likelihood of being in the "very supportive" group compared to not being in that group ($p<.05$; OR=2.601). Profile 6 (Proficient readers) had a 4.554 times higher likelihood of being in the "very supportive" group compared to not being in that group ($p<.01$; OR=4.554).

Regarding the third predictor variable, early English education experience, there were no significant differences observed among the groups when compared to Profile 1 (Overall severe deficit L2 readers). However, an interesting point is that when looking at English learning experiences after elementary school, compared to Profile 1(Overall severe deficit L2 readers), the group belonging to Profile 4 (Above average readers), had approximately 2.5 times higher likelihood ($p<.05$; OR=2.588), and the group belonging to Profile 5 (Above average readers) had approximately 2.7 times higher likelihood ($p<.05$; OR=2.784) of being in the "much experienced" group. Profile 6 (Proficient readers) had a significantly higher likelihood, over 6.6 times, of belonging to the "much experienced" group compared to students with little to no such experiences. The group belonging to Profile 4 (Average L2 readers), had approximately 2.5 times higher likelihood ($p<.01$;

OR=6.628) of being in the "much experienced" group compared to not being in that group. However, these differences were not observed in Profile 2 (Severe deficit in L2 oral decoding and reading skills of readers) or Profile 3 (Severe deficit in L 2 linguistic knowledge readers).

Taken together, the strongest predictor among all profiles was English learning experiences during elementary English, followed by English learning environments at home. That is, the higher the additional English experience in elementary school, the higher the probability of belonging to the upper group of English reading skills, and the other predictive factor was the English learning environment at home. Also, among all variables, gender was the only significant predictor in the Profile 3 (Severe deficit in L 2 linguistic knowledge readers).

Table 4.12.

Multinomial Logistic Regression Results

Reading Profile & Variables	Profile 2 vs Profile 1			Profile 3 vs Profile 1			Profile 4 vs Profile 1			Profile 5 vs Profile 1			Profile 6 vs Profile 1		
	Exp (B)	Exp(B) 95% Confidence Interval		Exp (B)	Exp(B) 95% Confidence Interval		Exp (B)	Exp(B) 95% Confidence Interval		Exp (B)	Exp(B) 95% Confidence Interval		Exp (B)	Exp(B) 95% Confidence Interval	
		Lower	Upper		Lower	Upper		Lower	Upper		Lower	Upper		Lower	Upper
Gender (reference: Male)															
Female	1.100	.574	2.107	**.263***	.105	.658	.710	.387	1.302	1.013	.540	1.901	.859	.436	1.69
Male															
L2 home literacy environment (reference: Least supportive)															
Very supportive	1.557	.514	4.714	**4.550 ****	1.201	17.245	1.672	.600	4.659	**2.601 ***	.910	7.440	**4.554 ****	.816	7.999
Moderately supportive	1.340	.581	3.092	.895	.271	2.962	1.172	.539	2.550	1.090	.477	2.493	1.033 *	.406	2.629
Least supportive															

Continued

English experience before elementary school (reference: Rarely experienced)														
Much experienced	1.049	.452	2.435	1.487	.530	4.172	1.065	.482	2.353	1.312	.558	3.081	1.461	.575	3.715
Moderately experienced	.885	.380	2.059	.498	.147	1.683	1.162	.531	2.542	1.658	.715	3.842	1.430	.560	3.655
Rarely experienced															
English experiences during elementary school (reference: Rarely experienced)														
Much experienced	.910	.350	2.364	.899	.268	3.015	**2.588***	1.010	6.631	**2.784***	1.027	7.545	**6.628****	1.952	22.506
Moderately experienced	.874	.377	2.024	1.060	.355	3.161	**2.445***	1.051	5.690	**2.301***	.929	5.703	**3.298***	1.029	10.573
Rarely experienced															

Note: The reference group was Profile 1

Bold indicates statistically significant values. *p<0.5; **p<.01; ***p<.001

CHAPTER 5

DISCUSSION

This study aimed to empirically examine group heterogeneity according to the sub-components of L2 reading skills among Korean EFL sixth graders in elementary school and to investigate the predictive relationship between belonging to specific profiles and English learning background factors. This chapter discusses these findings.

5.1. Group Heterogeneity according to English Reading Ability

The first discussion section of this study highlights the diversity observed in the identified profiles of English reading skills among Korean EFL sixth graders. The findings demonstrated that the students' reading abilities were categorized into six distinct groups based on six indicators. Among these groups, the smallest variation in ability was observed in vocabulary and syntactic knowledge, whereas the most substantial difference was identified in oral passage reading fluency, which reflects their reading fluency level.

The heterogeneity observed among the groups in this study is consistent with a significant body of evidence supporting variations in students' English reading abilities, both in L1 (native language) studies (Booth et al., 2010; Boscardin et al., 2008) and L2 (second language) studies (Ford, 2013; Nassaji, 2003). Several studies have also addressed this heterogeneity among EFL students (Abney & Krulatz, 2015; El-Koumy, 2009; Hung & Chao, 2021). However,

research specifically focusing on Korean elementary school students is scarce, with Kim, E., & Lee, B. (2021) being the only known study in this context. Their study sheds light on this topic by examining a sample of 100 6th-grade elementary school students in Korea.

The current study's L2 (second language) reading skill profiles display clear patterns of below-average profiles, namely severely low level (Profile 1) and low level (Profiles 2 and 3), as well as above-average profiles, namely intermediate level (Profile 4) and somewhat higher level (Profiles 5 and 6) among 6th-grade participants. These results support the original conception of the SVR model, suggesting that good reading comprehension results from the independent and interactive operation of efficient decoding and language comprehension ability (Cho et al., 2019; Spencer & Wagner, 2017; Wagner et al., 2015). In other words, L2 readers with strong reading comprehension are expected to perform well on the subcomponents of the SVR, namely decoding ability and linguistic comprehension. On the other hand, L2 readers with poor reading comprehension are expected to struggle with these subcomponent skills. When classifying the characteristics of reading subcomponent patterns among these profiles and dividing them into below-average and above-average profiles, the results are as follows.

Characteristics of profiles with below-average reading skills

The study emphasizes the diversity of challenges within the below-average L2 reading profile groups compared to the above-average profile groups, revealing significant heterogeneity in L2 reading ability among young adolescent EFL students. Among the six indicators used in the LPA, the lower three profile groups consistently showed below-average performance across all indicators. These

groups faced difficulties in various aspects, including decoding (Profile 1: 10.0%), oral reading, particularly in decoding and fluency (Profile 2: 16.8%), and language and reading comprehension (Profile 3: 7.2%).

The participants with strong reading comprehension in this study demonstrated high proficiency in all aspects of linguistic comprehension and decoding skills. Conversely, poor readers displayed similar weaknesses across specific subcomponent L2 literacy skills. According to the SVR theory, "Overall severe deficit L2 readers" (Profile 1)) represents individuals who scored extremely low in all subcomponent skills, especially in word reading, which fell below the mean by 2 SD. Word reading, as a measure of decoding ability, exhibited lower scores compared to other sub-skills. The considerable deficit in decoding ability (decoding = 0 in the SVR model) likely had a significant influence on their reading comprehension, which was below average by 2 SD. This finding provides support for the SVR theory that if either decoding or language comprehension scores 0, reading comprehension will also be impacted and score 0. Additionally, while the values for other subcomponent skills also ranged from 1.8 to 1.5 below the mean, word reading and reading comprehension demonstrated the lowest scores. Unlike "Overall severe deficit L2 readers" (Profile 1), students in "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) and "Severe deficit in L2 linguistic knowledge readers" (Profile 3) did not exhibit any extremely low values in specific subcomponent skills, and as a result, their reading comprehension scores were not below 1.5 SD from the mean. Therefore, while there were variations among the subcomponent skills in the two profiles, neither decoding nor language comprehension ability had a score of 0, indicating that they did not have

an extreme impact on reading comprehension for these two groups.

The contrasting patterns observed between "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) and "Severe deficit in L2 linguistic knowledge readers" (Profile 3) have sparked an intriguing discussion, suggesting that the challenges students face in L2 reading comprehension may have diverse underlying causes. Moreover, the relationship between decoding and language comprehension is not consistently parallel across proficiency levels; instead, it shows a crossing pattern in L2 passage reading (as illustrated in Figure 4.2). Interestingly, despite both groups not exhibiting extreme under-achievement, they present distinct difficulties below the average level. These findings contrast with the study conducted by Kim, H., and Lee, B. (2021), where it was suggested that EFL learners, especially at this level, might not exhibit distinct developmental patterns in both word decoding and linguistic comprehension skills due to limited exposure to additional written and spoken English beyond English classes at school.

Furthermore, this study highlights the contrasting reading difficulties observed in "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) and "Severe deficit in L2 linguistic knowledge readers" (Profile 3). Analyzing the distinctive patterns of L2 reading difficulties in these profiles provides valuable insights into the L2 reading development of EFL students and underscores the critical role of language comprehension in addressing reading challenges. Profile 2, despite having deficient oral decoding skills, exhibited relatively better reading comprehension, contributing to a more proficient overall reading ability. These results are consistent with previous research that emphasizes

the significance of word and syntactic knowledge in the reading abilities of EFL students (Brisbois, 1995; Nassaji, 2003; Ulijn, 1984; van Gelderen et al., 2004; Zhang, 2012). Moreover, this study sheds light on the diverse underlying causes of reading comprehension difficulties, even in EFL students who do not have extremely low reading achievement.

