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Effects of Teacher-led Reading Teaching Activities and Student Independent Reading on Fourth Grade ELL Student Reading Comprehension

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EFFECTS OF TEACHER-LED READING TEACHING ACTIVITIES AND STUDENT
INDEPENDENT READING ON FOURTH GRADE ELL STUDENT READING
COMPREHENSION

By

Siping Liu

A dissertation submitted in partial fulfillment
of the requirements for the

Doctor of Philosophy in Teacher Education

Department of Teaching & Learning
College of Education
Graduate College

University of Nevada, Las Vegas
August 2012

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THE GRADUATE COLLEGE

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Siping Liu

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Effects of Teacher-Led Reading Teaching Activities and Student Independent Reading on Fourth Grade ELL Student Reading Comprehension

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August 2012

ABSTRACT

EFFECTS OF TEACHER-LED READING TEACHING ACTIVITIES AND STUDENT INDEPENDENT READING ON FOURTH GRADE ELL STUDENT READING COMPREHENSION

By

Siping Liu

This dissertation study examines the effects of four teacher-led reading activities recommended by the reading teaching policy and student independent reading activity on the development of English language learners (ELL) reading proficiency at fourth grade in U.S. elementary schools. In this study, I first introduce the significance of studying the relationship between ELL reading development and the reading teaching activities recommended for ELL students' reading development and discuss the potential conflicts of the ideas underlying these teaching activities with some assumptions underlying the second language theories. With such an introduction as a base, I raise some research questions for my dissertation study and review the relevant theoretical and empirical bases and further justify these research questions in light of the theoretical and empirical literature. Then, I propose and justify the research methodology, participants, data sources and analyses for my dissertation and present my findings that address the research questions. Finally, I discuss these findings in light of the existing literature, offer pedagogical implications and suggestions for future research on ELL reading, and explain imitations of study.

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CHAPTER 1

INTRODUCTION

Background

This dissertation explores the influences of reading teaching activities recommended by the reform policy and independent reading instruction based on second language development theory on reading development of ELL student at intermediate level. A deep understanding about these influences is important for researchers and policy makers to verify theoretical and policy assumptions about the role of various teaching activities in helping ELL student reading development, for teachers to develop effective reading instruction that can help ELL students to learn to read successfully, and for schools to support ELL students to pursue their social, economic, political, and personal goals through their reading development.

Reading development has been an important goal for all students in the federal government literacy policy making. The *No Child Left Behind* (NCLB) act mandates that all children at public schools should be proficient in reading by the end of 2013-2014 school years (McKenna & Walpole, 2010). The Obama administration issued a more competitive act known as *Race to the Top* with the intention of raising students' performance in reading, mathematics and science based on common standards and assessments (Obama, 2009). These standards and assessments are shaped by international benchmarked standards and assessments (OECD, 2011) and by needs to prepare American students for an emerging and competitive global economy that requires its workforce to be equipped with stronger knowledge of literacy including reading than ever

before (Roller, 2000).

American students' existing reading competence is apparently not matching up with this expectation. As shown in the results of 2009 Program for International Student Assessment (PISA), U.S. 15 years old students had an average score of 500 on the combined reading literacy scale, which was just above the average score (493) among the 75 participating countries or regions (Duncan, 2009). Such performance also suggests lower efficiency of reading instructions in U.S. schools considering its investment in education in comparison with other participating countries. For example, Estonia and Poland whose students performed at the same level as the U.S. in PISA 2009 spent around \$40,000 per student for K-12 education, much lower than \$100,000 per student for the U.S. K-12 education (OECD, 2010). Another international reading assessment, the Progress in Reading Literacy Study (PIRLS) that measures fourth grade students' reading performance, revealed that U.S. students did not show any significant progress between 2001 and 2006 during which NCLB act was implemented. The combined mean reading score was 540 in 2001 and 542 in 2006 respectively.

In fact, U.S. children's weakness in reading is not a new problem and the "literacy crisis" has been associated with U.S. students for at least 30 years (Kozol, 1985). In the early 1980s, President Carter voiced his concern about the American literacy crisis and insisted that to handle it was "an obligation that he would not shirk" (Kozol, 1985, p. 6). In 1994, the National Assessment of Educational Progress (NAEP) reported that 40% American fourth grade students could not read independently (Campbell et al, 1996). This situation did not seem to change much as shown in the 2009 Nation's Report Card, which showed that 37% of fourth grade students failed to reach the basic level in reading

and 26% of these students were still unable to read at the basic level by Grade 8 (National Center for Education Statistics, 2004).

Poor reading performance is exacerbated for English language learners (ELL) defined in any of the following categories: a) those who were not born in the United States; b) those who acquired their first and native languages different from English; c) those who came from environments where English is not dominantly used; or d) those who are American Indians or Alaskan natives from environments where languages other than English affect their English proficiency levels. In short, they are “a heterogeneous group with different ethnic backgrounds, first languages, socioeconomic statuses, qualities of prior schooling, and levels of English language proficiency” (Common Core Standards Initiative, 2011).

Many ELL students come from immigrant families whose parents have limited English proficiency and have lower socioeconomic status (American Federation of Teachers, 2006). Thus, they have less English literacy experience at home than children whose first language is English including those in lower social economic status. Based on a longitudinal study of 42 families from different socioeconomic statuses, Hart and Risley (2003) noticed that the native English speaking children in early childhood had much more exposure to English words with 86% to 98% of their words from their parents’ vocabulary. Those from families of low socioeconomic status had average exposure to 616 words of language experience per hour while those from professional or middle class families had an average exposure to 1, 251 words per hour. With little or no exposure to English language experience at home in early childhood, ELL children may lose their most productive time in English reading development during the first three

years when they are “especially malleable and uniquely dependent on the family” for the development of English literacy (Hart & Risley, 2003, p. 9).

As a result, the reading performance of ELL students, on the average, is consistently lower than the English monolingual students. Based on the last seven tests conducted by the National Assessment of Educational Progress (NAEP), the average score of reading performance of fourth grade ELL students was 38.85 points lower than their English monolingual counterparts. The percentage of ELL students who were below the NAEP basic reading achievement level, defined as “partial mastery of prerequisite knowledge and skills fundamental for reading”, was 74.1% (Nation’s report card, 2009). PISA also showed the weakness of U.S. ELL students’ reading proficiency with that ELL students were 22 points lower than English native students in its reading assessment (OECD, 2010).

ELL student reading performance is becoming a national issue considering the increased population of ELL students and wider dispersion. According to the National Center for Education Statistics, 3.8 million public school students received ELL services in the school year of 2003-2004, covering 10.6 % of students nationally (Abedi, 2008). The number of ELL students is likely to grow from 12 million in 2005 to 18 million in 2025 (Passel, 2007). ELL students today not only concentrate in California, Texas and New York but also are found in sizable number in the public school enrollments in the South and Northwest of the United States (Fry & Pew Hispanic, 2007). Because of this reality, the NCLB act mandates that ELL students be included in the assessment of adequate yearly progress (AYP) and requires that ELL students meet proficiency standards as a group by 2014. Thus, it is necessary and important for researchers to develop a deep understanding about the relationship between reading instruction and ELL student

reading development. Such an understanding should serve as an important knowledge base for policy makers and teachers to develop relevant policies and instruction to help ELL students develop their reading proficiency effectively.

Statement of the Problem

The current U.S. policy recommendations for improving reading instruction for all students were developed based on research on reading development of students who speak English as their first language. The recommendations stress the development of phonological awareness including understanding phonemes, speech sounds, and connecting them to print and the sufficient vocabulary as being critical for K-3 children to process reading comprehension effectively. *The Reading Excellence Act (REA)*, a congress-passed act clearly defines capable K-3 readers as having phonological awareness (Mesmer & Karchmer, 2003). *The Reading First (RF)* program mandated under the NCLB act as a federal educational program also includes phonological awareness and vocabulary development as two of the five essential components of reading instruction and encourages teachers to bank on these components for K-3 reading development (Dole, Hosp, Nelson & Hosp, 2010). In the Common Core State Standards (CCSS) initiative released in June 2010, phonological awareness and vocabulary are listed as essential skills for kindergarten children to “lay foundation for students’ reading and understanding of increasingly complex texts on their own in subsequent grades” (p. 33). The National Reading Panel, an organization authorized by the federal legislation to assess the validity of empirically-studied knowledge about reading and reading instruction released its report in which phonological awareness and vocabulary are considered essential in teaching reading to children in the classroom (Allington, 2000).

Not only do these policy documents all stress the role of phonological awareness and vocabulary in children's reading development for the general student population (Dole, Hosp, Nelson & Hosp, 2010), but also they shape the policy recommendation for ELL student reading development since low phonological awareness and poor vocabulary knowledge are considered as the major reasons for ELL students' weaknesses in English reading development. Thus, the reading teaching activities emphasizing the development of phonological awareness and vocabulary are strongly recommended for ELL reading development (August & Shanahan 2006). For example, the Institute of Education Sciences (IES) under the United States Department of Education published a practice guide that recommends teachers to develop reading competences of ELL students in elementary school through improving their oral fluency and explicit vocabulary teaching by engaging them in small group and pair work (Gersten et al, 2007).

In specific, reading aloud as a practice to develop oral fluency is assumed to help ELL students develop phonological awareness. Because ELL students do not develop English phonological awareness naturally, practicing reading aloud is seen as a good way to increase their "auditory experiences" necessary for beginning readers to establish sound-symbol relationship that will lay the foundation for cognitive processing of a printed text (Griffin, 1992, p. 784). Direct instruction of vocabulary is crucial for ELL children to catch up with their native counterparts in reading comprehension in the classroom. With sufficient vocabulary L2 readers will save their attentional resources for higher level process in reading comprehension (Koda, 2005). Small group intervention and pair work can be useful in developing ELL students' core reading skills, through offering them extra opportunities to practice reading aloud and learn new vocabulary

(Gersten et al, 2007).

The above policy recommendations and its assumptions are not without challenge. In the field of second language acquisition, ELL students' reading development in English is often assumed different from native English speaking or English monolingual children (Koda, 2005). Thus, "teaching necessary for native English speakers cannot simply be applied whole cloth to ELL proficiency and primary language literacy" (Peregoy & Boyle, 2000, p. 243) on three specific grounds.

First, there are important differences between first language learners and second language learners in the developmental stages of reading skills (Adams, 1990). First language children develop their phonological ability dramatically between three to five years of age. Chall (1996) delineated the following developmental stages of reading proficiency for first language readers: (a) preschool first language children begin learning skills such as concepts of print, letter knowledge, and phonological awareness; (b) at Grades 1 and 2, they start to develop decoding skills such as letter/word recognition; (c) during later second and third grades, they begin to build their sight word vocabulary, and read with increased reading fluency; (d) from grade four onwards, children shift from "learning to read" to "reading to learn" (p. 37). Thus, first language children enter the linguistic threshold by first identifying letters, recognizing phonemes, learning vocabulary, and then they develop meaningful reading comprehension using the skills that they have developed initially (Paris & Hamilton, 2009; Common Core State Standards, 2010).

The trend of reading development for first language children is from bottom to top, i.e., from phonological and vocabulary knowledge to meaningful reading

comprehension. The policy suggestions for reading instruction for the general student population follow this conceptual understanding about first language reading development. For example, *Reading Excellence Act* and *Reading First*, the two federal policies that focus on K-3 children's reading instruction, stress the importance of phonological awareness and vocabulary teaching (Mesmer & Karchmer, 2003; U.S. Department of Education, 2002). The Common Core State Standards also specifies that the fundamental skills for kindergarten children are phonological awareness and vocabulary (Kendall, 2011).

However, the above developmental stages for first language learners who start with decoding words and gradually move towards reading comprehension is seen as not a true reflection of second language reading development (Johnson & Afflerbach, 1985). Second language readers, especially those who are older and have already been exposed substantially to their native language learning and teaching, may have developed certain level of reading proficiency in their first language and then they start to learn decoding words and reading comprehension in second language without phonological awareness in second language but with decoding words and reading comprehension skills in his or her first language as support (Hamada & Koda, 2010).

This difference indicates that ELL readers may develop second language reading comprehension in different order from first language readers, who first establish basic linguistic foundation before processing reading comprehension and relying on different reading skills that have been developed initially. Therefore, the reading instruction effective for first language reading may not necessarily be equally effective for ELL reading development in English. Consequently, it is reasonable to question whether ELL

students regardless of their age have to repeat the natural reading developmental pattern like first language learners in second language reading development and thus, whether the recommended reading teaching activities that align with first language reading development can be effective for older ELL students (Jacobs & Farrell, 2001).

Second, teaching ELL reading focusing on reading aloud and explicit vocabulary teaching can also be a problem when examined from the post-positivist perspective, which emphasizes learner autonomy, focus on meaning, diversity, and thinking skills (Jacobs & Farrell, 2001). Following this perspective, ELL students need to be actively engaged in learning to read with sustained attention and interest, which is more likely to be achieved when they have chances to make use of their own interests, experiences, and relevant skills developed (Gradman & Hanania, 1991).

When asked to enhance their phonological awareness through reading aloud and explicit vocabulary understanding, ELL students, especially those older students, can hardly develop the sense of control and ownership by making use of their existing reading skills and background knowledge developed in their first language (Meyer, Wardrop, Linn & Hastings, 1993). Such reading instruction is also seen less useful and necessary for English monolingual students at third grade onwards. Their vocabulary development is mainly built upon natural reading experience instead of teachers' imposed reading activities (Anderson & Nagy, 1992; Anderson, 1996) while reading aloud might only help readers pronounce clearly individual words at the cost of failing to understand the meaning of what they are reading (Wallace, 1992) as it requires readers' attention to all the words while efficient readers only need to focus on content words (Gabrielatos, 2002). In contrast, independent reading, which aims to develop children's ability to read

silently without interruption for a period of time, can help children automate essential reading skills. Such automation is more likely to sustain readers' attention and interest in reading (McCracken, 1971; Eskey & Grabe, 1988).

Therefore, it is necessary to examine whether reading aloud and vocabulary instructional activities and independent reading each is effective or not for ELL students at intermediate grades. Such an examination can also help check indirectly whether with some first language reading experience or cognitive development, ELL students at intermediate or higher grade level are able to develop their reading by focusing on meaning and interests of reading or phonological awareness and vocabulary development.

