University of Alberta

Reading English Storybooks with and without Illustrations: Performance and Experiences of Young ESL Chinese Children

by

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A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Elementary Education

Fall 2012
Edmonton, Alberta

Dedication

This research project is lovingly dedicated in memory of my dear father, Yudong Lei, who set for me an example of lifelong learning, diligence, and persistence. My father always took pride in me, yet he did not forget to instill in me the true value and meaning of life. Nothing could ever express my gratitude for his devoted love and inspiration.

ABSTRACT

Illustrated books are often recommended for use in classrooms with ESL children to facilitate acquisition and learning of English. It is claimed that illustrations enable them to clarify and construct the meaning of print, and thus enhance understanding. However, extensive research with monolingual children shows that illustrations may either interfere with or enhance reading. The purpose of my study was to examine whether illustrations were beneficial to Grade 1 ESL Chinese children when reading storybooks in English. Eighty Chinese children were divided equally into two groups: more proficient and less proficient readers. For each reading proficiency group, the children were further equally divided into two illustration types: complementary and counterpoint. Within each illustration type, half of the children read the authentic storybook including words and illustrations and the other half read the same story without the illustrations. One-on-one data collection included running records of their oral reading, answers to comprehension questions, and responses to interview questions. Both qualitative and quantitative analyses of the running records and comprehension questions revealed neither the complementary illustrations nor the counterpoint illustrations helped the children to correctly decode and identify more words regardless of the children's reading proficiency. Complementary illustrations enhanced the children's reading comprehension only when the illustrations contain a minimum number of or no print-irrelevant details. Both the high and low proficient children's reading comprehension was not affected by the counterpoint illustrations unless the relationship between the counterpoint illustrations and

print was too complicated and thus beyond the children's ability to understand. The children held a prevalent misconception that the function of the illustrations was to help with decoding unknown words. These results contribute to the empirical evidence on the role of illustrations and signal the need for better teaching of how to effectively use illustrations to assist with reading. Clear and precise instructions coupled with explanations to young children on the specific strategies to use to maximize the benefits of illustrations to reading are warranted. Future research to develop a more thorough and precise understanding of the role illustrations play in ESL reading comprehension is a logical next step.

Acknowledgements

My success in this project would not have been possible without the support and encouragement of many others. I wish to express my grateful thanks to those who walked beside me, and helped me along this journey.

First and foremost, I am sincerely appreciative to my supervisor, Dr. Linda Phillips, for her unwavering guidance, support, and counsel. As an exemplary scholar, Dr. Phillips' sense of dedication and persistence fundamentally encouraged me to get this study off the ground. I am grateful for her great patience with my questions, concerns and queries, and the countless hours that she spent helping me to complete this project. I believe that it would never be enough to express my deepest gratitude for her tremendous and invaluable assistance in making this study a reality.

Second, I thank the members of my supervisory committee, Dr. William Dunn, and Dr. Jill McClay for their insightful comments and feedback as my study took shape. I would like to also thank my examination committee for their time, interest and feedback, Dr. Lee Gunderson, Dr. Leila Ranta, and Dr. Lynne Wiltse.

Third, I particularly thank the children for volunteering to participate in this study. Without the children's effort, this study would not be successfully completed.

I also thank the principals for their kindness to allow me to do this study in their schools. I am also grateful to the classroom teachers who assisted in all aspects of the data collection process.

Last, but not least, my special thanks go to my dear mother, Zhenjuan Zhang, for always being there with me when I needed her help, and for her unconditional love, care and understanding.

My deepest gratitude is expressed to my husband, Rui Mo, for his everlasting belief in me throughout this journey. His constant support and encouragement helped me to persist in completing this project.

My beloved daughter, Emma Mo, showed great interest in early reading and enlightened me to do and complete this study. I look forward to sharing this achievement with her.

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Chapter 1: Introduction

The immigrant population in Canada is increasing at a rate of 7% each year (Statistics Canada, 2006); consequently, the cultural and language backgrounds of children in schools are becoming more diverse. Most of these children are from countries where languages other than English are spoken, and they enter schools with varying levels of English proficiency. For these reasons, they may encounter difficulties in fully participating in the learning experiences provided by schools. One of the most important reading difficulties is to compensate for their limited English proficiency and to aid their integration of reading in the language they are immersed. Illustrated books are often recommended for use in classrooms with children who are learning English as a second language (ESL), particularly at the pre-school and early school levels (Alberta Learning, 2007; Jalongo, 2004). Illustrated books are assumed to encourage ESL children to learn English by using the illustrations to make connections with the print (Ujitani, 1993); provide them with a cultural context that makes the meaning of the text more understandable (Drucker, 2003); and enable them to clarify the meaning of print and retell more information (Allen, 1994). Despite a prevalence of claims to support the beneficial use of illustrations, the effects of illustrations on reading comprehension of young ESL children has not been the focus of any empirical research. In an attempt to fill this gap and to extend understanding of the role of illustrations in second language (L2) reading comprehension, the purpose of this study was to investigate whether illustrations enhance young ESL Chinese children's reading comprehension of English texts.

Given the enjoyment and pleasure available within the rich resource of children's literature, illustrations are valued as an important source of meaningful input, and thus it is understandable that they are perceived to be an important source of information for reading. To systematically understand the purpose of using illustrations with print, some attempts have been made to categorize the functions of text illustrations (Levie & Lentz, 1982; Levin, Anglin, & Carney, 1987). Levin, Anglin, and Carney (1987) outlined the five functions of text

illustrations as: (a) decoration: illustrations serve to make reading materials look attractive, but irrelevant to the text; (b) organization: illustrations can be used to help readers understand organizational relations for a text; (c) interpretation: illustrations can clarify concepts in a text that may be difficult to understand; (d) transformation: illustrations can help readers remember information in the text; and (e) representation: illustrations reinforce the information such as major characters or events described in the text (see pp. 53–63). Based on these five functions, two main conclusions are drawn, namely, illustrations may attract readers' attention to reading materials (the decoration function) and help readers comprehend and remember information embedded in print (the organization, interpretation, transformation, and representation functions). The value of illustrations is expressed in other ways (McClay, 2000; Nikolajeva & Scott, 2000, 2006; Nodelman, 1988; Sipe, 2008; Stewig, 1995).

When the relationship between the print and illustrations has been specified, then the print and illustrations are commonly considered to serve equivalent roles in conveying meaning in a good picture storybook. Further elaboration of the functions of illustrations is provided by Nodelman (1988) portrayed the functions of illustrations in picture books in six ways: (a) illustrations confirm the text message; (b) add more information that the print either does not specify or contain; (c) detail what is described in the print (e.g., what a character looks like, what the story setting looks like); (d) depict objects that are difficult to describe (e.g., a particular hat a woman is wearing on a particular occasion); (e) show the personality of a character that otherwise would take too much description to express in print; and (f) provide readers with a stance to think of a character through colours, symbols, and gestures (e.g., dark or grey colours may raise sympathy for a character and bright colours may suggest a cheerful or light mood). He also explicitly points out that good picture books have print and illustrations complementing each other to fill the meaning gaps between them, thereby enhancing understanding of the story because of the richer

meaning-making process made possible by the combined codes of print and illustrations (Nodelman, 1988).

Illustrations in picture books may convey information about the objects or characters in a story, but may not provide a specific focus for or ideas about why they are important to the print. For readers to grasp the complete meaning of a story in a picture book, they also generally have to make use of the print which provides them with the verbal context. The nature of excellent picture books where the words and pictures complement one another, demands a dialogic reading of text and illustrations in which "children read the pictures through the words and the words through the pictures" (McClay, 2000, p. 93).

Not all illustrations are created equally. Nikolajeva and Scott (2000, 2006) closely examined the nature of illustrations in picture books and identified three major categories to distinguish the print and illustration relationship: symmetrical, complementary, and counterpoint. First, the symmetrical is where the illustrations and print are equivalent and relatively independent of one another in the construction of meaning of a narrative. A story can be told solely either by the illustrations or the print (symmetrical). *Sam's Cookie* (Lindgren & Eriksson, 1988) is an example of a picture book that fits within the symmetrical category (Nikolajeva & Scott, 2006). In this book, the illustrations and the print are independent and the story can be understood through appeal to either one of the two representation codes alone which means that the story can be understood from just the illustrations or just the print. It is interesting to note that such symmetry can be seen in books such as *Sam's Cookie* (Lindgren & Eriksson, 1988) where there are only 50 words in total across the 26 pages of text and where there is a minimal amount of print on each page which in turn is meticulously illustrated. However, storybooks that have strictly symmetrical illustrations and print that can individually tell the same story within one book is not common in the actual collection of storybooks. In addition, the symmetrical storybooks share commonalities to those of the second category, the complementary storybooks. Second, the complementary category is where illustrations and print complement

each other but must work together in order for the story to be completely meaningful. A typical example of books in the complementary category is *Rosie's Walk* (Hutchins, 1968). The print alone tells only a part of the story of Rosie, the hen's walk and the more important information about the story is implied by the illustrations. For example, the print does not tell us that the fox is on Rosie's tail as she walks across the yard, around the pond, over the haystack, past the mill, through the fence, under the beehives, and then finally back home to dinner. All the while, the story of Rosie's walk is made interesting and intense by the fact that the fox is ever so close and we wait in anticipation with each page to see whether the fox will get Rosie. The print alone does not create delight rather it is the illustrations of the various places and ways in which the fox slyly hides. *Rosie's Walk* is an excellent example of what McClay meant when she said read the pictures and the words in a reciprocal fashion. To understand the complementary story a reader "has to rely on meaning-making of both the words and the pictures" (Sipe, 2008, p. 22). Third, the counterpoint is where illustrations and print represent information in different or contradictory ways. For instance, books in this category may include illustrations that have little or no relationship to the print and in some cases may even contradict the print. Such counterpoint illustrations often increase the gap between the illustrations and the print and thus in turn increase the chances of inappropriate, confused and misleading interpretations. A classic example of a counterpoint book is *Time to Get Out of the Bath, Shirley* (Burningham, 1978). The illustrations and print on the left-hand pages of this book are complementary to the realistic story of Shirley's bathing experiences and her mom's constant fault-finding and expressions of disappointment, but the wordless illustrations on the right-hand pages contradict those on the left as well as the print. The illustrations on the right present completely different scenes of Shirley going for imaginary rides on a magical duck to magical places that include animals and green pastures, castles, and kings and queens. It is necessary to point out here that Nikolajeva and Scott (2006) are not concerned about the pedagogical or cognitive aspects of the picture

books, but rather how writers and illustrators manipulate the two representation codes, namely visual and the verbal.

These three possibilities raised by Nikolajeva and Scott (2006) show that the relationship between and among illustrations and between illustrations and print in picture books is crucial because readers' interpretations of a story rely on how the two codes are related. Stewig (1995) made a similar point. He made it clear that not all picture storybooks effectively balance the use of the illustrations and the print and this affects how readers understand the story. Sipe (1998) argued that even though illustrations and print are supposed to work in a harmonious way to help readers understand a story as a whole, comprehending a picture book is even more complex than the print or the picture only because picture books involve both the visual (illustration) and verbal (print) representation systems. He also points out that there is "surprisingly little empirical research focusing on the topic of children's response to and understanding of the relationship between the illustrations and the print in picture books" (p. 28). He goes on to say that the relationship deserves more complete investigation because the illustrations and print in picture books may involve different types of support or intervention to children's interpretations (Sipe, 2008).

The functions of illustrations have not gone unchallenged. In many books for young children, half or more of the book space is used for illustrations. The presumption that illustrations attract attention and bring enjoyment to reading is widely accepted. Vernon (1954) commented that "it would probably be useless to expect younger children to study books without pictures" (p. 171). Similarly, Miller (1938) observed that young children prefer illustrated materials, particularly full-color pictures. However, Samuels (1967) found that pictures had negative effects on monolingual children's reading comprehension, and poor readers' attention was more easily distracted by the appearance of pictures than was the case for the capable readers. The reason that pictures distract readers' attention from reading might be because young readers tend to focus more on pictures than print (Lang & Solman, 1979). The soundness of illustrations in

attracting readers' attention to reading has been challenged by other studies (Braun, 1969; Harzem, Lee, & Miles, 1976). In addition to the attention function of text illustrations, the function of facilitating comprehension has also been questioned. A number of researchers demonstrated that the beneficial effects of illustrations on reading comprehension of monolingual children were constrained by many other factors. For example, Willows (1978) found that children read more slowly and made more errors when reading text with pictures than without pictures. Pictures seemed to have more negative effects on poor readers' reading performance. The findings of these studies are contrary to the overwhelmingly positive claims and current practice of richly illustrated reading resources at the early childhood level. Thus, further in-depth research devoted to examining the effect of illustrations on the English reading comprehension of young ESL children is essential. Most research is about L1.

Although some evidence in the L2 field indicates that ESL readers rely upon pictures to help them make meaning of print, particularly less skilled readers (Hudson, 1982; Liu, 2004; Omaggio, 1979), few studies have specifically focused on how illustrated storybooks affect reading comprehension of L2 learners who are at different L2 proficiency levels. In addition, most of the studies have been done with ESL adolescent and adult learners. Investigations of young children's English reading experiences are rare and no known study has specifically looked at whether illustrations enhance comprehension of texts in English with Chinese children. Young Chinese children are of interest for three reasons: first, the Chinese are currently one of the largest recent immigrant groups in Canada; second, the Chinese language has become the third most spoken language in Canada (Citizenship and Immigration Canada, 2009); and third, the Chinese language is radically different from English orthographically which may significantly contribute to children's reading difficulties in English. These reasons motivated the present study to investigate whether illustrations were beneficial to Chinese ESL children in reading in English and their experiences with reading illustrated texts. It was also important to determine whether the

detrimental effects of illustrations for monolingual learners would be evident in the case of young ESL children.

In sum, the current widespread emphasis on illustrations as an important source of meaningful input in reading materials requires empirical evidence to demonstrate whether they are an aid to reading or add an additional burden. Children's own perspectives on the use of illustrations in their reading were also explored. Drawing upon research on illustrated text of both monolingual and L2 reading, this study was based on the premise that L2 children's reading experiences are different from that of adults and monolingual children, and investigating their experiences may provide valuable insights into the role illustrated reading materials play in early L2 reading comprehension. It was also hoped that this study would inform current approaches of using illustrated materials to teach L2 reading with young ESL children. For the purpose of my study, I adopted the definition of reading by Phillips and Norris (2009). They argue that reading is more than knowing all the words and locating information in the text. Rather, reading depends on the background knowledge of readers — that is, on meanings from outside the text; it is dependent on relevant decisions all the way down to the level of the individual word (Norris & Phillips, 1994); and it requires the active construction of new meanings to be interpreted (p. 280). By text, I mean both print and illustrations.

Theoretical Framework

The pedagogical recommendation to integrate illustrations with print for second language learners (L2) is widespread. The recommendation is based on the belief that illustrations help L2 learners to learn new language because pictures fill the gaps in their linguistic knowledge. Given the purpose of my research was to investigate whether and how illustrations facilitate young Chinese ESL children's L2 reading comprehension, it was thus critical to have a theoretical framework to support my goal.

Understanding of the complex nature of reading has evolved considerably over the past several decades as a result of varied theoretical models and research

evidence. Each theoretical model, though complementary to others, tends to have a particular focus. From among the current theoretical models of reading, this study is situated within Paivio's Dual Coding Theory (1986, 2007).

The dual-coding theory (DCT) was originally developed as a theory of cognition to explain the influence of two human mental symbolic systems, verbal and nonverbal, on memory (Paivio, 2007; Sadoski & Paivio, 2008). Since Paivio's first published theory, he has made modifications based on new research evidence and has extended DCT to account for reading comprehension (Sadoski & Paivio, 1994). The DCT is based on the perspective that two symbolic representational systems, verbal and nonverbal, process information input either successively or simultaneously. The nonverbal system is often referred to as the imagery system because of its vital functions of analyzing scenes and generating mental images and the verbal system is referred to as the language-specialized system (Paivio, 1986).

Paivio (1986) claims that the verbal (e.g., print or sound) and nonverbal (e.g., background knowledge including pictures, environmental sound, smells, and memories) differ in how each represents objects and experiences (for example, verbal—the letters and word *horse*, the sounds of the word *horse*; and nonverbal—an actual horse, a picture of a horse, horse neighing, a figure of a horse; manure, memory of Black Beauty) and though each is independent of the other, they are also connected by the common and overlapping meanings evoked by each. The two coding systems, verbal and nonverbal are independent but interconnected and often complementary. They can create a separate representation for information in each system, or represent both.

Paivio (1986) proposes that the degree of understanding of the encoded information is dependent on the levels of activation of the two symbolic systems (verbal and nonverbal). The encoding or construction of meaning could happen at a representational level when the verbal system is activated by verbal stimuli and the nonverbal system is activated by nonverbal stimuli. For example, a picture (nonverbal) of a horse can stimulate our knowledge of the perceptual features of

horses, sizes of horses, the smell of horses, and even a particular horse such as Black Beauty; and the verbal code, the word, *horse* can stimulate the concept of horse and its corresponding features and memories in our mind. Encoding of information can be entirely at the representational level and is sufficient for recognition and recall of objects, events, language, and ideas. The encoding may also include other cues that help to elaborate the concept of *horse* and these occur at the referential level. The referential cues may, for instance, activate the verbal system through nonverbal stimuli (e.g., name a picture of a horse), or activate the nonverbal system by verbal stimuli (e.g., generate an image of a horse when reading the word, *horse*). To make understanding of the interaction between the two symbolic systems possible at this level, Paivio (2007) points out that appropriate contextual cues or instructions to provide clues is necessary. Figure 1 adapted from Paivio's original model (1986) represents the relationship between the two mental representational systems. In this study, the aim was to study the role of illustrations in understanding print (the written text in illustrated books) and the associative encoding in DCT, in other words, whether the illustrations support the print and vice-versa through associations between the two. The aspect of the DCT model that accounts for the relationship among representational stimuli within the same system is neither discussed nor represented in the adapted figure (e.g., *address* has two different meanings and respective pronunciations with the same spelling) because it goes beyond that aspect of Paivio's DCT of relevance here.

The mnemonic function of dual-coded information suggested by DCT assumes that recognition and memory is enhanced if memory traces are represented by both the verbal and nonverbal codes. Let us return to the example of the horse, if a picture of horse is simultaneously represented by the word, *horse*, learners are more likely to connect the image to the cue word during recall than if no image is provided. It is known that recoding of information by the image has the same influence on memory of the target object represented by the word, and the integration of dual-coded information helps learners to memorize and analyze

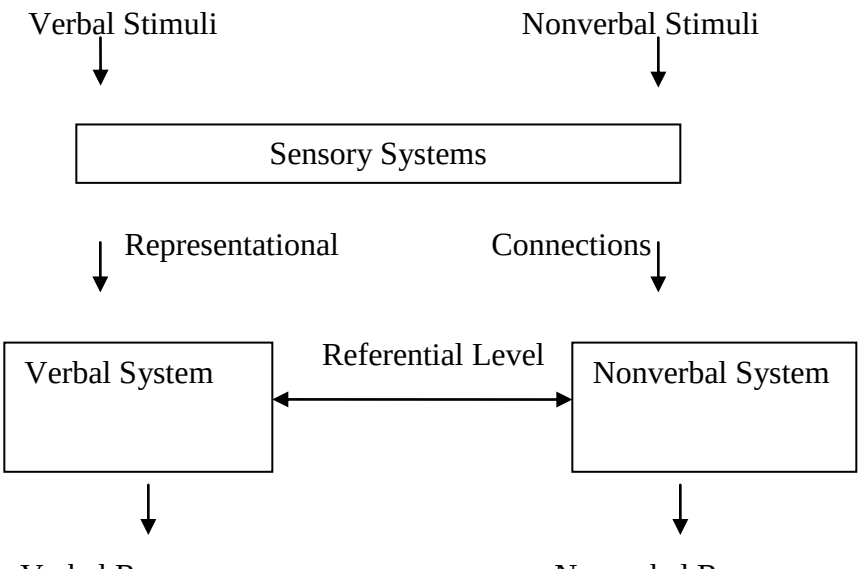

Figure 1. Verbal and Nonverbal symbolic systems: The representational and referential connections between the two system, and connections to input and output systems. (Paivio, 1986, p. 67)

the information, and then respond to the word, and vice-versa (Paivio, 1986) When information is dual-coded, memory and learning are considered to be improved because encoding of information is elaborated by the additional cues, and the verbal and nonverbal codes complement each other to represent the same information from two different codes.

The extended version of DCT to account for reading comprehension in monolingual and bilingual contexts is discussed next.

DCT in L1 reading comprehension. When the dual coding theory (DCT) is extended to literacy as an account of reading comprehension (Sadoski & Paivio, 2008), meaning construction has often been viewed as a combining activation of verbal and nonverbal mental representations. It is assumed that the degree to which readers understand texts varies according to the different levels that the two representations are activated. As discussed above, readers can use either the verbal to generate corresponding responses to the letters, words, sentences, or the nonverbal to perceive visual, auditory, tactile objects, or events at the representational level (for example, *A black horse is eating grass on a farm*). The

information carried in the sentence can be represented by written language as in the previous example, the verbal representation system, or by a single image or images linked together in the nonverbal system (e.g., a picture showing the color of the horse, the action of the horse, the grass, and the farm as a background).