The contrasting profiles of "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) and "Severe deficit in L2 linguistic knowledge readers" (Profile 3) are closely linked to the developmental progression of subcomponent reading skills among EFL students. The results demonstrate that both Profile 2 and Profile 3 are significantly influenced by language comprehension factors in reading comprehension. This finding aligns with former studies (Farnia & Geva, 2013; Geva & Farnia, 2012; Lesaux & Kieffer, 2010; Proctor et al., 2005), suggesting that decoding and language comprehension skills follow distinct developmental trajectories in children. In the early learning stages, decoding skills tend to develop relatively well, while language comprehension skills become a major source of individual differences as progress through grade levels. As students advance to upper elementary levels, the impact of L2 word decoding skills on reading comprehension weakens, while the influence of linguistic abilities, such as vocabulary and listening comprehension, becomes more significant in L2 reading comprehension. This shift in importance from decoding to language comprehension is consistent with the findings of Droop and Verhoeven (2003) and is also observed in this study. Notably, L2 vocabulary knowledge emerges as an essential predictor of comprehension, as it directly and indirectly influences comprehension. These findings shed light on the dynamic

nature of subcomponents of reading skills among EFL students and underscore the critical role of language comprehension in reading comprehension as they progress through their education.

Examining "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) and "Severe deficit in L2 linguistic knowledge readers" (Profile 3) is essential for comprehending the diverse challenges faced by students performing below the average. Firstly, students in "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) exhibit lower decoding abilities compared to the average, with intermediate levels of language comprehension and reading comprehension. While their reading comprehension remains relatively adequate, their reading fluency and other aspects of reading proficiency may be lower. These findings align with previous studies that highlight a strong correlation between reading fluency and reading comprehension (Rasinski et al., 2009; Torgesen, 2002; Torgesen & Hudson, 2006).

Students in "Severe deficit in L2 linguistic knowledge readers" (Profile 3), however, demonstrate average decoding abilities but struggle with lower levels of language comprehension and reading comprehension. While they can recognize basic words, they encounter difficulties in connecting these words within a sentence, leading to weaker sentence-level reading skills. The characteristics of Profile 3 are consistent with research by Lesaux and Kieffer (2010), which identified a group of proficient "word callers" with good decoding abilities but poor vocabulary and comprehension skills. This indicates that students in Profile 3, despite possessing some fundamental decoding skills, may encounter difficulties in understanding the contextual meaning of words. In contrast to the

findings of Kim, H., and Lee, B. (2021), the results of Profile 3 reveal that separate developmental trajectories in word decoding and linguistic comprehension skills can coexist among EFL readers, even at this level.

Considering these results, students in "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) and "Severe deficit in L2 linguistic knowledge readers" (Profile 3) face various challenges in L2 reading comprehension, which could potentially lead to more serious L2 learning issues over time. Therefore, further investigation and targeted interventions are necessary to address these challenges and support these students' English reading proficiency.

The most striking finding of this study was the proportion of students in typical Korean elementary school 6th-grade classrooms who exhibited a complete lack of basic English reading skills. According to the results, students in "Overall severe deficit L2 readers" (Profile 1), representing the group facing the most difficulty in English reading, scored two standard deviations below the mean on measures of non-word reading and reading comprehension, and 1.5 standard deviations below the mean on measures of L2 listening comprehension and vocabulary. Additionally, they scored approximately 1.7 standard deviations below the mean on measures of L2 passage reading and vocabulary knowledge.

Based on these proportions, approximately 10% of students in a Korean EFL classroom, specifically at a small elementary school in Gyeong Buk, are facing challenges with their fundamental L2 reading skills. This finding aligns with the results of Kim's (2017) study, which included 324 4ths to 6th-grade students from the same school, where 14% of the students were diagnosed with deficiencies in English language learning. These findings indicate that at least one

out of every ten students may struggle to keep up with their academic performance due to language learning difficulties. It is crucial to note that the absence of a national-level assessment for elementary students in Korea makes it difficult to determine an official nationwide proportion of struggling students. Nevertheless, when compared to the last national-level academic achievement assessment conducted in 2010, which identified around 2% of elementary school students as having basic deficiencies in English reading skills, the increase in struggling students appears to be significant. This suggests a growing prevalence of struggling students with language learning challenges, and numerous studies have emphasized the seriousness of this issue.

This group of underachievers consistently demonstrates poor performance in various aspects of English reading, and their representation appears to be increasing. As students' progress to higher grades, the prevalence of underachievers also seems to rise. According to the Ministry of Education's 2021 National Academic Achievement Assessment results, the percentage of middle school (grade 9) and high school (grade 12) students with inadequate English foundational skills significantly increased compared to previous years. In 2021, the proportion of students with insufficient English skills was reported as 5.9% and 9.8%, respectively, up from 3.3% and 3.6% in 2019, and 7.1% and 8.6% in 2020 (Ministry of Education, 2022). Moreover, a recent LPA study by Kim, H., and Lee, B. (2021) focusing on high school students uncovered that approximately 20% of newly enrolled students demonstrated extreme underachievement in almost all fundamental English reading skills, despite having received nearly 7 years of school-based English education. Notably, the proportion of students

falling into this category of extreme underachievement appears to be on the rise. These students consistently scored one or two standard deviations below the highest and median groups in all L2 reading-related skills. It is worth noting that their study involved a specific group of high school students, so the overall proportion of underachievers in general high schools might differ slightly. Nonetheless, this research provides evidence that as students' progress to higher grades, the incidence of underachievement tends to increase.

Characteristics of profiles with above-average reading skills

Among the participants, 29.7% showed an average level of all reading sub-skills, known as "Average L2 readers" (Profile 4, 28.8%). Their vocabulary knowledge and reading comprehension were slightly higher than the average level, but the difference in L2 word knowledge and L2 reading comprehension ability among the three groups above the average level was the smallest, with less than 1 standard deviation (SD). On the other hand, the difference in reading fluency was the largest, with more than 1.5 SD. These students seem to exhibit distinct characteristics in their developmental stages of L2 reading, especially the groups with above-average profiles. "Above average L2 readers" (Profile 5, 22.0%) demonstrated all sub-skills with values above 0.5 to 0.7 SD above the mean, while "Proficient L2 readers" (Profile 6, 15.2%) showed even higher scores. In particular, their non-word reading, word reading, and passage reading scores were approximately 1.5 SD above the mean. Additionally, their word reading and reading comprehension were around 0.8 SD above the mean, and their syntactic knowledge was at 1.3 SD above the mean. This highlights the fidelity of the SVR

theory, where the reading sub-factors of decoding and language comprehension are multiplied to yield reading comprehension. Students who perform above the average level consistently demonstrate proficiency across all these sub-factors without any notable deficiency. In other words, this suggests that proficient EFL students at the intermediate and advanced levels develop all language skills equally, possibly due to limited language input.

The significant difference in fluency factors observed in the upper groups suggests that fluency has a considerable impact on L2 reading comprehension (Rasinski et al., 2009; Torgesen, 2002; Torgesen & Hudson, 2006). Especially, proficient readers in the upper groups have the ability to read long sentences within a limited time, which can be a determining factor for their future L2 reading achievement. This finding aligns with the study conducted by Lee (2018), which showed a substantial discrepancy in L2 reading fluency between the upper and lower groups, and the gap widened as students progressed to higher grades.

Interestingly, the highest-performing group of learners in this study was relatively sizable, accounting for 15.2% of the participants (Profile 6). However, it is worth noting that a top-performing group of students was not identified. In other words, there was no indication of a small portion of students who demonstrated exceptionally higher levels of L2 reading achievement. This outcome can be attributed to the characteristics of participants in this study, including learners from various regions and school districts with moderate income levels. Thus, the study could not capture a latently distinct group of learners who stand out significantly higher than the rest of the students.

5.2. L2 Learning Backgrounds Influencing L2 Reading Skills of EFL Learners

This study delves into the influence of EFL young learners' English learning backgrounds on their L2 reading abilities. Through a multinomial logistic regression analysis using the students' L2 reading profiles as a depedent variable, it became evident that the home L2 literacy environment and English learning experiences during elementary school had the most substantial impact on their profile membership. Notably, among these factors, English learning experiences during elementary school emerged as the most influential predictor rather than other predictors such as pre-school English learning experiences.

When comparing "Overall severe deficit L2 readers" and "Severe deficit in L2 oral decoding and reading skills of readers" (Profiles 1 and 2), no significant predictor variables were identified for the latter group. As a result, the exact reasons for the L2 reading difficulties observed in the "Overall severe deficit L2 readers" (Profile 1) group remain unclear, necessitating further investigation and research. However, it is worth noting that the ratio of the home L2 environment and English learning experiences before and during elementary school was slightly higher for the "Severe deficit in L2 oral decoding and reading skills of readers" (Profile 2) group compared to the "Overall severe deficit L2 readers" (Profile 1) group. This suggests that the underlying causes of the deficit in the "Overall severe deficit L2 readers" (Profile 1) group may be related to various individual and contextual factors concerning these learners' L2 learning (Jeong & Kim, 2013; Kwon & Kim, 2021).

Additionally, comparing the two profile groups, "Severely deficit in L2

oral decoding and reading skills of readers" and "Severe deficit in L2 linguistic knowledge readers" (Profiles 2 and 3), is meaningful for identifying learners' difficulties in L2 reading comprehension. Among students in the "Severe deficit in L2 linguistic knowledge readers" group, a home environment that supports English education demonstrated a higher predictive power compared to the "Severely deficit in L2 oral decoding and reading skills of readers" group (as indicated in Table 4.12). As current sixth graders primarily focus on vocabulary and grammar knowledge in their schooling, this suggests that approximately 7% of students do not effectively acquire these skills in the classroom despite significant support at home.