Third, although small group and pair work activities may help ELL students develop essential oral language skills in second language (Saenz, Fuchs & Fuchs, 2005), it is still questionable if they are more effective for ELL students to develop necessary reading skills in the second language without active use of their first language reading skills. Small-group intervention or pair work are also questionable for ELL children as they often force ELL students to respond immediately to their teachers and peers, making inferences, identifying author's purposes, and weaving separate ideas using their orally language skills in their second language that they have not fully developed (Zvetina, 1987). In these activities, they have few opportunities to take advantage of their first language reading experience from which they develop these skills. Because of the function of ELL students' first language reading experience, it is natural to assume that independent and silent reading can be more useful for ELL students' reading development as it can activate their reading experiences and skills in first language without teachers' interference as it is always the case in small group intervention and pair work (Wallace,

1992). Following the above assumption, it is necessary to examine whether small group and pair work activities and independent reading each is effective or not for ELL students at intermediate grades. Such an examination can also help check indirectly whether ELL students at intermediate or higher grade level are able to develop their reading by activating their first language experiences in private or by being forced to use their oral language skills in front of teachers and peers.

Finally, it is also questionable that small group intervention and pair work are more effective for ELL students to develop necessary reading skills in the second language without active use of their cultural knowledge and experiences. Young children usually read for two purposes, i.e., reading for literary experience and reading to acquire and use information (Mullis, Kennedy, Martin & Sainsbury, 2006). The purposes of teaching reading are to help students develop the abilities of understanding literary texts such as novels, poems, plays and essays and appreciating the use of language as well as learn how to obtain information from texts (Koda, 2005). Many ELL children come from different cultural backgrounds with diverse personal lives and experiences, and thus they may contribute different connotations to the same story or information in a text (Brown, 1994). Because in small-group intervention, teachers usually treat ELL students as low-achieving students and thus teach them as knowing-nothing kids. In this manner, they may ignore ELL students' diversity and their prior knowledge developed in first language reading experience (Gerber, Jimenez, Leafstedt, Villaruz, Richards & English, 2004). Without using their unique first language cultural and personal experience, ELL students can hardly process high order reading comprehension (August & Hakuta, 1997). Therefore, reading teaching activities for ELL students need to focus on helping them

actively use their personal and cultural experiences that have been developed in their first language environment. Silent reading and reading books of one's own choice is assumed useful to engage ELL students in reading by using these cultural and personal experiences in developing second language reading competence since they allow students select their own books and read silently for a designated time period without the pressure of being tested and challenged with questions (Krashen, 2011). Thus, this reading activity offer the chances to help ELL readers transfer the background knowledge they have developed in the first language reading to second language reading (Adams 1994).

Consequently, it is necessary to examine whether independent reading is effective or not for ELL students at intermediate grades who might have developed the relevant personal and cultural experiences in their first language environments. Such an examination can also help check indirectly whether ELL students at intermediate or higher grade level are able to develop their reading by actively using these private and cultural experiences.

Research Questions and Their Importance

This study is developed to explore the above theoretical and empirical issues central to the reading development of ELL students at intermediate level by developing answers to the following specific research questions:

1. Whether and to what extent can the reading-aloud teaching activity influence the reading proficiency of fourth grade ELL students?
2. Whether and to what extent can the explicit teaching of new words influence the reading proficiency of fourth grade ELL students?
3. Whether and to what extent can the small-group intervention in reading

influence the reading proficiency of fourth grade ELL students?

4. Whether and to what extent can the pair work learning teaching activity influence the reading proficiency of fourth grade ELL students?
5. Whether and to what extent can independent reading influence the reading proficiency of fourth grade ELL students?

Answers to the above questions are important for researchers, policy makers, and practitioners in reading instruction and teacher education in several ways. First, they will help offer the direct empirical bases that may support, enrich, and challenge the reading instructional activities recommended by the relevant policy to develop ELL student reading comprehension that are exerting wide influences on reading teaching practices in many ELL classrooms (Gersten et al, 2007). Such knowledge base may help policy makers to make wiser decisions regarding strengthening, developing, and modifying their reading development policy for ELL students.

Second, they will help verify indirectly the theoretical assumptions about first and second language reading development and their differences (Koda, 2007) by providing the necessary and more reliable empirical evidences. As I explained above, these assumptions have been used as the important conceptual bases for the reading instruction policy for first and second language students alike (Cummins, 1979).

Third, these answers will offer chances to compare different kinds of reading activities in light of their effects on ELL student reading development (Olsen, 2009). The results of this comparison will have necessary implications for teacher educators and professionals in reading to develop, modify, and change their curriculum that prepare preservice teachers to teach reading effectively for ELL learners (Freeman, 2002). For

example, if certain reading instructional activities examined in the study are not effective for fourth grade level ELL students, teacher education curriculum and pedagogy should be changed not to focus on these activities in helping preservice teachers and classroom teachers to teach ELL student reading, no matter they are recommended by the relevant policies or following the theoretical perspective of first or second language development (Bernhardt, 1991).

CHAPTER 2

THEORETICAL AND EMPIRICAL BASES

Theoretical Framework

My dissertation is directly motivated by the following three theoretical assumptions about reading development emerging from the literature of first language reading development and the challenges from the theoretical perspectives of second language reading development. Each of the specific research questions of this dissertation is nested in these theoretical contentions and is designed to examine directly each of the reading activities based on these theoretical assumptions and also examine indirectly each of assumptions themselves.

Reading-aloud Activity and its Conceptual Bases and Challenges

Reading-aloud teaching activity is seen critical for developing children's reading comprehension because of its potential in developing their phonological awareness, "the ability to perceive and manipulate the sounds of spoken words" which is assumed fundamental for a child to process reading comprehension (Castles & Coltheart, 2004, p. 73). In particular, the assumption goes that with sufficient phonological awareness, children are able to be aware of the phonological structure of words such as phonemes, the smallest speech units of a language like /c/, /a/ and /t/ in *cat*, and rimes, the part of a syllable that is made up of a vowel and any consonant that follows it like /æt/ is the rime of *cat* (Comeau, Cormier, Grandmaison, & Lacroix, 1999). To learn to read, children need to understand how words are segmented into sequences of phonemes (Liberman, Shankweiler & Liberman, 1989) and the phonemic constituents by analyzing the internal

structure of words (Ball & Blachman, 1991). “Awareness” refers to readers’ explicit and deliberate processing of speech sounds (Castles & Coltheart, 2004).

In the literature of first language reading research, the positive relationship between phonological awareness and reading is richly documented (Adams, 1990; Bryant, MacLean and Bradley, 1990; Brady & Shankweiler, 1991; Goswami & Bryant, 1990; Caravolas & Bruck, 1993; Durgunoglu & Oney, 1999). These studies confirmed that the level of phonological awareness could predict how successfully one could read in the first language. Young children with reading disabilities were found to be correlated with phonological processing deficits (Lennox & Siegel, 1993) and the improvement and remediation of phonological awareness helped children develop reading comprehension (Blackman, 2000; Snow, Burns & Griffin, 1998; Torgesen, 2000).

With this understanding of the role of phonological awareness in reading development, researchers (e.g., Nation & Cocksey, 2009) suggested a possible link between readers’ phonological knowledge and their practice of reading words aloud. As Griffin (1992) explained, when learning to read, children cannot predict the pronunciation of words in a text, and therefore to practice reading aloud is a good way to increase their “auditory experiences with the target language by exposing them to words that they would not ordinarily hear in spoken form” (p. 784).

Similar to English monolingual children, the phonological awareness is also assumed important in developing second language reading. Koda (2007) and Nassaji and Geva (1999) contended that the development of second language reading proficiency followed identical trend of first language reading. The reason for children who could not develop efficient reading comprehension in the second language was that they did not

have reliable second language phonological stock in the working memory that stored phonological information (Walter, 2008). Thus, one's proper phonological stock is necessary for him or her to convert visually presented words phonologically and then, develop efficient reading comprehension (Hamada & Koda, 2010). The above assumption of the role of phonological awareness in the second language reading development leads to the suggestion that reading aloud can be equally necessary for helping ELL students learn to read effectively as a well developed phonological awareness lays important foundation for meaningful comprehension of English texts (Koda, 2007; Nagy & Anderson, 1999)

This assumption, as Fitzgerald (1995a) pointed out, can be important for younger ELL children who have no or little reading experience in either English or their first language. However, it can be problematic for ELL children at intermediate or higher grade level when ELL children can transfer their relevant phonological awareness of their first languages to English reading as long as both languages are in alphabetic writing system (Bruck, Genesee & Caravolas, 1997; Caravolas & Brack, 1993; Jiménez González & García, 1995). For example, children whose first language was Spanish could generalize their ability of phonological awareness in Spanish to their reading in English (Durgunoglu, Nagy & Hancin-Bhatt, 1993; Cisero & Royer, 1995). The assumption that second language children can develop reading proficiency first by storing information in phonological form in their first language and then transfer their first language phonological knowledge into second language reading is interpreted as ELL children's ability to rehearse the stored phonological information sub-vocally in first language "as a means of silently maintaining the contents of the phonological store" useful for second

language reading development (Baddeley, Gathercole & Papagno, 1998, p. 167). In this sense, the assumption that ELL students have little phonological awareness for their second language reading development can be inaccurate and the reading-aloud activity in English only based on such an assumption can be questionable. Thus, teachers teaching reading to intermediate grade level ELL students need to take into consideration of the relevant components of their first language phonological awareness and independent reading with teachers' support can be more useful to activate and make use of such awareness in their second language reading development.

Another challenge for the assumption that ELL students need to read aloud more to develop reading comprehension is the misunderstanding that ELL students have little second language reading experience in supporting their reading development and thus, they simply need to learn to read and cannot read to learn or both (Chall, 1996). This assumption again can be problematic in that although second language students have little second language reading experience, many, especially those older students, have acquired some or even substantial reading experience and skills in their first language, which is assumed useful for them to process reading materials in second language reading (Adams 1994). That means that like first language children, older ELL children may also use top-down approach to improve their reading comprehension as their relevant first reading skills are more likely to help them read to learn than their weak oral reading accuracy in English (Goodman, 1976). Fuchs, Fuchs, Hosp, and Jenkins (2001) posited that “the typical developmental trajectory of oral reading fluency involves the greatest growth in the primary grades, with a negatively accelerating curve through the intermediate grades and perhaps into junior high school” (p. 242). Following this assumption, it is reasonable

to question whether it is reading-aloud activity or independent reading activity that is more effective in helping ELL children, especially those older ones, in developing their second language reading comprehension (Chall, 1996).

Both challenges to the existing assumption of reading-aloud teaching activity for reading development suggest that it may not be necessary or effective for ELL children at intermediate grades to practice reading-aloud in order to improve their reading comprehension. Although they may not have developed second language phonological awareness and reading experiences, their first language phonological awareness and reading experiences may help them develop second language reading comprehension. Without taking the above characteristics of ELL student reading development into account, whether and to what extent reading-aloud teaching activity can be useful or effective for ELL students deserves a careful examination.

Vocabulary Teaching Activity and its Conceptual Bases and Challenges

Explicit vocabulary teaching activity is seen to be important for developing ELL children's reading comprehension for several reasons. First, studies confirmed that sufficient capacity of ELL students' vocabulary in second language contributed significantly to second language reading comprehension. For example, in second language reading comprehension, linguistic knowledge including vocabulary was found to contribute to about 58% to 65% of the variance in second language reading comprehension (Uso-Juan, 2006). Adequate second language reading comprehension of a text depends to some extent on the amount of second language vocabulary equivalent to 90 to 95% of the words in the text (Hirsch, 2003). Without knowing about 95% of neighboring words, to guess the meaning of an unfamiliar word is hardly possible (Laufer

& Paribakht, 1998). Thus, explicit vocabulary instruction is seen important not only for first language children but also for second language readers.

Second, unlike English monolingual students who have been exposed to English orally beginning from their birth and thus are familiar with most of words that are used in the readings when they start to learn at school (Sternberg, 1987; Chall, 1987), ELL students are assumed to suffer great vocabulary disadvantage in second language reading development because they begin to learn English later than their first language and have less exposure to English in their early childhood at home, which allows them to develop vocabulary incidentally (Nagy & Herman, 1985).

Therefore, explicit vocabulary reading instruction is more effective than incidental vocabulary learning in helping develop word capacity in second language. Such assumption is also backed up by some empirical studies (Coady, 1997). Swanborn and de Glopper (1999) found that the probability of acquiring new words for English monolingual children through accidental learning was 15% out of 100 new words in a text (Swanborn & de Glopper, 1999) and a word needed to be repeated 12 to 20 times before it was learned from context (Coady, 1997). Compared with English monolingual students, ELL students have even fewer chances to develop the amount of second language vocabulary through incidental learning that rely mainly on the proficiency of oral language. A text with more than 2% new words would pose problems for ELL students to read comprehensibly because of their vocabulary deficiency while explicit vocabulary teaching is believed especially necessary for ELL students (Carver, 1994).

Third, learning new words is not "an all-or-nothing phenomenon" but involves "several levels and dimensions of knowledge" (Laufer & Paribakht, 1998, p. 367), which

includes understanding the literal meaning, its various connotations, the syntactic structure, morphology, and semantic associates such as synonyms and antonyms (Carlo et al, 2004). A word can be understood differently, for example, partial vs. precise, shallow vs. deep and receptive vs. productive understandings (Henriksen, 1999). Thus, to understand and retain new words longer in learners' long-term memory with different levels of meanings, elaboration on the features of new vocabulary is beneficial (Anderson, 1995). Because of this reason, researchers (e.g., Hinkel, 2006) suggested that deliberate attention should be paid to teach ELL students "decontextualized words" (p. 122) in order to facilitate their real retention of new words and improve their vocabulary size. As a result, direct explicit instruction of vocabulary is recognized as required part of curriculum in teaching second language reading (Paran, 1996; Birch, 2002; Koda, 2005).

While using explicit vocabulary teaching activity for developing second language children's reading comprehension is reasonably sound, it does not necessarily mean it cannot be challenged. Some scholars stress that the relationship between the vocabulary knowledge as reading threshold and reading comprehension is not the only causal one and many other factors also contribute to reading comprehension (Paris & Hamilton, 2009). One of these factors is readers' content knowledge related to the text that they read and that they have developed in their first language learning which accounts for a range of variances between 21% and 31% of ELL reading comprehension (Uso-Juan, 2006). Thus, for ELL students at intermediate or higher grade levels, the relevant content knowledge can compensate for their lack of English vocabulary in reading comprehension (Keshavarz, Atai & Ahmadi, 2007).