In DCT, verbal and nonverbal systems that both represent the information at the referential level are assumed to help readers create alternative and unified contexts for generating inferences (e.g., readers are provided with both the written sentence as well as a picture depicting key information of the black horse, grass, and a farm as written in the sentence). What is key information is dependent upon the context, and so readers must use not only the picture but the words in the text to settle on the best interpretation. Mental imagery is a reader-created image based on text information that includes both the linguistic and non-linguistic cues and is supportive of attempts to understand information. The reader's mental imagery is based on multiple sensations like sight, sound, smell, taste, and touch from previous and current experiences that written language alone or illustrations alone cannot provide for meaning-making purposes.

Reading of print, according to DCT, is basically viewed as an interaction between readers' relevant background knowledge and the relevant text information, in which readers construct meaning based on their language knowledge and prior knowledge of the context. Although readers are assumed to use the verbal system to decode letters, words, sentences, or paragraphs in texts, the nonverbal system is assumed to be an important mental aid for retaining memory and recall of what is read. Take the earlier horse example, if the information in the sentence is also simultaneously represented by a picture, the reader may be shown the colour of the horse, grass, how a horse is eating grass, the farm fence, people, and livestock. These elements of a farm depicted in the illustration duplicate the essence of the information in the text, and thus provide readers with additional cues for retaining the memory of the text and may produce an emotionally positive, negative, or neutral response depending on the reader's prior experiences with horses. In DCT, mental imagery is crucial for responding

to or recalling information read because the visual representation of the setting, character, and event enables readers, particularly those who have limited relevant prior knowledge of a specific topic, to not only generate and integrate their background knowledge, but also to infer possible meanings based on the print and illustrations in a text. Therefore, if the two key components, language (verbal), and pictures cues (nonverbal) included in DCT are paired and used simultaneously, comprehension is assumed to be facilitated.

DCT, as a theory of cognition, provides a theoretical basis for the complementary relationship between verbal and nonverbal mental representations in reading comprehension. This theory has been supported by research (Black, Turner, & Bower, 1979; Goldman-Eisler, 1968; Sadoski, 1983), that found imagery (e.g., pictures, cartoons) help readers comprehend texts and recall information. The results are consistent with aspects of DCT analysis in language comprehension and production. In order to deal with bilingualism, DCT has been further extended to account for bilingual memory and cognition (Paivio, 1986; Paivio & Desrochers, 1980).

DCT in L2 reading comprehension. Paivio's (1986) dual coding model for bilingual learners includes all of the general assumptions postulated in the original model, but differs from it in that a second verbal system to represent bilingual language capacities is introduced. In this model, Paivio proposes that there are two verbal systems (L1 and L2) and one imagery system for bilingual learners. Bilinguals are assumed to be able to use the imagery system to perceive nonverbal objects without the intervention of either language system. The two verbal systems can work independently such that one language system can be used without depending on the other. On the other hand, the two verbal systems are interconnected by translation representing the same concept between the two languages. The degree to which the two languages interrelate with each other depends on the different types of bilingualism. In order to distinguish the types of bilingualism, Paivio (1986) uses Lambert's (1969) notion of compound and coordinate bilinguals. The compound bilinguals are those who have acquired two

languages at the same time from infancy, and the coordinate bilinguals are those who learn a second language after the first language such as ESL learners. Studies by Bugelski (1977) and Lambert (1969) found that coordinate bilinguals have been more capable of differentiating two languages than compound bilinguals because they acquire the two languages in distinctive contexts that presumably enables them to functionally separate the different usages and meanings of each written language system (Taylor, 1971).

The bilingual version of DCT assumes that the imagery system is related to the verbal activities in each language independently for bilinguals. Figure 2 represents the relationship between the two verbal systems and the imagery system of bilinguals. The model shows that the same concept from two languages

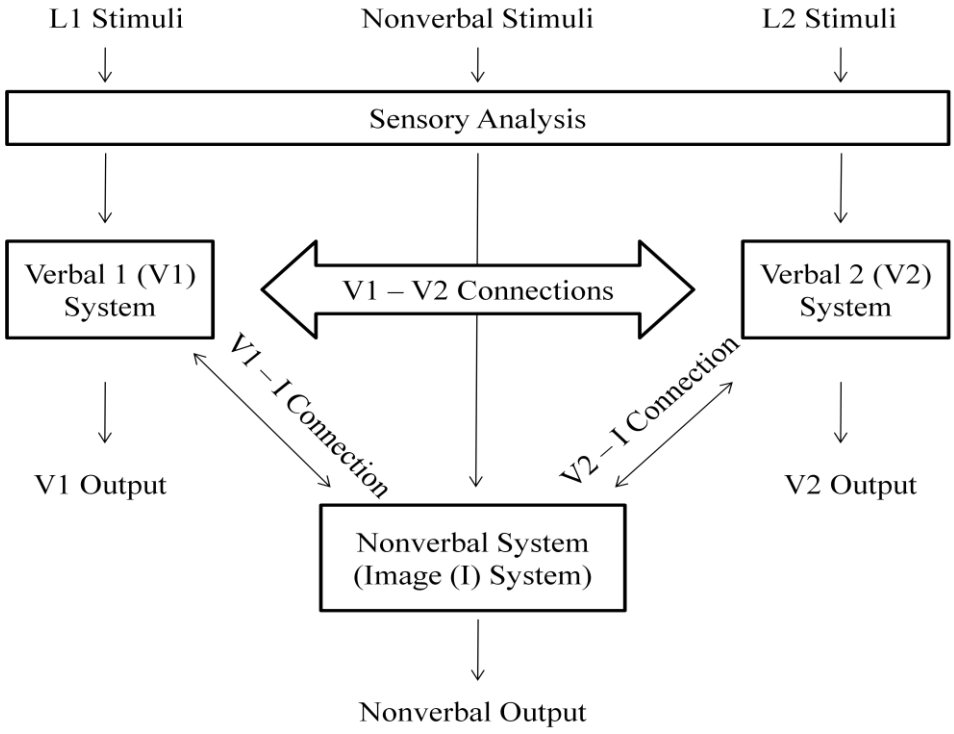

Figure 2. Bilingual verbal and nonverbal symbolic systems: The L1 and L2 corresponding verbal systems and their connections with each other and the nonverbal system. (Paivio, 1986, p. 241)

evokes the same or relatively similar images. For example, *horse* and 马 are words for English and Chinese respectively and that independently represent the same concept and share the same image of a horse.

In the bilingual model of DCT, verbal-nonverbal coding is consistent with the original assumption that if the second language (L2) is connected appropriately and directly with nonverbal representations, then the use of L2 will be facilitated. For example, the English word, *horse* is both orthographically and phonologically different from the Chinese character 马. Chinese learners who first learn the English word for *horse* are not only unfamiliar with the word, but also have limited cues about how to pronounce the word and what the word means. If a picture of a *horse* is provided, the information carried in the nonverbal referent (the picture) will imply the meaning of the word so that they get cues to construct the meaning of the word. The rationale for this example also applies to L2 reading comprehension: nonverbal representation or imagery provides readers with another cue to infer the identification and meanings of words, sentences, and passages presented in an unfamiliar language. For example, Chinese readers may not be able to know all the key words in the sentence, *A horse is eating grass on a farm,* and thus understanding may be impeded. However, if the reader is presented with a picture depicting the scene described in the sentence, then meaningful inferences are more likely possible. The picture serves as an additional cue not only for inferring meaning from an unfamiliar language, but for providing information to readers who have no or limited background knowledge on a specific topic. The picture also serves to limit the number of possibilities of what the words are as well as what the sentence is likely about.

The mnemonic function of dual-coded information proposed by DCT is also emphasized in the bilingual model. Memory traces that are coded in either the verbal system (L1 or L2) or nonverbal system are assumed to be retained longer than in one system only. Therefore, if information is coded in both L2 and nonlinguistic codes (imagery), it is assumed to be easier for L2 readers to recall

the information. This assumption has received direct support from research on the effects of verbal and nonverbal representations on recall performance of bilingual or L2 students (for example, Glanzer & Duarte, 1971; Paivio & Lambert, 1981). The expanded DCT in bilingual contexts explicates the relationship between the two verbal systems as well as the relationship between either of the two verbal systems and the nonverbal system. Thus, DCT is a useful theoretical framework for explaining the interaction between the L2 and imagery in L2 reading comprehension.

Rationale For A Priori Predictions

Based on an extensive review of the relevant research literature on ESL readers and the role illustrations play in monolingual and ESL readers' English reading comprehension, I made eight a priori predictions about how more proficient and less proficient readers would perform with the three illustration types under two conditions — print with illustrations and print without illustrations.

Research on the role illustrations play in both monolingual and ESL readers' English reading comprehension has suggested that illustrations do not help readers who are at a high language proficiency level to comprehend text (Holmes, 1987; Hudson, 1982; Liu, 2004). Proficient readers minimally used illustrations to enhance their understanding of text. Thus, I predicted that when the more proficient ESL readers in my study read stories with illustrations and print, their performance would depend mainly on their understanding of the print and how illustrations were used in the books would either complement or have no significant influence on their reading comprehension.

Research on whether illustrations are beneficial to readers' understanding of written text is mixed. In some cases, illustrations have been shown to facilitate significantly less proficient readers' understanding of text (Holmes, 1987; Hudson, 1982; Koenke & Otto, 2006; Liu, 2004; Omaggio, 1979). Less proficient readers rely on illustrations to compensate for their limited language proficiency to make meaning of text. However, research has shown also that less proficient readers'

attention is easily distracted by illustrations that are unrelated to the content of a text and hence cause them to generate inappropriate or incorrect interpretations (Harber, 1980; Nikolajeva & Scott, 2006; Torcasio & Sweller, 2009; Vernon, 1953, 1954; Willows, 1978). My a priori predictions on the performance of the less proficient readers across the two experiments were related to the two types of illustrations in which they either complement the print (complementary), or contradict the print (counterpoint) in the stories. Since the empirical evidence indicates that less proficient readers use illustrations mainly as clues to help them understand text, I predicted that when the less proficient readers read stories with illustrations and print, their understanding would either be enhanced when illustrations are complementary to the information carried in the print or diminished when the illustrations do not support or contradict the print (counterpoint).

How more proficient and less proficient ESL readers are different from each other in reading skills has been investigated in a variety of studies. It has been shown that limited vocabulary and inappropriate use of reading strategies were found to be major factors contributing to less proficient ESL readers' poor comprehension of written text in English (e.g., Jiménez, Garcia, & Pearson, 1996; Langer, Bartolome, Vasques, & Lucas, 1990), and they make more mistakes in their oral reading, retelling and answering comprehension questions than more proficient readers (e.g., Ammon, 1987; Hardin, 2001; Jiménez, et al., 1997; Miramontes, 1990). The more proficient readers were therefore predicted to always perform better than the less proficient readers when presented with print without illustrations in a reading context.

The previous studies demonstrated whether illustrations are helpful or detrimental to readers' comprehension of text from a variety of aspects (e.g., monolingual readers, ESL readers, different language proficiency levels, graphs, comic strips), and how ESL readers who are at high and low proficiency levels differ on their reading skills. My study focused on young ESL Chinese children who are learning two languages at the same time though Chinese is their dominant

language, and examined the role illustrations played in their understanding of English, specifically English picture storybooks. In my study, children's reading performances of storybooks were compared not only at two English proficiency levels, but also under two conditions: print with illustrations and print without illustrations across two types of storybooks wherein illustrations are related to print differently.

The specific predictions on the performance of the more proficient and less proficient ESL children reading the two types of illustrated storybooks with or without illustrations have been detailed for each experiment under the heading, Purpose of the Study, Planned Experiments and Research Predictions.

Purpose of the Study, Planned Experiments, and Research Predictions

The purpose of my study was to examine whether illustrations are beneficial to young ESL Chinese children when reading storybooks in English. Two experiments were planned according to the two major illustration types (complementary and counterpoint) (Nikolajeva & Scott, 2006). Since symmetrical storybooks are not common and the illustrations and print in symmetrical stories are indeed related to each other in a more or less complementary sense, I was unable to distinguish symmetrical books form complementary books. I wrote directly to one of the authors (Nikolajeva) for more specific distinguishing features, but none were forthcoming. The symmetrical storybooks thus were not included in my study because the complementary and symmetrical categories shared too many overlapping features, and the complementary category was the more precise and workable of the two. In each experiment, four predictions were made about the reading performance of the Chinese children at two English proficiency levels (more/less proficient) under two conditions (with/ without illustrations). The specific predictions were as follows:

Experiment 1: In the complementary illustration type

1a. The more proficient readers will perform better on measures of reading with print and illustrations than with print alone.

1b. The less proficient readers will perform better on measures of reading with print and illustrations than with print alone.

1c. The more proficient readers will perform better on measures of reading than the less proficient readers with print alone.

1d. The more proficient readers will perform better on measures of reading than the less proficient readers with print and illustrations.

Experiment 2: In the counterpoint illustration type

2a. The more proficient readers will perform better on measures of reading with print and illustrations than with print alone.

2b. The less proficient readers will perform equally on measures of reading with print and illustrations and print alone.

2c. The more proficient readers will perform better on measures of reading than the less proficient readers with print alone.

2d. The more proficient readers will perform better on measures of reading than the less proficient readers with print and illustrations.

Significance of the Study

The most recent census released by Statistics Canada (2006) shows that 25% of Canadian children less than 15 years of age are from minority groups and do not speak English as their first language. The increasing number of minority students in schools requires an in-depth understanding of their learning experiences so that more effective and meaningful instruction can be provided by teachers.

There has been little research on the function of illustrations in L2 reading comprehension of young learners, and very few studies have provided portrayals of L2 learners at both high and low levels of L2 reading proficiency. My study is the first to examine whether illustrations are helpful for young ESL Chinese children who are either more proficient or less proficient in English reading ability. In addition, prior studies neither examined records of ESL children's read-aloud nor how they used illustrations. Thus, my research provides further understanding of ESL children's reading and differential levels of comprehension

associated with print. My results confirmed that the use of illustrated texts are not beneficial without specific strategic instruction on how to use illustrations effectively, and both confirms and challenges the use of research based on monolinguals for bilingual children. Finally, my study also provided informative insights into how teachers can more effectively use illustrated reading materials with ESL children.

Chapter 2: Literature Review

Overview

The research reviewed here is specifically relevant to whether illustrations are beneficial to young Chinese students' reading comprehension of English stories. This chapter is organized into three main sections. In the first section, the literature relevant to potential reading problems of second language (L2) learners is reviewed. The second contains critical reviews of research on the effects of illustrations on reading comprehension in both monolingual and ESL contexts. In the final summary section, conclusions are drawn based on the literature presented.

Potential Reading Problems of L2 Learners

Reading problems of L2 learners have become the focus of L2 reading research since Alderson (1984) first proposed the question that reading difficulties of L2 learners is either a reading or a language problem. This question signaled that the reading problems of learners who have limited proficiency in the L2 appeared to be more likely a language problem. After a decade, Bernhardt and Kamil (1995) pointed out that the two hypotheses in Alderson's question are self-contradictory. They asserted that the L2 proficiency has to be first achieved in order to read in that language, and the L2 reading ability is also closely associated with the learner's first language (L1) reading ability. Although Bernhardt and Kamil's (1995) concern about the reading proficiency of L2 learners sounds more reasonable in terms of the order of language acquisition, what they have neglected is the fact that in many L2 contexts researchers are dealing with learners who are not yet literate in their L1, learners who come from language backgrounds that may be orthographically different from the L2, and learners who have a variety of different prior experiences. Thus, complications for research in the area of L2 learners' reading proficiency arise when taking all other factors into consideration. The following section reviews the literature related to L2 reading problems, includes studies of the possible predictors of L2 children's reading proficiency, examines differences between L2 more proficient and less proficient readers, and explores specifically the English reading problems of ESL learners.

Predictors of reading proficiency of L2 children. The interdependence hypothesis of Cummins (1979) maintains that sequential bilingual learners' L2 acquisition is greatly influenced by the proficiency level in the L1. Cross-language transfer will be enhanced when the L1 has been developed. For young children whose L1 is still under development, the language skills that can be transferred from their L1 to L2 may be limited. In the monolingual context, phonological processing ability has been shown by numerous researchers to be an important variable in predicting reading skills (e.g., Gough, Ehri, & Treiman, 1992; Siegel, 1993). Therefore, it seems reasonable to determine whether phonological awareness is also a predictor of L2 children's reading ability. This question is of importance because distinguishing children who struggle with L2 reading at an early stage is necessary first step for involving them in and getting benefit from early intervention.

Gottardo (2002) investigated the relationship between L1 and L2 oral proficiency and reading skills of 85 Grade 1 Spanish-English children. The children's English and Spanish reading ability were tested by a battery of tasks on 2 separate days. Their vocabulary knowledge in Spanish and English was examined by picture vocabulary tests in both languages, which required the children to select corresponding pictures to the words read aloud by the examiner. Their phonological processing ability in English was measured by phoneme detection (the children were asked to select the pseudowords starting with a different consonant from the other two pseudowords), phoneme deletion (the children were to say a pseudoword without a phoneme), rapid automatized naming (the children were asked to name objects and numbers as quickly and carefully as possible), pseudoword repetition (the children had to repeat pseudowords that they heard on the audiotape), and syntactic processing (the children needed to orally respond to fill the blanks in an oral cloze). The Spanish versions of the phoneme detection, rapid automatized naming, and syntactic processing were administered to test the children's Spanish phonological

awareness. Their English and Spanish word reading proficiency was respectively assessed by two reading tests.

The results of Gottardo's (2002) study revealed that the children's vocabulary knowledge, phonological processing ability and their reading ability correlated significantly not only within language, but also between English and Spanish. Correlations between their performance on the Spanish phoneme detection and the three measures of English word reading were significant and ranged from .42 to .47. Their Spanish word reading also correlated moderately with English word and pseudoword reading ($\underline{r}$ = .34 to .48). Factor analyses of the relationship between English reading ability and language variables showed the best predictors of the children's L2 reading ability to be phonological processing in L1 and L2, and L1 reading ability and L2 vocabulary. The findings also suggested that phonological awareness in L1 or L2 is a worthy consideration in order to determine whether a L2 child is at risk for later L2 development.

In another study of predicting Spanish reading ability of English-speaking children, Lindsey, Mains, and Bailey (2003) examined the relationship between reading abilities both in English and Spanish of bilingual children, and cross-language transfer during the period of 2 years from beginning kindergarten to the end of first grade. A total of 249 Latina/o kindergarten children were chosen randomly from 15 classrooms across 10 schools. The age range of the children was from 57 months to 80 months. All children in this sample had limited knowledge of English, and 98% of them were from low-income families. At the time of the study, the children were in a bilingual program. In the middle of the first grade, most children were transferred to an English program in order to increase their English instruction time. Students continued to communicate in both English and Spanish with their teachers and peers.

All children were tested three times in total during the period of the study, and the testing period lasted 4 weeks each. The first test was undertaken at the beginning of kindergarten (BK), the second was at the end of kindergarten (EK), and the last test was at the end of the first grade (E1). Nine tests were

administrated in Spanish to examine the children's reading abilities, which included picture vocabulary (naming object or tell what is in the scene in realistic drawings), memory of sentences (listening to and repeating phrases and sentences), sound matching (the children were shown the pronunciation of a word, and had to find out which sound matches it), sound categorization (the children were to point out two words that rhymed from three words), rapid automatized naming (the children were shown drawings of five objects and asked to name the objects as quickly as possible), letter knowledge (naming letters in Spanish in test 1, giving letter name and its sounds in test 2), concepts about print (the children were asked questions about a Spanish children's book such as point to the front of the book), letter-word identification (the children were to name the letters and words that were shown to them), and Spanish passage comprehension. Seven of nine tests administrated in English followed the Spanish version (picture vocabulary, memory of sentences, sound matching, rapid automatized naming, letter knowledge, letter-word identification, passage comprehension). Two other tests in English were word attack (the children were asked to pronounce pseudowords that had one or two acceptable pronunciations) and phoneme elision (the children were asked to say and repeat a word, and say the word again with either a targeted syllable or phoneme deleted).

The children's performance on these tests across the three times (BK, EK, E1) showed that scores of children's Spanish letter-word identification and passage comprehension improved from below average to above average over the two years. The Spanish measures of phonological awareness correlated moderately with the English measures of phonological awareness. The correlational data also revealed that the Spanish phonological awareness was significantly related to their developing English reading and decoding skills, which indicates that some aspects of phonological awareness and decoding skills appear to be transferred across languages, and children's reading proficiency in L2 can be predicted from their L1 phonological knowledge. In addition, hierarchical regression analyses showed that all predictor variables included in the

study (such as phonological awareness, letter knowledge, print awareness) proved to be cross-linguistically transferred for reading. It also showed that phonological awareness played a greater role than other predictors in reading skills in both English and Spanish, and was an important factor for subsequent growth in reading ability. The regressions further identified concepts about print in Spanish to be more important for Spanish reading than for English reading. The possible reason for this difference may be that letter-sound relationships in English are not as predictable as in Spanish. Results of this study by Lindsey et al. (2003) revealed that bilingual children's phonological awareness, letter knowledge, print awareness may transfer cross-linguistically. Phonological awareness plays a greater role than other predictors in reading skills in both English and Spanish, and is important for subsequent growth in reading ability. In addition, the discriminant analysis revealed that many variables such as letter knowledge, and print knowledge that correlated with reading skills in this study were also important to differentiate poor readers from good readers. The more word knowledge that children know, the better their reading.