Another interesting point of discussion is the comparison between the top profile groups, "Above average L2 readers" and "Proficient L2 readers" (Profiles 5 and 6). This comparison allows for a detailed examination of the factors contributing to these groups' high performance. Both profiles scored above average in all sub-skills of L2 reading, but different predictors were observed. It should be noted that statistical significance was not confirmed, but other predictor variables, excluding additional English learning experiences during elementary school, exhibited similar values. However, when considering additional English learning experiences during elementary school, all six profiles displayed a statistically significant difference, indicating that additional L2 learning experiences during elementary school exerts the most influential impact on L2 reading proficiency.

The relationship of individual variables to L2 reading ability

The difference in Profile 3 based on gender is beyond the scope of this study, but some studies have reported the possibility that male students may be less proficient in utilizing language comprehension strategies compared to female students, and exploring this aspect is meaningful from an exploratory perspective. Profile 3 shows a tendency for students to exhibit lower language comprehension skills compared to other reading factors, and this appears to affect their reading comprehension ability.

Previous research consistently shows variations in English learning achievement between male and female students. Several studies have explored the reasons behind these gender differences. Some studies have reported that as students progress to higher grades, female students tend to be more proficient in using metacognitive strategies for language comprehension learning, or they excel in the use of short-term memory for word learning (Ehrman and Oxford, 2003; Kaylani, 1996). Gu (2002) found that females reported significantly more use of almost all vocabulary learning strategies that correlated with success in English as a Foreign Language (EFL) learning. Similar findings have been observed in studies conducted with Korean students (Lee & Lee, 2004; Lim & Cho, 2014; Yoon, 2003), suggesting that female students tend to employ a wider range of learning strategies in foreign language learning compared to male students.

However, it's essential to note that some studies have reported no significant differences in foreign language learning between male and female students. For instance, Kim (2009) argued that there were no gender-based differences in

reported English reading strategies among 3rd-grade middle school students, as both male and female students reported similar usage of English reading strategies.

Nevertheless, this study's significance lies in the prominent gender difference observed in Profile 3 compared to other profiles. Reilly & Andrews (2019) highlighted that while females generally outperformed males in language-related tasks, the effect sizes varied considerably depending on the specific sample, and smaller sample sizes might amplify the observed effects. They examined 3 decades of U.S. student achievement in reading and writing from the National Assessment of Educational Progress, finding that female students consistently demonstrated superior reading abilities using vocabulary and grammar compared to male students across all grade levels, with the difference becoming more pronounced as students progressed to higher grades. However, the fact that Profile 3 represented a small subgroup, accounting for only about 5% of the total sample, makes it challenging to generalize the gender differences observed in Profile 3 to the entire population.

Although this study did not explicitly uncover the reasons behind individual characteristics such as gender, it contributes to the broader research scope by suggesting that these characteristics may manifest differently within specific subgroups compared to others.

The relationship of home literacy environment to L2 reading ability

Despite not being the strongest predictor overall, the home literacy environment proved to be a significant factor, especially among high-achieving L2 learners. The odds ratios of the home English environment acted as the most

influential predictor to a similar extent in Profile 3 and Profile 6 (Profile 3: 4.550, Profile 6: 4.554), and for Profile 5, the odds ratio was 2.601. The positive impact of parental support and the physical environment in the homes of students in the top-performing groups of Profile 6 and Profile 5 emphasizes the crucial role of parental interest and interaction in enhancing students' English reading proficiency. Additionally, parents' education level and the availability of English books at home could also potentially have a positive influence on students' reading abilities. Previous studies (Burgess et al., 2002; Cheung & Andersen, 2003; Gottfried et al., 2003; Park, 2008; Payne et al., 1994; Sénéchal, 2014; van Bergen et al., 2017; Van Steensel, 2006; Weigel, 2006; Yeo, 2014) have explored the correlation between the home learning environment related to English and academic achievement. However, this present study lacked sufficient data on parents' educational background, leading to the exclusion of parental education as a direct predictor. Nevertheless, when considering multiple factors collectively, this study found that the home literacy environment, including both physical and emotional aspects, emerged as a significant predictor, especially among high-achieving groups such as "Above average L2 readers" and "Proficient L2 readers" (Profiles 5 and 6). These studies have examined various aspects of the literacy-related context at home, including parents' beliefs about literacy, their literacy-related experiences, their involvement in literacy education, and the availability of resources related to home literacy.

Contrary to the initial prediction, this study revealed that the family literacy environment played a crucial role as the most significant predictor in the "Severe deficit in L2 linguistic knowledge readers" group (Profile 3). This group consisted

of below-average readers with limited language comprehension. This finding underscores the essential significance of a supportive home literacy education environment as a predictor, although its effectiveness diminishes in the absence of other supportive factors like consistent task performance or experiences during elementary school, as observed in this specific profile. These results can be considered highly robust, as they suggest that the English support and environment at home exert a significant but not exclusive influence on learners' foreign language learning experiences. Several studies (Gottfried et al., 2007; Niklas & Schneider, 2013; Rindermann & Ceci, 2018; Weigel et al., 2006; Yeo, 2014) have corroborated this finding, demonstrating that the home environment, including factors like parental involvement, available resources, and the overall literacy context, can have a positive impact on students' English achievement. However, these studies also acknowledge that the influence of the home environment may be constrained or influenced by other factors such as school experiences, teaching methods, and individual differences among students.

This study builds upon and expands existing findings by examining specific groups within the participant pool and their interaction with the home English environment as a predictor, providing more comprehensive and nuanced insights.

The relationship of early pre-school English education to L2 reading skills in the elementary school

The effects of early English education before schooling have been a topic of significant debate in research. However, the present study did not find

statistically significant outcomes regarding its impact on the six graders' L2 reading skills. Across all profile groups, including those with the highest reading proficiency level, the study observed that pre-school English learning experiences had no significant influence on students' English reading comprehension at Grade 6. These findings are consistent with previous research that has also suggested limited effects of early English education (Lee, 2002; Lee & Cho, 2019; Han, 2008; Baek, 2005; Jeon, 2003; Hwang, 2018; Pyun, 2017; Shim & Shin, 2017). Studies have indicated that early English education may not yield cost-effective benefits, especially for elementary and middle school students.

The effectiveness of early English education in this study may have been limited due to several factors. Firstly, children's cognitive abilities and maturity can vary, which can influence their readiness for English learning. Language acquisition abilities differ among individuals, and some children may not have fully developed the necessary language comprehension skills during their early education, making the early English education less effective for them. Lee (2002) argues that children are not universally superior to adolescents or adults in all language abilities and that different patterns are observed depending on age. Based on the "critical period hypothesis" in the context of foreign language education, he suggests that the effectiveness of early English education in Korea may lack validity.

Secondly, the limited effectiveness of early English education may also be attributed to the lack of opportunities for children to use the language in practical situations. If children have limited chances to use English in their daily lives or if English is not commonly used in their environment, the impact of early

English education could be constrained. Even if learners were exposed to English during their pre-school education, its effectiveness might be limited in an English as a Foreign Language (EFL) context where the use of English in everyday life is restricted. Previous studies (García & Bartlett, 2007; Riazi, 2015; Song, 2015) have argued that in EFL environments, where the primary language used is not English, learners may have limited opportunities to use English in real-life situations, which can influence their language learning outcomes.

Thirdly, the limited effects of early English education may be specific to certain domains and age ranges. Since this study primarily focused on measuring reading abilities, it may not have fully captured the overall impact of early English proficiency. It is possible that learners' educational gains were more pronounced in oral language skills, leading to restricted effects on the measured reading abilities in this study. Some studies suggest that the effects of early English education can vary depending on the educational stage and the specific areas assessed. For instance, Han (1997) reported that the effects of early English education were observed in 3rd-grade elementary school students but diminished in higher grades. There are also other studies pointing out the domain-specific effects of early English education. Kim (2000) found that children who received early English education achieved higher scores only in English listening and speaking evaluations. While early English education may be beneficial for developing speaking skills, it may not have a substantial effect on improving L2 reading comprehension skills. Furthermore, Pyun (2017) reported minimal impact of early English education on middle school students' English proficiency, suggesting that the benefits of pre-school English education may be limited in this

regard. Similarly, Lee and Cho (2019) revealed that the influence of pre-school English education was not significant in reading, while it had some meaningful impact on their speaking skills. As this study targeted higher-grade elementary school students for a reading ability test, the effects of early education in this specific area might have been constrained or less evident.

Fourthly, there is a possibility that the effects of early English education might be negative. Studies have shown that early English education can have negative side effects, such as a decrease in learners' motivation. These negative impacts need to be considered when evaluating the overall effectiveness of early English education (Elley, 1989; Muñoz, 2006; Pienemann, & Brindley, 1988; Rixon, 1986).

In contrast to the present study's findings, other studies (Kwak & Lee, 2021; Patkowska & Pulaczewska, 2018; Yoshimura & Nakamura, 2019) argue for the positive effects of early English education, and particularly, Lee and Bae (2022) demonstrate the beneficial impact of early English experiences on elementary students' reading comprehension and their confidence in reading abilities.

Amidst these contrasting claims, the present study does not conclusively refute the notion that early English education may not have an immediate significant effect on students' reading abilities. While the study did not produce statistically significant results, it does not dismiss the possibility that early English education could still have an underlying impact on learners' potential reading abilities. Instead, this study provides additional evidence suggesting that the influence of early English education on the relationship with reading ability is limited, taking into account factors such as students' age, current educational

curriculum, and specific restricted domains.