Another factor is ELL students' prior literacy experience in their first language and its potential involvement in their second language reading process (Koda, 1994). Second language readers may take advantage of their first language and transfer cognate vocabulary to their second language reading instead of developing second language vocabulary from scratch as assumed (García & Nagy, 1993; Block, 1992). This may especially be true for the reading development of older ELL Hispanic children since many English literary or academic words are similar both in form and meaning to everyday Spanish words, such as tranquil/ tranquilo and pensive/pensive (García & Nagy, 1993). ELL readers from Spanish backgrounds, especially students at intermediate grade level may have developed a certain level of vocabulary proficiency for their second language reading comprehension in English. Thus, independent reading rather than direct instruction of vocabulary may be more beneficial for older ELL children from the environment where Spanish is the first language because it allows them use their reading skills and vocabulary that have already been developed in Spanish (Nagy & Herman, 1985).

Therefore, it is reasonable to question whether and to what extent explicit vocabulary teaching will be effective in influencing ELL student reading comprehension as recommended by the policy. Alternatively, it is also necessary to verify whether or not ELL children's language experience and content knowledge developed in their first language environment will make it possible for them to develop reading comprehension without exclusively relying on the direct learning of English words but through independent reading of reading materials of their own choice, which may offer them

more chances to make use of their content knowledge, reading experiences, and cognate words in their first language in their second language reading development.

Small Group and Pair Work Reading Activities and their Conceptual Bases and Challenges

Small group and pair work reading teaching activities are also recommended for teachers to develop ELL student reading comprehension based on several assumptions. First, the recommended small group reading intervention and pair work directed by the teachers are seen as being effective in developing children's phonological awareness and vocabulary knowledge crucial for ELL student reading development (Saenz, Fuchs and Fuchs, 2005), though the formats of the recommended small group intervention and pair work are not necessarily the same (Gersten et al, 2007). Both reading activities bank on the assumption that carefully structured interactions between two or more students around reading comprehension in second language can engage students in learning to read cooperatively, which are presumably necessary to help ELL students develop reading in English (Calderon, Hertz-Lazarowitz & Slavin, 1998).

In spite of the assumed effects of cooperative reading teaching activities as described on ELL students' phonological awareness, vocabulary size and thus, their reading comprehension, other scholars identified the limitations of these teaching activities in developing ELL reading comprehension since they fail to take ELL students' first language literacy experience into consideration while banking on their reading development on the weakest experiences that they are developing in second language literacy (Bernhardt, 2005).

First, effective readers rely on various schemas flexibly in their comprehension

(Nassaji, 2007, p. 80). These schemas include content schema, their knowledge of backgrounds and content of the reading materials; formal schema, their knowledge about different text types, genres and organization, language structures, vocabulary, grammar, and level of formality; and cultural schema, their knowledge of cultural norms and habits relevant to reading materials and process (Carrell & Eisterhold, 1983; Carrell, 1998). ELL students depend on their first language content, formal, and cultural schemas in their reading development in second language (Carrell, 1998). The recommended small group and pair work reading activities would press ELL students to use their weakest schemas in reading activities, their content, formal, and cultural knowledge in their second language as their English monolingual peers do without taking substantial advantage of the schemas developed in their first language reading, which may lead to problematic consequences for their reading comprehension (Carrell, 1988a; Alptekin, 2006).

On one hand, in these reading activities, ELL students have to pay ultimate attention to using correct phonological knowledge leaving little attention to meaningful understanding about the reading materials themselves (Nassaji, 2007). On the other hand, because ELL students' content, formal, and cultural schemas may not match those in the reading materials assigned to them to read, it is impossible for teachers to use the reading materials equivalent to ELL students' intellectual and social development to engage them in developing higher order reading skills (Alptekin & Ercetin, 2009).

Second, reading comprehension is developed through readers' active extraction and construction of the meaning of text for the purpose of either literary experience or acquiring and using information in various kinds of activities (Mullis, Kennedy, Martin & Sainsbury, 2006; Snow, 2002). ELL students may benefit from small group or pair work

in developing their phonological and vocabulary knowledge. However, these small group intervention and pair discussion tasks may run the risk of forcing ELL students “to hide in an instructional setting” and to display meaning that teachers or the group intend them to demonstrate (Bernhardt, 1991, p 185), instead of the meaning reconstructed by readers (Schallert, Lissi, Reed, Dodson, Benton & Hopkins, 1996). This can happen because to process the comprehension of a text, readers need to bring their own understanding as well as the author’s intention into the reading process (Carrell, 1987) and their understanding is created through readers’ interaction between the reading texts and their prior knowledge (Nassaji, 2007).

For ELL children, especially those older ones, this prior knowledge framework is often personal and hard to be shared with their peers due to their limited phonological awareness and vocabulary in second language while the effects of small groups and pair work on ELL reading bank on the development of phonological awareness and vocabulary (Krashen, 1980). Thus, when engaged in small groups and pair work, ELL students often have “no choice but to comply with the meanings the teacher and group intend them to demonstrate” (Bernhardt, 1991, p 185). In this sense, independent reading activities may be more beneficial for older ELL children at intermediate or higher grade levels to use their knowledge framework and transfer it to the context of their second language reading comprehension (Carrell, 1989). Thus, it is important to examine whether and to what extent small group and pair work teaching activities are more effective than independent reading activities in influencing ELL students’ reading development.

In summary, the reading teaching activities recommended by the relevant policy

focus mainly on the development phonological and vocabulary knowledge in ELL students' reading development in second language, which are not sufficient and can be problematic for ELL children who have already developed these kinds of knowledge and experiences in their first language. These knowledge and experiences developed in the first language can and need to be used to support them to develop reading comprehension in second language as argued by many scholars in second language learning. The recommended teaching activities for ELL students fail to take a serious consideration of using these kinds of ELL learners' knowledge and experiences. As Krashen (1980) explained, real learning occurs when second language learners feel relaxed and motivated and when they learn a second language slightly above their current level of knowledge and explicit instruction focusing on form of textual materials can hardly lead to true acquisition. Thus, without taking ELL students' first language reading experience into consideration, one may argue that these recommended teaching activities will not be sufficient in developing ELL children reading comprehension and in many cases, it will actually produce counter-effects. This dissertation is designed to verify indirectly whether or to what extent the assumptions behind recommended reading teaching activities and those counter arguments are valid.

Empirical Literature Review

This dissertation also developed based on the systematic review of the limitation and gaps existing in the relevant empirical literature that address its research questions. In conducting this review, several steps of search was conducted in the following process.

First, all the empirical articles for this review were located through several rounds of ERIC and SAGE searches using the keywords such as reading, reading aloud,

phonological awareness, teaching vocabulary, small group, pair work, cooperative learning, English language learners and English as a second language. The searches produced 82 empirical research papers, position papers, literature reviews and program evaluations, mostly published after 1990. Next, those that were not empirical studies and were not published in peer-reviewed journals were eliminated. The selected papers were then placed into five categories based on the five research questions addressing reading teaching activities after an initial reading of each of the reading selected. Finally, each study in each category was carefully examined and critiqued for its merits and weakness as well as their relationships with each of my research questions.

The above review process led to the following two general characteristics of this body of literature. First, the majority of the empirical research on reading development focused on first language reading, and research on second language reading was often found to imitate research on first language reading (Estrada, 2005). As summarized by Bernhardt (2000), “findings fall short of providing satisfying explanations of the second language process or of second-language reading instruction.” Thus, the field of research on ELL student reading is still “the vastness of the territory” that is yet to be well developed (p. 805). Second, these empirical studies on ELL reading were limited to a particular method and their findings were hardly generalizable due to small sample size as Shanahan and Beck (2006) echoed and thus, they made it difficult to figure out effective ways to develop ELL students’ reading comprehension.

Despite the deficiency of relevant empirical research, the review of the literature in second language reading still identified some relevant empirical studies that addressed

the effects of the recommended reading teaching activities and independent reading as shown below.

Phonological Awareness and Reading Aloud

The review shows that the empirical research cannot sustain the relationship between reading aloud and reading comprehension for elementary ELL students. This conclusion is based on the review of the following four relevant empirical studies, which provide insufficient and limited evidence for the above relationship.

Griffin (1992) collected 90 ESL (English as a second language) teachers' responses to a survey regarding the use of students' reading-aloud in their teaching. About 80% of them indicated that they asked their students read aloud in class on a regular basis and they believed that reading-aloud was associated with the development of their students' oral vocabulary, phonological awareness, and word grouping, and self-confidence. However, their beliefs were not backed up by empirical data.

Amer (1997) investigated whether teachers read stories aloud improved 75 sixth grade EFL (English as a foreign language) students' reading comprehension in Egypt using experimental design. Students in the experimental group listened to their teacher reading aloud a storybook every day in a 50-minute class while students in the control group read the same storybook silently. The study showed that participants' performance in phonological awareness in the experimental group between pre- and post-tests was significantly higher than those in the control group based on *t*-test. Chiappe, Siegel and Gottardo (2002) examined whether reading-aloud helped students develop phonological awareness by asking 659 kindergarten children to read aloud. The researchers selected and divided participants into three groups, i.e., native English speakers, bilingual, and

ELL students. The researchers asked the children to pronounce pseudowords and detect rhymes and phonemes. The researchers found that reading aloud, whether students read aloud or listened to a teacher reading aloud, was a strong predictor for phonological awareness for all groups of children regardless of their different first language literacy backgrounds. LaFrance and Gottardo (2005) did a longitudinal study on the relationship between reading aloud and phonological awareness on 40 children from kindergarten to first grade classes. The participants were largely ESL children with French as their first language. To measure their phonological awareness, the authors asked the participants to read words aloud and they tested twice in both kindergarten and first grade classes. Multiple regression analysis revealed that reading aloud was a strong predictor of phonological awareness.

In summary, my review of empirical studies on the relationship between reading aloud, phonological awareness, and reading development for ELL readers seemed to support that reading aloud by teacher and students could positively influence the development of ELL student phonological awareness, an essential skill for meaningful reading comprehension (Cummins, 1979). However, they did not show whether reading aloud actually helped ELL children develop reading comprehension through the development of phonological awareness. Thus, the assumed relationship is still not sustained. In addition, the evidence for supporting the relationship between various reading-aloud activities and phonological awareness for intermediate grade level ELL students in the U.S. is not solid considering these studies were conducted with either kindergarten or first grade students or with students from a foreign country where the EFL students were short of oral English exposure beyond English classes. Thus, an

empirical study involving well represented ELL population and using more standard measurement of the relationship between reading-aloud teaching activities and student reading comprehension is still necessary.

Vocabulary Instruction

The review of relevant empirical research did not yield sufficient evidence to support the relationship between vocabulary instruction, basic vocabulary size, and reading comprehension of ELL students. The empirical literature reviewed only involved one available study related to ELL student vocabulary development in spite of several studies addressing such issue with English monolingual student population (e.g., Nash & Snowling, 2006; Cain, 2007).

Carlo et al (2004) selected 142 ELL and 112 English monolingual fifth-grade students for a quasi-experimental study to examine the effects of vocabulary instruction on their vocabulary development and reading comprehension. For 15 weeks, the participants were exposed to a variety of vocabulary instructions including identifying target words based on context of reading and analyzing root words and derivational affixes. Multivariate analysis indicated that the intervention with vocabulary-focused instruction helped improve the retention of new vocabulary for both ELL and English monolingual students while it was only marginally effective for participants' reading comprehension for both groups.

This study indicated that vocabulary instruction influenced ELL student English vocabulary retention but did not influence their reading comprehension. Thus, further empirical study is surely necessary and important to verify the assumed relationship between vocabulary instruction, basic vocabulary size and reading comprehension for

ELL students. My dissertation is designed to explore such a relationship by involving well represented ELL population and using more standard measurement of the relationship.

Small-group Intervention

Although small-group reading intervention was found effective for their reading development of English monolingual student at kindergarten (Kamps, Greenwood, Veerkamp & Kaufman; 2008; Simmons et al, 2008) and third grade level (Bonfiglio, Persampieri & Andersen; 2006) as well as at-risk children (Begeny & Martens, 2006), with only four studies available, the relationship between small group instruction and reading comprehension of elementary ELL students was not empirically developed, especially ELL students at intermediate or higher grade level

Kamps et al (2007) examined the effect of small group intervention on the reading development of first and second grade ELL students using experimental design. The participants were divided into two groups: those of reading failure were exposed to small group instruction and those at risk were exposed to non-small group reading instruction. Using the Dynamic Indicators of Basic Early Literacy Skills and Woodcock Reading Mastery Test as pre- and post-test measurements, the authors found that ELL students in reading failure group outperformed those in at-risk group.

O'Connor, Bocian, Beebe-Frankenberger and Linklate (2010) compared the effects of group reading intervention on 25 English monolingual children who were low-achieving due to receptive language difficulties in their native language and 35 ELL children who were low achieving due to the difficulty of learning English at the kindergarten level. The participants were treated in a 15-minute pull-out small-group

intervention three times per week to reinforce “alphabet knowledge, phonemic awareness, and oral language” (p. 226). The findings indicated that the small-group intervention was effective in increasing participants’ alphabetic and phonemic knowledge.

Gerber, Jimenez, Leafstedt, Villaruz, Richards and English (2004) examined the effects of group intervention on 43 ELL kindergarten children who were judged as low-performing readers by reading assessments and their teachers. Small group activities were provided for the participants to practice the phonological awareness. After the small-group teaching, the low-performing ELL children significantly narrowed the gap between them and the higher-performing peers on phonological awareness and word reading tasks.

Using 222 second and third grade ELL Hispanic children as sample, Calderon, Hertz-Lazarowitz and Slavin (1998) implemented group reading intervention in three experimental schools and independent workbook activities in four comparison schools for one and half hours each day that last one to two years. The analysis based on ANCOVA of three reading comprehension measures, i.e., syntax measure and criterion-based and norm-referenced assessments, indicated that the ELL children who were exposed to the group invention gained in both Spanish and English reading performance.

In summary, empirical studies on ELL students were mostly conducted with lower grade students who might not develop sufficient first language literacy experience. Most found the evidence for the positive influences of small group reading intervention on the development of core reading elements such as phonological awareness and knowledge of alphabet and vocabulary were important for reading comprehension. However, the question about the influence of small groups on reading comprehension for

ELL students was still left unanswered for ELL children at intermediate or higher grades (Stanovich, 1980). This dissertation is designed to explore such a relationship by involving well represented ELL population.

Pair-work Reading Instruction

Four empirical studies reviewed in this section examined the influences of pair work on ELL student reading development. Together they did not provide sufficient evidence for the positive effects of pair work on the reading development of ELL children at intermediate or higher grades in spite of its positive influences on ELL children at lower grade level.