In a study that sought to identify bilingual children who have reading difficulties, MacCoubrey, Wade-Woolley, Klinger, and Kirby (2004) investigated which measures on phonological processing can best distinguish students in French immersion with possible reading difficulties in both French and English. The children in the study were recruited from eight French immersion schools. English was the native language of the majority of the children's parents. The average age for this group was 6 years. Sixty girls and 38 boys participated when the first assessment was administered at the beginning of Grade 1. By Grade 2, only 49 girls and 28 boys took the second assessment.

Four predictor variables used to predict the children's reading ability in both English and French were collected at the beginning of Grade 1. These measures included an English sound isolation task (the children were asked to identify the phoneme in a word, e.g., the /d/ of *dog*), English phoneme blending (the children listened to a series of phonemes and were to create a word based on

the phonemes), English rapid automatized naming (the children were told to name five numbers and five letters as quickly as they could), and English pseudoword repetition (the children needed to listen to some pseudowords and repeat them). The children's reading performance in English and French was measured by a word identification subtest (Woodcock, 1998), and their reading performance in French was measured by the *French Immersion Achievement Test* (Wormeli & Ardanaz, 1987). The children were tested twice, at the end of Grade 1 and at the beginning of Grade 2. Data analyses of the children's scores on the measures showed that phoneme blending and sound isolation correctly identified poor readers in English from the group of students at the end of Grade 1 as well as in the beginning of Grade 2. Similarly, the two measures and the rapid automatized naming were found to correctly distinguish poor readers from the average readers in French in Grade 1. However, the measure of sound isolation could not predict readers' reading ability at the beginning of Grade 2.

The researchers argued that English reading variables can be used to identify French immersion students with reading difficulties in either English or French. The English predictors such as phoneme blending in Grade 1 best classified readers into the "at-risk" and "typical" groups (82.5% students were correctly grouped), and can be used cross-linguistically to predict the bilingual children's future reading performance in both English and French. The results also suggested that identification of at-risk readers in L1 or L2 can be conducted earlier, rather than wait until a fluent proficiency level in L2 is achieved.

In a more recent study examining the relationship between phonological processing in L1 and L2 and its relationship to reading in L1 and L2, it was found that phonological processing in Chinese correlated with English word reading and phonological awareness (Gottardo, Chiappe, Yan, Siegel, & Gu, 2006). The participants were 40 children whose first language was Chinese and were learning English in Canadian schools. The range of this group was from Grades 1 to 8 (the average age was 10 years). Some of the children were born in Canada and went to weekend and summer Chinese schools in Canada, others immigrated to Canada

with their parents recently and received up to 4 years of education in Hong Kong. They were all from middle class families; their parents achieved at least high school education, and were literate in Chinese. Most children spoke Chinese or both English and Chinese at home with their parents.

Four tests were used to examine the children's reading abilities in English and Chinese: standardized English reading test (word identification and pseudoword reading test [made-up words, e.g., neep] - *Woodcock Reading Mastery Test-Revised*, Woodcock, 1987); Chinese character reading (the children had to give a word that corresponded with the blank in the cloze sentence, e.g., *Jeff wanted to go_ the roller coaster*); Chinese pseudocharacter reading (the children were encouraged to say pseudocharacters, with a phonetic component or subcomponent to aid pronunciation); and similar Chinese character distinctions. In addition, six phonological processing measures were designed and used to examine the relationship between reading in English and Chinese including phoneme categorizations, rhyme detection, syntactic processing task, rapid automatized naming (the children were to name a series of numbers that included 1, 2, 3, 4, 5, and 8 as fast as they could), Chinese tone detection (the children were asked to distinguish the character that did not have the same tone as the other two characters), English phoneme deletion (the children had to say a pseudoword without the initial or final phoneme).

All tests in English lasted an hour while all Chinese tests took 45 minutes. The order of the English- and Chinese- administered tasks to the children was varied in two groups. One group (half of the children) received the English tests first and the Chinese tests second, the other group received the tests in reversed order (no specific reason for test alteration was provided).

Data analyses of the means and standard deviations of the children's scores showed that the phonological processing measures were significantly correlated across languages. This finding supported the theory that phonological processing is related to L1 reading as well as L2 reading (Geva & Wang, 2001). The results of the study by Gottardo et al. (2006) indicated that phonological

knowledge in either L1 or L2 can be used to predict English reading ability of Chinese-English speaking children. Similar findings were demonstrated in an earlier study by Gottardo, Yan, Siegel, and Wade-Woolley (2001), in which they examined factors influencing Chinese children's English reading performance, and whether their Chinese reading skills were transferred to their English reading performance. The Chinese children's phonological knowledge in both English and Chinese was found to be positively related to English reading ability. Thus, their phonological knowledge in either L1 or L2 can be used as an important predictor to identify children who struggle with English reading. Even if the children's L1 is a nonalphabetic language, their phonological skills in the L1 can contribute to their ability to read an alphabetic language. Alternate test order in Chinese and English were not addressed in the results of the study and thus remain unknown.

From the literature reviewed, it can be concluded that phonological knowledge in both L1 and L2 plays a crucial role in the reading ability development of children who are learning two languages. Regardless of the orthographical differences in the two languages, children's later potential reading problems in L2 can be predicted as early as kindergarten by examining their phonological awareness in both languages. It then seems that Bernhard and Kamil's (1995) assertion about the relationship between the L1 and L2 is conceptually justified, although their claim on the relationship between the threshold proficiency of L2 and L2 reading performance appears questionable because many L2 readers are not yet proficient in their L1. On the other hand, the answer to Alderson's (1984) question whether reading difficulties experienced by L2 readers is a reading or language problem may be much more complicated than the two options he proposed when taking other factors contributing to L2 reading proficiency into consideration. The following sections will attempt to tackle Alderson's question by reviewing the relevant literature on differences between skilled and less skilled L2 readers, and specific reading problems of ESL readers.

Differences between more proficient and less proficient L2 children. When Alderson (1984) raised the question whether L2 reading problems are language proficiency or reading proficiency problems, he posed two hypotheses to explain L2 learners' reading performance. First, poor L2 reading is due to poor reading ability in L1 and the reading strategies used in L1 are not used in L2 reading. For example, learners whose first language is nonalphabetic have more difficulty in reading lower and upper case letters in an alphabetic language (Akamatsu, 1999) than learners whose first language is alphabetic. The radical orthographic difference between the nature of the languages, for those whose first language is nonalphabetic, limits the strategies learners can transfer from their L1 to L2. Second, poor L2 reading is due to inadequate knowledge in that language. Research studies that have investigated the differences in more proficient and less proficient L2 readers have generally focused on the relationship between L2 reading proficiency and L2 language proficiency, as well as between L2 reading proficiency and reading strategies used by L2 learners. In the following section, the relevant literature is reviewed in order to establish whether there are common patterns of differences between more proficient and less proficient L2 readers.

In a study to examine the reading skills of children who are learning English as a L2, Ammon (1987) found that the bilingual children who struggled with English reading appeared to rely more on their background knowledge rather than on the text information to answer comprehension questions. A total of 100 third and fifth grade children (64 Chinese, 36 Hispanic) who were learning English for 2 to 3 years participated in the study. The *Red Level Stanford Diagnostic Reading Test* (Karlsen, Madden, & Gardner, 1976) was used to test the children's vocabulary knowledge and decoding ability in English. After the test, the children were given four passages to read. The children were asked to read the first passage orally and answer comprehension questions. Their miscues were recorded for later analysis. Then, they were asked to read the second and third passages silently, and answer comprehension questions for the second passage and use their own words to retell the third passage. Finally, the children answered

questions about their evolving comprehension of the fourth passage while it was presented to them one sentence at a time by the examiner.

Based on the examination of L2 children's reading ability, the lower third of the children (26) did not answer correctly between 33% and 52% of the comprehension questions (19 Chinese, 7 Hispanic). These 26 children were selected for further study of whether they had similar reading problems. Their answers to comprehension questions and their retelling data were analyzed to identify their specific problems and the strategies they used. All of the low-proficiency children (26) were found to have limited English vocabulary and experienced decoding problems. They all tended to use their background knowledge inappropriately rather than to use their background knowledge combined with the relevant text information to inform their answers, they tended to use only their background knowledge. The Chinese children tended to memorize information and phrases from the passages for retelling and answering questions, which interfered with their comprehending processes and development of decoding skills. The Hispanic children retold more coherent stories than the Chinese children, but made many errors on details that reflected the decoding problems they experienced. The results of Ammon's (1987) study indicated that the two factors of limited vocabulary and inappropriate use of reading strategies (reading sentences in isolation rather in context of the passage; over-reliance on their background knowledge) contributed to the lowest proficiency bilingual children's problems with reading comprehension in English.

In a study examining the reading skill of students who were neither proficient in their first nor their second language, Miramontes (1990) compared these students with those who were proficient in their native language and those who were proficient in their second language. Forty Mexican-American students from Grades 4, 5, and 6 in two schools were divided into three English proficiency groups: good English readers (n = 10), good Spanish readers (ESL, n = 10), mixed dominant readers (MD, n = 20, students whose English and Spanish proficiency were both below grade level).

All students were asked to read an unfamiliar story selected from a basal reading series that was about one grade higher than their present reading levels (no specific reason provided). Their oral reading miscues were recorded. The miscues were analyzed into five categories: graphic similarity, sound similarity, grammatical function (whether the miscues function grammatically in a sentence), comprehension (whether the miscue is semantically acceptable) and grammatical relationship (whether the miscue is grammatically acceptable) (Miramontes, 1990, see p. 379). The students were also asked to retell the stories in either English or Spanish. Their retellings were scored on the number of idea units recalled (e.g., events, characters, etc.). Miramontes (1990) found that there was a significant difference in four of the five reading miscue categories across the three proficiency groups except in the grammatical relationship category. The means for the grammatical relationship category were found to be similar across the three groups. The good English readers were found to make fewer miscues than the other two groups and their miscues did not interfere with their understanding of the stories. Results from a factor analysis showed that the good English and the good ESL readers used different strategies in reading and retelling. The good English readers used strategies like predicting, confirming, and self-correcting in their reading, while the ESL readers relied more upon Spanish phonics to decode English words. In addition, the ESL readers had more difficulties in retelling the stories in English likely because of their limited English proficiency. The MD readers were more capable of retelling the overall meaning of the story than were the ESL readers. These differences between the two English proficiency reading groups may be explained by the fact that the MD students had learned English 3 to 4 years longer than the ESL students. The results of the study by Miramontes (1990) indicated that good English readers and ESL readers differed both in their English proficiency and use of reading strategies.

In a study exploring how Latina/o bilingual students processed reading across English and Spanish, Jiménez et al. (1996) found that successful and less successful readers in English were different not only in their perspectives about

the goal of reading, but also how they processed reading. Fourteen students in Grades 5 and 6 from two schools were selected based on their English proficiency, ability to think while reading silently, fluency in both English and Spanish for the Latina/o students, and ability to read in Spanish. Three monolingual Anglo readers provided baseline data. The selection of the students (n = 14) for the study was based on judgments of the teachers, principal, and program director and included eleven Latina/o students. Among the Latina/o students, eight were successful readers in English and three were less successful readers in English (mainly based on judgments of teacher, principal and bilingual program director).

Data collection followed two stages. First, all Anglo students and Latina/o students were asked to complete background questionnaires (e.g., birth place, age, their language learning histories, self-assessment of their competence in both English and Spanish on a scale of 1–5), and measures of their prior knowledge (e.g., a brief statement on the topic of the text and its genre). Students were asked to watch two videos on how monolingual children think aloud when reading. Based on what they watched on the video, they were asked to verbalize what they did while reading silently and to reflect on how their reading was affected by their bilingualism. Second, students read four texts in Spanish (two narratives, two expository) and three texts in English (one narrative, two expository). They were asked to describe what they thought during silent reading, to reread the texts and then retell the main idea of the texts. The Anglo students read only the English texts, but followed the same procedure as the Spanish students. All students were interviewed after the think-aloud sessions. The bilingual students were asked questions on general aspects of reading such as the purpose of reading and the value of bilingualism, and the Anglo students were asked questions on only the general aspects of reading.

The findings of the study by Jiménez et al. (1996) show that the distinguishing difference between successful and less successful readers was that the former viewed the goal of reading to be to understand the meaning of texts, while the latter viewed the goal of reading to be completing the task. The less

successful readers also expressed negative attitudes towards being bilingual, for instance, they claimed that knowing a second language caused a lot of confusions in their reading. For example, one student expressed that her knowledge in Spanish could not help her reading in English and she could not make connections between the two languages (see p. 105). In addition, the successful Latina/o students were also distinguished by their use of efficient reading strategies which included searching for cognates (words similar in meaning and spelling in English and Spanish), translating, using prior knowledge, making inferences, and asking questions while reading. However, the less successful Latina/o students used fewer of these strategies. They were found using their prior knowledge inappropriately to bring irrelevant information to their interpretation of the text, and they used the same ineffective strategies more or less in reading the different genres of text (narrative and expository). Similar results were reported by Langer et al. (1990), who studied how 12 Grade 5 Mexican-American students understood the text in English and Spanish when they were engaged in both reading and writing activities. The students were first interviewed about their experiences with reading and writing in their daily lives. They were then asked to read orally four passages (one story and one report in English, one story and one report in Spanish). They also answered comprehension questions and retold the passages both in oral and written forms. Langer et al. (1990) found that the good and poor readers were differentiated more by their ability to use good meaning-making strategies (e.g., predicting) than their language proficiency. Langer et al. (1990) suggested that it would be more helpful for children if teachers focused more on teaching reading strategies rather than on the children's English proficiency.

Hardin (2001) studied the reading comprehension proficiency of bilingual students by examining how bilingual students process reading in two languages. A total of 50 Grade 4 Latina/o students who were in English-Spanish bilingual programs were divided into three groups according to their Spanish proficiency (Able, n = 20; Average, n = 14; Less-Able, n = 16). In order to determine

whether the students' English oral skill related to their strategy use in English reading, the students' English oral proficiency was assessed by the *Language Assessment Scale* (Duncan & De Avila, 1990). Based on their performance on the language scale, students were divided into four proficiency levels across the three groups. The students were interviewed first about their perceptions of reading in both languages. They were then asked to read-aloud passages selected from a reading inventory in Spanish and English, and to complete think-aloud tasks. Finally, they were interviewed about the strategies they used while reading. Fifteen questions on reading strategies were given as prompts for them to identify which strategies they used while reading (e.g., paraphrasing, self-questioning).

Hardin found that the readers in the Able group (high Spanish proficiency) viewed reading as a meaning-making process, but the Less-Able readers were more concerned with decoding vocabulary in the text than constructing meaning. The Able and Average Spanish readers used similar strategies and applied more strategies than the Less-Able readers when reading in English. For instance, the Able and Average readers used more strategies of noting details and rereading than the Less-Able readers. The Less-Able readers tended to slow down their reading speeds when they encountered difficult words or sentences. It was also found that the Less-Able readers increased their use of strategies when reading in English regardless of their English oral proficiency, which indicated that strategy use in L2 reading did not depend on the level of L2 oral proficiency. Hardin's (2001) study further confirmed the findings of previous research that proficient and less proficient readers are different not only in the levels of their language proficiency, but also in the types of reading strategies they use.

The results of the studies reviewed indicate that reading proficiency is a more important factor contributing to reading performance than overall L2 language proficiency for L2 readers. Specifically, the reading difficulties experienced by less skilled L2 readers may be caused by insufficient use or knowledge of appropriate reading strategies rather than by their limited language proficiency. This conclusion offers partial answers to Alderson's (1984) question

whether L2 reading problems are language proficiency or reading proficiency based. However, given that most studies report on Hispanic L2 children, general conclusions for all L2 children whose native languages are other than Spanish cannot be made. More research on children from a variety of L1 backgrounds is needed. The next section will address the specific English reading problems of ESL readers.

English reading problems of ESL learners. From the previous section, it may be concluded that the use of different reading strategies is a major distinction between L2 poor and good readers. However, there may be another consideration. According to Goodman and Goodman (1978), the L2 learners' cultural and experiential background may also affect L2 reading proficiency in addition to language limitations. When a new language is learned, reading involves learners' knowledge of the syntactic and semantic system of that language as well as knowledge of different reading strategies depending upon the nature of the differences between the first and second language (English and Chinese, for example). The relationship between the two languages may contribute to L2 learners' reading proficiency. Some examples of the reading problems of ESL learners that have been identified include difficulties in understanding longer sentences, conjunctive words and culturally unfamiliar articles, misreading authors' viewpoint, and using background knowledge inappropriately (Alison & Kung, 1991; Aslanian, 1985; Cohen, Glasman, Rosenbaum-Cohen, Ferrara, & Fine, 1979; Jiménez, 1997). Many researchers have used case studies to explore both common and specific examples of individual reading problems.

Four complementary studies conducted by a research team, Cohen, Glasman, Rosenbaum-Cohen, Ferrara, and Fine (1979) specifically examined reading problems of ESL students when reading specialized materials in English. In the first study, one second-year bio-chemistry student whose native language was Hebrew participated. Her university entrance score in English was 8 out of 10. At the time of the study, she was not in any English course. She was asked to

read a four-page survey article (selected by an English native speaker) that was usually assigned to first-year genetic major students, and to underline all vocabulary and structures that were difficult for her. In a face-to-face interview, she was asked questions about her reading problems such as whether some words in the article were difficult for her.

The subjects of the second study were two first-year biology students (one female, one male) who were native Hebrew speakers. Their university entrance scores on the test of English were 6 and 7 out of 10, respectively. They were both in the intermediate English as a foreign language (EFL) course. The material was a section from a chapter about cell diversity in a biology text. The researchers then developed a series of questions on the features of reading a technical English text which were divided into categories including graphic organization, grammar, and vocabulary. In an interview, the students not only answered these questions, but also reported whether their difficulty in understanding the technical English interfered with their comprehension.

The third study had one participant who was a first-year international relations' major with a university entrance score of 7 out of 10 in English. At the time of the study, he was in the advanced EFL class. The reading text for this study was an article from a first-year political science course. The procedure for this study was the same as that framed in the second study.

The fourth study engaged three native Hebrew speakers, and five English-speaking American students who studied in Israel for a year. Two of the three Hebrew students were individually enrolled in an advanced EFL course and an intensive summer English course. Their university entrance scores were both 8 out of 10. The other student did not take the university entrance exam, and was not in any English course. All of them were first-year East Asian history students. The reading material was a basic introductory article on East Asian history. The native speakers of English finished reading the article in 20 minutes, but the non-native students took from 1 to 2 hours.

The four studies focused on the texts used and specifically on three language areas: heavy noun phrases (noun phrases that appear lengthy or complex are difficult to process, e.g., the noun phrase *nuclei contributing to the zygote* works as the subject for a sentence); syntactic markers of cohesion (conjunctive words, e.g., *thus, finally*); and non-technical vocabulary in technical texts. Cohen et al. (1979) found that across the four studies, heavy noun phrases were found to cause reading difficulties for all students, but the native students appeared to be more capable of analyzing the structure of the heavy noun phrases than non-native students. For example, in the first study, six of the seven sentences that one student identified as problems for her had heavy noun phrases. Second, they found that the non-native students did not know the meanings of many conjunctive words which signal cohesion, such as *however*, *thus* and *finally*. Lack of understanding of the cohesion markers made it difficult to follow the text organization for the non-native speakers. Third, the non-native speakers lacked knowledge of a large amount of the vocabulary that carried important meanings in the texts. In addition, those learners also had difficulties understanding synonyms in different contexts, such as *balloting* and *voting*.

The findings of the complementary studies by Cohen et al. (1979) indicated that successful comprehension of specialized materials depended on more than knowing the technical terms (e.g., *chiasma, recombinant, episomal*). Vocabulary and semantic knowledge also were critical for ESL readers in order to understand specialized text. For example, in the first study, students reported only 9 of the 32 technical words that they had difficulty with but 45 out of 53 regular words were reported.

In order to better understand how ESL learners understand text when reading in English, to find out what strategies they use, and to discover what kinds of problems they experienced, Aslanian (1985) conducted a study of the reading problems of three high-intermediate English proficient female college students in the United States. The three students were asked to read one expository passage of about 100 words and choose from among five words for each of the two blanks

(nouns) in the passage. Three individual interviews about how the students processed the reading and chose words for the blanks were conducted. Data analyses of the interview transcripts revealed that the first student understood the key meaning of the passage. However, she over-relied on her background knowledge to choose the word for the first question, and gave a wrong answer. She did not choose the correct word (*boat*) for the first blank because the concept of boat to her was not suitable for a high bridge which was the context in the passage. However, the choices provided with the passage did not include the word, *ship* which meant big boat and was the correct answer for her. This reading problem of the student indicated that even one semantic feature might mislead ESL students who have limited knowledge of English vocabulary and concepts when reading English texts.

The second student came up with correct answers for both questions. However, based on her interview, it seems that she neither grasped the meanings of some key vocabulary nor followed the organization of the ideas in the passage (introductory sentence, problem, solution) which caused her lack of comprehension. The second student's interview revealed that answering questions correctly did not necessarily mean that the student fully comprehended the text.