The relationship of L2 learning experiences during elementary school to L2 reading ability

When comparing learners' experiences chronologically, separating them into before elementary school and after elementary school, the latter showed to be the most distinct predictor determining the different L2 reading profiles.

In this study, students who had extensive exposure to English during elementary school had a higher probability of demonstrating above-average reading skills across all proficiency profiles, including average L2 readers, above-average L2 readers, and proficient L2 readers. The odd ratios for "average L2 readers" and "above-average L2 readers" were similar at 2.588 and 2.784, respectively. However, for "proficient L2 readers," the odds ratio for students with significant exposure to English after starting school was even higher at 6.628. This indicates that English learning experiences during elementary school were the most influential predictor of English reading ability. It held a significantly higher predictive value compared to other predictors.

These findings challenge the notion that younger learners acquire language more easily and are consistent with the results obtained by comparing English proficiency before and after entering elementary school. The present study reveals statistically significant results regarding the effectiveness of learning experiences during elementary school, while the pre-elementary school learning experiences did not show statistically significant results, leading to meaningful educational discussions. These findings prompt discussions about the critical period for

foreign language learning and the claim that younger learners acquire language skills more effectively.

Firstly, contrary to the belief that younger learners acquire foreign languages more easily, this study demonstrates that language learning is more effective when learners are cognitively mature. Adolescents and adults, who are more cognitively developed, tend to show higher learning outcomes compared to younger children. Long-term studies have also shown little evidence of young children outperforming adolescents or adults in language learning. Therefore, in an environment where the foreign language is rarely used in daily life, the impact of early English education might not be significant, and the notion that learning a foreign language quickly leads to better results is not supported. These findings align with Lee's (2003) research that the critical period hypothesis is not meaningful in a foreign language environment like South Korea. Instead, he emphasized the significant influence of environmental factors, such as language exposure and the number of hours of exposure and learning. Huang (2016) also suggests that there is limited evidence to support the idea that younger learners acquire foreign languages more rapidly in a foreign language environment.

Secondly, the concept of a critical period is often associated with adolescence, which is the stage of human development called puberty (Lenneberg, 1967). Regarding English reading proficiency, this study provides evidence that the critical period for foreign language learning occurs at least after elementary school education begins.

Another point of discussion is students' interest and confidence in English. The elementary English experience survey in this study includes emotional aspects

related to students' English experiences. These emotional factors play a significant role in predicting students' interest and confidence in English and indicate that instilling interest and confidence in students' English learning is crucial for their achievements.

Ultimately, this study revealed that the most crucial predictor for 6th-grade elementary students is their English experience after entering elementary school. According to the findings, the English experience during elementary school is directly proportional to the amount of English input in an EFL (English as a Foreign Language) context. Furthermore, it highlighted that this period is perceived as the most effective time for cognitive development. Importantly, the study also demonstrated that such English experiences significantly impact students' emotional well-being, encompassing their affective domain.

CHAPTER 6

CONCLUSION

This chapter summarizes the major findings and provides pedagogical implications, followed by limitations and suggestions for future research.

6.1. Major Findings

The study's key findings can be summarized as follows:

The first major finding derived from the study was that EFL (English as a Foreign Language) 6th-grade students, who received the same amount of English instruction for the same duration, were classified into six heterogeneous groups based on their reading sub-skills. These sub-skills exhibited a horizontal pattern for the above-average groups, while the below-average groups demonstrated more complex patterns.

The second key finding of the study involved analyzing the factors contributing to difficulties experienced by students with poor reading abilities, all of whom scored below average. The characteristics of these students were examined to understand the different ways in which learning challenges may arise. Consistent with the Simple View of Reading (SVR), the group exhibiting poor performance showed a lack of decoding ability (Profile 1), which ultimately hindered their overall reading abilities. Surprisingly, even after receiving 3.5 years of English instruction in public education, 10% of these upper-grade students

lacked fundamental decoding skills. As a result, they were unable to progress to higher levels of English reading proficiency. Thus, regardless of age, the absence of decoding ability poses significant challenges for second language (L2) learners in line with the SVR.

The third key finding of the study is that, among all the indicators used in the Latent Profile Analysis (LPA), the language comprehension ability (such as vocabulary and syntactic knowledge) showed less variation in scores between profiles compared to oral reading abilities that included decoding and fluency. However, the study found that even if students can decode and read words, they must also develop the capacity to read passages fluently. This is because fluency affects their language knowledge and can hurt their English reading ability. Many studies have emphasized the importance of L2 reading fluency (Carver, 1993; Hoover & Gough, 1990; Rasinski et al., 2009; Torgesen, 2002; Torgesen & Hudson, 2006), and this study confirms that fluency plays a crucial role in bridging decoding and reading comprehension. It also suggests that students must develop their fluency to become advanced learners in English reading proficiency.

The fourth finding highlighted two profile groups (Profiles 2 and 3) that exhibited distinct characteristics, even though they did not have the most severe reading levels or poorest reading skills. The first group (Profile 2) showed adequate oral reading decoding and fluency skills but had poor language and reading comprehension skills. On the other hand, the second group (Profile 3) scored higher on oral reading tests but had lower scores on vocabulary, syntactic knowledge, and reading comprehension. These two profiles crossed paths in passage reading ability. Profile 2 had relatively lower oral reading ability but

compensated with good comprehension skills, while Profile 3 demonstrated the opposite pattern, indicating that language comprehension plays a vital role in reading comprehension in the EFL context.

The fifth finding indicates that students with above-average English reading ability demonstrated balanced development in all sub-skills, with reading fluency being significantly higher in Profile 6, the most proficient group. On the other hand, the difference in word knowledge was relatively smaller when comparing Profiles 4 and 5. This highlights the importance of reading fluency and automation for higher-level learners, as the top-profile group showed superior fluency and accuracy compared to other factors. Furthermore, these upper-level learners provided evidence supporting the SVR theory, which suggests that in the EFL context, decoding and language comprehension play equally important roles in reading comprehension. This finding confirms that across proficiency levels, all reading sub-skills follow parallel patterns, with decoding and language skills working together to influence reading comprehension.

The sixth finding suggests that the family environment was crucial in predicting English reading ability, ranking as the second most significant predictor after L2 learning experiences in elementary school. A supportive home English environment was necessary for children's learning achievement regarding reading abilities, including factors such as owning books, parental interest in English, and English support at home. However, the study also showed that even with family support, attaining high reading ability was difficult without consistent experiences in elementary school focused on English. This was demonstrated by the different reading abilities between Profiles 3 and 6, which exhibited similar home support

environments.

Finally, the research uncovered distinct patterns in the factors that predict English reading ability at various developmental stages. Pre-elementary English education did not yield statistically significant outcomes. However, the investigation identified significant variables that impact the English reading proficiency of sixth-grade students. These factors include the English learning experiences during elementary school, the frequency of book reading, and the student's level of interest in and recognition of the importance of English. Notably, among these factors, the most influential predictor of second language (L2) reading ability was found to be the learning experiences during elementary school.

6.2. Pedagogical Implications

This study has significant pedagogical implications for EFL reading instruction in Korean elementary schools. First, the research findings demonstrate the existence of diverse L2 reading abilities among students, which can be identified through empirical analysis. The study sheds light on the specific difficulties faced by students with below-average reading ability and the extent of these challenges. Understanding the heterogeneity in English reading skills among Korean EFL sixth graders is crucial for addressing specific areas of difficulty within different profile groups. In particular, Profile 1 students identified in this study showed a lack of basic decoding skills, making further reading learning challenging. This group constituted approximately 10% of the participants, and previous research suggests that this proportion may increase over time. Promptly

recognizing the reading situation of struggling students and implementing targeted interventions are crucial to address the challenges faced by students in acquiring English reading proficiency. To achieve this, continuous guidance and support for students are necessary, and a systematic approach to providing sustained instruction is essential. Starting from the 3rd grade, when public education begins, it is important to identify struggling students with decoding difficulties and assign specialized teachers at each school to support them. These specialized teachers should continue to provide guidance and instruction to these students as they progress to higher grades. Implementing such a system would help struggling students receive consistent and comprehensive support throughout their academic journey.

Second, the study revealed that specific learners within certain profile groups face distinct challenges, such as inadequate oral reading ability and language and reading comprehension. Tailored interventions are necessary to address their individual needs. For students with essential decoding ability but insufficient fluency, practicing sight-word reading to increase reading speed is crucial for their future learning. The study also highlights the risks associated with a profile group known as "word callers," whose language comprehension is lower than their oral reading ability, necessitating a re-evaluation of their motivation and teaching methods. To address these challenges effectively, continuous utilization of individualized cards based on the ongoing assessment results is crucial. Each student's personalized card should guide tailored education and support that caters to their specific difficulties. For instance, students struggling with oral reading could benefit from activities like repeated reading using fairy tales or other

engaging materials. On the other hand, students with limited language comprehension might benefit from using individualized teaching materials designed to enhance their comprehension skills. Implementing differentiated support strategies is essential to ensure that all students receive the necessary assistance according to their unique needs.

Third, to support fluency development, it is essential to continuously utilize students' reading portfolios to measure and utilize both accuracy and speed. Collaborative activities with peers, such as engaging in shared reading aloud, can also prove useful in incorporating diverse teaching methods. By adopting various instructional approaches, educators can create an optimal learning environment to enhance reading fluency and decoding abilities among students of different proficiency levels. This approach allows students to work together, fostering a cooperative learning environment and enhancing their overall language skills. Furthermore, regularly measuring students' progress through reading portfolios helps teachers identify areas that need improvement and tailor their instruction accordingly.