Three confirmed the positive influences of pair work on ELL students' phonological awareness but not on their reading comprehension. McMaster, Kung, Han, and Cao (2008) selected 60 ELL kindergarten children and placed 20 ELL children in the experimental group and 20 ELL and 20 non-ELL children in the control group. In the experimental group, the teachers paired higher-achieving ELL children with lower-achieving ELL ones to practice phonological awareness. In the control group, the teachers taught the children phonological knowledge in whole class format. According to the analysis of ANCOVA on all posttest measures, ELL children in the experimental group significantly outperformed their counterparts in the control group in phonological knowledge. Saenz, Fuchs and Fuchs (2005) came to a similar result in a study with fourth to sixth grade ELL students in bilingual education schools where the ELL students spoke Spanish as their native language. The study divided 12 teachers and their 132 native Spanish-speaking students randomly into the experimental group that implemented with pair format reading instruction and the control groups that practiced reading skills in a

whole class instruction. Findings based on ANOVA indicated that ELL students in the experimental group exceeded those in control group by one standard deviation on the measurement on oral reading fluency. Calhoun, Otaiba, Cihak, King, and Avalos (2007) also confirmed this result in their study. They placed 76 second and third grade ELL students either into the experimental group in which a higher-achieving student paired with a lower-achieving student for 30 to 35 minute reading three times a week or into the control group where teachers implemented reading activities in whole group format. After 20 weeks of treatment, the analysis of ANOVA demonstrated experimental groups performed significantly better than the control group in phonological knowledge and oral reading fluency.

Klingner and Vaughn (1996) selected 26 sixth grade Spanish speaking students based on the criteria that they performed significantly lower on an intelligence test and an achievement test (both administered in English) and their learning tardiness was not due to second language learning and put them into two groups. In peer-tutoring, higher grade students who worked as tutors were taught to help the sixth grader participants and in group invention setting, students learned to read in groups of three to five. Data analysis by ANOVA revealed that the participants in both groups made significant gain in reading comprehension.

The review showed that pair work reading intervention could be useful for improving the phonological knowledge of lower grade ELL students but its influences on their reading comprehension was yet to be verified. The last study examined smaller size of sixth grade ELL students who were slow learners instead of general ELL population, which could hardly be generalized to the general ELL population. In addition, both group

and pair work were found to be effective for the reading comprehension of the participants without an appropriate comparison with ELL students in the independent reading contexts. Thus, further empirical study is surely necessary to verify the assumed relationship between pair work invention in reading and reading comprehension for general ELL students and this dissertation addresses the limitation of existing literature on pair work with well represented ELL population

Independent Reading Activity

The search for empirical studies on the relationship between independent reading and ELL student reading development came with no empirical studies addressing ELL students at intermediate grade level who may have gained some literacy experience in their first languages (Hamada & Koda, 2008), therefore the literature review included studies addressing older and adult ELL learners, who are assumed to share similarity with intermediate grade ELL students in terms of first language literacy experience.

The review of empirical research on the relationship between independent reading and second language reading development for older ELL students supported the theoretical assumption that independent reading helped improve ELL students' reading comprehension (Wallace, 1992). Based on the answers to a survey question collected from 43 international undergraduates studying in the United States, Constantino, Lee, Cho, and Krashen (1997) found that the amount of independent reading significantly differentiated second language learners' TOEFL scores. Those who read more than 50 English books scored 613 and those who didn't read English books scored 543. Kweon and Kim (2008) investigated the effect of independent reading on word acquisition rate and retention percentage. They asked 12 second language undergraduates read three

unsimplified chapter books over five weeks. Students' performance between pretest and posttest indicated that pure word acquisition increase was 40%, which indicated that independent reading had a powerful influence on incidental vocabulary acquisition. Al-Homoud and Schmitt (2009) compared the effects of independent extensive reading and explicitly taught intensive reading on reading comprehension of seventeen 13- to 18-years-old ELL students. They divided the participants into one group receiving extensive reading treatment and the other receiving intensive reading treatment. After four 50-minute treatment each week for 10 weeks, the result showed that the extensive group outperformed the intensive group in reading comprehension. A subsequent questionnaire showed that the extensive group held a more positive attitude towards their learning experience than the intensive group.

The above reviewed studies showed a positive relationship between independent reading and second language vocabulary growth and reading comprehension, which may indicated that older ELL students might be able to take the advantage of their first language experience and knowledge in their second language reading development. However, none of the studies addressed ELL students at intermediate grade level and few compared with ELL students in those recommended teaching contexts specifically. Thus, it is important and necessary to verify the assumption that independent reading including silent reading and reading books of readers' own choice helps ELL students at intermediate grade levels develop vocabulary size and eventually reading comprehension.

In summary, the review of the relevant empirical studies makes it not difficult for one to see several things relevant to the research questions. Most studies did not identify any direct and sustained relationship between any one of those reading activities

recommended by the policy and ELL student reading comprehension development, Second, most of these studies were conducted with ELL students who were either in lower grade level such as kindergarten to third grade or with special group of higher grade level ELL students who failed to read and study well for the reason other than the second language. Third, many of these studies were involved in small number of participants in limited school and regional contexts that made it difficult to generalize the findings to a larger context and population. Therefore, it is necessary to conduct a carefully designed study to explore the relationship between these reading activities and ELL student reading comprehension development that involve more representative samples of ELL students who are at intermediate grade level and more standardized measurement of these teaching activities and student reading comprehension. This dissertation study presents one effort to achieve this goal.

CHAPTER 3

METHODOLOGY

To answer specifically the five research questions proposed and justified in the earlier two chapters, I use the following research methodology, participants, data sources and analysis in this study. In this chapter, I will justify each of them.

Research Design

In this dissertation I use quantitative research methods to test whether and to what extent the positive relationships between the reading teaching including reading aloud, explicit vocabulary instruction, small group, pair work, and independent reading and the reading comprehension performance of ELL students at fourth grade level can be statistically established. In this relationship, the frequency of teachers' use of each of these reading instruction activities for ELL students is seen as independent variables. The dependent variable is fourth grade ELL students' reading performance on standard tests that measure their competences in reading for literary experience and reading to acquire and use information, which are considered as two fundamental functions of reading (Rogers & Stoeckel, 2007).

As Creswell (2002) suggested that quantitative methods is a useful inquiry approach to explain the relationships among variables with less bias and thus, it is used to examine the correlational relationship between the independent variables of reading instructional activities and the dependent variable of students' reading performance. Because this dissertation study focuses on several separate variables, namely, reading aloud, teaching vocabulary, small-group instruction, pair work, and independent reading,

the specific quantitative methods used for this study are simple linear regression and correlational analyses.

The reason to use simple linear regression is that simple linear regression analysis is suitable to analyze one independent variable each time (Pedhazur, 1997) as each of the research questions addresses one independent variable, which exclusively examines the effect of each of the independent variable on ELL student reading performance. Beside simple linear regression to analyze the effect of each independent variable, I also analyze the extent of significant differences between the variables representing various reading teaching activities and ELL students' reading performance. To achieve this, I use correlational analyses to explore whether and to what extent one or more variables are correlated to other variables (Hinkle, Wiersma & Jurs, 1988).

Data source

The empirical literature review in Chapter 2 suggested two important limitations of existing empirical literature that examined the relationship between each of the five reading activities and ELL student reading comprehension. First, most studies used smaller and non-randomly sampled participants, which made it difficult for the researchers to generalize their findings to large population in different contexts. Second, most studies were conducted with ELL students who were at lower grade levels instead of intermediate or higher graders who had already developed substantial reading skills and relevant knowledge in first language literacy experiences. Thus, these empirical studies did not fully represent the ELL student population necessary for this study and its examination.

With these limitations under consideration, I draw the fourth grade ELL student data from two large-scale databases for my study. One is international, i.e., the Progress in International Reading Literacy Study (PIRLS) and the other is national, i.e., the National Assessment of Educational Progress (NAEP). The two databases are selected based on several considerations about their similarities.

First, both PIRLS and NAEP are large-scale assessment studies designed to provide information about fourth grade students' reading performance to teachers and policymakers by linking reading achievement to the contexts in which learning takes place (Binkley & Kelly, 2003). Their samples are both large and more representational for ELL populations at fourth grade level in the United States.

PIRLS uses two-stage sampling for United States and other participant countries. At the first stage, it selects at least 150 schools using probability-proportional-to-size sampling, a technique that guarantees the chances of selecting a member from a smaller subgroup is more than from a large subgroup (Rutkowski, Gonzalez, Joncas & von Davier, 2010). At the second stage, one or two intact classes in each school are randomly selected for sampling students. With this sampling strategy, PIRLS secures an average sample size of 5,190 U.S. fourth grade students in its 2006 study, and these students come from 255 classes selected from 214 U.S. public and nonpublic schools (Baer, Baldi, Ayotte & Green, 2007).

Along with the reading test, PIRLS also asks participant students to answer survey questions in the student questionnaire. One of the questions asks whether the students speak a different language other than English before they start school. According to one of the definitions of ELL student status, those who acquired their first and native

languages different from English are identified as ELL students (Common Core Standards Initiative, 2011). Based on the sampling students' answers to this survey question, I identified 351 students as ELL students in 2006 PIRLS (Joncas, 2007), which were used as representative sample of fourth grade level ELL students for this study.

NAEP also uses probability-proportional-to-size sampling method to select samples randomly from public and nonpublic schools that are stratified by variables such as the percentage of minority students, extent of urbanization and school level results. Within a selected school, NAEP randomly selected sampling students, who have an equal chance of being selected. The national sample of NAEP is built on combined sample of each state which approximately has 2,500 to 3,000 students at fourth grade for reading test, who come from 100 to 200 schools in each state (NCES, 2010).

One of the questionnaires attached to NAEP is for the principal of the selected students to identify ELL student status. According to the participating school principals' response to the survey question, about 8% of the selected students are identified as English language learners in each NAEP administration (Nation's Report Card, 2009). All the identified ELL students are included in this study as ELL student participants at fourth grade level.

Second, in both PIRLS and NAEP the selected students are asked to answer the survey questions regarding their teachers' reading teaching activities such as whether their teachers ask them to read aloud or read independently and whether their teachers organize their classes in small group or pair work, etc. The participants' answers to these questions are used to construct the series of independent variables for this study.

Third, the background questions in each study undergo a strict review to make sure they are directly related to students' academic achievement. The PIRLS 2006 questionnaire development group, an international expert committee, drafted questionnaires based on outlined topics that were comparable across the educational systems of all the participating countries (40 in total). The drafted questionnaires were then submitted for multiple rounds of review by National Research Coordinators from the participating countries. The questionnaires were field-tested in participating countries before each item was finalized (Mullis, Kennedy, Martin & Sainsbury, 2006). The development of NAEP questionnaires also undergoes strict review procedure. Each item of NAEP questionnaire is supported by a clear explanation of its intended use and by the hypothesized relationship between the background questions and student achievement (National Assessment Governing Board, 2003).

Fourth, both PIRLS and NEAP define and assess reading comprehension similarly and make them comparable in this dissertation study. For example, both see reading as constructive and interactive process involving interaction between readers and texts. Both assess reading performance on two purposes, reading for a literary experience and reading for information (Rutkowski, Gonzalez, Joncas & von Davier, 2010; von Davier, Sinharay, Oranje & Beaton, 2006). In addition, their shared definition of reading comprehension is consistent with the reading comprehension defined by both this study and the reform policy (Mesmer & Karchmer, 2003). Because of the consistency between the two assessed reading purposes, i.e., reading for literary experience and reading to acquire and use information, I used the two scores from each study to represent ELL student reading performance, which become the dependent variables for this dissertation.

Because the comparison of the two scores with SPSS show that the two scores are highly consistent with each other in both PIRLS and NAEP, I used a composite score that combines the two scores to analyze ELL students' overall reading proficiency in each study.

Finally, both PIRLS and NAEP are different in design from conventional school examinations or standardized tests. Instead of measuring individual proficiencies, both assessments estimate the distributions of proficiencies in subpopulation of students (National Assessment Governing Board, 2008; Martin, Mullis & Kennedy, 2007) instead of diagnostic tests for individual students (United States Department of Education, 2007). To avoid biased or inconsistent variance estimates of population parameters that can occur in the traditional methods of estimating individual proficiency (Mislevy, Beaton, Kaplan & Sheehan, 1992; von Davier, Gonzalez, & Mislevy, 2009), both databases employ plausible value methods, which are used as intermediate values to estimate population reading proficiency instead of participating students' reading proficiency (Mislevy, 1991; Mazzeo, John & Olson, 1994). Such an approach is seen as "a viable technique for generating population-level proficiency estimates from test designs where only a small number of items from the total item pool are administered to any given student" (Rutkowski, Gonzalez, Joncas & von Davier, 2010, p. 145).

PIRLS and NAEP are also different from each other in several ways that are useful in helping examine the research questions. First, PIRLS is designed to exclusively measure fourth grade student reading attainment in an international context and provides the information for comparative estimates of students' reading attainment at the country level. PIRLS also examines factors that are associated with the development of reading

proficiency (Ogle et al., 2003). Although PIRLS defines reading similarly as NAEP does, PIRLS explicitly targets younger readers and focuses clearly on the reading tasks and processes in which children at this level engage. According to PIRLS, the purpose of reading for children is to “read to learn, to participate in communities of readers, and for enjoyment” (Campbell, Kelly, Mullis, Martin, & Sainsbury, 2001, p. 3). Thus, the advantage of using PIRLS is that its data are based on an explicitly defined population of fourth grade students, who participate in PIRLS only for the assessment of their reading proficiency. Different from PIRLS, NAEP is for national assessment of diverse subjects. With the largest sample size, NAEP is recognized as “a congressionally mandated survey designed to measure what U.S. students know and can do” (Johnson, 1992, p. 95). Its sample data on students’ achievement are available from 1969 to 2011 (NAGB, 2003). The purpose of NAEP, according to National Assessment Governing Board (2003), is “to accurately and fairly monitor achievement over time, and accurately and fairly compare achievement across states and important sub-groups of students” (p. 41). Because of the availability of data over many years, I used NAEP data for the advantage for long-term trend analysis to find out whether or not the results relevant to the research questions are consistent.