The interview with the third student, who was very fluent in oral English, suggested that her problem was not only with understanding key vocabulary in the text, but also her lack of interest in reading in English. Her retelling of the passage was frequently irrelevant to the text and sometimes contradictory. She even talked about information that was neither in the passage nor could be correctly inferred. The case of the third student indicated that her low interest in and negative attitude towards English learning as well as her limited vocabulary knowledge contributed to her weak performance in reading. For this student, her low interest in reading in English prevented her from exploring more reading opportunities which would thereby heighten the likelihood of experiencing even more difficulties with reading in English.

The findings of Aslanian's (1985) study revealed that ESL students did not have the same reading problems. Their individual problems could range from limited language proficiency, sociolinguistic problems in English, to negative attitudes toward new language learning. Therefore, in order to help them overcome their reading problems, they should not be treated the same way. Aslanian (1985) suggested that ESL students should be given more exposure to vocabulary and concepts through experiences such as films, pictures, and objects to help them acquire necessary background information for understanding the meaning of texts. Furthermore, intensive reading exercises and linguistic and semantic analyses of expository texts were found to be useful and necessary in order for ESL students to understand the relationship between and among sentences in a paragraph.

In another study by Alison and Kung (1991) identifying the reading problems of university ESL students for academic purposes, they divided the study into two parts. The first part of the study explored how a third-year university arts student comprehended eight selected papers in English literature, linguistics, and Chinese studies. This student was chosen because she was highly proficient in her first language and had a strong awareness of how language works. She was asked to read five short articles from the "*letter to the editor*" of a newspaper and to choose one to rewrite following the style of the article. Her written responses to those texts revealed her reading strategy. She first based her response on her background knowledge of the content of the text and further confirmed her interpretation/misinterpretation of the text by reading the next paragraphs. However, this strategy did not always ensure correct comprehension of the author's position. It seemed that the student misunderstood the critical comments from the author's viewpoint as supportive rather than non-supportive statements.

Using the case of this one student, the second part of the study by Alison and Kung (1991) was conducted with a larger group of 77 first-year ESL university business students. They employed a quasi-experimental method to

examine whether the problem of misinterpreting the viewpoint of the author is widespread among ESL adult learners. These business students had just finished an intensive program which included introductory teaching on reading strategies for academic texts and they were also in the early stage of an English course. The study was integrated into the teaching program of this course. The students were randomly divided into two groups receiving different reading instruction: selective reading instruction (n = 40) and holistic reading instruction (n = 37). In both groups, the students were to read a 959-word extract from a sociology text. In the selective reading group, the students were asked to refer to the text to answer questions, while those in the holistic reading group were asked to read the whole text before answering the questions. The five-question test asked the readers to determine whether the author would agree with each of five statements.

Data analyses indicated that item 1 (Hypothetical) that restated views the author cited from others and later explicitly rejected was the most difficult of the five, and it was also significantly more difficult for the students who received selective instruction. However, the differences between the two groups on the other four items were not significant (Item 2 is also a hypothetical item, items 3 and 4 are statements actually made by the author in the text, and item 5 is similar to hypothetical items, but the statement matches fairly closely to the wording used by the author in the text). The findings of this two-part study by Alison and Kung (1991) showed that the problem in identifying an author's viewpoint was extensive among ESL university readers. The authors concluded that students' reading problems were more serious and persistent than previously expected.

In a more recent study on what low-literacy ESL students knew about reading and what reading problems they may have, Jiménez (1997) explored the needs of five Grade 7 Latina/o students who were identified as struggling readers. All students were selected by the teachers and principal for the purpose of the study. Three of them were born in the United States. They were in special education programs, and were identified as four grades below their current placement. The instructions were conducted in English in this program. Students'

reading scores on an achievement test were all significantly low. The other two participants were from an at-risk bilingual program. One of them had been in the United States for only 6 months and the other for 10 months. The instructions they received were all in Spanish because of their limited knowledge of English. They were also enrolled in an ESL class.

Data collection for this study included classroom observation, think-aloud sessions, teacher interviews, and cognitive strategy instruction. The classroom observation included four sessions that lasted about 6 months in total. Information about students' classroom participation, literacy activities, and their responses were recorded in field notes. In think-aloud sessions, students were presented with a text and asked to read each line of the text silently and later to explain their thinking about the line during and after reading. Every session was conducted about 1 hour and audio-recorded.

The materials used in the think-aloud sessions were books, including some excerpts from some trade books in Spanish or English, and some books that had culturally familiar content for the students (no specific information about the book content was provided). Interviews with two teachers in the two classrooms focused on how they designed their instruction and chose reading materials in the classroom. Cognitive strategy instruction designed to teach the students how to use strategies in reading continued for 2 weeks. For the three students who were in the special education classroom, English was the language mostly used. For the two students in the bilingual classroom, Spanish was used. Materials used in the instruction were three children's books that were all about Mexican corn. The purpose of the instruction was to increase students' awareness of using strategies in reading. The strategies emphasized in the instruction were how to connect prior knowledge with the text information, how to ask questions about the text, and how to construct the meaning of unknown vocabulary. The instructions were audio-recorded.

The findings of the Jiménez (1997) study indicated that students characterized as low-literacy learners or at-risk could be guided to become better

readers or improve their reading skills if they were provided with appropriate instruction. The study also suggested that bilingual students could be motivated to participate in discussions about what they read if the text was culturally and contextually familiar to them. These texts may facilitate students to connect their prior experience and knowledge with information in texts and make inferences. All of the students in the study expressed their appreciation for being able to use Spanish, thus their literacy difficulties were not caused by using their first language. Transfer of knowledge between two languages may help with students' comprehension. Therefore, there is no reason to prevent bilingual students from using their first language in the classroom.

Research on the English reading problems of ESL readers has shown that ESL learners share some common reading difficulties such as misreading authors' viewpoint and limited knowledge of English vocabulary. Studies in this area have mainly examined adult or adolescent learners, and the reading problems that ESL children encounter have rarely been examined. ESL children may have more severe and complicated difficulties than adult learners due to their limited knowledge in their native language and English as well as their limited background knowledge of certain topics. Further research is needed to investigate the reading difficulties that ESL children may have because such studies are important to ensure that those children possess the necessary literacy skills to succeed academically in English-speaking countries.

Illustrations and Reading Comprehension

As mentioned in the introduction, it is generally assumed that illustrations accompany texts to enhance the meaning of the print and facilitate comprehension. The idea that illustrations offer additional hints for comprehending print information and therefore help understand text has been accepted in teaching practices generally, but particularly so in the primary grades with preschoolers and beginning readers. Even though the positive assumptions about the effectiveness of illustrations have been embraced generally, some concerns have been raised. Chall (1996) questioned the widespread use of pictures in basal

reading series. She pointed out that pictures may distract children's attention away from the words and confuse them. She further claimed that children are uncertain what on the page they are to read and without directed attention to the words, they will not learn to read. Filippatou and Pumfray (1996) argued that imagery representations may provide readers with more visual stimuli but their attention is more likely to be distracted away from the printed words and result in incorrect and partial comprehension. Interestingly, research on the function of illustrations in reading comprehension has also reached different conclusions in addition to the controversial nature of the variety of claims. The following section reviews literature relevant to the debate about the role of illustrations in reading comprehension in both monolingual and bilingual contexts.

Illustrations and L1 reading. Research into the relationship between visual representations and individual reading ability has commonly taken the stance that pictures function as compensatory aids for extracting information from a text (Cooney & Swanson, 1987; Mastropieri, Scruggs, & Levin, 1986). In the studies that examine the role visuals play in reading comprehension in monolingual contexts, visual representations (e.g., illustrations, maps, graphics) have been demonstrated to be either beneficial, detrimental, or neutral —no effect on readers' comprehension.

Illustrations as an aid to reading comprehension. In a study on the function of pictures in reading comprehension, Holmes (1987) examined whether there were differences in inferential ability between children who either were presented with pictures or not when asked to read print text, and whether there was a difference between skilled and less skilled readers under three different pictorial conditions (picture-only, text-only and picture-plus-text). A passage of about 200 words was written for each of 15 color photographs. Both inferential and factual questions related to the main ideas of each passage were developed. A total of 116 fifth and sixth grade students were divided into one of the three pictorial conditions and asked to read the passages. The children were told to

write information that they could get from the pictures, passages, or both to help them answer the comprehension questions.

Holmes (1987) found that the children who were in the picture-only and the picture-plus-text conditions correctly answered more questions than children who were under the text-only condition. In addition, the less skilled readers performed significantly lower than the skilled readers under the text-only condition. However, the less-skilled readers performed similarly under the two pictorial conditions. Holmes concluded that pictures helped upper-grade elementary children comprehend text and the less skilled readers were able to find clues in the pictures to help them answer comprehension questions. She further speculated the reason that less skilled readers performed as well as skilled readers under the picture-only condition might be because it was easier for them to find informational clues from the pictures than from the print. This speculation by Holmes may have been adequate only when the comprehension questions were developed based solely on the pictures. Had students been asked print-only or picture-plus-print questions, then the results likely would be different.

Waddill and McDaniel (1992) conducted two experiments to investigate whether presentation of different kinds of pictures would have different effects on readers' recall of information in a text. In the first experiment, 48 undergraduate students were divided into three pictorial conditions (detail-picture, relational-picture, and no-picture). The students were asked to read the same story under the three conditions. Their reading times under the three conditions were recorded. After the students read the passage, they rated their comprehension from 1 to 5 (1 = did not understand at all, 5 = understood very well). They then were asked to write as much as they could recall, and self-rated their prior knowledge about the content of the passage (1 = no prior knowledge, 7 = complete prior knowledge). Data analyses showed that the students in the two pictorial conditions read significantly faster and recalled more information than the students in the no-picture condition.

In the second experiment, 118 undergraduate students at three language proficiency levels (low, intermediate, high) were given two versions of the same passage used in the first experiment to read (the original passage in Experiment 1, the version with more detailed information). They read the two versions of the story under the three pictorial conditions used in Experiment 1 (detail-picture, relational-picture, and no-picture). The second Experiment followed the same procedure as the first. It was also found that the pictures were of help for enhancing all students' recall of information contained in the text. The proficient and intermediate readers recalled more information in the relational-picture condition than they did in the detail-picture and non-picture conditions. The intermediate and low proficiency readers benefited more from the detail-picture condition than did the proficient readers. Similarly, in the study of Brookshire, Scharff, and Moses (2002), they found that both the Grades 1 and 3 children correctly answered more comprehension questions when reading with text-plus-illustrations book content than illustrations-only book content. In addition, the children preferred the illustrations that were bright in colour and represented objects in a realistic rather than an abstract style.

In Koenke and Otto's (2006) study, the effect of content relevant pictures on children's comprehension of main ideas in texts was examined. Three passages from Grades 5 and 6 textbooks were selected and organized into three pictorial conditions (a specifically-relevant picture, a generally-relevant picture, and no-picture). Ninety Grade 3 and 90 Grade 6 children participated in the study. In each grade, the children were randomly and equally assigned to each of the three picture conditions. Each child was asked to read the passages silently and then orally respond to questions on the main idea of the passage.

Koenke and Otto (2006) found that the Grade 6 students who read with pictures scored higher than their peers who read without a picture. However, the pictures did not show a significant effect on the oral responses of the third grade students who read difficult passages from the Grades 5 and 6 textbooks. The results suggested that the presence of pictures enhanced comprehension but only

when the students read easy texts. The more limited the reading proficiency of the third grade students when reading higher level texts equivalent to Grades 5 and 6 may have prevented them from using the pictures to increase their reading comprehension. The researchers speculated that explicit instruction on how to use pictures in reading would help children to understand passages.

Pike, Barnes, and Barron's study (2010) examined the effects of illustrations on children's ability to make inferences. The participants were 73 native English-speaking children from Grades 2 to 6, in which 36 were boys and 37 were girls. The children were first given the Auditory Working Memory subtest and Picture Vocabulary subtests from the *Woodcock-Johnson III* (Woodcock, McGrew, & Mather, 2001) and the Sight Word Efficiency subtest from the *Test of Word Reading Efficiency* (Torgesen, Wagner, & Rashotte, 1999) to ensure that the children had age-appropriate word reading ability and vocabulary knowledge. After 1 to 2 weeks, the children were then tested individually on the *Bridging Inferences Test* that was designed to measure the effect of illustrations on the children's ability to make inferences, and the Paragraph Reading subtest from the *Test of Reading Comprehension*, third edition (Brown, Hammill, & Wiederholt, 1995) to assess their reading comprehension. The *Bridging Inferences Test* consisted of 24 five-sentence story-like passages. Each story was on a separate page. On the back of each page, three choices of sentences were given. The story was presented under three conditions: first, with a consistent picture related to the print information in the story; second, with an inconsistent picture unrelated to the print in the story; third, with the print only available. The illustrations were coloured and purchased from websites. The three versions of the story were administrated to the children within each grade. The children were asked to choose the correct sentence that comes next in the story from the three choices of sentences provided.

Analysis of variance (ANOVA) results suggested that the children from Grades 2 to 5 made significantly more correct inferences under the consistent picture condition (pictures presenting information closely related to the sentences)

than the inconsistent condition (pictures unrelated to the print in the story). The children from Grades 2 to 4 made significantly more correct inferences in the consistent condition than the text-only condition, but there was no significance difference between the Grades 5 and 6 children's performances under the two conditions. Only the Grade 2 children made significantly more correct inferences on the text-only condition than in the inconsistent condition, and no significance was noted for other grades under the two conditions. These results suggest that compared to the other two conditions, inconsistent and text-only, the consistent illustrations containing information related to the print helped the children to make more correct inferences. In addition, the inconsistent illustrations representing irrelevant information in the print interfered with the children's ability to make inferences, but the negative effects were reduced as grade increased.

Since illustrations have been suggested to reduce the demand on working memory when reading text (Marcus, Cooper, & Sweller, 1996), multiple regressions were conducted to further examine whether different illustration conditions have different effects on the relationship between working memory and the ability to make inferences. Regressions were conducted for each illustration condition on the total number of correct inferences. The results indicate that working memory was a significant predictor of inference ability in all conditions (and accounted for 14% to 17% of the variance). To determine the relationship between the children's inference skill and their reading comprehension, a hierarchical regression was completed. The result suggests that the children's ability (from Grades 2 to 6) to make inferences accounted for 11% of the unique variance in reading comprehension, which means making inferences is an important part of reading comprehension.

Pike et al. (2010) concluded that the beneficial effect of consistent illustrations on making inferences was apparent for the children from Grades 2 to 4. The consistent illustration effect was reduced for children in Grades 5 and 6 because the skill of inference-making when reading increases with age (Casteel &

Simpson, 1991). However, the consistent illustrations still helped the Grades 5 and 6 children to make more correct inferences compared to the inconsistent illustrations. Compared to children in the other grades, the inconsistent illustrations negatively affected the Grade 2 children's number of correct inferences because the younger children may have been distracted more by the inconsistent illustrations as they attempted to identify the print and to understand the story. It is clear that they tended to focus on the print.

Illustrations interfere with reading comprehension. Even though the positive effects of illustrations on reading comprehension have been demonstrated, contradictory findings on the function of illustrations in enhancing reading comprehension have been shown.

As early as 1938, in a study to test the assumption that pictures help enhance reading comprehension, Miller found that the children who were at the same language proficiency level performed similarly on a comprehension test when reading the story with and without pictures. His study indicated that pictures do not enhance children's reading comprehension. The purpose of Miller's (1938) study was to examine whether illustrations accompanying print in a basal series would facilitate reading comprehension. Six hundred children in Grades 1 through 3 participated in the study. The students were given a standardized reading test to assess their reading proficiency and were divided into two groups (high and low reading proficiency). The two groups of students were later put into two treatment groups (picture group, non-picture group). No classification was made of whether students in the high or low reading proficiency group were in the picture group or the non-picture group. A series of stories were selected from a textbook. The picture group read the stories with pictures and the non-picture group read the stories with the pictures covered. Comprehension tests were developed on each of the stories (e.g., filling blanks in a sentence after reading a paragraph, selecting a word from two words spoken by the teacher, all words in the tests were from the textbook). The tests were given to both groups of children before and after they read the stories.

Data analyses of the means and standard deviations of the two story comprehension tests showed that the students performed equally on the first test, and the performance difference between the two groups on the second test was not significant. The result of Miller's (1938) study indicated that the children who read stories with pictures did not comprehend the stories better than the children who read without pictures.

Whether pictures help comprehension and increase readers' reading interests was further investigated by Vernon in 1953, she found that pictures did not enhance information recall nor help readers comprehend texts. Even though pictures appeared to raise readers' attention and interest in certain parts of the text, the increased interest did not enhance readers' understanding of the text.

In a follow-up study, Vernon (1954) conducted two experiments on the effects of pictures on children's comprehension of texts. In the first experiment, 24 Grades 5 and 6 girls participated. Each girl was given two articles of about 755 and 940 words in length to read. The two articles were classified into two conditions: picture and non-picture. Half of the girls read the articles with the pictures and the other half read without the pictures. After reading, they were asked general comprehension questions on each article. Vernon found that the children showed no significant differences in remembering and understanding the texts under the two conditions.

In a second experiment, 30 children listened to the reading aloud of a text and were shown three types of pictures of the text after reading (orderly sequenced pictures, less clearly ordered pictures, randomly ordered and irrelevant pictures). They were then asked to recall the text and answer comprehension questions. Data analyses of the children's recall revealed no differences across the three types of pictures in how well they recalled the text information. The orderly sequenced pictures did not help the students recall more information in a more orderly way than did the other two types of pictures. The findings of this experiment further supported the conclusion that pictures have no effect on readers' comprehension regardless of presentation format. Vernon (1954)

concluded that Grades 5 and 6 children could not independently generate information from illustrations meaningfully and coherently. She expressed the need to explain the role of illustrations to children when reading and suggested that such explanations may be necessary and important.

More than 10 years later, Samuels (1967) conducted two experiments to examine whether pictures presented with text would distract readers' attention and therefore interfere with their comprehension of the print. In the first experiment, 30 children who had finished kindergarten were randomly assigned to three pictorial conditions (no-picture, simple-picture, complex-picture). The children were taught words (e.g., *boy, car, bed*) on cards under the three conditions before they were tested. After the learning trials, they were tested for whether and how they could remember the words. Samuels found that the children in the no-picture condition scored significantly higher on the test than the children in the two picture conditions. He suspected the reason might be that the children intended to use pictures as cues, but the pictures distracted their attention from reading and remembering the words.

In the second experiment, the relationship between the effects of pictures on reading and readers' language proficiency was investigated. Fifty-two Grade 1 children were divided into two reading ability groups (high, low) according to their performance on the pre-test, which required them to identify 50 words from a story. Before the post-test, they received instruction on how to read the story such as activating their prior knowledge. Then they were asked to read the same story under the picture and no-picture conditions. The same test used in the pre-test was used for the post-test.

Data analyses revealed that the children who had high reading ability did not perform significantly differently under the two conditions. However, the performance difference was significant for the lower reading ability children. They performed better in the no-picture condition. The results indicated that the poor readers' attention was more easily distracted by the appearance of pictures than was the case for the capable readers. Samuels (1967) concluded that pictures

interfere with readers' understanding of print and pictures should be used cautiously with print.

Willows' study (1978) was done to investigate how pictures accompanying texts affected children's reading speed and comprehension. Two experiments were conducted. The first was designed to investigate whether background pictures with the words printed on them influenced children's reading performance. Thirty-two Grade 2 students participated in the study. Before the experiment, the students' reading ability was assessed through use of a standardized test. They were told that they should not pay attention to the pictures when reading the words and taught how to do the test in practice sessions (the words used in the practice session were not used in the test). Seventy-five nouns from Grades 1 and 2 textbooks were presented in three test conditions (no-picture, related-picture, unrelated-picture). In the no-picture condition, all words were printed in lowercase letters without any picture. In the related-picture condition, the words were put on picture backgrounds related to the meaning of the word (e.g., the picture for *cat* was a drawing of a *dog*). In the unrelated-picture condition, all the background pictures were unrelated to the word (e.g., the picture for the word *cat* was a drawing of a *lemon*). In the test, all children were presented with the words in the three conditions, and asked to read them. Their reading time was recorded.

Data analyses showed that the children read considerably slower in the two picture conditions than the no-picture condition, and they read slower in the unrelated-picture condition than in the related-picture condition. All of the children made more reading errors in the unrelated-picture condition than in the related condition. The results of the experiment indicated that background pictures had negative effects on children's reading speed and accuracy. Pictures interfered with the reading performance of poor readers more negatively than the good readers. They made more reading errors than the skilled readers when words were accompanied by unrelated pictures.

The purpose of the second experiment by Willows (1978) was to examine whether different locations of pictures would affect children's reading performance. Sixty-six Grade 3 children were randomly divided into two groups (pictures below words, N = 32, pictures above words, N = 34). Before the experiment, the children were individually assessed by a reading test and an IQ test. The materials used in this experiment were the same as those used in the first experiment. The two groups of students read the words under three pictorial conditions: no-picture, related-picture, unrelated-picture. Their reading time was recorded.

The findings of the second experiment revealed that related-picture and unrelated-picture both had significant and negative effects on children's reading speed and accuracy in the pictures-below the words group. In the pictures-above the words group, both picture conditions caused the children to read more slowly than they did in the no-picture condition. However, the location of the pictures did not have a significant effect on the children's performance. The results indicated that the third-grade children like the second-grade children in the first experiment, read more slowly with pictures than without pictures.