Finally, the study offers valuable insights into significant predictors for each classified group, guiding students on which variables to prioritize to enhance their English reading achievement. While the impact of early English education on attaining English proficiency in upper elementary school grades was relatively insignificant compared to learning experiences during elementary school, the research highlights the substantial influence of the English language environment at home, socioeconomic status, and parental English support on English reading ability. Although the statistical data for these predictor variables are limited, their

relationships are complex, making it challenging to draw a conclusive assessment of the impact of early English education. Nevertheless, the study suggests that learning English during elementary school has a more substantial impact as it is a time when students are more cognitively prepared for language learning. This conclusion can be highly pragmatic, as English instruction during elementary school is more cost-effective and can instill motivation in students. Thus, emphasizing English learning during the early stages of public education could be a more economically viable approach.

6.3. Limitations and Suggestions for Future Research

This study contributes to the understanding of the heterogeneity in the reading ability of South Korean EFL students by examining the characteristics of their academic backgrounds. It provides a detailed analysis of the classified groups' reading ability, which can help identify students' features and problems related to learning disabilities.

However, this study also has limitations. First, the first group of participants consisted of students from schools located in areas with a moderate-income level and an assumed moderate academic proficiency. The English proficiency of these students within the school was assumed to follow a normal distribution. In recruiting these participants, only the scores from the Basic Academic Achievement Assessment were utilized, and the opinions of the respective English teachers were taken into account as a reference. However, it is recognized that relying solely on these factors may not adequately represent the entire population of 6th-grade students. Future research should supplement this

method with a more objective measure to prevent for participants' overall level.

Second, this study utilized oral reading interviews to assess students' oral reading ability. Still, additional measures may be needed to obtain a more accurate measurement of double fluency. While students were asked multiple-choice questions after reading each passage to assess reading fluency, measuring comprehension levels for each paragraph based on the question level was challenging. Measuring fluency in paragraph reading using a single test was difficult compared to word reading fluency. Therefore, multiple repetitions may be necessary to determine fluency in paragraphs, and other methods, such as retelling, may be required to assess comprehension. Future research should consider supplementing the test method for reading fluency to analyze students' performance accurately.

Third, although teachers in each school made efforts to fulfill the experimental conditions through video conferencing, COVID-19 posed challenges in consistently controlling the testing environment due to various circumstances such as scheduling and online vs. face-to-face learning. Therefore, future research should prioritize managing these schedules to ensure consistent testing conditions.

Fifth, the survey in this study was conducted with students as the main participants. However, questions regarding the English language environment at home and parental education level were administered to both students and their parents. Unfortunately, due to the lack of sufficient responses, the parental education level questions were discarded. To conduct more comprehensive research on this topic, obtaining sufficient consent from participants for the data collection on SES is necessary for the future.

Sixth, the questionnaire used in this study was designed to consider each language function. However, it was challenging to achieve a complete separation between tests that asked about vocabulary and grammar knowledge and tests that measured reading comprehension. Future research should take this aspect into further consideration for more desirable outcomes.

Seventh, in this study, to understand the background of early English education, a survey was conducted among the students. However, it is essential to acknowledge the limitations of this approach, as it relies on learners' self-reporting of past experiences. Completely isolating the predictor variables between pre- and post-entry into elementary school can be challenging. Therefore, further consideration is necessary to understand the benefits and usefulness of additional English experiences, taking into account existing research.

Finally, this study used simplified questions in the survey to accommodate the concentration level of elementary school students. As a result, the number of items was limited to the student´s age, which may have resulted in an insufficient predictive analysis to identify more detailed factors. Therefore, conducting a more comprehensive survey in future research may provide a more in-depth understanding of the factors related to L2 reading and learning in South Korean EFL students.

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APPENDIX

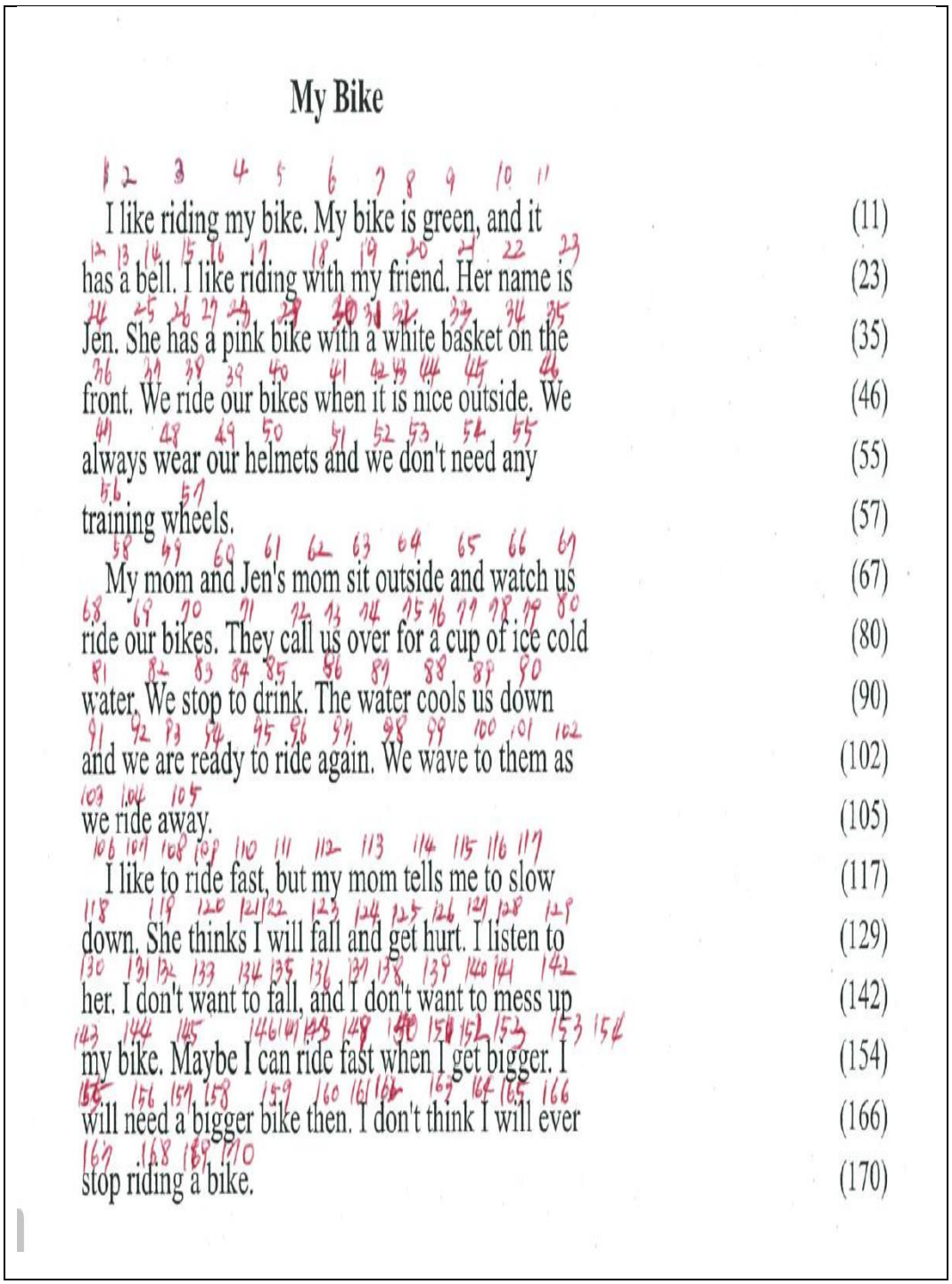
APPENDIX. 1. Nonword Reading Test

1 mo	23 stree	strale
2 ik	24 weaf	debmer
3 pu	25 barch	happon
4 bi	26 glack	framble
5 ib	27 prot	progus
6 ku	28 runk	supken
7 eb	29 loast	jeltlic
8 pog	30 mact	tegwop
9 dat	31 blork	slinperk
10 mip	32 phet	plinders
11 ral	33 wogger	thundelp
12 nas	34 klup	bramtich
13 mib	35 skad	chimdruff
14 faw	36 keast	darlankert
15 shum	37 churt	stremfick
16 bice	38 glamp	morlingdon
17 nade	39 prait	revignuf
18 teap	40 flact	obsorfelm
19 derl	41 throbe	pitocrant
20 marl	42 creft	glimpobot
21 berk	43 flimp	strilmolifant
22 mest	44 girtus	bormorint

APPENDIX. 2. Word Reading Test

1 go	28 meat	56 farmer	straighten
2 dog	29 best	57 spring	clarify
3 in	30 then	58 present	frequent
4 at	31 spell	59 peace	mediate
5 am	32 come	60 huge	threshold
6 it	33 start	61 believe	modulate
7 so	34 green	62 office	prudent
8 big	35 want	63 question	exercise
9 be	36 better	64 contact	protect
10 do	37 learn	65 history	desperate
11 box	38 black	66 invent	quantity
12 one	39 train	67 invoice	wonderful
13 look	40 even	68 complete	initiate
14 if	41 went	69 custom	spurious
15 not	42 thing	70 inquire	particular
16 car	43 other	71 natural	emergency
17 hot	44 fruit	72 purchase	selection
18 this	45 wrong	vacant	verbatim
19 have	46 watch	everyone	awkward
20 some	47 truck	swollen	wilderness
21 now	48 stars	fireplace	grandiose
22 need	49 winter	together	ornament
23 give	50 begin	horizon	penitent
24 sat	51 forest	embassy	component
25 good	52 street	mountain	heritage
26 here	53 chance	project	skeptical
27 shop	54 instead	factories	transfusion