Another difference is the availability of data for analysis, which is one of the important reasons for me to include both PIRLS and NAEP. Data of PIRLS are open to public for various levels of analyses including regression but the sample size of ELL students is not big compared with NAEP because PIRLS focuses on student reading attainment at country level but not on subgroups within a country (Mullis, Kennedy, Martin & Sainsbury, 2006). As a national assessment, NAEP addresses the differences of

student ethnical and racial subgroups based on U.S. students' composition (NABG, 2008). Thus it includes a large ELL student sample size. But NAEP restricts personal access to its data within basic analysis. Due to this restriction, I can only analyze correlational relationship between selected variables and student reading achievement. The use of both data sets provides wider representative samples and compensate for the constraints that each of the data sets may incur.

In short, ELL student participants in both data sets are demographically consistent with the research interest in this dissertation. They are the fourth grade students at elementary schools who are presumably in an important transitional point as readers from learning to read to reading to learn (Chall, 1996). The reliable independent variables are available that represent the recommended reading teaching activities. Last but not least, the reading comprehension outcomes are reliably measured for the reading development for ELL elementary school students that the existing empirical literature is unable to offer.

Construction and Justification of Variables

The dependent variables for this study are fourth grade ELL students' scores of reading comprehension performance. To construct this variable for the analysis, first the ELL learner status is identified for this study based on the definition of ELL learners mentioned earlier, i.e., those who acquired their first and native languages different from English. Such definition is consistent with the criteria used by each of the databases.

To be specific, in PIRLS data, the participant students' answers to the question "Which language did you speak before you started school" help identify ELL students. Those who answered yes for Spanish, Vietnamese, Chinese, a Filipino language or other

are identified as ELL students (Joncas, 2007). To identify ELL students in NAEP, the principals' answers to the question "What is this student's first or native language?" in ELL background questionnaire help identify ELL students (NAEP, 2007). Although NAEP identifies ELL status with indirect information from the participating principals, the information is also reliable because ELL student background questionnaire not only asks school principal for ELL students' status but also asks them whether the selected students need accommodation test and how high their English proficiency is. To complete such survey questions requires school administrators' good knowledge about selected ELL students.

Second, I select ELL student reading performances from both data sets as the dependent variable for this study. These performances are measured by PIRLS and NAEP guided with the Item Response Theory (IRT), with which PIRLS and NAEP estimate students' achievement with five plausible values as intermediate values to estimate population characteristics of reading performance scores (Rutkowski, Gonzalez, Joncas, & von Davier, 2010; Johnson, 1992). The five plausible values are combined into one final estimate when using International Data Explorer (IDE) and SPSS for PIRLS and NAEP Data Explorer for NAEP for data analyses. These plausible values are not test scores for individual students but they are imputed values used to accurately estimate reading proficiency distributions for student population as a whole (Rutkowski, Gonzalez, Joncas, & von Davier, 2010). PIRLS and NAEP calculate the estimates by referring to each of the five plausible values in turn and based on the average of the results, PIRLS and NAEP produce a reported value (Ogle et al., 2003).

Third, both PIRLS and NAEP define reading achievement at fourth grade with two purposes, (1) reading for literary experience and (2) reading to acquire and use information (Rogers & Stoeckel, 2007). Their tools designed to measure reading comprehension for literary experience and reading to acquire and use information are consistent with the empirical studies that indicate that readers treat literary and informational texts with different reading purposes (Langer, 1990). These definitions of reading comprehension performance are also consistent with the two major reading purposes defined in reading theories (Mullis, Kennedy, Martin & Sainsbury, 2006) and policy recommendations. Therefore, I select both literary experience scale and acquiring and using information scale as evidence of fourth grade level ELL student reading performance. Because of no statistically significant difference between the two scales based on analysis using SPSS, I use the combined scale of the two scores as the dependent variable for its study. These scores are measures by the score range from 0 point to 1000 points with an average of 500 for PIRLS and 0 point to 500 points with an average of 220 for NEAP (Ogle et al., 2003; NCES, 2010).

Finally, the scores of ELL students at fourth grade level from 2006 PIRLS and multiple years of NAEP reading tests are used in this dissertation for analyses. I use 2006 PIRLS data because they are the latest data available that can provide up-to-date information regarding students' reading attainment at fourth grade level (Martin, Mullis & Kennedy, 2007). It uses NAEP data of multiple years because NAEP is especially designed to measure student progress over time for long-term trends (Allen, McClellan & Stoeckel, 2005). The data collected mainly come from recent four to six years NAEP tests because NAEP added more survey questions about ELL students after 2000 (NCES,

2010). The number of years selected depends on the availability of each of the independent variables. Most of the variables are available in four continuous years and one is available for six continuous years. With the data from multiple years of NAEP tests, I am able to analyze long-term trend with more reliable findings.

PIRLS and NAEP use the questionnaires to collect information from selected students about their teachers' instructional practices. I select those that are consistent with the research questions to construct independent variables for its study (Martin, Mullis & Kennedy, 2007; NCES, 2011). Because in PIRLS teachers are not randomly sampled and only selected students' teachers are asked to complete a questionnaire, it is recommended that research based on PIRLS should use student-level data for analyses (Rutkowski, Gonzalez, Joncas, & von Davier, 2010). Due to this reason, I only select student level data. Based on similar reason in the design of NAEP, the dissertation also selects student-level data for NAEP.

In specific, the dissertation constructs each of independent variables in the following manners. First, it codes student questionnaires for the information about each reading activity that students are exposed to separately based on the theoretical assumptions for each of the reading activities and then group these questionnaire items into five categories for each data set. (a) *Reading-aloud* category, in which instructional practices of developing phonological awareness through reading-aloud activities is grouped into this category (Griffin, 1992); (b) *Vocabulary teaching* category in which teaching information about intentional vocabulary acquisition and practice is grouped for each data set (Zimmerman, 1997); (c) *Small-group instruction* category which includes all the information related to small group reading activities and practices such as

instruction according to number of groups (Krashen, 1980; Brown, 1994); (d) *Pair work* category which consists of tutoring and dyad reading activities and practice for improving reading comprehension (McMaster, Kung, Han, & Cao, 2008); (e) *Independent reading* category which includes the information related to silent reading and reading books of students' own choice.

Third, I analyze the independent variables separately for the data of PIRLS and NAEP. For PIRLS data, the participant students' answers to the questions relevant to each reading teaching activity are shown in Table 1 below. For each question, students have the following four possible answer choices, which are coded as follows: 4=Almost every day, 3=1-2 times a week, 2=1-2 times a month, and 1= Never or hardly ever.

Table 1: Student level variables of reading activities and relevant items (PIRLS)

Variables	Items	Item coding
Reading aloud	Teacher reads aloud to the class	1=Never or almost never; 2=Once or twice a month; 3=Once or twice a week; 4=Every day or almost every day
	Students read aloud at home	
Teaching vocabulary	Teach new vocabulary in the text	
Small group intervention	Students reading in small groups	
Pair work	Ask students to talk with other about what they have read	
Independent reading	Ask students to read silently on their own	
	Give students time to read books of their own choosing	

For NAEP data, the independent variables are constructed with the categorical responses to the items for each reading activities of this study in the student questionnaire. They are: (1) almost every day, (2) 1-2 times a week, (3) 1-2 times a month and (4) never or hardly ever for each of the reading activities this study is addressing. The ordered response categories are presented below on Table 2.

Table 2: Student level of reading activities and relevant items (NAEP)

Variables	Items	Item Responses
Reading aloud	Ask students to read aloud.	Almost every day; 1-2 times a week; 1-2 times a month; Never or hardly ever.
Teaching vocabulary	Help students understand new vocabulary in reading instruction.	Almost every day; 1-2 times a week; 1-2 times a month; Never or hardly ever.
Small-group intervention	Divide class into the following instructional groups.	Whole class activity; Flexible grouping; 2, 3,4 or 5 groups
Pair work	Ask students to talk with each other about what they have read.	Almost every day; 1-2 times a week; 1-2 times a month; Never or hardly ever.
Independent reading	Ask students to read silently. Ask students to read books of own choice	Almost every day; 1-2 times a week; 1-2 times a month; Never or hardly ever.

In order to merge the related variables in the categories of reading aloud and independent reading in PIRLS, I first need to find out whether there is internal consistency between the two items related to reading aloud and between the two items related to independent reading. To do so, I used Cronbach's alpha to calculate whether two or more items measure an underlying construct.

To calculate Cronbach's alpha of the two sets of items for the variable of reading aloud, I first entered 'Teacher reads aloud to the class and 'Students read aloud at home' by using reliability command in SPSS. The alpha coefficient for the two variables is .72. I then repeated the same process with the two items for independent reading, of 'Ask students to read silently on their own' and 'Give students time to read books of their own choosing'. The alpha coefficient for the two items is .73. Because .70 is considered as an

acceptable reliability coefficient, the result of .72 for reading-aloud and .73 for independent reading suggests that the two set of variables have high internal consistency.

In summary, items regarding the four recommended reading teaching activities, i.e., reading aloud, teaching vocabulary, small group intervention and pair work, and the independent reading are used as independent variables, which are analyzed separately using information from two databases, PIRLS and NAEP. The result of PIRLS data analysis predicts the effect of each of the teaching activities on ELL students' reading performance. The result of NAEP data reveals correlation of each of the teaching activities with ELL students' reading performance.

Data analysis

I use two quantitative methods to analyze the data of PIRLS and NAEP. For the data of PIRLS, I use simple linear regression to analyze the predictive effect of each of the five independent variables on the dependent variable. The following regression equation is used to address the research questions and the null hypotheses: $Y' = \alpha + \beta X_i$, where Y' is the predicted value of ELL students' reading achievement on PIRLS, α is the Y intercept, β is the unstandardized coefficient for the predictor variable calculated from the regression analysis, X_i is the raw value for a predictor variable. The simple linear regression determines the statistical significance of each of the predictor variables of the reading teaching activities on the dependent variable of ELL student reading performance composite score in the equation. The International Database (IDB) Analyzer plugged in SPSS is used in the above analysis because IDB is especially designed to select specific subsets of data. In particular, I first use it to identify and select ELL participants and their overall reading scores. Next, I use SPSS to conduct simple linear regression to examine

the effect of each of the independent variable discussed on ELL students' overall reading score.

For the analysis of NAEP data, I use the NAEP Data Explorer (NDE), a web-based system that provides the basic analyses to public users. NDE includes information of students' reading performance and their responses to the survey questions. In this analysis, I first identify and select the participants whose status is ELL. I then use the NDE to conduct multiple keyword searches across the NAEP's multiple year data relevant to reading aloud, small group, pair/peer work and silent/independent reading. Then, I analyze the NAEP data by examining the correlation between the four reading teaching activities and independent reading and fourth grade ELL students' overall reading performance.

In summary, in this dissertation study I use quantitative analysis. Particularly, I use predictive and correlational analysis of survey data and scores from PIRLS and NAEP. I construct the dependent variables based on fourth grade level ELL students' combined scores of literary experience scale and acquiring and using information scale on the PIRLS and NAEP tests. I construct the independent variables from participants' responses to the questionnaires regarding the five reading teaching activities. The study addresses the research questions about the predictive effect of the four recommended reading teaching activities and independent reading activity on ELL students' reading proficiency and correlational relationship between these reading activities and ELL students' reading proficiency.

CHAPTER 4

RESULTS

After conducting the analysis described and justified in the above chapter that directly addresses each of the five research questions of this dissertation, I came up with several results. In this chapter, I will present each of these results one by one.

Effects of Reading Aloud Activity on Participants' Reading Comprehension

The analysis in this study led to two findings relevant to the effect of reading aloud on participants' reading comprehension performance. First, instead of helping improve ELL students' reading performance, reading aloud, no matter teacher reading aloud in class and student reading aloud at home, influenced ELL student reading performance negatively.

As shown in Table 3 below based on the analysis of data from PIRLS, the coefficient output between teachers' reading-aloud and ELL students' reading performance was significantly negative. The unstandardized regression coefficient for reading-aloud, $b = -13.135$, $t_{(346)} = -3.314$, $p < .001$, indicated that when the participants listened to their teachers reading aloud one unit higher, their reading performance on PIRLS decreased by 13.135 points per unit, e.g., from reading aloud once or twice a week to every day or almost every day.

Table 3. Reading-aloud and ELL student reading achievement in PIRLS data ($N = 347$)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	494.357	7.704	-	64.170	.000
TCH READ ALOUD IN CLS	-13.135	3.963	-.175	-3.314	.001*
(Constant)	489.3118	9.293	-	52.656	.000
OUTSIDE SCH/READ ALOUD	-10.879	3.363	-.172	-3.235	.001*

* $p < .01$

Also shown in Table 3, the relationship between the participants' reading-aloud on their own and their reading performance is also significantly negative. The unstandardized regression coefficient for reading-aloud, $b = -10.879$, $t_{(346)} = 3.235$, $p < .001$, indicated when ELL students practiced reading-aloud at home one unit higher, their predicted reading performance on PIRLS decreased by 10.879 points per unit, e.g., from once or twice a week to every day or almost every day.

Second, over the years ELL students who practiced reading-aloud almost every day had the lowest reading score compared with those who practiced reading-aloud less frequently, such as, once or twice a week, once or twice a month and never or hardly ever. As shown in Table 4 based on the analysis of NAEP, the participants who practiced reading-aloud almost every day had an average of 219 points for the 2011, 2009, 2007, and 2005 NAEP years, which was significantly lower than the average scores of those who practiced reading-aloud once or twice a week, once or twice a month, and never or hardly ever in each of the corresponding years. The differences between the average score of those who practiced reading-aloud almost every day and the three average scores of those who practiced reading-aloud less frequently were -3, -8 and -5 points respectively. Participants who practiced reading-aloud once or twice a month had highest average reading score.