Unlike Vernon's (1953, 1954) findings that pictures have generally little or no effects on reading comprehension, the results of Willows' study (1978) indicated that children read considerably slower and made more errors when reading with pictures than without pictures. Taking the findings of her two experiments, Willows concluded that the inclusion of pictures in text has negative effects on children's reading speed and accuracy, and the extent to which pictures affect children's reading is related to the degree of relationship between the pictures and the corresponding words (related-pictures have fewer negative effects than the unrelated-pictures). Poor readers tend to be more negatively affected by the unrelated pictures in texts than good readers. Willows suggested the reason for the interference may be because children attempted to use the pictures as clues for getting meaning from the text as many instructional methods for beginning reading tend to teach, and thus the unrelated pictures led them to derive

inappropriate understandings. Similarly, Harzem, Lee, and Miles (1976) found that the extent to which pictures and words complement one another determined the results of first grade children's learning to read new words. The results of their study revealed that the children learned more words in the no-picture condition than in the picture condition. In addition, the pictures that correspondingly represent the same objects as the words are more likely to prevent children from learning new words compared to other kinds of pictures because the children responded to the pictures only rather than the words. In essence, the children were naming the pictures and not identifying the words.

In order to check whether the negative effects of illustrations on reading comprehension is also the case for young children who are learning to read, Lang and Solman (1979) conducted a three-experiment study. They investigated picture-word relationships, method of picture presentation (on cards and projector), method of showing the words and pictures (simultaneously, or pictures presented after words). The word-recognition skills of kindergarten children were found to be independent of the pictorial conditions. The differences in children's performances across the three conditions were not significant, which indicated that pictures had no main effects on children' word acquisition. However, the children recognized more words when they were shown the words before the pictures than when they were shown the words and pictures together. In addition, they performed better when they were told to pay attention to the words in the third experiment. This finding indicated that children were able to shift their attention from the pictures to the words when they were told that the pictures were only visual representations of the words, and consequently, they learned more words. As a conclusion, Lang and Solman (1979) pointed out that, although there was no evidence to suggest that pictures inhibited children from learning to read, the study did not produce supportive evidence that pictures are an aid to help children acquire words. They suggested that words and pictures are closely related and correspondingly represent the same objects when using pictures to teach reading words in classrooms.

In order to investigate the effects of illustrations on beginning reading, Torcasio and Sweller (2010) conducted a study that consisted of three experiments. The first was to examine the impact of illustrations during early reading instruction on learning to read. Twenty-two 6- to 7-year-old children who were identified as beginning readers participated in Experiment 1. They were assigned equally to two groups, one presented with illustrated books and the other presented with the same books without illustrations. Nine books at the children's reading level were selected with print-related illustrations. The length of the nine books ranged from 107 to 197 words. The test materials included sight words and sentences from the nine books. All words and sentences were typed in black and on a laminated white background. The experiment consisted of a learning phase (9 days) and a test phase (1 day). In the learning phase, each child was presented the same book either illustrated (illustration group) or non-illustrated (non-illustration group). Each child in one of the two illustration groups first read the books aloud to the experimenter. Right after the children read the books, they were presented with 10 sight words and 10 sentences (no illustrations). All of the words were from the books, and the 5 sentences were from the books and another 5 sentences were rearranged sentences but with no new words. In the test phase, each child was asked to read 20 words on flashcards, and 21 sentences.

ANOVAs were conducted on reading errors made by the two groups of children for both the learning and test phases. The results reveal significant differences between the illustration and non-illustration groups on their performances on sight word and sentence reading at the learning phases, in which the non-illustration group performed better. For the test phase, no significant difference was revealed for the sight word reading between the illustration and non-illustration group, but there was a significant difference for the sentence reading between the two groups, favouring the non-illustration group. The results on performances of the two groups of children at the learning and test phases indicate that illustrations distracted the children's attention from learning to read.

Experiment 2 was designed to examine whether the detrimental effects of illustrations indicated by Experiment 1 were distractive only or whether readers were using the illustrations as an information source. Twenty-four kindergarten children aged from 5 to 6 years participated in the experiment. They were also equally assigned to two groups with one group presented with the original illustrated books from Experiment 1 (original illustrations group), and the other group presented with reproduced books having faces to replace the original illustrations (non-original illustrations - faces group). There was a large variety of faces used in each reproduced book. The original illustrations in the illustrated books were removed and the faces and facial expressions of people were used and appeared in the exactly the same place as the illustrations with the same background colour. The same procedure as Experiment 1 was followed. ANOVAs suggested significant differences for the total errors of sight words and sentences between the original illustrations group and non-original illustration - faces group at the learning phase, in which the faces group performed better. The same results were revealed for the test phase. The results of Experiment 2 suggest that the major reason for the comparatively lower performances of the children in the original illustration group was because the illustrations distracted the children's attention from decoding the words rather than recognizing the information carried in illustrations, their learning to read was thus reduced.

Experiment 3 was designed to examine whether there was a difference in children's reading performance when presented with non-illustrated books and books with faces that replaced the original illustrations. Twenty-two kindergarten children aged from 5 to 6 years participated in this experiment. They were equally assigned to two groups with one presented with the non-illustrated books used in Experiment 1, and the other presented with the reproduced books having the faces used in Experiment 2. The procedures were the same as in Experiment 1. Based on ANOVAS, no significant differences were found on either the total sight word errors or sentence errors between the two illustration groups at the learning phase. At the test phase, there were no significant differences between the non-

illustration group and the faces group when reading the sight words and sentences. These results indicate that the reproduced books with faces that are irrelevant to the print did not distract readers' attention from reading the print which suggests that the children focused on the print and not the illustrations.

Torcasio and Sweller (2010) concluded that, first, the illustrations relevant to the print were more likely to contain redundant information that negatively affected readers' reading performance. Second, the illustrations of faces that were apparently irrelevant to the print appeared to create fewer difficulties for the children compared to the related illustrations because the children quickly noticed the information in the illustrations with faces was useless and thus ignored the illustrations while they were reading. Third, results of Experiment 3 further confirmed that the illustrations of faces (irrelevant illustrations) did not generate negative effects on the children's reading, which suggests that the illustrations carried information apparently irrelevant to the print would be directly ignored by readers and thus did not affect readers' reading comprehension. Torcasio and Sweller (2010) further pointed out that the young children tended to use relevant information carried in illustrations to help with recognizing unknown words rather than paying attention to the words and in order to learn how to read. Therefore, they suggested that illustrated books should be used with more advanced readers rather than young children who are learning to decode and recognize words.

In summary, research on the role of illustrations in monolingual readers' comprehension has reached several general and contradictory conclusions. Pictures accompanying texts are helpful to enhance readers' recall of information and therefore enhance their reading comprehension, which in turn supports the assumption of the mnemonic function of dual-coded inputs. However, mediating factors such as the reading level of the texts, the nature of the pictures, and the readers' reading proficiency have been found to contribute to how pictures function as facilitators. Like the argument on the function of illustrations in reading comprehension, research in this area has also reached contradictory conclusions. Research supporting the detrimental effects of illustrations in

reading comprehension has demonstrated that pictures do not help children learn to read new words unless they are provided with explicit instruction on the relationship between the corresponding pictures and words and how to use pictures. Moreover, L2 vocabulary instruction requires 8 to 12 exposures to learn a word. Furthermore, pictures are found to distract readers' attention from reading words and interfere with their reading comprehension. In addition, less skilled readers' attention and comprehension seem to be more easily and negatively affected by the presence of pictures. Since the use of illustrations has also been strongly suggested in the field of second language acquisition and learning, particularly with younger children and learners at low literacy levels, it is necessary to ask whether the detrimental effects of illustrations in texts would also present in the case of children who are learning a second language. The following section will shed light on what the research reports about the function of illustrations in second language reading.

Illustrations and ESL reading. Studies of the effects of pictures on reading in the second language (L2) area are only a fraction of the L2 reading research. Unlike the conflicting research findings in the monolingual reading context, the existent evidence in L2 reading generally supports the use of pictures with print to facilitate L2 reading comprehension. However, most studies were done with junior high school and adult populations.

In a study examining whether pictures facilitate English-speaking university students to understand texts in French, a total of 664 university students were divided into eighteen treatment groups (Omaggio, 1979). Six groups of students read the text in French, another six groups in English, and the remaining six groups were given only the pictures without print to read. The text used in the study was a 650-word French story and an English translated version of the French story. Both versions of the story were integrated with the pictorial contexts. The pictorial tests had six conditions: no picture; a picture only depicting an object reflecting the theme of the text; Prethematic Context (a picture depicting a scene from the beginning of the story); Thematic Context (a picture

depicting a scene from the main part of the story); Postthematic Context (a picture depicting a scene from the ending of the story); and Multiple Context (the three pictures depicting a scene from the beginning to the end of the story). All the students were asked to recall the information in the story they read and write their recall in 10 minutes. They were also to complete a 20-item test in English that aimed to assess their comprehension of the story (multiple choice -10 items, true/false questions -10 items).

Data analyses of the test results revealed that the various picture conditions did not have a significant effect on reading comprehension in English (native language) but did have positive effects on reading comprehension in French (the second language). The results suggested that the differential effects of pictures on students' reading comprehension were closely related to the language used in the text that is pictures only enhanced reading comprehension when reading in the L2. In addition, the students performed best under the condition of Prethematic Context and worse under the no picture condition. Omaggio (1979) speculated the reason could be that the pictures in the Prethematic Context provided information from the beginning of the story and seemed to aid the students to read in a more organized manner and thus reduced the chances of them making unnecessary or wrong predictions about the story. For the groups having only pictures to read, the students recalled very few correct details, which may reveal that pictures by themselves could not provide readers with sufficient information about the story. The findings of the study indicated that different picture conditions had unequal effects on reading comprehension in the L2. The most helpful pictorial condition in this study was the picture depicting the scene from the beginning of the story. Omaggio (1979) concluded that choosing visual images to facilitate reading in the L2 is important. Good visuals are pictures that are simple in nature and provide information relating to the content of the text.

In a study by Hudson (1982) that examined the effect of schemata on Belgian ESL students' reading comprehension, a set of pictures was used as one

of the three methods of intervention. A total of 93 adult learners who were at three proficiency levels of English (beginning, intermediate, and advanced) participated in the study. The passages used had three difficulty levels that matched the students' English proficiency levels. The students in each proficiency level read three passages in accordance with their English proficiency.

The three types of intervention were: pre-reading, vocabulary, and rereading-text. In the pre-reading condition, the students were asked to look at a series of pictures first and to answer questions accompanying the pictures. After answering the questions, they were to write their predictions of what could be presented in the reading passage based on the picture cues. They were then given the passages to read and asked to answer some comprehension questions. In the vocabulary condition, the students were first provided with a glossary and then they were given the passages to read and answer the comprehension questions. In the rereading-text condition, the students were first given the text to read and did a comprehension test. Then the whole process of reading and answering questions was repeated.

The findings of Hudson's (1982) study revealed that the students at the beginning and intermediate levels performed better under the pre-reading condition (with picture cues) than under the glossary and rereading-text conditions. For the students at the advanced level, the reread-text treatment was more effective than the other two treatments on students' understanding of the text. The results of the study suggested that whether different interventions were effective for facilitating reading comprehension in L2 relies on the different language proficiency levels of students. The findings of the study also indicated that ESL students at a low English proficiency level rely more on the visual input than those at an advanced level.

Liu (2004) specifically studied the effects of comic strips on the comprehension of adult ESL students who were at different English proficiency levels. The participants were 107 ESL adult students who were studying English at a language centre at the time of the study. They were from 46 countries and

included Japanese, Chinese, and Hispanics. The students' English proficiency was assessed by a placement test. According to their performance on the test, the students were divided into two English proficiency groups: intermediate proficiency group (N = 53), and high intermediate proficiency group (N = 54). The texts used in the study had the same content but were at different difficulty levels (one had long vocabulary words, complicated sentence structures; another had less difficult vocabulary, simple syntax). One comic strip that reflected the main ideas of the texts was selected. The students in each proficiency group were divided equally into four reading conditions: simple text only, simple text with comic strips, difficult text only, and difficult text with comic strips. After reading, the students were asked to write recalls of their reading.

Results of Liu's (2004) study revealed that the intermediate proficiency students who read the difficult text with comic strips scored higher than the intermediate students who received the same text without comic strips. However, the comic strips did not have any effect on the advanced proficiency students' reading comprehension when reading the difficult text. For the simple text, comic strips did not have an obvious effect on reading comprehension of both intermediate and high proficiency students. This result indicated that the comic strip has effects only when readers have difficulty in understanding the text (e.g., difficult vocabulary) because the comic strips may provide readers with additional cues by repeating the information in the text. Although this finding by Liu seems to be contradictory to the findings of picture effects on monolingual reading comprehension (pictures have been found to have no or little effect on less skilled readers' understanding of a text in a monolingual context), (for example, Waddill & McDaniel, 1992), it provides further support that picture cues help ESL learners whose English proficiency is low. We must be mindful, however, that the performance of less skilled L1 readers cannot be compared to the performance of less skilled L2 readers.

The findings of the Liu (2004) study suggest that whether comic strips have positive effects on L2 readers' understanding of English texts is related to

many variables, such as readers' English proficiency and how well the visuals are integrated with print (e.g., the information from the illustration correctly or repeatedly represents the information in the text).

To sum up, in the limited number of studies on the role illustrations play in L2 reading comprehension, illustrations have been found to be beneficial for understanding texts in L2, particularly with low proficiency readers. Little contradictory evidence has been found. However, most of the studies have focused on adolescent and adult learners. Thus, in my research, it is important to understand whether the detrimental effects of illustrations on reading comprehension in the monolingual context would also present in the case of ESL children especially since illustrations are commonly and highly recommended for use in L2 teaching to assist acquisition and understanding.

Summary of Literature Review

Five main conclusions are drawn from the literature reviewed in this chapter. First, children whose L1 is a non-alphabetic language may have difficulties in reading in the L2 because the two languages may be significantly different orthographically and phonologically. However, their reading abilities in the two languages may be transferable and their reading difficulties can be predicted and identified at an early stage of their language development by examining their phonological awareness in both languages. Second, the more proficient and less proficient L2 readers are different in the metacognitive processes involved in reading, namely, how they select information, plan, and achieve the goal of reading comprehension (Anderson, 1983). Since the more proficient and less proficient L2 readers are different distinctly in language proficiency and the way they process reading, claiming that illustrations are of help to all L2 learners in their reading comprehension appears questionable. It is necessary to examine the role of illustrations in reading comprehension with a clear division of learners based on their language proficiency levels. Third, it is common for ESL learners to have reading problems because of their English language limitations as well as different cultural and experiential backgrounds

(e.g., unfamiliar topic) that may contribute to difficulties in understanding texts. It is also indicated in the literature that various readers may have different reading problems and their problems should thus be treated differently. Fourth, illustrations have been demonstrated to help less proficient monolingual readers to remember and understand information read. These less proficient readers appear to benefit more from the presence of pictures than more proficient readers. However, not all pictures were found to be beneficial to the monolingual readers. The benefits were dependent upon whether the readers had any familiarity with the content, the level of their language proficiency as well as other mediating factors such as the complementary correspondence between the pictures and the print and whether they had been taught how to use illustrations effectively while reading. Consequently, a broad and general conclusion about the beneficial effects of illustrations on reading comprehension should be made with caution. Finally, when illustrations have been used in the ESL context, it has been revealed that illustrations enhance ESL readers' comprehension in English texts. Hence, it appears crucial to develop a clear understanding of whether and how illustrations affect ESL learners' understanding of English text. My study specifically focused on how illustrations in storybooks, which are the major reading material used with young children in elementary schools, affected reading comprehension of Chinese children who are learning English as a L2.

Chapter 3: Methodology

This chapter describes the research methods used in this study. This section begins with a description of my preparation prior to the study, sample and sample size, instrument used, procedure followed, data preparation and analyses, and ethical considerations.

Preparation for Study

School visits. In order to prepare for my study, I volunteered to work with a Grade 1 teacher in an Elementary school that is well known for its English-Chinese bilingual program in Edmonton. In particular, I collaborated with the teacher in classes that focussed on teaching English reading to ESL children. I visited the classrooms once a week for 2 hours for 3 months from February to April in 2009. Most of the Chinese children either moved from China to Canada with their parents, or were born in Canada. My major responsibilities in the classrooms were twofold and included providing assistance to children with difficulties following the teachers' instruction and reading storybooks to children with difficulties in reading English either as a group or individually. These visits provided an opportunity to learn the problems ESL Chinese children have in learning to read in English and how they read and interact with their peers and teacher. These extended experiences were invaluable in the design of my doctoral study.

Taped readings, discussions, and questions. Given that I am an ESL learner, it was important to ensure that the method that I used to learn about children's reading and reading comprehension was feasible and accurate. I audio-recorded my own oral reading of and discussions with the children of some of the English storybooks and listened to the audio-recordings together with my supervisor to check my pronunciation and discuss how to improve my oral reading in English. We brainstormed about how and when to ask questions and had many discussions about whether Running Records were appropriate for use with ESL children. Running Records are a detailed account of children's oral reading. We discussed whether Running Records could be used as a valid and

reliable method to assess ESL children's reading of English, and comprehension questions provide more information about children's reading ability in order to make the assessment of their reading comprehension as thorough as possible. Those meetings and discussions with my supervisor as well as my firsthand school experiences were helpful and extremely valuable in preparation for my doctoral research.

Pilot studies prior to final data collection. Pilot studies were conducted before the final data collection. They were crucially important in order to finesse my data collection procedures that included proper administration of Running Records, conduct of interviews with the children in order to get adequate information to explain and interpret how they used illustrations in their reading, and ensured that the selected books were appropriate for the purposes of my study as well as at the children's reading level. For example, if I found that most of the children had difficulties in understanding the books that I selected, then I may have decided to conduct my study with children in Grade 2. However, a change of grade was not necessary, all other criteria remained and more pilot studies were not necessary.

Sample and Sample Size

Eighty Chinese ESL children were recruited from Grade 1 classes in elementary schools in Edmonton. Alberta Learning (2007) defines ESL children as

> Students who first learned to speak, read and/or write a language other than English and whose level of English language proficiency precludes them from full participation in learning experiences provided in Alberta schools. ESL students may have recently immigrated to Canada or may have been born in Canada and live in homes in which the primary spoken language is not English. (p. 1)

Based on the criteria detailed in the definition, the ESL Chinese children in my study will not be defined by their birth places but their native language, dominant home language, and English proficiency. Only children whose native language is

Chinese, whose dominant home language is Chinese, and who have limited English knowledge before they enrolled in schools were included in my study.

As discussed in the *Literature Review*, the effects of illustrations on reading comprehension have been constrained by mediating factors in which readers' language proficiency has been shown to be significantly related to the degree that readers understand texts. For monolingual readers, less proficient readers appear to benefit more from illustrations than more proficient readers in terms of remembering and comprehending information (Koenke & Otto, 2006; Waddill & McDaniel, 1992). For L2 readers, illustrations were found to be particularly useful to enhance low proficiency learners' comprehension of text in L2 (Hudson, 1982). For my study, the English proficiency level of the participants was determined by teachers' judgements based on their day-to-day teaching and their knowledge of student test performance. Students were identified to be high proficient readers if they had relatively little difficulty with informal classroom reading tests at the 90 percent word identification and comprehension level or greater. Students were identified to be low proficient readers if they had difficulty with word identification and comprehension at or below the 50 percent level.

As mentioned in the *Introduction*, the nature of the relationship between illustrations and the print may differ because not all illustrations fulfil the same function. Based on the work of Nikolajeva and Scott (2006), two relatively clear categories of illustrations in picture storybooks were possible: complementary (illustration and print work together to tell a story); and counterpoint (illustration and print either do not support or contradict each other, and tend to be inappropriately interpreted by some children). Each type was included in my study.

My original sample goal was 120 students, but after much effort the sample size was 80. The convenience sample of 80 students were divided equally into more proficient (n = 40) and less proficient (n = 40) readers and each was further divided into two equal illustration types: complementary (n = 20), and

counterpoint (n = 20). Within each illustration type were two conditions: the authentic picture storybook including words and illustrations (n = 10) and the same picture book with the illustrations covered (n = 10).

Instruments

The materials used in the study were two storybooks for each illustration type. The reason for selecting two storybooks was to ensure that the children's performance on oral reading and comprehension questions was not accidental. Relying only upon results of reading one storybook would not be sufficient to provide consistent evidence of the children's reading comprehension. On the other hand, more may be redundant and unnecessary. The storybooks were selected based on the following four criteria:

(1) Not used in the children's homes or classrooms;

(2) Must be at the Grade 1 reading level. The length, vocabulary difficulty, and sentence structure of the selected storybooks were at the same level as those used in the children's classrooms;

(3) Must correspond to features and styles of illustrated storybooks used in the children's classrooms.

(4) Identified in children's literature anthologies to be excellent examples of storybooks that provide either direct or indirect correspondence between illustrations and print.