APPENDIX. 3. Passage Reading Test



My Bike

I like riding my bike. My bike is green, and it (11)
has a bell. I like riding with my friend. Her name is (23)
Jen. She has a pink bike with a white basket on the (35)
front. We ride our bikes when it is nice outside. We (46)
always wear our helmets and we don't need any (55)
training wheels. (57)
My mom and Jen's mom sit outside and watch us (67)
ride our bikes. They call us over for a cup of ice cold (80)
water. We stop to drink. The water cools us down (90)
and we are ready to ride again. We wave to them as (102)
we ride away. (105)
I like to ride fast, but my mom tells me to slow (117)
down. She thinks I will fall and get hurt. I listen to (129)
her. I don't want to fall, and I don't want to mess up (142)
my bike. Maybe I can ride fast when I get bigger. I (154)
will need a bigger bike then. I don't think I will ever (166)
stop riding a bike. (170)

APPENDIX. 4. Syntactic Knowledge Test

1	Understanding the three-form sentence structure and choosing the right picture	Sentence form
2	Know the future tense (be going to) and choose the right picture	Future tense
3	Understand the expression like to and choose an appropriate picture	To verb
4	Understanding complex sentences and progressive expressions and choosing the right picture	Progressive tense
5	Understand the bestowal verb and choose the correct picture	Bestowal
6	Future tense is going to understand expressions and choose pictures.	Future tense
7	Understanding the future tense negative sentence form and choosing a picture	Future tense
8	Understanding and choosing sentences in passive voice	Passive form
9	Understanding the present perfect sentence and choosing the correct picture	Perfect sentence form
10	Choosing the right word for the future question	Future tense
11	Choose the right word for comparative sentences	comparative degree
12	Choosing a past tense verb in an interrogative sentence	tense
13	Choosing the right interrogative word for the question	question
14	Choose the right tense for the past tense	tense
15	Choose a preposition for transportation	preposition
16	Choose the correct verb for sentences	tense
17	Choose the right possessive form for the sentence	case
18	Match the tenses of verbs in clauses	tense
19	Choosing the right form for the possessive case of a noun	case

20	Choose an interrogative word to indicate a quantity	interrogative
21	Choose words to indicate possessiveness	case
22	Correct the order of the sentence expression indicating the position	sentence form
23	Correct the order of interrogative sentences asking for dates	interrogative
24	Correct the order of the possessive interrogative sentences	possessive case
25	Correct the order of sentences for exclamation	exclamation

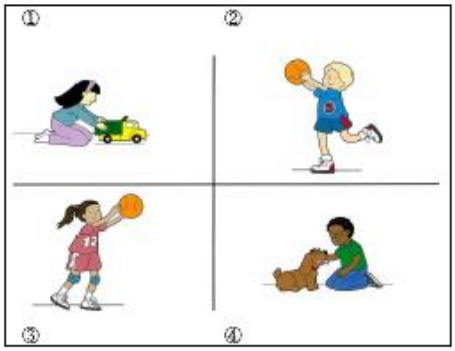
문법 지식 평가

초등학교 반 번

[01]-[9] 다음 문장에 알맞은 그림을 고르세요.

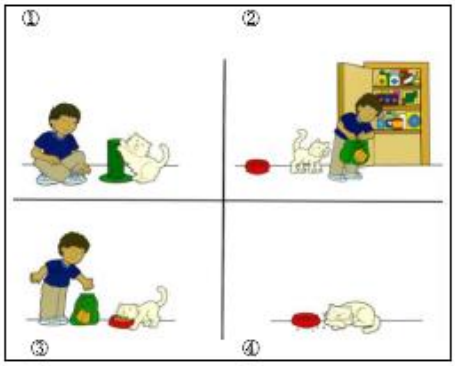
알맞은 보기의 번호를 쓰세요. ( )

[01] The boy has a ball.



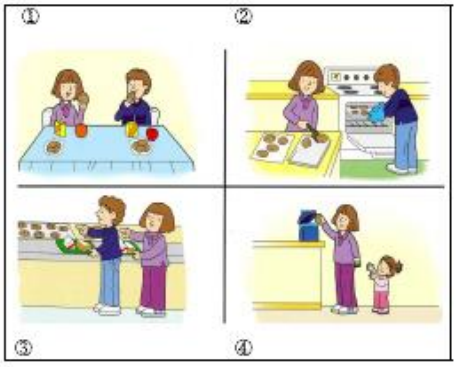
알맞은 보기의 번호를 쓰세요. ( )

[02] The boy is going to feed the cat.



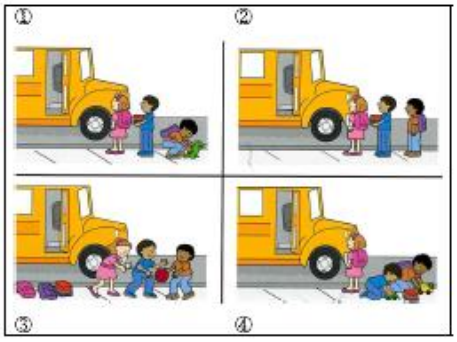
알맞은 보기의 번호를 쓰세요. ( )

[03] They like to bake cookies.



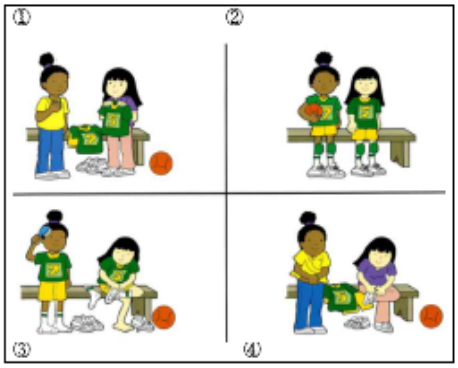
알맞은 보기의 번호를 쓰세요. ( )

[04] The first two children are in line, but the third child is still playing.



알맞은 보기의 번호를 쓰세요. ( )

[09] **The girls have dressed for the game.**



[10-21] 다음 빈칸에 들어갈 적절한 단어를 고르시오.

[10] What ____ you do this summer?

① have
② are
③ will
④ did

[11] The boy is _____ than you.

① strong
② stronger
③ strongest
④ more stronger

[12] Who _____ this book?

① write
② wrote
③ did write
④ have written

[13] _____ is your favorite sport?

① Who
② Where
③ What
④ Why

[14] It _____ all day long yesterday

① was rained
② raining
③ rained
④ has rained

[15] BTS went to Paris ___ plane.

① with
② in
③ by
④ at

[16] Look! The cup is empty. There _____ nothing in it.

① is
② will
③ are
④ isn't

[17] She has _____ new coat on.

① hers
② her
③ she
④ mine

[18] He always cried when he_____ a baby.

① got
② was
③ were
④ is

[19] Sam and Jeny work in their _____ shop.

① father
② fathers'
③ fathers
④ father's

[20] How _____ money have you got?

① much
② few
③ many
④ any

[21] He put on _____ coat and went out.

① him
② mine
③ hers
④ his

[22-25] 다음 문장들의 순서가 바른 것은 어느 것인지 고르시오.

[22] 알맞은 보기의 번호를 쓰세요. ( )

on the chair	is	the cat

① One the chair the cat is.
② The cat is on the chair.
③ Is on the chair the cat.
④ The cat on the chair is.

[23] 알맞은 보기의 번호를 쓰세요. ( )

day	is	it	today	what	?

① Is it today what day?
② What day is it today?
③ Is it today what day?
④ What today is it day?

[24] 알맞은 보기의 번호를 쓰세요. ( )

is	this	whose	pencil case	?

① Is this whose pencil case?
② This is whose pencil case?
③ Whose is this pencil case?
④ Whose pencil case is this?

[25] 알맞은 보기의 번호를 쓰세요. ( )

a	house	what	nice	!

① a nice house what !
② a house nice what !
③ What a nice house !
④ What house a nice !

수고 많으셨습니다.

APPENDIX. 5. Vocabulary Test

	Question Words	Elementary School Curriculum 800 Words	Secondary School Curriculum 3000 Words	Word Size (1000 word group)	Word size (2000 word group)
1	draw	o		o	
2	firefighter	o			
3	astronaut	o			
4	audience		o		
5	island		o	o	
6	toothache	o			
7	library	o			
8	museum	o			
9	dirty	o		o	
10	alive		o		
11	different	o		o	
12	hungry	o			
13	forget	o			
14	sweet	o		o	
15	learn	o		o	
16	throw		o	o	
17	cheap	o		o	
18	famous	o			
19	present	o		o	
20	think	o		o	
21	near	o		o	
22	travel	o		o	
23	start	o		o	

24	September				
25	third				
26	curious	o			o
27	period		o	o	
28	separate			o	
29	standard	o		o	
30	basis		o	o	
31	drawer		o		o
32	maintain		o		o
33	upset		o		o
34	patience		o		o
35	divide	o		o	
	Total	22	20	18	5

단어 평가

조동막교 반 번

[1]-[6] 다음 그림에 맞는 단어를 고르세요.