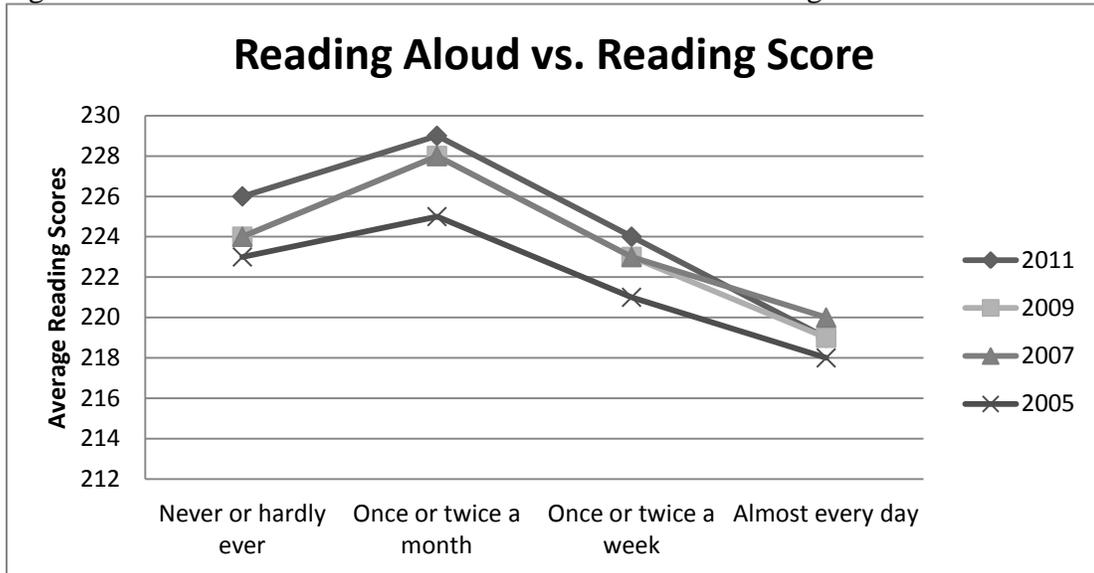
Table 4 Mean score differences between variables for reading aloud in NEAP data

2011				
	Never or hardly ever (226)	Once or twice a month (229)	Once or twice a week (224)	Almost every day (219)
Never or hardly ever (226)				> Diff = 7**
Once or twice a month (229)			> Diff = 5***	> Diff = 9***
Once or twice a week (224)				> Diff = 5***
Almost every day (219)				
2009				
	Never or hardly ever (224)	Once or twice a month (228)	Once or twice a week (223)	Almost every day (219)
Never or hardly ever (224)				
Once or twice a month (228)			> Diff = 4**	> Diff = 8***
Once or twice a week (223)				> Diff = 4***
Almost every day (219)				
2007				
	Never or hardly ever (224)	Once or twice a month (228)	Once or twice a week (223)	Almost every day (220)
Never or hardly ever (224)				> Diff = 5**
Once or twice a month (228)			> Diff = 5**	> Diff = 8***
Once or twice a week (223)				> Diff = 4***
Almost every day (220)				
2005				
	Never or hardly ever (223)	Once or twice a month (225)	Once or twice a week (221)	Almost every day (218)
Never or hardly ever (223)				> Diff = 5**
Once or twice a month (225)			> Diff = 4***	> Diff = 7***
Once or twice a week (221)				> Diff = 3***
Almost every day (218)				

* p<.05 ** p<.01 *** p<.00

As shown in Figure 1 based on the NAEP data from 2005 to 2011, participants' reading scores in those four years were lowest when their teachers used reading-aloud practice almost everyday.

Figure 1 The trend in mean scores between variables for reading aloud instruction



Effects of Explicit Vocabulary Instruction on Participants' Reading Comprehension

The analysis in this study also led to two slightly different findings relevant to the effect of explicit vocabulary teaching on participants' reading comprehension performance. First, no significant relationship was found between explicit vocabulary instruction and participants' reading performance. As shown in Table 5, regression coefficient output, $b = -3.869$, $t_{(344)} = -.531$, $p > .05$, indicated that explicit teaching of vocabulary had no significant effect on ELL student reading performance.

Table 5. Explicit vocabulary teaching and ELL student reading achievement in PIRLS data ($N = 345$)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	517.741	9.984	-	51.858	.000
TCH NEW VOC IN TXT	-3.869	7.281	-.029	-.531	.595*

* $p > .05$

Second, over the four continuous NAEP tests in four years, ELL students whose teachers taught new vocabulary almost every day had the lowest reading score compared with those whose teachers taught new vocabulary less frequently. Based on the analysis of NAEP data, Tables 6 showed that ELL students whose teachers taught vocabulary almost every day had an average of 215.8 points for 2011, 2009, 2007, and 2005, which was significantly lower than the average score (222 points) of those whose teachers taught new vocabulary once or twice a month and the average score (222.5 points) of those whose teachers taught new vocabulary once or twice a week. The differences between the average scores of those whose teachers taught new vocabulary almost every day and the average scores of those whose teachers taught new vocabulary once or twice a month and once or twice a week were -6 and -6.7 points respectively in these corresponding years. There was no significant difference between teaching vocabulary almost every day and never or hardly ever.

Table 6 Mean score differences between variables for explicit vocabulary teaching in NEAP data 2011

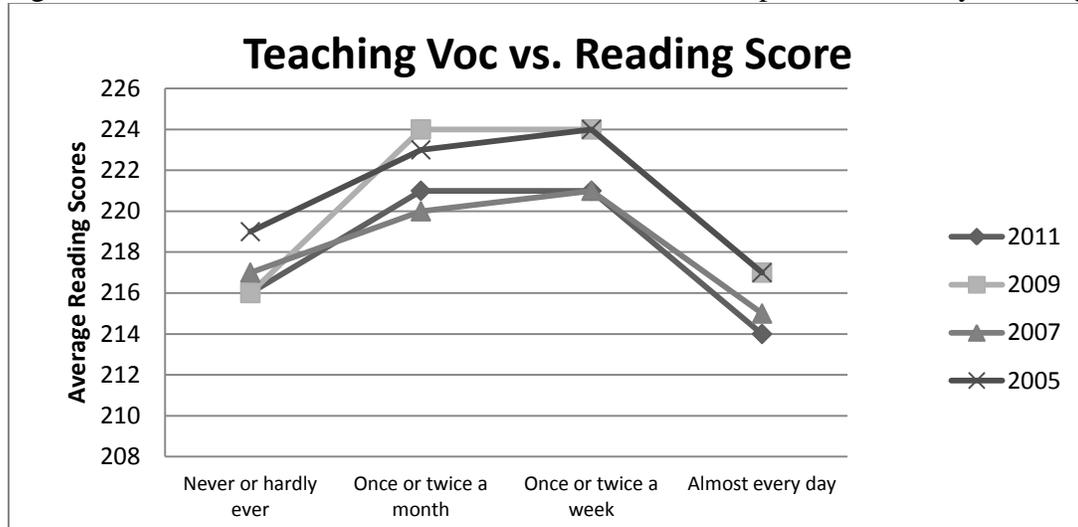
2011				
	Never or hardly ever (216)	Once or twice a month (221)	Once or twice a week (221)	Almost every day (214)
Never or hardly ever (216)				
Once or twice a month (221)				> Diff = 7***
Once or twice a week (221)				> Diff = 8***
Almost every day (214)				
2009				
	Never or hardly ever (216)	Once or twice a month (224)	Once or twice a week (224)	Almost every day (217)
Never or hardly ever (216)				
Once or twice a month (224)	> Diff = 7**			> Diff = 8**
Once or twice a week (224)	> Diff = 7***			> Diff = 9***
Almost every day (217)				
2007				
	Never or hardly ever (219)	Once or twice a month (223)	Once or twice a week (224)	Almost every day (217)
Never or hardly ever (219)				
Once or twice a month (223)	> Diff = 5**			> Diff = 6**
Once or twice a week (224)				> Diff = 7***
Almost every day (217)				
2005				
	Never or hardly ever (217)	Once or twice a month (220)	Once or twice a week (221)	Almost every day (215)
Never or hardly ever (217)				
Once or twice a month (220)				> Diff = 5**
Once or twice a week (221)				> Diff = 6***
Almost every day (215)				

* p<.05 ** p<.01 *** p<.001

In addition, as Figure 2 demonstrated, the participants whose teachers taught new vocabulary almost every day had the lower reading score than those whose teachers

taught new vocabulary once or twice a month, once or twice a week, or even never over the four years.

Figure 2 The trend in mean scores between variables for explicit vocabulary teaching



Effects of Small Group Reading Instruction on Participants' Reading Comprehension

My analysis points to the two findings concerning the effect of small group reading instruction on participants' reading comprehension performance. First, there was a significantly negative relationship between small group intervention and ELL student reading performance. As shown in Table 7, the regression coefficient output, $b = -15.744$, $t(344) = -4.651$, $p < .001$, indicated that the more frequently teachers taught reading in small group format, the lower the participants' reading score was in PIRLS data. For example, participants' reading score decreased by 15.744 points per unit, e.g. from once or twice a week to every day or almost every day.

Table 7. Small group reading instruction and ELL student reading achievement in PIRLS data ($N = 345$).

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	<i>B</i>	Std. Error	Beta		
1 (Constant)	470.994	10.613	-	44.378	.000
SCH/READ IN GROUP	-15.744	3.385	-.244	-4.651	.000*

* $p < .05$

Second, over the four continuous NAEP tests, participants whose teachers taught reading in whole class had the highest reading score compared with those whose teachers split their classes into smaller groups. Table 8 showed that when teachers taught reading in whole class, their ELL students had an average of 220 points for 2011, 2009, 2007, and 2005, while their average scores was 210, 205 and 205 points respectively when the two, three and four groups teaching were implemented. The differences between the average scores of those who taught in whole class and in three smaller groups were 10, 15 and 15 points respectively in these corresponding years. However, there was no significant difference in ELL students' overall reading scores between those whose teachers taught reading in whole and those whose teachers taught reading in two large groups.

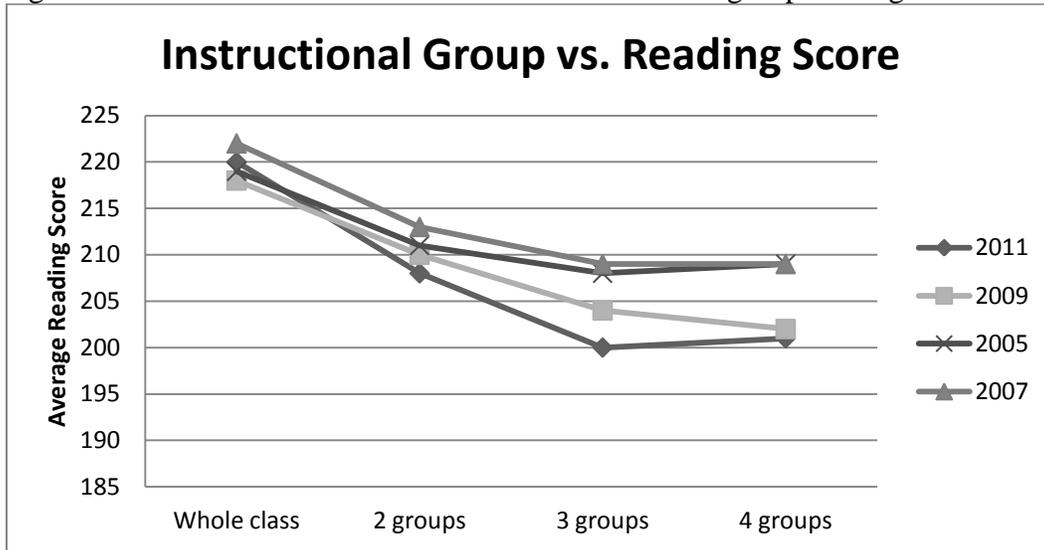
Table 8 Mean score differences between variables for small group reading instruction in NAEP data

2011				
	Whole class (220)	2 groups (208)	3 groups (200)	4 groups (201)
Whole class (220)			> Diff = 20***	> Diff = 19**
2 groups (208)				
3 groups (200)				
4 groups (201)				
2009				
	Whole class (218)	2 groups (210)	3 groups (204)	4 groups (202)
Whole class (218)			> Diff = 14*	> Diff = 16**
2 groups (206)				
3 groups (204)				
4 groups (212)				
2007				
	Whole class (222)	2 groups (213)	3 groups (209)	4 groups (209)
Whole class (222)			> Diff = 13**	> Diff = 13***
2 groups (213)				
3 groups (209)				
4 groups (209)				
2005				
	Whole class (219)	2 groups (212)	3 groups (208)	4 groups (209)
Whole class (219)			> Diff = 11*	> Diff = 10*
2 groups (212)				
3 groups (208)				
4 groups (209)				

* p<.05 ** p<.01 *** p<.001

In addition, Figure 3 also demonstrated that the participants whose teachers implemented whole class reading instruction had higher mean reading score than those whose teachers taught reading using various small groups over the four years.

Figure 3 The trend in mean scores between variables for group reading instruction



Effects of Pair-work Instruction on Participants' Reading Comprehension

The analysis of the relevant data relevant to the effect of pair work reading instruction on participants' reading comprehension reveals the following findings. First, more frequent use of pair work in reading instruction lead to the lower reading the participants' performance. As shown in Table 9, the regression coefficient output, $b = -10.271$, $t(344) = -3.169$, $p < .01$, indicated that the more frequently teachers used pair work , the lower participants' score was in PIRLS data. The participants' reading score decreased by 10.271 points per unit, e.g. from once to twice a week to almost every day.

Table 9. Pair reading instruction and ELL student reading achievement in PIRLS data ($N = 345$)

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	<i>B</i>	Std. Error	Beta		
1 (Constant)	488.910	9.780	-	49.992	.000
CLS/TALK WITH STD	-10.271	3.241	-.167	-3.169	.002*

* $p < .05$

Second, over the six continuous NAEP years ELL students who discussed reading with peers more frequently had the lower reading score compared with those who discussed reading with peers less frequently. Table 10 showed that participants who discussed reading with peers at least once a week in class had an average score of 220 points, which was significantly lower than the average score of 225 points for pair work once or twice a month for the 2011, 2009, 2007, 2005, 2003 and 2002 NAEP years. As shown in Table 10, the difference between pair work at least once week and once or twice a month was -5. However, although pair work once or twice a month had significantly higher average score than pair work at least once a week, it was also significantly higher than the average scores of pair work once or twice a year (213 points) and never or hardly ever (219.5 points).