Two books selected as complementary storybooks were *Apple Farmer Annie* (Wellington, 2001) and *Little Beauty* (Browne, 2008). And, two books considered as examples of counterpoint illustrations were *Lily Takes a Walk* (Kitamura, 1998) and *Come Away from the Water, Shirley* (Burningham, 1977). Two forms of the storybooks were used: the original version with illustrations, and a modified version without illustrations. It is important to control for other reading factors that may contribute to the children's reading performance (e.g., the font size and type, the location of the print on each page). In order to control those factors, each of the two storybooks was modified to ensure that the formats were the same across the two reading conditions. For the illustrated reading

group, each of the original storybooks was colour copied and bound. For the non-illustrated reading group, the illustrations of each storybook were covered, and the storybooks then scanned, printed and bound. The actual reading materials in the study were two bound copies of the original storybooks with illustrations, and two bound copies of the original storybooks without illustrations.

Procedure

Information letters and consent forms were provided to the children and their parents before the study was conducted. Only children who agreed to participate and for whom permission was granted by their parents were included. I went to the schools to collect information about the storybooks used in the children's class, and to exclude those storybooks from this study. I identified a set of possible storybooks for use in my study. Children were shown the storybooks to verify whether they had the same ones at home. Those that were indicated to be owned by the children at home were excluded. Four books from those remaining were used in my study.

The data collection for this study comprised three phases: (1) oral and silent reading of the storybooks; (2) comprehension questions; and (3) interview report. Key ideas related to planning and conducting the data collection in each phase are described next.

Running records. Children were asked to orally read storybooks in accordance with the reading condition that they were under. They were given one storybook to read on each research day, 2 days in total. Their reading was audio-taped, and Running Records of the reading were taken. Running Records were developed by Marie Clay (1991) as a way to record readers' reading processes and thus assess their reading comprehension. The primary purpose of Running Records is "to understand more about how children are using what they know to get to the message of the text, or in other words what reading processes they are using" (Clay, 2002, p. 54). From the record of miscues and self-corrections that children make while reading, researchers are able to make judgements about their literacy competency, assess their comprehension, and analyze their progress.

Taking a Running Record also allows researchers to observe what children say and do while reading (Clay, 2002). In addition, they serve to determine whether reading materials used in class are at students' reading levels. Running Records are valued as a reliable assessment practice because the observations and records of children's reading provides a more complete picture of their reading processes than just the miscues that they make while reading.

The children were told the title of the storybook, given time to look through the storybook prior to reading, and then asked to read it aloud independently. After the read-aloud, the children were given an adequate period of time to read through the book silently in order to give them an opportunity to comprehend the story without being impeded by focusing on phonological decoding while reading aloud (Bernhardt, 1983; 1986). Children's oral reading and responses were audio-recorded for completeness and accuracy. The running record sheet and a blank paper were used to mark the words that they read correctly, the miscues that they made, and their self-corrections. How these data were used in the study will be discussed in detail in the section, Data Analysis.

Their other behaviours while reading also were recorded such as talking to themselves, hesitations or any obvious personal reactions such as sighing, rubbing their eyes, and fidgeting. The observations were helpful for understanding whether the children were focusing on the reading, distracted, or engaging in avoidance behaviours. All the information would indicate other factors that affected children's reading, and also provided qualitative sources of information about the children's reading process (Clay, 2002) that was used to support my interpretation of the children's reading. I also carefully watched and noted whether children looked to the illustrations to help them read. Then the children were asked about the meanings of words that they misread to further confirm whether the miscues were pronunciation or reading problems. Children were given enough time to read without any pressure.

Comprehension questions. Children were asked comprehension questions on each storybook. The number of comprehension questions for each

story was constructed on the basis of the number of elements and fundamental meanings in the story (10 for each story). The questions included factual (5) and inferential (5) questions, such as what happened to the major character, the feelings of the character, sequence and cause of events, and how the story begins and ends. Comprehension questions helped to develop a better understanding of the level of their reading comprehension.

Interviews. According to Dyson and Genishi (2005), interviews can help researchers "to fill in gaps in their data and to hear about what is happening in participants' own words" when used with other data collecting tools (p. 76). Interviews in this study extended and corroborated the data collected in the prior two phases. The purpose of the interview was to gain a deeper understanding of whether and how children used illustrations to comprehend stories read in English. They were asked about whether they used illustrations in their reading, whether illustrations helped them, how they used illustrations, and what they found difficult in understanding the stories. Other questions asked depended upon the children's responses in order to seek clarification when necessary. The children were encouraged to use either Chinese or English. The interviews were audio-recorded and transcribed for analysis. No child in this study used Chinese in the interviews.

Semi-structured questions were used in the interviews with the Grade 1 children. The informal or semi-structured interviews were particularly useful for establishing a sense of trust when working with young children in school (Dyson & Genishi, 2005). The open-ended questions were used to better understand what is important to children and how they make sense of their own experiences (Ellis, 2006). In order to establish trust with the children, care was taken to make the participants feel comfortable during the interview (Weber, 1986). One way to create a comfortable environment, especially when working with young children in school settings is to engage them through pre-interview activities or informal conversations (Ellis, 2006). For example, activities or conversations that prompted stories or memories that easily came to children's minds and were

enjoyable for them to share were conducted (Ellis, 2006). See Appendix 1 for an example of pre-interview activities and questions. Sample interview questions to be administrated after reading can be found in Appendix 2.

Data Preparation

The miscues (e.g., insertions, substitutions, omissions) in the children's oral reading were examined and counted. The miscues were analyzed into three categories: meaning-based (the meaning of the text influences the miscue), syntax-based (the sentence structure influences the miscue), and visual-based (the visual information from the print influences the miscue), (Clay, 2002, see p. 69). Self-corrections were counted, but attempts to produce corrected-responses were not be coded as miscues (Clay, 2002).

The correctly answered comprehension questions were scored (1 for each comprehension question). The total score for each child for each story was calculated for analysis. Ten percent of the data were selected at random and scored by my supervisor. Any discrepancies were discussed and results to attain total agreement. The inter-rate reliability was .91 at the outset and differences were resolved.

Data Analysis and Interpretation

Data analysis. Descriptive and inferential statistics were used to analyze data in phases one, two, and three. Interviews were transcribed to interpret what the children said about their experiences in reading the illustrated storybooks, to corroborate the prior three phases, and provide illustrative qualitative examples of what the children reported.

Independent t-tests were used to compare mean scores (miscues + comprehension questions) for each of the two illustration types (complementary and counterpoint) by the independent variables: reading proficiency (more proficient/less proficient) and picture storybook (print and illustrations, and print only) in an attempt to get a better understanding of the variables studied.

Interview interpretation. Interpretation is defined by Patton (2002) as "attaching significance to what was found, making sense of findings, offering

explanations, drawing conclusions, extrapolating lessons, making inferences, considering meanings, and otherwise imposing order on an unruly but surely patterned world" (p. 480). Interpretation has been defined by Patton (2002) as analyzing data beyond description. By examining the oral expressions of participants' thoughts and descriptions of their reading experiences, I sought to understand their perceptions about how illustrations influenced their reading comprehension in English. My interpretation centred on children's perspectives on whether illustrations helped them understand the English storybooks, what reasons and purpose they gave for the use of illustrations, and how they used illustrations in their reading. The observation notes from the Running Records were used as a basis for the subsequent interview (e.g., whether their answers to interview questions were consistent with the observation notes). All the interview data in this study were organized and analyzed to identify patterns across cases and to gain insights into the Chinese ESL children's experiences with the illustrated and non-illustrated storybooks and whether different trends emerged on the basis of reading proficiency. All interpretations were checked by my supervisor until 100 percent agreement was reached.

Exemplary cases. Answers to comprehension and interview questions that appeared to be either unusual or distinctive compared to the answers given by most of the children were chosen as an exemplary. Even though exemplary cases were not used for making generalizations about ESL reading, they provided specific details of how a particular child or children responded to comprehension questions as well as illustrated some points relating to general beliefs about or arguments on ESL reading. The most common answers were also of interest and a few exemplary cases were selected for discussion. Exemplary cases often highlight underlying issues that are important either for theoretical development, future research directions, or for practical implications.

Ethical Considerations

I adhered to the *University of Alberta Standards for Protection of Human Research Participants* and obtained ethics approval for this proposed study from

the Research Ethics Board. My research was conducted within the ethical guidelines established by the University of Alberta Faculties of Education, Extension, and Augustana Research Ethics Board. All participants and their parents were provided with an information letter and consent form, and I reviewed the purpose and procedures of the proposed study with all participants. The participants were informed that involvement in the research was voluntary and that they were free to withdraw from the research at any time. In order to guarantee confidentiality, I will not release the names of the participants to anyone, and these data will be kept in a secure location.

The interviews were audiotaped for the purpose of transcription. I observed the children as they read in order to consider potential challenges to children's comprehension. It was important to observe their other behaviours while reading in order to better understand their comprehension process. It was my hope that the children would use the data collection activities as a tool for practicing their reading in English. In order to help them make improvements, I plan to share my findings with their parents and teachers. In order to protect children's identity, results of each child's specific performance will not be given to teachers in the classrooms. No threat or harm was used as a means to gain access to the participants.

Chapter 4: Qualitative Interpretation and Discussion

This chapter is organized around two main categories: complementary books and counterpoint books. The complementary category includes two books: *Apple Farmer Annie* (Wellington, 2001) and *Little Beauty* (Browne, 2008). For each of these two books, there are four subsections, namely, high proficient readers reading either with or without illustrations and low proficient readers reading either with or without illustrations. Within the counterpoint category, there are two books: *Lily Takes a Walk* (Kitamura, 1998) and *Come Away from the Water, Shirley* (Burningham, 1977). And, for each of these books, there are another four subsections with high proficient readers reading either with or without illustrations and low proficient readers reading either with or without illustrations.

Three sources of information served as the qualitative data for my study, running records of the children's oral reading of the story with or without illustrations, their answers to literal and inferential reading comprehension questions about the story, and individual interviews about their reading of the story and reading generally. In order to protect the children's identities, their real names were coded by reading condition, gender, and the order in which they read the story in the particular group of children. For example, the code, CAFAHPI^{+}B1 means the type of story, complementary (C); the specific story, *Apple Farmer Annie* (AFA); the high proficient illustration plus group (HP^{+}); B (boy) and the first boy (1) who read the story. Thus, CAFAHP^{-}G4 means the complementary story type (C), the specific story (AFA) in the high proficient without illustrations group (HP^{-}), G (girl) and the fourth girl to read the story under that condition.

Complementary Books

Books are considered to be complementary when the illustrations and print support each other in order for the story to be completely meaningful. Two books were categorized as complementary for this study: *Apple Farmer Annie* (Wellington, 2001) and *Little Beauty* (Browne, 2008).

Summary of Apple Farmer Annie. In this story, Annie is an apple farmer. She lives on a beautiful apple orchard with her cat and dog. Annie works very hard. She grows many kinds of apples in her orchard. When fall comes, she harvests the apples and organizes them into baskets. She usually saves the most beautiful apples to sell at the market. Annie uses some of the apples to make cider, other apples to make applesauce, and others to bake delicious muffins, cakes and pies. When Annie goes to the market, she loads the best apples, her apple cider and applesauce, dried apples, candied apples, and the baked goods into the back of her big red truck. She drives to the city from her farm and sets up her stand in the farmers' market. She arranges and labels the apples and food on the tables. Lots of adults and children visit her stand and they like what she is selling. Annie is happy that she sold everything and made a lot of money by the end of the day. She loads the empty baskets into the back of her truck and drives back home with her dog. Apple farmer Annie is very tired by the time she gets home at night. She relaxes in her pyjamas, reads a book in her cozy chair, and eats an apple while her cat sleeps on her lap and her dog rests at her feet. Annie is a happy apple farmer.

High proficient readers reading with illustrations. Each of the three data collection activities is discussed next.

Reading strategies used in oral reading. Based on the children's running records and observations of their reading, it has been found that the high proficient readers with illustrations mainly used four strategies to decode unknown words in their oral reading. First, they tried to sound out the words which was the major strategy (43%). The middle and end parts of the words were usually harder than the beginning part for the children (e.g., cider-ci, packed-pa, delicious-del), and research shows that the beginning is the easiest to decode, followed by the ending and then the middle. In these examples, the children used the beginning correctly both graphically and phonetically. Second, some children substituted unknown words with words that they already knew (31.40%). These words usually had a high graphic similarity as the unknown words (e.g., organize-

orange, round-rod, smooth-some), which indicates that the children did not know the meaning of these words but just substituted words that looked partially similar. These substitutions often did not make sense in the context of the story. For example, "She grows many kinds of apples. She sorts and organizes them," the substitution of *orange* for *organize* is neither semantically nor syntactically meaningfully though it is orthographically similar at the beginning. Another child (CAFAHPI^{+}G1) said *rod* for *round*, "In the fall, she picks baskets and baskets of round ripe apples," which is orthographically similar in the beginning and ending, but not semantically acceptable. This substitution strategy indicates that pictures were not used effectively by the children. If illustrations can show the children the possible meaning of words, then they should be able to substitute the unknown words with words sharing a similar meaning but not the similar form. Third, some children just skipped the words that they did not know in their reading. Surprisingly, even under the illustrated condition, these children did not look at the pictures for help but rather simply omitted the words. The range for the number of omitted words was from 1 to 7. The overall percentage of omitted words was 24.40%. Fourth, they turned to the illustrations to look for visual cues to help them figure out the unknown words. Only one child (CAFAHPI^{+}B1) used the illustration to decode the word, *stand* (1.2%). In his reading, he read *stand* as *shop*. He may have used the pictorial information or the context of the story to help him read the word. The source of information that this child used to substitute the unknown word, *stand* is unclear. Using illustrations as a strategy to help to read words was generally ineffective because the numerous details in the illustrations makes it next to impossible for the children to identify what is relevant to the specific word to be decoded. For example, one child (CAFAHPI^{+}B7) tried to look at the illustrations to get clues to help him to read two unknown words, *beautiful* and *busy*, but he did not succeed. Take *busy* for instance, the illustration corresponding to the sentences, *Lots of customers come to Annie's stand. She is busy all day long.* depicts that many people bought a lot of food from Annie's stand and Annie is taking money from a customer. From

this illustration, readers may get the idea that people like what Annie is selling and a lot of people came to her stand. However, it would be very difficult for readers to use this illustration to make their judgement on how much Annie is engaged in her work and to decode the adjective *busy*. It seems that the function of illustrations in helping with unknown words is also constrained by the syntactical function of a word such as an adjective that is used to modify or describe a noun or pronoun as in the case of the word, *busy*. The range of words read correctly for the high proficient group reading with illustrations was from 132 to 145 out of a total of 147 words. The overall average was 138.60 and the median was 138.50.

Answers to comprehension questions. Two types of comprehension questions were asked: literal and inferential questions. The literal questions were used to measure children's ability in locating and recognizing information including facts and details that are directly stated in the stories. The inferential questions measured children's interpretation of the stories. Answering inferential questions requires readers to combine their relevant background knowledge and experience with the relevant information that is stated explicitly in the text in order to make an inference about meanings implied in the stories.

From analyzing the answers that every child gave to each comprehension question, the children usually used information from the print and illustrations to answer the literal questions. For example, when the children were asked "What did Annie make using the apples?" many of them got a correct answer. They needed to mention at least one of the following: apple cider, applesauce, muffins, cakes, and pies that as described in and illustrated in the story. The answer for this question can be found either in the print or the illustrations. In the print, it states "Annie uses some of the apples to make sweet apple cider. She uses others to make delicious smooth applesauce. She loves baking muffins, cakes, and pies with her apples." In the illustration, Annie uses a machine to squeeze apple juice; she is using a big spoon to pour a cake mixture into a tube pan; there is flour, baking soda, and sugar on one side of the kitchen table; and pans to make muffins;

baked pies; a measuring cup and spoons; and eggs and butter. Therefore, from information either in the print, or illustrations, or both, the children are provided with lots of information to answer the questions correctly. However, as noticed in my observations, the children in this group usually only briefly scanned the illustrations either before or after reading, thus, it seems questionable to conclude that they utilized the illustrations to help them to construct their understanding of the story.

When asked the inferential questions, the children mainly used what they read in the story and what they knew about the topic to answer the questions. For example, the question "Do you think that Annie is a good apple farmer? How do you know?" requires the children to use the print and illustration information about Annie plus their knowledge about what it means to be a good apple farmer in order to be able to interpret whether Annie is a good farmer. The children needed to rely on what is described in the story about how Annie picks baskets of round ripe apples, sorts them into different types, uses apples to make delicious food and sells the apples in the market to make a further inference that Annie works very hard and harvests apples from her farm, in order to interpret that Annie is a good apple farmer. The answers that were given based on the text information and the children's background knowledge were usually accurate. Children's prior knowledge and experience with the factual information in the story seemed to be effectively combined to answer the inferential questions. If readers rely only on their background knowledge for answering the questions, their answers normally correspond to what people generally know about the topic, but deviate from what is described in the story. Take one child for instance (CAFAHP^{+}B1), when he was asked "Why Annie needed to sort and organize the apples?" His answer was "because when it is winter, apples would die and turn yellow." His answer seemed to be more or less the reason why people need to sort apples, but it is irrelevant to what is described in the story.

Most of the children who were at a high reading proficiency level correctly grasped the literal meaning of the story. The source of information was

either from print or print and illustrations. Only two children (CAFAHPI+G1, CAFAHPI+B1) in this group clearly stated that they used pictures to answer one literal question (see example below). Inferential questions were more difficult than literal questions for the children which is not unexpected. The average number of correctly answered questions was 7.4, and the median is 7 out of a total number of 10. The mode is 7.

Interview responses and interpretations. Many of the children explicitly stated that pictures helped them to read in two ways, to identify unknown words and to know what is happening in the story, which can be considered at the local and global level. At the local level, illustrations help them identify unknown words. From the observations and running records of their reading, it seemed that illustrations did not help the high proficient readers to decode the unknown words. For example, many children did not know the word *cider*, and they still did not know how to read this word after looking at the illustrations. The illustrations showed a liquid being poured into a glass, and some bottles are filled with and marked cider (liquid in bottles is golden in colour). There are some apples drawn on the edge of the page. In addition, Annie is using a machine to squeeze liquid into a big bucket. If readers looked at the illustrations carefully and made connections with the words, they may get what *cider* means, or substitute a word sharing a similar meaning such as *juice* for *cider*. However, for those children who did not know this word, neither of them read it correctly nor substituted it with another word. The reason might be that even though the children stated that pictures can help them read the words, the irrelevant details (e.g., five bottles labelled "Apple Cider," whole and half apples, a striped orange cat on the windowsill, and a black and brown spotted dog) in the illustrations make it difficult for them to make connections to decode the word. Only readers who already know the word are in a position to know that the other details are irrelevant.

Details aimed to make illustrations look complete and attractive from an aesthetic perspective could become possible distracters that confuse children

about what they need to attend to in order to decode words. Illustrations may depict words, sentences and paragraphs at the card by card or page by page level. For example, the flash cards that are commonly used in teaching children new words usually are based on a picture-to-word format. An illustration of a *tree* corresponds only to the word *tree.* In this case, children can easily name the objects by just looking at the illustration because the illustration of the *tree* is the only representation in the picture that matches the word. It is often the case that it is not the words that children identify but rather the illustrations. If children try to identify the word *tree* from an illustration that contains other information such as a river flowing in front of a group of trees, a horse eating grass beside a river, and a boy riding on a horse, then identifying the word *tree* becomes more complicated. Take the word *orchard* in *Apple Farmer Annie* as another example, this is a word that most of the children did not know. The illustrations that corresponded to the words depict clearly that Annie is standing in the middle of the orchard and she is surrounded by a lot of trees filled with apples. On the left side of the illustration, there is a truck on which it says "Annie's Apples." At the far end, there are two houses in front of a mountain range. One could be Annie's house and another could be the storehouse. In the bright blue sky, there is a sun and two colourful birds flying. From all of this information, for readers who already know the word *orchard*, they will know what the illustration depicts is an apple farm and the information corresponds with what they read, but for readers who do not know the word, *orchard*, even though they will get information about what is in the illustration, the only thing they can do to decode the word is to guess what the word is based on the objects depicted in the illustrations. Their guesses could be other words relevant to orchard (such as farm, garden or field) or words that are totally different from *orchard* but which are in the illustrations such as flower, bee, butterfly and worm because their interpretation of an *orchard* could be something else, particularly for children who do not have or have limited background knowledge of an orchard. Moreover, the words *cider* and *orchard* are used infrequently (Zeno, Ivens, Millard, & Duvvuri, 1995) and thus they are not

expected to be known in young children's oral and sight vocabularies. Hence, the children attempted to decode it by identifying the beginning and ending parts. The word *orange* and *orchard* are similar orthographically at the beginning but the children did not recognize that the word did not make sense in the context of the story being read. For readers who can read all the words, the attractive details in the illustrations may bring more enjoyment to their reading experiences. Nevertheless, for readers who have difficulty reading the words, the numerous details may not offer them useful clues that are necessary to decode the words, but rather confuse them about what they are reading.