[01] 알맞은 번호를 골라 쓰세요. ( )

① catching ② listening
③ throwing ④ drawing

[02] 알맞은 번호를 골라 쓰세요. ( )

① policeman
② engineer
③ waiter
④ firefighter

[03] 알맞은 번호를 골라 쓰세요. ( )

① banker
② astronaut
③ baker
④ soccer player

[04] 아래와 같은 그룹의 사람들을 무엇이라고 부르는지 고르시오. ( )

① circus man ② heroes
③ postman ④ audience

[05] 알맞은 번호를 골라 쓰세요. ( )

① mountain ② warm
③ island ④ picnic

[06] 알맞은 번호를 골라 쓰세요. ( )

① fever ② calendar
③ toothache ④ medicine

[17] 알맞은 번호를 골라 쓰세요. ( )

cheap

① 맛좋은 ② 값이 싼
③ 인기가 좋은 ④ 조용한

[18] 알맞은 번호를 골라 쓰세요. ( )

famous

① 유명한 ② 빠른
③ 인기가 많은 ④ 비싼

[19] 알맞은 번호를 골라 쓰세요. ( )

present

① 그림책 ② 선물
③ 편지 ④ 그림

[20] 알맞은 번호를 골라 쓰세요. ( )

think

① 생각하다 ② 움직이다
③ 만들다 ④ 전해주다

[21] 알맞은 번호를 골라 쓰세요. ( )

near

① 멀리 ② 아래
③ 가까이 ④ 위

[22] 알맞은 번호를 골라 쓰세요. ( )

travel

① 시도하다 ② 여행하다
③ 시작하다 ④ 가다

[23] 알맞은 번호를 골라 쓰세요. ( )

start

① 청소하다 ② 시작하다
③ 끝내다 ④ 가리다

[24] 알맞은 번호를 골라 쓰세요. ( )

September

① 7월 ② 8월
③ 9월 ④ 10월

[25] 알맞은 번호를 골라 쓰세요. ( )

third

① 첫 번째 ② 두 번째
③ 세 번째 ④ 네 번째

수고 많으셨습니다.

APPENDIX. 6. Reading Comprehension Test

1-11	Look at the picture and choose a word to fit in a sentence. Basic principles of reading comprehension to understand texts quickly and accurately	grammatical vocabulary
12-15	Read 2-3 short sentences and understand contextual information. The passive principle of reading comprehension to find text details	Understanding short texts
16-23	Read and understand narrative texts of 5 sentences or more. The passive principle of reading comprehension to find text details	Understanding long sentences
24-25	Read long texts without pictures (texts about future careers) and understand the content to answer questions and find topics. The principle of actively grasping the main content of the text	Understanding long texts and finding topics

영어 독해 테스트	초등학교 반 번

[01~10] 그림의 문장을 잘 읽고 문장에 알맞은 단어를 고르세요.

[01] 알맞은 번호를 골라 쓰세요. ( )

The girl plays with her _____.

① farm ② movie
③ blocks ④ picture

[02] 알맞은 번호를 골라 쓰세요. ( )

The bird sits in the _____.

① park ② chair
③ leaves ④ nest

[03] 알맞은 번호를 골라 쓰세요. ( )

The dog is _____from a dish.

① eating ② running
③ carrying ④ moving

[04] 알맞은 번호를 골라 쓰세요. ( )

He is sitting in a _____.

① boat ② trees
③ river ④ forest

[06] 알맞은 번호를 골라 쓰세요. ( )

Tom likes to swim _____the water.

① toward ② in
③ behind ④ on

[06] 알맞은 번호를 골라 쓰세요. ( )

James is walking with his friend at the _____.

① bakery ② theater
③ bank ④ park

[07] 알맞은 번호를 골라 쓰세요. ( )

Judy opened her front door. She went out into the cold and rain. She buttoned her coat and opened her _____.

① umbrella ② boots
③ trees ④ house

[08] 알맞은 번호를 골라 쓰세요. ( )

Tom folded the T-shirts and put them neatly _____the dresser.

① on ② in
③ under ④ up

[09] 알맞은 번호를 골라 쓰세요. ( )

The father clapped his hands and said, "Good girl, Olivia!" The baby was _____for the first time.

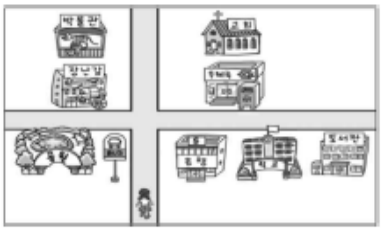
① walking ② jogging
③ sleeping ④ eating

[10] 알맞은 번호를 골라 쓰세요. ( )

Sally got in the car and put her _____on the seat beside her.

① jacket ② skirt
③ shoes ④ hat

[11] 다음 그림을 맞게 설명한 것을 골라 쓰세요. ( )



① The museum is behind the toy shop.
② The park is near the library.
③ The school is between the bank and the church.
④ The church is in front of the toy shop.

[12] 다음 글을 읽고 내용과 일치하는 것을 고르세요. ( )

① Nami가 Kevin에게 쓴 글이다.
② Nami의 생일은 8월 5일이다.
③ Kevin이 Nami를 초대하였다.
④ Kevin은 3시에 Nami 집에 간다.

[13] 다음 빈 칸에 알맞은 단어를 골라 쓰세요. ( )

Monkeys and humans have a lot in common. However, unlike humans, most_____ have tails.

① humans ② monkeys
③ fish ④ animals

[14] 다음 글을 읽고 Jenny가 있는 곳이 어디인지 고르세요. ( )

Lilly: Where is Jenny? Tom: She is at the police station. Go straight two blocks turn right. It's next to the school. Lilly: No, she's not here. Where is she? Tom: She is at the restaurant. Go straight two blocks and turn left. It's between the hospital and the park. Lilly: Thank you.

① 식당 ② 병원
③ 공원 ④ 경찰서

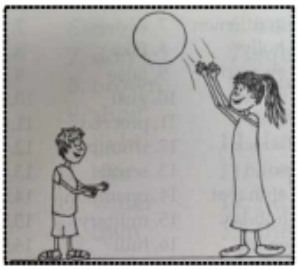
[16] 다음 글을 읽고 빈칸에 알맞은 단어를 고르세요. ( )

Hawaii is lot of mountains standing in the sea. These _____ are called islands because of the deep water all around them.

① valleys ② beaches
③ forests ④ mountains

[16-17] 다음 글을 읽고 물음에 답하세요.

Winning the Game



"Catch the ball" said the girl.
The boy looked at the ball. **It came right to him.**
He did catch it.
"You win the game! she said.

[16] 소년과 소녀가 무엇을 하고 있는지 고르세요.
( )

① 물놀이 ② 술래잡기
③ 공놀이 ④ 자전거 타기

[17] 밑줄 친 It came right to him.이 무슨 뜻인지 고르세요. ( )

① 그것이 그의 오른쪽으로 왔다.
② 그것이 그에게 바로 왔다.
③ 그것이 그를 지나갔다.
④ 그것이 그의 왼쪽으로 갔다.

[18-19] 다음 글을 읽고 물음에 답하세요.

The Lost Candy

"I lost my candy," said the boy. "Help me find it."

"I see it," said Mom. " I see it in your hair! I will pull it out! Don't cry!"

[18] 소년이 잃어버린 것은 무엇인지 고르세요.
( )

① 장난감 ② 책
③ 사탕 ④ 껌

[19] 소년이 잃어버린 것은 어디에 있었는지 고르세요. ( )

① 침대 속 ② 책장 위
③ 소년의 입 안 ④ 소년의 머리

[20-21] 다음 글을 읽고 물음에 답하세요.

The Runaway Dog

"I see the dog!" said Dad.
Ⓐ "The dog is running. Now I do not see her.

Where is the dog? Here she is. Ⓑ She has come back home."

[20] Ⓐ "The dog is running. Now I do not see her. 에서 내가 지금 개를 볼 수 없는 이유를 고르세요. ( )

① 개가 뛰고 있어서
② 개를 누군가 데리고 가서
③ 개가 숨어 있어서
④ 개가 자고 있어서

[21] 밑줄 친 Ⓑ She has come back home. 에서 지금 개가 어디에 있는지 고르세요. ( )

① 집 뒤에 있다.
② 집을 나갔다.
③ 집에 돌아왔다.
④ 아빠 주변에 있다.

[22-23] 다음 글을 읽고 물음에 답하세요.

Pat Hides Out

Pat sat by the tree. "Pat," his mom called.
"I want you to help me," she said.
"I do not want to help her," Pat said to himself.
"I do not want to work. I will hide from her.
I will hide by this big tree! My mom will not find me."

[22] 엄마가 Pat을 부른 이유가 무엇인지 고르세요.
( )

① 공부를 하라고 말하기 위해
② 산책을 함께 하기 위해
③ 도움을 요청하기 위해
④ 식사를 함께 하기 위해

[23] 엄마의 부름에 Pat은 어떤 행동을 할지 고르세요.
( )

① 엄마가 못찾게 나무 주변에 숨을 것이다.
② 엄마를 돕기 위해 갈 것이다.
③ 엄마에게 가지 않겠다고 말할 것이다.
④ 엄마의 부름을 못 들은 척 할 것이다.

[24-25] 다음 글을 읽고 영어 질문에 답하세요.

Jane plays many musical instruments like the piano, violin, and flute. She is also good at singing. She wants to be a singer. She likes English pop songs and classics. But her favorite music is Korean pop.

[24] What does Jane want to be? ( )

① a pianist ② a violinist
③ a singer ④ a flutist

[25] What music does she **NOT** like?
( )

① English pop music ② Korean pop music
③ classical music ④ rap music

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APPENDIX. 7. Survey

안녕하세요? 우리나라 초등학교 학생들의 영어 읽기 능력 연구에 참여해 주셔서 감사합니다. 이 설문지는 여러분들의 영어 학습 경험에 대한 배경 조사입니다. 본 설문은 학교 선생님들은 볼 수 없으며 연구자에게만 정보가 제공됩니다. 여러분들의 이름은 적지 않으며 학급 출석 번호만 쓰시면 됩니다. 성실한 응답을 부탁드립니다.