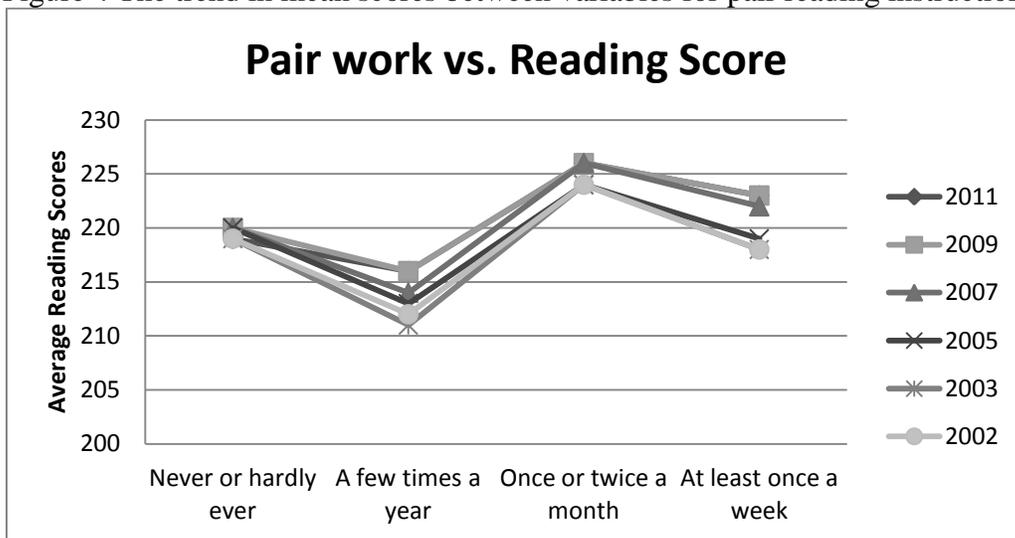
Table 10 Mean score differences between variables for pair reading instruction in NAEP data
2011

	Never or hardly ever (219)	Once or twice a year (216)	Once or twice a month (226)	At least once a week (223)
Never or hardly ever (219)		> Diff = 3***		
Once or twice a year (216)				
Once or twice a month (226)	> Diff = 7***	> Diff = 10***		> Diff = 3***
At least once a week (223)	> Diff = 4***	> Diff = 7***		
2009				
	Never or hardly ever (220)	Once or twice a year (216)	Once or twice a month (226)	At least once a week (223)
Never or hardly ever (220)		> Diff = 4***		
Once or twice a year (216)				
Once or twice a month (226)	> Diff = 5***	> Diff = 10***		> Diff = 3***
At least once a week (223)	> Diff = 2***	> Diff = 6***		
2007				
	Never or hardly ever (220)	Once or twice a year (214)	Once or twice a month (226)	At least once a week (222)
Never or hardly ever (220)		> Diff = 6***		
Once or twice a year (214)				
Once or twice a month (226)	> Diff = 6***	> Diff = 12***		> Diff = 5***
At least once a week (222)	> Diff = 2***	> Diff = 8***		
2005				
	Never or hardly ever (220)	Once or twice a year (213)	Once or twice a month (224)	At least once a week (219)
Never or hardly ever (220)		> Diff = 7***		
Once or twice a year (213)				
Once or twice a month (224)	> Diff = 4***	> Diff = 11***		> Diff = 5***
At least once a week (219)		> Diff = 6***		
2003				
	Never or hardly ever (219)	Once or twice a year (211)	Once or twice a month (224)	At least once a week (218)
Never or hardly ever (219)		> Diff = 8***		
Once or twice a year (211)				
Once or twice a month (224)	> Diff = 5***	> Diff = 13***		> Diff = 6***
At least once a week (218)		> Diff = 7***		
2002				
	Never or hardly ever (219)	Once or twice a year (212)	Once or twice a month (224)	At least once a week (218)
Never or hardly ever (219)		> Diff = 7***		
Once or twice a year (212)				
Once or twice a month (224)	> Diff = 5***	> Diff = 12***		> Diff = 6***
At least once a week (218)		> Diff = 6***		

* p<.05 ** p<.01 *** p<.001

As shown in Figure 4 based on the NAEP data from 2002 to 2011, participants' reading scores in those years were significantly higher when their teachers used pair work reading activity once or twice a month than when their teachers used it once or twice a week. The figure also showed that using pair work reading activity once or twice a month was higher than a few times a year or never or hardly ever.

Figure 4 The trend in mean scores between variables for pair reading instruction



Effects of Independent Reading on Participants' Reading Comprehension

The analysis of the relevant data relevant to the effect of independent reading (silent reading or reading books of students' own choice) on participants' reading comprehension led to two highly consistent findings. First, independent reading including both activities had a positive influence on ELL student reading performance. As shown in Table 11, the regression coefficient output, $b = 28.423$, $t(344) = 4.334$, $p < .001$, indicated that the more frequently ELL students read silently, the higher their reading score was. The ELL students' reading score increased by 28.423 points per unit, e.g. from once to twice a week to almost every day. In a similar vein, the regression coefficient output, $b = 14.778$, $t(344) = 3.129$, $p < .001$, indicated that the more frequently ELL students read

books of their own choice, the higher their predicated reading score. The ELL students' reading score increased by 14.778 points per unit, e.g. from once to twice a week to almost every day.

Table 11. Independent reading instruction and ELL student reading achievement in PIRLS data ($N = 345$).

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	<i>B</i>	Std. Error	Beta		
1 (Constant)	551.719	8.889	-	62.065	.000
SCH/READ SILENTLY ALONE	28.423	6.558	.228	4.334	.000*
1 (Constant)	538.472	7.780		62.215	.000
SCH/READ BOOKS	14.778	4.722	.165	3.129	.002**

* $p < .001$; ** $p < .01$

Second, based on the data over the years in NAEP¹, the more frequently the participants were engaged in independent reading, the more likely they had higher reading performance. For example, participants who read silently almost every day had the highest reading score compared with those who read silently once or twice a week, once or twice a month, and never or hardly ever. As shown in Table 12, participants who read silently almost every day had an average of 221 points for the 1994, 1998 and 2000 NAEP years, which was significantly higher than the average scores of those who read silently once or twice a week (216 points), once or twice a month (194 points) and never or hardly ever (194 points) in these correspondent years. The average score differences between reading silently almost every day and once or twice a week, once or month and never or hardly ever were 5, 27 and 27 ($p > .001$) points respectively.

¹ NAEP data after 2000 was not available for this variable.

Table 12 Mean score differences between variables for silent reading instruction in NAEP data 2000

	Never or hardly ever (194)	1-2 times a month (191)	1-2 times a week (215)	Almost every day (220)
Never or hardly ever (194)		> Diff = 5*	> Diff = 29***	> Diff = 26***
1-2 times a month (191)			> Diff = 25***	> Diff = 22***
1-2 times a week (215)				
Almost every day (220)				
<hr/> 2000 ¹ <hr/>				
	Never or hardly ever (194)	1-2 times a month (191)	1-2 times a week (215)	Almost every day (220)
Never or hardly ever (194)		> Diff = 7***	> Diff = 27***	> Diff = 23***
1-2 times a month (191)			> Diff = 21***	> Diff = 17***
1-2 times a week (215)				
Almost every day (220)				
<hr/> 1998 <hr/>				
	Never or hardly ever (196)	1-2 times a month (196)	1-2 times a week (216)	Almost every day (221)
Never or hardly ever (194)		> Diff = 7***	> Diff = 27***	> Diff = 23***
1-2 times a month (191)			> Diff = 21***	> Diff = 17***
1-2 times a week (215)				
Almost every day (220)				
<hr/> 1998 ¹ <hr/>				
	Never or hardly ever (197)	1-2 times a month (201)	1-2 times a week (218)	Almost every day (223)
Never or hardly ever (197)		> Diff = 5***	> Diff = 23***	> Diff = 27***
1-2 times a month (201)			> Diff = 18***	> Diff = 22***
1-2 times a week (218)				
Almost every day (223)				
<hr/> 1994 ¹ <hr/>				
	Never or hardly ever (190)	1-2 times a month (191)	1-2 times a week (216)	Almost every day (222)
Never or hardly ever (190)		> Diff = 6***	> Diff = 30***	> Diff = 32***
1-2 times a month (191)			> Diff = 24***	> Diff = 26***
1-2 times a week (216)				
Almost every day (222)				

* p<.05 ** p<.01 *** p<.001

¹ Accommodations were not permitted for this assessment.

Similarly, participants who read books of their own choice almost every day had the highest reading score compared with those who read books of their own choice once or twice a week, once or twice a month and never or hardly ever over the four continuous NAEP years. Table 13 showed that participants who read books of their own choice almost every day had an average of 222 points for the 2005, 2007, 2009 and 2011 NAEP years, which was significantly higher than the average scores of those who read books of their own choice once or twice a week (217 points), once or twice a month (212 points) and never or hardly ever (207 points). The differences between the average score of reading books of one's own choice almost every day and the average scores of once or twice a week, once or month and never or hardly ever were 5, 10 and 15 respectively in these corresponding years, which was statistically significant.

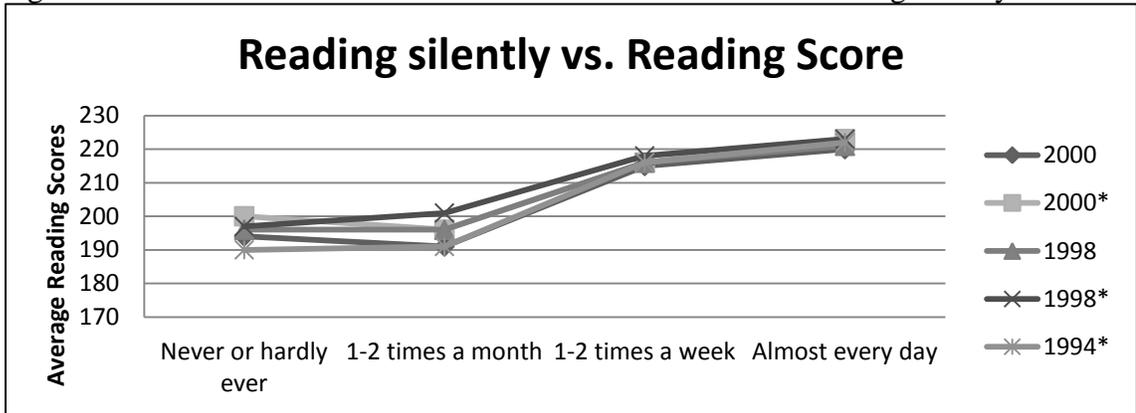
Table 13 Mean score differences between variables for independent reading with own choice in NAEP data
2011

	Never or hardly ever (205)	1-2 times a month (211)	1-2 times a week (217)	Almost every day (223)
Never or hardly ever (205)				
1-2 times a month (211)				
1-2 times a week (217)	> Diff = 12***	> Diff = 5*		
Almost every day (223)	> Diff = 18***	> Diff = 12***	> Diff = 6***	
2009				
	Never or hardly ever (208)	1-2 times a month (210)	1-2 times a week (218)	Almost every day (223)
Never or hardly ever (208)				
1-2 times a month (210)				
1-2 times a week (218)	> Diff = 10***	> Diff = 8***		
Almost every day (223)	> Diff = 15***	> Diff = 12***	> Diff = 5***	
2007				
	Never or hardly ever (210)	1-2 times a month (215)	1-2 times a week (217)	Almost every day (220)
Never or hardly ever (210)				
1-2 times a month (215)				
1-2 times a week (217)				
Almost every day (220)	> Diff = 10***	> Diff = 5***	> Diff = 3***	
2005				
	Never or hardly ever (207)	1-2 times a month (214)	1-2 times a week (217)	Almost every day (223)
Never or hardly ever (207)				
1-2 times a month (214)	> Diff = 7***			
1-2 times a week (217)	> Diff = 10***			
Almost every day (223)	> Diff = 16***	> Diff = 8***	> Diff = 5***	

* p<.05 ** p<.01 *** p<.001

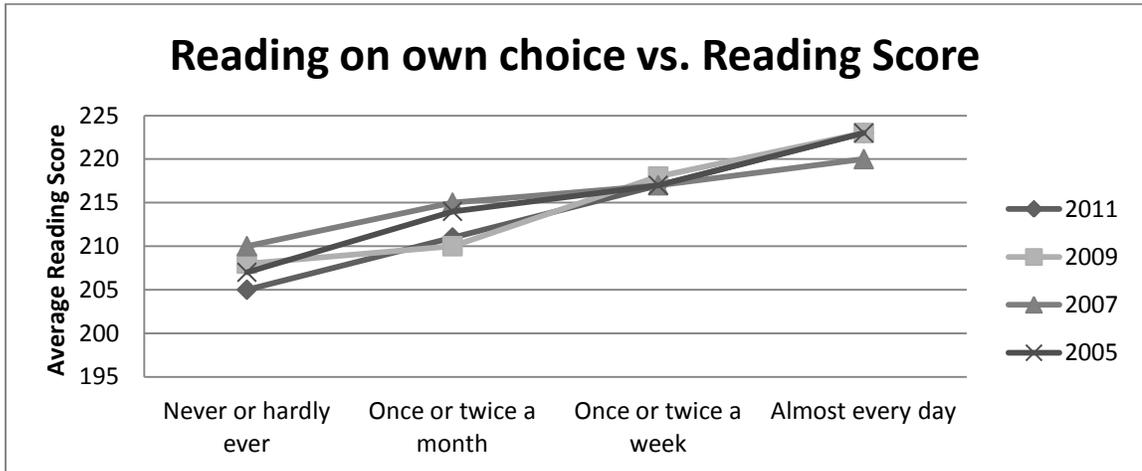
In addition, Figures 5 and 6 based on the NAEP data over the years demonstrated that participants' reading scores were the highest when they read silently and read books of their own choice almost every day.

Figure 5 The trend in mean scores between variables for silent reading activity



* Accommodations were not permitted for this assessment.

Figure 6 The trend in mean scores between variables for independent reading with one's own choice



Summary

Overall, in spite of variations across different reading activities, the analyses of two large scale data sets in this study indicated that the more frequently teachers used the reading activities recommend by the policy, ELL students at intermediate grade level tended to perform poorer or no differently in their reading proficiency. This pattern can be identified in the data over years. In contrast, the more frequently teachers used the independent reading activities in their teaching based on the theoretical perspective of second language reading development, ELL students tended to perform better in their reading comprehension proficiency. Again this pattern was consistent in the data over the years.

CHAPTER 5

DISCUSSIONS AND IMPLICATIONS

Discussion

The purpose of this study was to examine the effects of four reading teaching activities as recommended by the policy for ELL students and independent reading following the second language reading theories about the development of ELL students' English reading proficiency. The analyses of the two relevant large scale data sets help develop the following understanding about the research question of this dissertation.

First, this study helps understand the relationship between reading-aloud and ELL students' reading performance by showing consistently and repeatedly that by the fourth grade, no matter how ELL students practice reading-aloud, it is no longer useful in improving their reading development. Instead, more frequent use of reading-aloud actually hinders ELL students' reading development.

This finding is supported by the data set of PIRLS in that the participants had an average of 13.14 and 10.88 lower reading scores per unit when they more frequently listened to their teachers read aloud and read aloud at home. It is also shown in the NAEP data that the ELL students who read aloud more frequently had lower reading score than those who did it less frequently over the years.