At the global level, the children think that pictures give them clues and tell them what is happening in the story. In the case of complementary picture books, the role illustrations play is to correspond well to what is described in the words and help with understanding. Take one child (CAFAHPI^{+}G1) for instance, when she was asked "how do you know that customers like what Annie is selling in the market?" She said, "I looked at the picture. People's faces look happy in the pictures. So, I knew that the customers like Annie's apples." Her answer suggests that pictures that are related to and support what is described in the words can certainly offer assistance to readers' comprehension. However, some children also talked about the problems that they have with picture books in their reading. One child (CAFAHPI^{+}G2) said "pictures don't really help me because they only tell you one thing not the other thing." Another child (CAFAHPI^{+}B3) pointed out that "pictures tell you only a little bit of the story because they don't show the whole thing." Both children indicated that the use of pictures is limited in that they would represent only part of the story but not the whole. They seemed to understand that pictures are an additional way to depict the story, but for them the purpose of reading is to read words. Readers cannot rely only on illustrations to construct the meaning of a story. In *Apple Farmer Annie*, there is always a dog and a cat in the picture on almost every page throughout the entire book. The dog and the cat are never mentioned in the words. For good readers, the illustrations of the dog and cat can add more enjoyable elements to their

reading experience. They know not only the gist of the story but may elaborate upon other details to make the story more interesting than that which is presented by the words only. However, when readers see words that they do not recognize, those sorts of details may make them more uncertain about how to make a connection between the illustrations and words. In the interview with children on their use of pictures, some children further addressed their confusion about picture books. They pointed out that sometimes pictures do not show what the word "is talking about" (CAFAHPI^{+}G3). In other words, when pictures are illustrated in a way that is not related directly to what is written or contains too many details that are not written, the information is not useful for them to better read the story. Detailed illustrations help to extend readers' understanding, but the challenge for children is heightened because there are so many distracters and possibilities for the unknown word that using the illustrations "to help to know the words" is an ineffective strategy. Children then turn away from the illustrations and attempt to sound out the unknown words. It is interesting to note that almost every child mentioned with a high degree of similarity that "pictures help to read." However, from my observations, most of the children scanned the illustrations only briefly while they were reading. When they saw unknown words, the common strategy that they used was to try to sound the words out rather than to look at the pictures. It seems that these children were just repeating what they had been taught "use the pictures to help you read" when they cannot identify the words. These rote responses imply that children know that they are to use the visual cues to identify words. However, their strategy of using visual cues is most effective at the local level and when there is a more or less one-to-one correspondence between the illustrations and words. It seems that the high proficient readers scanned the illustrations at the global level (whole story) to get a sense of what the story was about but at the local level (page by page) when the details in the illustrations were too numerous to be relevant, then they resorted to trying to sound out the unknown words.

Overall summary. In summary, the children who are at the high English reading proficiency level seemed not to rely on illustrations to decode unknown words and to comprehend the story. The common strategy they used was to sound the words out. For those children who appeared to use illustrations to help them recognize unknown words, looking at illustrations is not an effective strategy. Complementary illustrations contain information that may help the children understand the meaning of the story in a global sense, but the use of illustrations becomes less effective when the information needs to be specific to particular words. The reason for this limitation may be because the details in the illustrations make it difficult for children to make connections between illustrations and words. Interviews with the children revealed that they see illustrations play two roles in their reading: to identify unknown words and to grasp the broad ideas of the story. However, some of them also expressed their confusion about the illustrations that pictures do not represent the whole story therefore they cannot rely on only pictures to make meaning of the story. More importantly, they need to read words to understand what the story is about.

High proficient readers reading without illustrations. The children in the high proficient group reading without illustrations completed the same data collection activities as the high proficient group reading with illustrations. They read the same book but without illustrations, answered the same comprehension questions, were individually interviewed about the role illustrations play in their reading, and asked about their attitudes toward the presence of illustrations in books.

Reading strategies used in oral reading. The observation and running records revealed that the reading strategies used by the children under the non-illustrated condition were almost the same as those used by the high proficient children when reading with illustrations. The high proficient readers reading without illustrations used three of the same four strategies, but of course, could not use illustrations as an aid. First, the most common strategy used was to sound out the unknown words (overall percentage is 42). The sounding out strategy was

reasonable because the only information on a page was the words especially when reading *Apple Farmer Annie* without illustrations. The children found the beginning part of the words easier to sound out than the middle and end parts of the words (e.g., organize-org; kinds-kingz; busy-bu; sell-smell). The focus on the graphophonetically similar beginning part of the words was similar to that of the proficient children reading with illustrations. The second strategy was to skip unknown words. The range for the number of omitted words was from 1 to 18 which was much higher than for the high proficient readers reading with illustrations (1 to 7), but sometimes the children in both groups omitted the same words such as organize, applesauce, customers, basket. The percentage of words omitted was 35. One wonders whether the children omitted the same words regardless of whether they had illustrations or not because these are low frequency vocabulary words not yet learned. However, this finding may also indicate that the children under the illustration condition did not effectively use the illustrations to help them to read unfamiliar words. Take the word *basket* for instance, the high proficient children with illustrations have more information available to figure out this word or substitute it with words sharing a similar meaning by looking at the illustrations. In the illustrations, it is clearly depicted that Annie is picking apples from trees and there are six baskets full of apples beside her. If the readers used the illustrations effectively, the word *basket* should not simply be omitted but read correctly or substituted by semantically acceptable words like *buckets, pails,* or *containers*. Even though these substitutions are not the exact word in the text, they are syntactically and semantically meaningful in the context of the story. The third strategy the children used was to substitute words for the unknown words. This strategy was used 24% of the time. Most of the substitutions were similar in form to the words in the story (tired-tried; loads-loves; kinds-kids), but they do not preserve the semantic features of the original words. The substituted words used by the children in the high proficient group reading the non-illustrated story were similar to those used by the high proficient children in the illustrated group which may suggest that emergent readers tend to

use graphic clues rather than picture clues to decode words in their oral reading. For example, many children in both groups read *tired* as *tried*. The two words have high graphic similarity, but the word *tried* does not make sense in the sentence, *Annie is tired but happy*. The substitution of *tried* for *tired* is neither syntactically nor semantically acceptable because *tired* is an adjective and *tried* is a verb.

It is important to note that there were two children in the non-illustration group who used the context of the story to decode and substitute words. More importantly, the words that they used to substitute for the original words in the story were similar in meaning as those used in the text. For example, one child (CAFAHPI- G2) used *town* as a substitute for *city* in the sentence, *She loads everything into her truck and drives to the city*. The words, *city* and *town,* do not have any graphical similarities. Without the visual clues contained in the illustrations, this substitution indicates that this child figured out the meaning of the word by using the context of the sentence within the story. Another example is a little girl (CAFAHPI-G3) who used *cookies* as a substitute for *cakes* in the sentence, "*She loves baking muffins, cakes, and pies with her apples*." This example is somewhat different from the previous one because the beginning and end parts of *cookies* and *cakes* are similar. It seems unclear whether the reader substituted the word coincidentally by using graphical clues or the context. Nevertheless, the two words, *cookies* and *cakes* both represent meaningful and expected words when baking. It is thus reasonable to say that this child used the context of the story to substitute the word, *cookies* that made sense in the context of baking which Annie loved to do. These two children used the context of the story at the local level to substitute the unknown word because no illustrations were available. These examples imply that context is a more effective reading strategy than relying only on the graphical form of words. Moreover, the analyses also suggest that the children are able to utilize other information sources to help them better understand the story when there is no pictorial assistance. The range for the known words in the group of high proficient children reading without

illustrations was from 126 to 145 out of a total of 147 words. The median was 140 and the mode was 141. The average number of correct words was 138.20 which was slightly lower than it was in the illustrated group (138.60). The median (140) for the non-illustrated group was higher than it was in the illustrated group (138.50), which indicates that 50% of the children in the non-illustrated group correctly read more than 140 words, and 50% of the children reading with illustrations correctly read more than 138.50 words. The values of the means and medians for the two high proficient groups suggest that the children who read without illustrations read more words accurately than the children who read with illustrations.

Answers to comprehension questions. The high proficient children under the non-illustrated condition were asked the same literal and inferential questions as the high proficient children who read the illustrated story. It has been found that the children mainly used print information to answer the literal questions. However, some children did not follow the factual information in the story and used their background knowledge on the topic to answer some of the questions. These questions are usually incorrectly answered. Take the question "How do you know that people like what Annie is selling in the market?"; six out of 10 children gave answers such as "they are sweet," "they are yummy," and "the apples are juicy." These responses do not answer the question asked. Rather, their responses describe the apples. If these children followed what is described in the story, they would indicate that lots of people went to Annie's stand at the market and they bought apples and food that Annie made. Therefore, it can be determined that people like what Annie is selling at the market.

From analyzing the children's answers to the inferential questions, it can be confirmed that combining relevant print information and readers' related background knowledge is an effective meaning-making strategy. For example, when the children were asked "Where does Annie live?" their answers were usually "in a farm." The children used what they knew about the story to make the inference that Annie has an apple orchard and needs to drive to the city to sell

her apples. Even when the children were not provided with illustrations in their reading, they could still comprehend reasonably well based on their memory of the title of the story and the information they gleaned from the print and to combine with their relevant background knowledge in order to answers the inferential questions. The average number of correctly answered questions in the group of high proficient children reading without illustrations was 6.9 which is only slightly higher than it was in the illustrated group (6.8). The mode was 7, and the median was 7 out of a total number of 10 which is the same as the illustrated group. This finding suggests that the high proficient children in the non-illustration and illustration groups correctly answered similar number of questions. The illustrated story did not seem to provide an advantage to the high proficient readers reading the illustrated version of *Apple Farmer Anni*e.

Interview responses and interpretations. The high proficient children in the non-illustrated group were interviewed about whether they would prefer to have illustrations for the story, *Apple Farmer Annie*, when they read and what role they see for illustrations in their reading. Like the high proficient children in the illustration group, the answers that the children under the non-illustrated condition gave can also be categorized in two ways, to help them to recognize unknown words and to tell them what the story is about. The high similarity in the answers to the use of illustrations that were addressed by both groups of the children implies that these children were taught that illustrations are helpful to them for reading. However, when considering their preference for pictures in storybooks, the children reading without illustrations gave two answers. On the one hand, some of them think that pictures are not necessary in storybooks if they can read the words. Even when they see unknown words, they report that they do not need pictures because they can sound the words out. For example, when they were asked whether it matters to them that there is no picture in the story, one child (CAFAHPIG1) said "no, because you can sound out the words, you don't need to look at the pictures." Another child (CAFAHPIG3) said "it doesn't matter because I can just look at the words and sound them out." These children seemed

to see the essential element of reading to be reading the words, the illustrations only make their reading experience more enjoyable. On the other hand, some children expressed satisfaction with having illustrations in books even though they read the words.

The children were asked whether they would like to have some pictures in the story. The reasons that they gave correspond with what they see to be useful in illustrations for reading. For these children, they see pictures more as a tool to help them better read the story, and either to understand more words or know more about the story. One child (CAFAHPI-B2), for example, when she was asked whether she likes to have some pictures in the story, she clearly expressed that she would rather have pictures in the story. She said: "Pictures can help me with more words, and pictures can tell you what the story is about." One little boy (CAFAHPI-B1) said "I like picture books because they show you the pictures when you look at the pictures you can read it." Another boy (CAFAHPI-B4) expressed his preference for pictures in a more specific way, he said "I can look at pictures and read, then I know what happened." The children see the role illustrations play in their reading differently: either to make their reading experiences more interesting or to help them better read the story in terms of decoding unknown words or getting a general idea of what the story is about. The two viewpoints on the use of illustrations are informative. Their preference for the illustrations in the story seems not to be related to whether they can read the words, but rather to how they think about the importance of illustrations in book. In order to further understand how the children who read without illustrations think about the use of illustrations in storybooks, they were asked what kind of books are more difficult for them to read. Interestingly, the children categorized the difficulty levels of books in two different ways: by the number of illustrations or by the number of words. Many children stated that books with pictures are usually easier to read than books without pictures because pictures can assist with reading unknown words and show them what the story is about. If they do not know a word, they can look at the pictures. They stated that pictures can also give

them ideas on what the story is about. Consider two children's answers to the question "Are some books easier to read than others? What kinds of books are easier?" as examples: child one (CAFAHPI-B1) said "Baby books are easy because you can look at the pictures when it is a baby book. You don't need to read because you can just look at the pictures." The other child (CAFAHPI-G3) said "Picture books are easier because if I have trouble on a word, I can just look at pictures (to see) what people are doing." These children's responses imply that they see illustrations as a valuable tool that can offer them help in their reading. It is important to note that these points about the value and use of illustrations were frequently stated in the children's responses, but not evident in the children's reading.

Unlike the children who relate the difficulty level of a book to whether it has illustrations, some children think that whether a book is difficult is related to the difficulty level of words in it or the length of the book (e.g., longer books are more difficult). They reported that a book is still difficult if it has words that they have not learned even though it has pictures in it. In addition, if a book has many words and pages, it is difficult for them to read no matter if it has pictures or not. For example, the little girl (CAFAHPI-G1) who said that whether a book has pictures does not matter to her, further made her point as following, "I like something like *Caillou*, it has all the words that we already learned, it is easy for me to read." Two other children stated their points more clearly, one child (CAFAHPI-G2) said "Books with all the words that I know are easier to read, because I can sound them out." Another (CAFAHPI-G4) said, "Books with the words that I read before are easier. It doesn't really matter if they have pictures." These answers are different from the previous ones and suggest that some children take illustrations only as an auxiliary part of books. The essential basis of a book is the words in it. The two types of answers given by the children seem to be related to their different viewpoints on the role illustrations play in their reading. For children who see a lot of value in illustrations, they tended to associate the difficulty level of a book with whether it has pictures; for children

who consider the foundation of reading to be reading the words but not looking at the pictures tended to think that the difficulty level of a book is determined by the difficulty level of the words in it or the length of the book.

Overall summary. In summary, the high proficient children who read *Apple Farmer Annie* without illustrations used the same reading strategies that the children under the illustration plus condition with one exception, they did not have the illustrations. Unlike the children reading with illustrations, some of the children in the non-illustrated group were able to use the context of the story to help them to decode and substitute unknown words. Most children used the same strategies to answer literal and inferential questions. Strategies like matching factual information in print or fitting information from the illustrations to answer the literal questions, and combining factual information with prior knowledge to answer inferential questions were found to be effective. The children had different preferences for illustrations in books. Some of them preferred to have pictures in the story because illustrations helped them to know more words, and told them what is happening in the story; some of them think that looking at the illustrations makes reading more pleasant but pictures are not necessary for understanding a book. It is noteworthy that when the high proficient children in both the illustration and non-illustration groups were asked what they did to help them read when there were no pictures in the book, the common strategy that all of them said was to sound words out, which implies that the children were taught that sounding out words is a useful strategy when they see unknown words. In the high proficient non-illustration group, some children even stated that they do not need pictures at all because they can sound the words out. These children seemed to think that reading is saying the words correctly, that is, decoding. So sounding out the words is what reading is about, which may indicate that they do not have a clear understanding of the difference between recognizing the words graphically and understanding the words semantically. It is necessary for the children to learn that reading is not only about being able to decode the words, but also to know what the words mean. Sounding words out is a strategy that may help to improve

their basic word identification skills but it has limited effectiveness as a strategy to construct the meaning of the story. Relying only on graphophonic cues to decode unknown words is not an effective strategy.

Low proficient readers reading with illustrations. The children who were identified as the low proficient group reading with illustrations completed the same data collection activities as the children in both of the high proficient reading groups. They read the same book, *Apple Farmer Annie* with illustrations, answered the same comprehension questions, and they were also individually interviewed about the role illustrations play in their reading.

Reading strategies used in oral reading. According to the running records of the children with low English proficiency reading with illustrations, four reading strategies were found to be used by them. Namely, sounding out words, skipping unknown words, substituting unknown words, and using pictures as an aid. From the running records, it is apparent that the most frequently used reading strategy used by the low proficient group under the illustration condition was skipping unknown words. These children did not tend to sound out unknown words but rather simply omitted them. For example, one child ($CAFALPI^{+}B1$) omitted 37 words out of a total number of 47 miscues that he made in his oral reading, which indicates that he did not read or attempt to read over 79% of the words that he did not know. Sixty-two words were omitted in the total number of 68 words misread in another child's ($CAFALPI^{+}G1$) oral reading, which means 91% of the unknown words were omitted. From the observations of the children's reading process, it was also found that these children did not try to use other strategies such as sounding out words or looking at illustrations to help them, but simply omitted the unknown words. It seemed that they had not learned the alphabetic principle.

The most frequently used strategy of skipping words (on average 78% of the time) is evident in the low proficient group of children under the illustration condition, which may suggest that less skilled readers have comparatively low levels of phonological processing skill in their oral reading, and they seemed to be

unable to use other effective strategies to help them to read. When too many words that carry fundamental meaning are skipped, comprehension is next to impossible.

The second strategy used by the low proficient children reading *Apple Farmer Annie* with illustrations was substitutions (On average, 17% of the time). The low proficient readers tried to rely on the orthographic form of unknown words to replace the words that looked similar. For example, one child (CAFALPI^{+}B1) substituted *saves* for *sell*, and *loads* for *leads*. Another child (CAFALPI^{+}B3) used *buckets* as a substitution for *basket*, *buys* for *busy*, and *hungry* for *happy*. These words either have the same beginning or ending, or the same beginning and ending parts. They share very similar orthographic forms. However, it seems that the substitutions that the low proficient readers made were more likely to be at a letter level rather than at the level of the whole word. For example, substituting *if* for o*f*, *here* for *her*, *fill* for *fall*, *loved* for *lived*, and *cold* for *could*, *some* for *come*, etc. The words in each pair of the examples have very high orthographic similarity in which only one alphabetic letter in both words is different, however, most of the substitutions are neither semantically nor syntactically acceptable in the context of the sentence nor the story. Take the first pair of substitutions *if* for *of* for instance, only one alphabetic letter in the two words is different, but the substitution *if* does not semantically and syntactically fit in the sentence, *By the end of the day*. Such substitutions may indicate that the low proficient readers in the illustration group tended simply to use the orthographic similarity between two words to make substitutions, rather than the context of the story or illustration cues to help them to figure out acceptable substitutions.

The third reading strategy used by the low proficient children in the illustration group was to sound out unknown words (on average only 4% of the time). They could sound out the beginning part of the words most of the time, but struggled with the middle and end parts of the words. For some readers who are comparatively good in the low proficient group, they could sometimes sound out

the ending of words. For example, a child (CAFALPI^{+}B4) who made only 16 miscues in his reading sounded out 5 beginnings and 3 endings in the total number of 6 words that he tried to sound out. Most children did not use the strategy of sounding out efficiently in their oral reading. Take one child (CAFALPI^{+}G2) as another example, who read comparatively better in this group of low proficient readers, she misread 16 words out of the total number of 147 story words, but she tried to sound the words out only once which means that she used the strategy of sounding out 6% of the time in her reading. Another child (CAFALPI^{+}B1) also tried to read unknown words only once in the total number of 47 miscues that he made. One boy (CAFALPI^{+}B3) who made 23 miscues in his oral reading tried to sound out the words only twice. These findings confirm that the low proficient readers either have not been taught phonological awareness or they have weak phonological processing skills and are thus unable to sound out unknown words. Rather, they resorted to a less challenging and more unhelpful strategy of skipping unknown words.

Finally, the least frequently used reading strategy employed by the low proficient children reading *Apple Farmer Annie* with illustrations was using clues from the illustrations (only 1% of the time). In fact, only two children were found to utilize illustrations to identify and substitute one or two words in their reading. It is necessary to point out that their attempts to substitute the unknown words were successful. One child (CAFALPI^{+}B2) read *cider* as *juice*. As discussed previously, the illustrations on the page that correspond with the sentence, *Annie uses some of the apples to make sweet apple cider*, there is lots of visual information (e.g., a liquid is poured into a glass, liquid in bottles is golden in colour) that may give the children clues about what Annie is making. Though *cider* is a word that is used infrequently (Zeno et al., 1995), the child (CAFALPI^{+}B2) figured out the word, *cider*, from the illustrations and substituted it with *juice*, a word that he knew. From this particular case, it seems that using relevant information carried in illustrations to decode unknown words is effective if the less proficient readers are able to make appropriate connections between the

illustrations with the specific word to be read. Take another child (CAFALPI^{+}G3) for instance, she read *customer* as *people*, and *stand* as *store* in the sentence, *Lots of customers come to Annie's stand*. The two words, *customer* and *people* are not orthographically similar, but they share a similar semantic meaning and play the same syntactical role in the sentence. The word, *store* is graphophonically similar with *stand* at the beginning part, and is also semantically and syntactically acceptable in the context of the story of *Apple Farmer Annie*. In the pictorial information relevant to this sentence, a group of people were standing in front of the table that Annie had set up at the market. On her table, there are all the foods that she made as well as baskets of apples. According to the context of the sentence, this child (CAFALPI^{+}G3) utilized the pictorial information represented in the illustration to create the two meaningful substitutions. This example reveals that illustrations are helpful if the low proficient readers are able to appropriately relate what they read to what is relevant in the illustrations when reading unknown words. Even though the strategy of using illustrations did not help them to recognize the exact words, the relevant information depicted in the illustration assisted them to guess the possible meaning of the unknown words and to use substitutions of words with similar meaning. It is important to note that only two out of 10 children used this strategy which indicates that many of the low proficient children do not know how to use illustrations as an aid to help them read better. Interestingly, this finding is unexpected because the common assumption is that less proficient readers are more likely to use visual cues to help them to read than are the proficient readers. The range for the correctly read words in the low proficient readers with illustrations was from 79 to 132. The mean was 112, median was 116.50. The mode was 100.