-서울대학교 영어교육과 김은정-

1. 나의 성별은?

   1) 남자 2) 여자

2. 내가 사는 지역은 ?

   1)서울 2)인천 3) 수원 4) 전주 5) 창원

3. 아빠의 최종학력은?

   1)대학원졸 2) 대졸 3) 초대졸 4) 고졸

4. 엄마의 최종학력은?

   1)대학원졸 2) 대졸 3) 초대졸 4) 중졸

5. 내가 읽을 수 있는 영어로 된 책은 몇권 정도 되나요?

   1)없음 2) 1-10권 정도 3) 11-12권 정도 4) 20권 이상

6. 부모님은 나의 영어 학습을 많이 도와주시나요?

   1)전혀 도와주지 않음 2)별로 도와주지 않음
   3) 많이 도와줌 4)아주 많이 도와줌

7. 부모님과 영어로 대화해 본 경험이 있나요?

   1) 전혀 없음 2) 거의 없음 3) 약간 있음 4) 매우 많음

8. 부모님이 영어로 된 책을 읽어주신 적이 있나요?

   1) 전혀 없음 2) 거의 없음 3) 약간 있음 4) 매우 많음

9. 부모님이 영어에 관심이 많은가요?

   1) 전혀 없음 2) 거의 없음 3) 약간 있음 4) 매우 많음

10. 부모님이 평소에 영어를 많이 강조 하시나요?

1) 전혀 강조하지 않음 2) 약간 강조 3) 어느 정도 강조 4) 매우 강조

11. 유치원에서 영어를 어느 정도 배웠나요?

1) 배운 적이 없음 2) 일주일에 1-2시간

3) 일주일에 3-5시간 4) 종일제 영어 유치원 다님

12. 유치원에서 영어를 배울 때 영어를 좋아했나요?

1) 아주 싫어했음 2) 별로 좋아하지 않았음

3) 비교적 좋아했음 4) 매우 좋아했음

13. 유치원 다닐 때 영어를 잘했나요?

1) 매우 못했음 2) 못하는 편이었음 3) 잘하는 편이었음 4) 매우 잘했음

14. 초등학교 때 학교 이외의 장소(학원 등)에서 어떤 영어를 학습했나요?

(여러 개 선택 가능)

1) 말하기 듣기 학습 2) 읽기활동(영어 책이나 그림책 읽기 등)

3) 쓰기 학습 4) 단어 외우기와 문법 등

15. 초등학교에서 학교가 아닌 다른 곳에서 영어를 많이 배웠나요?

1) 거의 배우지 않았음 2) 조금 배웠음

3) 많이 배웠음 4) 매우 많이 배웠음

16. 초등학교 다니면서 영어로 된 책을 몇 권 정도 읽어 보았나요?

(영어 교과서와 문제집 제외)

1) 읽기 않았음 2) 2-3권 정도 3) 10권 정도 4) 10권 이상

17. 초등학교에서 영어 학원을 몇 년이나 다녔나요?

1) 다니지 않았음 2) 1년 이하 3) 2년 이하 4) 3년 이상

18. 초등학교 때 학원에서 주로 어떤 영어를 배웠나요?

1) 다니지 않았음 2) 영어 독해, 어휘 3) 영어 회화

4) 영어 책읽기, 토론 5) 영어 문법 및 어휘

19. 초등학교 시절 영어를 많이 공부했나요?

1) 거의 하지 않았음 2) 조금 했음 3) 많이 했음 4) 아주 많이 했음

20. 6학년이 된 후 주로 어떤 영어를 공부했나요?

1) 영어 회와 2) 영어 읽기 3) 영어 쓰기

4) 영어 단어와 문법 등 5) 거의 하지 않음

21. 6학년 때 주로 어디에서 영어를 공부했나요?

1) 학교 2) 학원 3) 집 4) 공부하지 않음

22. 최근에 영어를 공부하면 어떤 느낌인가요?

1) 전혀 즐겁지 않음 2) 그다지 즐겁지 않음

3) 어느 정도 즐거움 4) 매우 즐거움

23. 현재 주로 하고 있는 영어 공부는 무엇인가요?

1) 듣기 및 말하기 2) 영어책 읽기 3) 영어 문법

4) 영어 단어 외우기 5) 위 모두

24. 나는 영어 공부의 필요성을 느끼나요?

1) 전혀 느끼지 않음 2) 별로 느끼지 않음

3) 어느 정도 느낌 4) 매우 필요하다고 생각함

25. 지금까지 시행했던 영어 테스트 결과를 받아 보기를 원하나요?

1) 원함 2) 원하지 않음

국 문 초 록

EFL 학습자들에게 영어 언어 기술, 특히 읽기 능력의 향상은 중요한 관심사이며 부담이다. 특히, 어린 시절의 영어 언어 능력의 격차는 가정 내 소득 불평등과 밀접한 관련이 있어 사회적 문제가 되고 있으나 학교에서 학습하는 학습자들 사이의 영어 능력 격차를 극복하는 것은 어려운 과제이다.

현재, 3학년에서 영어 교육을 처음 받는 학생들과 학원이나 과외 등을 통해 일찍 영어를 배운 학생들 간에 언어 능력의 상당한 차이가 있다고 보고되고 있다. 이러한 공립 교육에서의 학생들간 집단 이질성에도 불구하고, 이와 관련된 경험적인 연구에 기반한 연구는 극히 적은 편이며 그 마저도 학습 부진아들의 선별에 중점을 두고 있다.

따라서, 본 연구는 한국 초등학교 6학년생들의 외국어로서의 영어 환경에서의 그룹 간의 이질성 그리고 분류된 그룹의 특성 및 이러한 특성을 형성하는 학습자들의 학습 배경을 조사하기 위해 수행되었다. 본 연구는 주로 외국어로서의 영어를 공부하는 한국 초등학교 6학년생들의 L2(제2 언어) 읽기 능력에 대해 다루었다. 구체적으로, 본 연구는 6학년생들이 L2 읽기 능력에서 어떻게 차이가 나는지, 특히 L2 읽기 능력 프로파일에 초점을 맞추어 조사하고, 이러한 L2 읽기 프로파일과 사회적 교육적 배경이 어떤 예측 관계를 가지는지 조사하였다.

본 연구는 다음과 같은 목표를 설정하였는데 첫째, L2 읽기 프로파일에 기반하여 6학년 EFL 학습자들의 잠재적 그룹을 구분하여 조사하는 것이다. 둘째, 이러한 잠재적 그룹의 일반적인 특성을 파악하는 것이다. 셋째, L2 읽기 프로파일과 영어 학습 배경 사이의 예측 관계를 다항 로지스틱 회귀분석을 통해 조사하

는 것이다.

총 598명의 6학년 학생들이 중 · 저소득 지역에 위치한 7개 학교에서 선정되어 참가자로 선정되었으며, 이를 통해 전국 5개 지역의 초등학교 6학년 학생들의 특성을 대표하였다. 본 연구는 학생들의 제2언어(L2) 문해 능력 요소와 읽기 이해 구조를 측정하기 위해 다음과 같은 다섯 가지 요소를 도출하였다: (1) L2 해독력, (2) L2 구어 유창성, (3) L2 어휘 지식, (4) L2 구문 지식, 그리고 (5) L2 읽기 이해력. 이 중 L2 해독력은 학습자들의 전반적인 단어 해독 능력의 실태를 알아보기 위해 L2 비단어 읽기와 L2 단어 읽기 두 가지 지표로 분류하여 측정하였다. 이에 따라 L2 비단어 읽기, L2 단어 읽기, L2 지문 읽기, L2 어휘 지식, L2 문법 지식, 그리고 L2 읽기 이해력의 총 여섯 가지 지표가 설정되었다.

본 연구는 EFL 독해 연구에 다양한 결과와 교육적 함의를 제공하였다. 첫째 실제 한국 초등학교 교실 내 학생 그룹은 다양성을 나타내며, 그 특성이 경험적으로 확인되었다. 특히, 영어 읽기 능력이 평균 이하인 학생들이 직면하는 어려움과 그에 대한 유형과 읽기 세부기술에 관한 프로파일 패턴을 파악하였다. 높은 능력을 갖춘 학습자들에게는 읽기 유창성이 중요한 하위 기술로 부각되었으며, 반면 가장 낮은 수준의 학생들은 결핍된 해독 능력이 전반적인 읽기 세부능력에 부정적인 영향을 미쳤다. 또한 분류된 각 그룹에 대해 유의미한 예측 요인을 검토함으로써, 학생들이 영어 읽기능력을 향상시키기 위해 집중해야 할 구체적인 영역을 확인하였다.

학습자들의 영어 교육 경험과 읽기 능력에 관한 연구 결과, 초등학교 상급 학년에서 초기 영어 교육은 영어 능력에 제한적인 영향을 미친 것으로 나타났다. 대신, 초등학교 시기의 학습 경험은 사전 형식의 영어 교육 경험과 비교하여 더욱 실질적인 성과를 보였다. 이러한 본 연구의 결과는 외국어의 읽기 능력 향상이 발

달할 수 있는 최적의 시기에 학습하는 것이 효과적임을 입증하며 가정에서의 영어 읽기 교육을 위한 지원도 중요한 요소임을 입증하였다.

주요어: L2 독해 능력, L2 언어 학습 배경, 이질적 그룹, L2 언어 해독 능력, L2언어 언어 이해 능력, 잠재 프로파일 분석, 다항로지스틱회귀분석.

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