This finding is consistent with the findings of the existing studies. For example, based on 650 children's test performance and classroom observation, Meyer, Wardrop, Linn, and Hastings (1993) found that the amount of time teachers spent on reading aloud

was negatively correlated with their reading achievement because the children had already developed oral fluency at earlier childhood. It suggests that a developmental trajectory of oral reading fluency for ELL students, which involves the dramatic growth in the early years but a “negatively accelerating curve through the intermediate grades and perhaps into junior high school” (Fuchs, Fuchs, Hosp, and Jenkins, 2001, p. 242).

Thus, the finding challenges the rationale behind the assumption that reading-aloud helps ELL students develop correspondence between the written representation and the phonological structure of the words regardless of their age and first language literacy experience (Liberman, Shankweiler & Liberman, 1989) and support that the intermediate grade level ELL students may not develop their reading comprehension by only relying on their skills of grapheme-phoneme correspondences (Torgesen & Morgan, 1990). Thus, it may support indirectly the assumption that ELL students at fourth grade level may have been exposed to sufficient amount of oral English, developed “auditory experience with the target language” (Griffin, 1992, p. 784) and stored essential linguistic knowledge in their first language environment, which may help and facilitate their L2 reading development directly (Koda, 2007).

Alternatively, it may suggest that by the fourth grade, ELL students may have had continuous exposure to oral English through their several years of schooling which can improve their phonological loop, a component in working memory (Hamada & Koda, 2010). The improved phonological loop eventually helps them develop “more reliable L2 phonological inventories” that facilitate their English reading comprehension (Walter,

2008, p. 455). Thus, more reading aloud is not useful any longer for these ELL students.

However, this study also leaves a few issues unresolved in relation to reading-aloud. It still cannot answer why with occasional reading-aloud practice, ELL students have the highest average reading score. To answer this question, researchers studying the effect of reading aloud need to rely more on qualitative methods such as interviews with ELL students for their literacy experience and class observation. The study is also unable to answer precisely whether ELL students have developed sufficient English phonological awareness and whether ELL students have actually transferred phonological awareness from their first language to L2 reading. To answer these questions, it is necessary to examine whether intermediate grade ELL students have developed sufficient phonological awareness in English and first language literacy by documenting ELL students' transferable phonological knowledge developed in first language reading proficiency during L2 reading.

Second, this study helps understand that the explicit vocabulary instruction has no or limited effects on fourth grade ELL students' reading development. As shown in PIRLS data the finding about the relationship between explicit teaching of vocabulary and participants' reading performance was not statistically significant. It is also evidenced by the finding that participants whose teachers taught new vocabulary once or twice a month and once or twice a week had highest average reading score compared with those whose teachers who taught vocabulary almost every day or never or hardly ever taught vocabulary based on NAEP data.

The finding is consistent with that from the comparative study by Pany, Jenkins and Schreck (1982), which showed that vocabulary knowledge was not a major obstacle in processing texts for content knowledge learning for regular students. In addition, it also mirrors the finding of the meta-analysis based on L1 vocabulary studies (Stahl & Fairbanks, 1986), which showed that vocabulary knowledge is not the dominant factor promoting reading comprehension. .

Thus, this study challenges the instrumental assumption about a direct causal link between vocabulary learning and reading comprehension for the older ELL students (Anderson & Freebody, 1993). Following this assumption, ELL students are believed to mainly read by decoding linguistic items through bottom-up processing (Stanovich, 1980; Paris & Hamilton, 2009). However, this study indicates that by the fourth grade many ELL children may have developed sufficient English vocabulary that can enable them to process reading by relating textual information to what they already know about the world (Stanovich, 1980). Although their English vocabulary size may not reach 90% to 95% level in the texts ELL students need to acquire for full comprehensible reading (Hirsch, 2003), it is enough for them.

This study seems to support indirectly the knowledge assumption of vocabulary learning for the older ELL students (Anderson & Freebody, 1993). According to this assumption, older ELL students are able to move to “reading to learn” content knowledge with the support of their background knowledge and relevant language competences developed through their first language experiences (Mullis, Kennedy, Martin, &

Sainsbury, 2006), which allow them to compensate for their deficiency of English vocabulary in their reading development in second language (Keshavarz, Atai & Ahmadi, 2007). This study shows that by fourth grade they may have grown out of the direct link between vocabulary learning and reading comprehension and are able to tie their reading comprehension with their content knowledge, world experience and language cognate words developed in their first language along with their already developed second language vocabulary size (Anderson & Nagy, 1992).

However, this dissertation, although providing some evidence for the above challenges and support for the existing theoretical assumption about the role of vocabulary teaching in reading development for older ELL learners, is not able to directly sustain the relationship between the amount of explicit vocabulary instruction and the development of ELL students' reading comprehension. To verify or sustain this relationship, it is important to further examine the amount of vocabulary fourth grade ELL students have developed and observe whether their first language literacy experience and content knowledge that may help them understand and learn new words in English reading.

Third, the study further helps understand that small group and pair work reading instructional activities are no longer helpful in reinforcing fourth grade ELL students' reading development as expected. Instead, the continued use of activities may hinder ELL students' reading development.

This finding is evidenced by the PIRLS data that the participants had an average

of 15.74 lower reading scores per unit when their teachers taught in small group format more frequently and 10.271 points lower per unit when pair work reading activities were more frequently implemented. It is also supported by the multiple year NAEP data that ELL students whose teachers taught in small group (three or four groups) had lower average reading score than those whose teacher taught in whole class or two large groups consistently over the years and the similar evidence for pair work reading activity,.

This study confirms that the effects of small group and pair work activities on ELL students' reading development may only be limited to the lower grade level ELL students in the existing empirical literature (McMaster, Kung, Han, & Cao, 2008; Saenz, Fuchs & Fuchs, 2005; Calhoun, Otaiba, Cihak, King & Avalos, 2007; Klingner & Vaughn, 1996). It challenges the assumption about the role of group and pair work in developing older ELL learners' reading proficiency. Part of this assumption is that ELL students can improve basic reading skills such as phonological awareness and new vocabulary more effectively through small group intervention and pair work (Kamps, Greenwood, Veerkamp & Kaufman; 2008; Simmons & colleagues, 2008; Bonfiglio, Persampieri & Andersen; 2006; Begeny & Martens, 2006). While phonological awareness and large new vocabulary size are necessary for ELL reading development (Torgesen, 2004), this study shows that fourth grade ELL students may be able to develop their reading skills in English using other experiences, skills, and knowledge developed both in first and second languages to compensate for English phonological and lexical weaknesses and become more mature and independent readers than assumed the

otherwise (Stanovich 1980).

The second part of the assumption is that small group is often characterized as a remedial activity to develop at-risk students' essential reading skills because they need intensive instruction different from mainstream teaching approach (Foorman & Torgesen, 2001). Because of lower-reading performance in English, ELL students are commonly assumed as at-risk students who are usually placed in small-group interventions (Estrada, 2005). The finding of this study challenges this part of the assumption by showing that it is not proper to equate the fourth grade ELL students as "at-risk" readers who may have less English phonological and vocabulary knowledge. Thus, small group intervention and pair work are no longer effective. Instead, whole class context allows ELL students to read voluntarily and use their prior knowledge and reading strategies (Carrell, 1989).

The third part of the assumption is that student-to-student interactions provide a social context where students construct meanings effectively based on the Vygotskian views of learning in social interaction (Bloome & Green, 1984). Through interaction with peers, ELL children are believed to gradually learn essential reading skills and finally internalize the skills like those first language learners (Wilkinson & Anderson, 1995). However, by fourth grade after ELL students may have already developed some essential reading skills (Carrell, 1988a), they no longer benefit maximally in learning reading through socially constructed interaction (Vygotsky, 1978). The findings of limited effectiveness of pair work activity on ELL students' reading comprehension indicates that fourth grade ELL students are moving from other regulation to self-regulation, which means that they are better at controlling their own reading process (Vygotsky, 1978).

However, this study is unable to explain precisely why highly frequent use of

small group and pair work are not useful for developing older ELL students' reading proficiency and why occasional pair work such as once or twice a month generates the highest reading performance. To understand this issue better, researchers need to examine what exactly ELL teachers do in small-group intervention and what ELL students talk in pair work by using qualitative and experimental methods. The research on the gap between English monolingual and ELL students at fourth grade is also useful as such comparison can find out whether there are differences in the development of essential reading skills between these two groups by the fourth grade.

Finally, this study helps understand that by the fourth grade, the independent reading activities including silent reading and reading books of one's own choice can help improve the fourth grade ELL students' reading performance positively and consistently. As the PIRLS data showed, the ELL students had 28.42 and 14.87 higher points per unit in their reading score if they more frequently read silently and read books of their own choice. The NAEP data analysis also showed that the more ELL students read silently and reading books of their own choice, the higher their reading scores were over the years consistently.

This finding is consistent with a number of empirical studies that showed a positive relationship between independent reading activities and the improvement of ELL reading comprehension (Constantino, Lee, Cho & Krashen, 1997; Kweon & Kim, 2008; Al-Homoud & Schmitt, 2009). It extends the existing literature that only addressed adult ESL learners who had rich first language experience and higher cognitive development with a similar finding about intermediate grade level ELL students.

This study further supports indirectly the theoretical assumption of the reciprocity

between independent reading experience and the automaticity of basic skills. Following this assumption, independent reading helps automate ELL students' lower-order mental operations within the limited phonological awareness, which means they do not need to process simultaneously all the amount of information and interactions in their working memory during reading (Bryant, MacLean & Bradley, 1990; Bradley and Bryant, 1991; Stahl and Murray, 1994). Once the limited phonological awareness is automated, more attentional capacity is available. Thus, it is likely for ELL students to activate their reading experiences and skills developed in their first languages and facilitate comprehensible input (Wallace, 1992; Krashen, 2004). When their first language reading experience and reading skills are activated and when the text is at the appropriate level or in their own interest due to their own choice of books, the intermediate grade level ELL students are more likely to use top-down approach to focus on the text meaning with less attention at linguistic and phonological information. Through sustained independent reading, ELL students are more highly motivated to read, which creates a spiral effect of *rich-get-richer* (Loh, 2009). The result is the overall development of ELL students' reading comprehension and more competent readers who are ready for reading to learn at higher grade level (Chall, 1987).

Implications

This dissertation and its findings offer several implications for the policy makers and practitioners in the field of reading teaching and development for ELL learners. First, the reading development for the first language learners, younger ELL learners, and older ELL learners may follow different patterns and the resources for their reading development can be different. Thus, it is important and necessary for policy makers to

pay attention to these differences when making policy suggestions for reading teaching for different groups of learners. In specific, for the older ELL learners, special attention has to be paid to their already developed first language experiences, skills, and relevant knowledge for their second reading development as these ELL students do not develop English reading proficiency in a similar manner as their monolingual counterparts. It is not necessary for them to develop reading competence by simply focusing on improving their phonological awareness and enlarging their vocabulary. It is also not necessary for them to be simply placed in small groups or ask peers to negotiate text meaning. In contrast, independent reading can be more effective for this group of ELL learners in developing their reading competence (Ruiz, 1984).

For practitioners, this study also offers several pedagogical suggestions. First, it is important for teachers to differentiate ELL students according to their age for reading instruction. Teaching recommendation for ELL students' reading development should be based on empirical studies about different ELL student' age groups. Special reading curricula should be developed to address ELL students at lower, intermediate, and higher grades. Second, caution needs to be taken when judging ELL students as at-risk children and believe that they should follow the reading developmental pattern as illiterate children do. As this study shows, older ELL students may be capable of reading to learn by using various resources that support their reading development in a unique manner. Finally, teachers involved in teaching older ELL students should assign more independent reading both at school and at home and encourage them to read books of their own interest.

Suggestions for Future Studies

Because of the constraints of the data in PIRLS and NAEP, this study is not able to directly sustain the assumptions discussed above. To empirically verify these assumptions, this study raises several further research questions for researchers that are worth further examination in order to develop better knowledge base for the development of ELL reading proficiency, especially the older ELL learners. These questions are as follows.

First, this study is unable to observe and analyze the precise reasons for the positive or negative relationship between each of the reading activities and ELL students' reading performance. For the research community, it is important to further explore the exact reasons for their positive and negative relationships.

In particular, it is important to verify the nature and kinds of older ELL children's oral English exposure and their role in the English reading development such as earlier reading-aloud practice, teachers' English instruction and even English media. It is also important to address what methods are the most effective to develop ELL children's phonological awareness and how much such awareness is actually necessary for them to start reading to learn and whether and how intermediate grade ELL students can compensate for their weakness in English phonological knowledge with their content knowledge or first language reading experience. Future studies on the differences between those who have been exposed to English in earlier schooling and those who recently come to the U.S. in the above areas are also necessary.

For the role of vocabulary size, it is important to understand what exact vocabulary size ELL students need to develop reading proficiency through reading to

learn. What kinds of background knowledge developed in their first language and how such knowledge compensates for their limited vocabulary in reading development. For the role of small group and pair work, it is important to understand the exact activities ELL teachers do in both whole class and small-group formats and how these activities produce the differences between the two formats in this study in light of older ELL students' reading development.

Future research also needs to address what and how ELL students discuss about their reading in pair work and why occasional pair work discussion is more effective for ELL students than more or none pair work discussion. Does it mean social interaction only have limited effectiveness in developing ELL students' L2 reading? Or is it because by fourth grade ELL students are beginning to outgrow social interaction in L2 reading development and moving to independent reading for higher cognitive development?

For the role of independent reading, it is important for researcher to understand whether and how older ELL students' independent reading help them automate the processing of basic reading skills and use their first language experience and content knowledge in developing their second reading competence. Also it is important to understand what role teachers play in such independent reading activities.

Limitations

This study has several limitations like many studies of this kind. First, it cannot explore the precise reasons that contribute to the negative and positive relationship between the variables because the information in the databases is only restricted to participant students' selection to multiple-choice items and participants are not required to give reasons for their selection. Second, the study cannot differentiate ELL students

who have developed strong first language experience and those who have limited or no first language experience. The understanding of the differences can help find out how first language literacy experience functions in second language reading development. Third, because of limitations in the two data-bases, the study cannot use multiple levels including teacher-level data to analyze the relevant independent variables and so to compare with student-level data, especially for NAEP data, which only allows users to analyze correlation between independent and dependent variables.

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Member of TESOL

RECENT PUBLICATIONS

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