Answers to comprehension questions. The low proficient children reading with illustrations were asked the same literal and inferential comprehension questions as the high proficient readers. They used factual information carried in words, illustration cues, or both to help them answer the literal questions. For example, two children (CAFALPI^{+}G1, CAFALPI^{+}B2) gave the answer "juice" to

the question "What did Annie make by using the apples from her farm?" However, in their oral reading, neither of them read the word *cider* correctly nor substituted it with *juice* or other words sharing a similar meaning, which indicates that they did not recognize the word when they first encountered it in print, but they did get a general idea about what Annie was making from the illustration. Furthermore, in the illustration, Annie is using a machine to squeeze juice into a bucket and there are five golden-coloured bottles labelled "Apple Cider." Therefore, when they were asked the question related to what they have understood from the illustrations, they then gave the answer "juice." This response confirms that using illustrations in storybooks helps readers, in some cases, to grasp the gist of the story. However, note that these are the only two examples out of all that were read by the 10 children (each needed to answer 10 questions) in the group of low proficient readers that used illustrations to help them to answer comprehension questions.

On the other hand, it seems that the low proficient children also tended to pay more attention to the irrelevant pictorial details in the illustrations. Perhaps because they did not know based on the print what was relevant in the illustrations. For example, when one child (CAFALPI^{+}G6) was asked the comprehension question: "What does Annie have in the story?", her answer was "she has apples, a cat and a dog." As mentioned in the section on how the high proficient children read with illustrations, a dog and a cat were depicted in almost every illustration on each page, but at no place in the story are the dog and the cat mentioned in the words. If this child depended on only the text information to answer the question, she would not have mentioned the dog and the cat. It is thus obvious that she looked at and used the illustrations. Even though it is true that there is a cat and dog in the illustrations and they are with Annie, they are not the focus of the written story per se. Her answer to this question implies that irrelevant details in illustrations may not provide readers with useful information to better understand the story, but may in some cases distract readers from the most salient story details. Another example is when this child (CAFALPI^{+}G6) was asked, "What

did Annie make by using the apples from her farm?" Her answer was "candy apples" (muffins, cakes, pies, applesauce, and juice are explicitly mentioned in the story). But, it is clear the child responded from the illustration and in the illustration, candy apples are for sale. The running records of this child's oral reading revealed that she misread *cider* as *candy*. The two words, *candy* and *cider* are orthographically similar at the beginning, and *candy* is also a syntactically and semantically acceptable substitution for *cider* in the sentence, *Annie uses some of the apples to make sweet apple cider*. It thus seems that this substitution of words was possibly the reason the child's answer was "candy apple." However, interestingly the image of candy apples was also depicted in the illustration of the story which may have offered the reader information to confirm what she had read and led her to think that *candy* is the correct word. In the text that described the foods that Annie made by using the apples, only applesauce, cakes, muffins, pies, and cider were mentioned. After carefully studying the illustrations in the story, it was found that some candy apples along with the sign "Candied Apples" were depicted in the illustration of the page "*Annie the apple farmer sets up her stand in the farmers' market.*" In the illustration, the candy apples are put on Annie's stand at the market. Other foods such as apple pies, apple cider and apple cakes are explicitly mentioned in the text and these are also on the table. The illustration of candy apples to some extent gives the child another reason to think that what she read was accurate. Irrelevant pictorial details may make the illustrations look more attractive and the story more interesting, but those details may confuse low proficient readers who have limited vocabulary to read and accurately understand the words.

When answering inferential questions, the low proficient readers tried to use what they knew about the topic and the text or illustration information to answer the questions. When they used the two sources of information together, their answers were usually accurate. However, the low proficient children sometimes provided incorrect or no answers to the inferential questions, particularly for questions that required them to provide a reason.

For example, when one little girl (CAFALPI^{+}G6) was asked the question: Do you think that Annie is a good farmer? How do you know? Her answer was "yes, because she made a lot of money." This child used what she knows about how a farmer is making a living to make the judgement whether the farmer, Annie is a good farmer, but did not combine her knowledge with what she read in the story to answer the question. Take another child's (CAFALPI^{+}G5) answer to the same question, she said "yes, because she makes yummy things." Her answer was based on what is described in the story (Annie made apple pies, muffins, cakes, etc. by using the apples), but the information that she related to the question is only a part of the information required for answering the question. In order to correctly answer the question, she also needed to use the information that Annie picks, sorts, and sells apples to then make an inference that Annie works very hard on her farm and she is therefore a good farmer. The reason that these low proficient children had difficulty in answering the inferential questions may be because even though the low proficient readers also have similar prior experience or knowledge on the topic of the asked questions, their limited understanding of the factual information from the text (the fewer number of words that they read correctly when compared to the high proficient readers) hindered them from making inferences. In addition, as discussed previously, very few of the low proficient children in the illustration group were able to use the illustrations as an aid to help them understand the story and the factual information that they got from the illustrations was also limited. So, it seems they were unable to connect their experiences with the text information in order to answer the inferential questions. The overall average for the correctly answered questions for the group of low-proficient children reading with illustrations was 5.3, the median was 6 and the mode was 6.

Interview responses and interpretations. Interviews with the low proficient readers about the role illustrations play in their reading reflected their preferences for the existence of pictures. The two major reasons they gave are

that pictures help to identify unknown words and pictures tell you what the story is about. Unfortunately, it seems that the low proficient readers have been told that the pictures help with the words, but it is clear that these children for the most part did not. The low proficient children expressed a very strong preference to include illustrations in books. Eight out of 10 children mentioned that they like to read books with pictures because those books usually do not have too many words and are easy to read. For example, one child (CAFALPI^{+}B3) said "If books don't have pictures, I don't pick them because picture books are easy." A little girl (CAFALPI^{+}G3) also expressed a similar belief. She said "I look for books with pictures so you can see more. Books with a lot of words just take you for a long time." It seems that these children tend to associate the difficulty level of books with whether or not the books have illustrations. Their concern about whether a book is difficult for them to read is also the major reason that they prefer to have pictures in books. When they were asked what kinds of books are easier for them to read, some children gave the titles or categories of the books. Even though the children named different titles of books (e.g., *Cars*, *Biscuits*), they gave similar answers to the question why they think those books are easy. One child (CAFALPI^{+} G2) said "she likes funny books with pictures because these books have only a few words and the pictures help her to read." Another boy (CAFALPI^{+} B3) said "I like *Cars*, because it is easy, pictures are big and words are big, too. Pictures help me to read." It is apparent that for the low proficient children who read with illustrations, they think that books with illustrations are easier to read than books without illustrations, and illustrations are helpful for them to better read and understand the book. From the analysis of the children's running record, it turned out that properly using illustrations as an aid is an effective strategy because supportive illustrations are cues to the story and often give readers general ideas about the possible meanings of words and what happens in the story.

Overall summary. In summary, the reading strategies that the low proficient children used were limited by their reading proficiency to some

extent. The most frequent strategy they used in their oral reading was to skip the words. They seldom attempted to sound out the unknown words. Sometimes they used words that have a high orthographic similarity as substitutes for the unknown words, but those substitutions were usually not semantically and syntactically acceptable. Only two out of 10 children used illustrations to assist them to identify words that they did not know, but the two cases have shown that the strategy of using information carried in illustrations may help low proficient readers to predict the possible meaning of unknown words if they are also able to make appropriate connections between the words and the illustrations. Only two examples of successfully using illustrations to answer factual comprehension questions were found in the group of low proficient readers. It was found that low proficient readers are likely to pay attention to irrelevant details in the illustrations that may distort their comprehension. In addition, they seem not to be able to make appropriate inferences about the story based on the text and illustration information plus their background knowledge. From the analyses of the interviews with the low proficient children in the illustration group, their belief about the possible assistance that illustrations can offer in decoding unknown words and enhancing understanding was revealed. However, based on the running records and observation of the children's oral reading, they did not or could not use illustrations in their actual reading. The reason may be because that they were told to use illustrations in their reading, but not taught the specific strategies on how to use illustrations or they have difficulties in using the strategies when they read. If it is the latter case, there are many factors that may contribute to their difficulties, such as the inability to make connections between illustrations and words, the extra distracting details in the illustrations, their own interpretations of the illustrations, and the limited number of words that they knew in the story.

Low proficient readers reading without illustrations. The low proficient children read under the non-illustration condition and finished the same data

collection activities as the low proficient children under the illustration condition. In the interviews, they were asked whether they would like to include illustrations in the story, and what they think the role illustrations would play in their reading.

Reading strategies in oral reading. The reading strategies that the low proficient children reading without illustrations used were very similar to those used by the children at the low reading level under the illustration condition. The strategy most frequently used was to skip the unknown words. One child (CAFALPI-G2) omitted 56 words in the total number of 59 miscues that she made, which means 95% of the time that she did not try to use other reading strategies to figure out words that she did not know or had difficulties with, but just simply omitted the words. Another child (CAFALPI-B4) skipped 47 words out of the 50 miscues in his oral reading, and misread the other three words (e.g., *farm* for *farmer*, *ask* for *uses*). One little boy (CAFALPI-B5) whose reading proficiency is comparatively better than other children in the group of low proficient readers made only 36 miscues in the total number of 147 words in his oral reading, but he skipped 32 words which is 89% of the miscues that he made. From my observation, it seems that these children were not aware that omitting words is not a reading strategy, and the more words that they omitted, the more difficult it would be for them to understand the story. The large number of omissions that occurred in the group of low proficient children reading without illustrations suggests that the children with low reading proficiency did not know how to use effective strategies in their reading. The absence of illustrations in the storybook might be one possible reason for these children to omit a lot of words in their reading. Unlike the low proficient readers reading with illustrations, the only clues available to the children reading without illustrations are the words and the context. Their limited English reading proficiency (e.g., weak phonological awareness, limited number of known words, unable to use effective strategies) certainly prevented them from reading more correct words. The overall percentage of words that the low proficient readers reading without illustrations skipped was 82% of the time in their reading.

Like the low proficient children reading with illustrations, the children under the non-illustrated condition also used substitution as a strategy. On average, substitutions were used 11% of the time, which is a little bit lower than the children under the illustration condition (17%). Only one substitution used by one child (CAFALPIG4) in the group of low proficient children reading without illustrations was found to be semantically appropriate. In her reading, she used *delivers* as the substitution for *drives* in the sentence, *She loads everything into her truck and drives to the city*. The orthographic form of the two words, *drives* and *delivers* have the same beginning parts and similar endings. Interestingly, the meanings of the two words are also similar. They both represent the concept of to bring or transport something to a proper place or recipient. This substitution is both semantically and syntactically appropriate in the sentence. Under the circumstance of non illustrations, it is then reasonable to speculate that this child used the context of the story to help her to make the substitution. According to her running record, it turned out that she made only 11 miscues in her reading, which indicates that she knew most of the words in the story, and she understood basically what the story is about. Even though this is the only single case of good substitutions in the group of 10 children (147 words in the story), this case suggests that using the context of the story to assist with comprehending is an effective strategy when there are no other cues available. However, successfully using this strategy may require readers' language proficiency to be at a certain level, or to be able to read most of words in a story. Another reason for the very few successful substitutions might be when the children did not have illustrations as another clue to help them figure out the possible meaning of words or sentences, the chances that they used words that they knew were reduced.

The substitutions that the low proficient children in the non-illustration group used were mostly at the letter level. For example, *was* for *has*, *pees* for *pies*, *kids* for *kinds*, *picks* for *packs*, and *sweep* for *sweet*. The substitutions and the words have a very high graphic similarity, but almost all substitutions do not semantically fit in the sentence. For example, only one letter in the two words

kids and *kinds* are different and they are both nouns, but they have totally different meanings. The substitution, *kids*, does not make any sense in the sentence, *She grows many kinds of apples*. Take *sweep* for *sweet* as another instance, the two words have different meanings and syntactical functions, but graphophonologically they have a lot of similarities. Only the last letters in the two words are different, and their pronunciations are also similar. However, it is obvious that the substitution of *sweep* neither semantically nor syntactically fits in the sentence, *Annie uses some of the apples to make sweet apple cider*. These children simply relied on the graphic forms of the words to try to decode the unknown words. Merely focusing on what the words look like without attempting to use other strategies such as context of the story and background knowledge to decode the unknown words is unsuccessful and ineffective.

The least used strategy by the low proficient children reading without illustrations was to sound words out (overall percentage is 7). Half of the children never attempted to sound out words that they did not know (CAFALPI-B2, CAFALPI-B3, CAFALPI-B4, CAFALPI-B5, CAFALPI-G4); two children tried to sound out unknown words only once (CAFALPI-G1, CAFALPI-G2); the other three children (CAFALPI-B1, CAFALPI-B6, CAFALPI-G3) respectively used the strategy of sounding out three, four and 10 times in their reading. Usually, these children could read the beginning or ending part of the words if they tried to sound out, but rarely the middle part of the words. Take one child (CAFALPI-G3), who used sounding out the strategy 10 times in her reading that is over 60% of the miscues that she made, she correctly read all of the beginning parts of the 10 words that she tried to sound out (e.g., org-organize, luds-loads, driv-drives, biti-beautiful), but she only correctly read one ending part of the 10 words (ochud-orchard). Another child (CAFALPI-B6) who tried to sound words out four times read correctly the beginning parts of three words, but ending parts of only two words. The very few times that these children used the strategy of sounding out suggests that the low proficient readers have weak phonological awareness skills which prevent them from sounding words out. The range for the

correctly read words in the low proficient readers without illustrations was from 88 to 141. The average number of correctly read words was 117.80, and the median was 118.50. The two measures are interestingly slightly higher for the low proficient children under the illustration condition (mean = 112; median = 116.50). This finding suggests that illustrations did not assist the children to recognize more unknown words than the children in the non-illustration group. As discussed in the previous section, many mediating factors may influence how the readers use illustrations in their reading (e.g., whether the reader can make connections between words and illustrations, and how they make the connections).

Answers to comprehension questions. The low proficient children reading without illustrations also answered the same literal and inferential comprehension questions as the low proficient children under the illustration condition. These children were found to mainly use the factual information answer literal questions. In those cases, their answers were usually correct. However, four out of 10 children were found to use only their background knowledge to answer one literal question and their answers were not correct. They relied on what they knew about apples to answer the question "Do you think that customers like what Annie is selling at the market? How do you know?" Their answers focused on their own conceptions about apples, but not what is described in the story. One child's (CAFALPI-B1) answer is "Yes, because apples taste so good." Another two children (CAFALPI-B6, CAFALPI-G6) said "Apples are beautiful." The children's descriptions about apples correspond to our common knowledge about apples, but they are not related to what the story is about. In the story, there are two descriptions to reveal that customers like what Annie is selling. One sentence is "*A lot of customers came to Annie's stand in the farmers' market*." Another is "*By the end of the day, she has sold everything*." To correctly answer the question, the readers need to follow what is described in the words and combine it with their relevant knowledge on apples.

Like the low proficient children in the illustration group, the children reading without illustrations also had difficulty answering inferential questions.

They mostly provided wrong or no answers to the inferential questions. The average number of correctly answered inferential questions was only 2.1 (5 questions in total). However, the children need to relate what they read in the story with what they know to answer the inferential questions. Take the question Why is Annie tired by the end of the story? four out of 10 children gave correct answers. The readers need to use both the text information that Annie first picks and organizes apple, then makes some food by using apples, loads the apples on her truck to sell them in the farmers' market with their own knowledge to make the inference that Annie is tired by the end of the day because she has done a lot of work.

Unlike the children under the illustration condition, the children reading without illustrations did not have the illustrations as a possible assistance to answer comprehension questions. What they can rely on to grasp what the story is about are the words and the context, however, one child (CAFALPI-B2) used the illustration on the cover page to help him to understand the story. When he was asked "Do you think that Annie is a good farmer? How do you know?" He said "Yes, because she is smiling on the cover page." Even though his answer to the question is not quite correct, the implied meaning that he understood about Annie's feelings towards her apple farm corresponds with other information described in the story. The illustration provided him with a stance to think of the personality of the character, Annie in the story. The particular case of how this child used the illustration on the cover page to assist his understanding suggests that supportive illustrations in storybooks can help readers to get general ideas about what the story is about, what the major character is like and what the main event might be. The average number of correctly answered questions in the low proficient children under the non-illustrated condition was 3.8, and the median was 4. The mode was 5. These measures are all lower than those in the low proficient children reading with illustrations (mean = 5.3, median = 6, mode = 6). This difference indicates that illustrations help low proficient readers to better

understand the story because the pictorial cues in illustrations may provide readers with information about what is happening in the story.

Interview responses and interpretations. The low proficient readers reading without illustrations were asked the same interview questions as the high proficient readers under non-illustration condition. The questions focused on whether they would like to include some illustrations in the storybook, and the role illustrations play in their reading. Nine out of 10 children in this group expressed their willingness to have illustrations in the story. There are major two reasons that they gave. First, pictures help to read the words. For example, one child (CAFALPI˙B5) said "Pictures help me read the words, you know what it is (from the pictures) and sometimes the word is the pictures." Another child (CAFALPI˙B4) said "I look at the pictures to know the words, you look at the picture and read the words." These children's understanding of the use of pictures in their reading is that pictures can help them recognize unknown words. However, from the analysis of the running records of the children reading with illustrations, illustrations were not frequently used as a strategy to decode unknown words in the children's reading. In addition, using illustrations to read specific words proved to be ineffective. Second, pictures can enhance understanding. One child (CAFALPI˙B2) made this point very clearly. He stated that pictures help to show what people do and what other things look like in the story. He also used *Apple Farmer Annie* as an example, he said if there are pictures in the book, then he can see what Annie is doing. Similar points on pictures providing information about what the story is about were also expressed in other children's interviews (e.g., CAFALPI˙B4, CAFALPI˙B6).

Although some children think that illustrations are useful for figuring out the main idea about the story, two children also mentioned different opinions. One child (CAFALPI˙B3) indicated that he was confused about some pictures. He expressed that sometimes he was not sure what the pictures represented. He used the examples of a tiger to further state his point. He said "sometimes a tiger looks like a cat, and I don't know what it is, a cat or a tiger." In addition, he also

mentioned that sometimes he did not know what people are doing in the pictures, and if it is the case, then he does not need pictures. What this child said in the interview shows that readers have a variety of perspectives on illustrations, and their interpretations about a certain specific illustration may be different, which may in turn influence their interpretations of information carried in words. Therefore, in order to help readers to better understand a story, illustrations need to be well designed and closely related to what the words describe. This child further explained that he did not need pictures if he knew the words. He said "I don't want pictures when it is an easy story, but when it is about earth, I look at pictures." Another little girl (CAFALPI-G3) also stated that she would rather have no pictures in the story if she knows the words. It seems to her illustrations are not a necessity in a storybook. Both children think that pictures help to read unknown words, but unlike other children, they do not see illustrations as a universal tool in their reading. Whether they need illustrations is determined by whether they know the words.

In order to better understand why the low proficient children reading without illustrations have a preference for illustrations or not in the storybooks, they were asked what kinds of books they like to read. Most children in this group clearly said that they like books with pictures. For example, one child (CAFALPI-B6) indicated that picture books are easy to read because pictures show him what is happening in the story. Another child (CAFALPI-G4) said "If I don't know a word, I can look at them in the pictures then I know the words." These children expressed a common viewpoint that illustrations give readers certain clues and make reading easy, which is the major reason for why they like books with pictures. However, as discussed above, it turned out that the functions of illustrations in the children's actual reading are not as helpful as they stated in their interviews.

Overall summary. The low proficient children reading without illustrations used similar reading strategies to those reading with illustrations - skipping, substituting and sounding out unknown words. The strategy of skipping

was the most frequently used reading strategy in their reading. It seems that those children are not aware that skipping words is not an effective strategy, and they seem not to know other useful strategies to help them read. Most of the substitutions were not semantically or syntactically appropriate in the context of the story. They usually relied on orthographical similarities between words to make substitutions. The low proficient children under the non-illustration condition often followed what is described in the story to answer literal questions and those answers were normally correct. It is necessary to note that one child used the illustration on the cover page as an aid to grasp information about the main character, Annie in the story. These children had difficulty answering inferential questions, which may have resulted from the limited information that they comprehended from the words. Like the children in the low English reading proficiency illustration condition, the children reading without illustrations also stated that they would like to have pictures included in the story for two reasons: pictures help to read unknown words and assist with understanding. Only two out of 10 children in this group related whether they need pictures in books to whether they can read the words. They think that pictures in a book are not necessary if they already know the words. One child expressed that he sometimes is confused about what pictures represent so he prefers not to have illustrations in books. Most of the children like the presence of illustrations in the story because they think that illustrations are helpful for their reading. However, analysis on how the low proficient children reading with illustrations read indicates that the function of illustrations is not as helpful as the children assumed, but is constrained by many factors including the nature of the illustrations, readers' reading proficiency, and whether and how readers make connections between illustrations and words.

Summary of Little Beauty. This is a story about an unexpected friendship. The friendship is between a gorilla and a kitten. Alone in a zoo, the zoo keepers taught the gorilla to use sign language to communicate with them. The zoo keepers liked the gorilla a lot and tried to give him everything that he

wanted. But, still the gorilla was sad. One day, the gorilla signed to his keepers that he wanted a friend. However, there were no other gorillas in the zoo. So, one of the keepers suggested a kitten. The gorilla loved Beauty and feed her milk and honey. The gorilla carried Beauty in his hand, she sat on the top of his head, and she napped in the warmth of the gorilla's arm. They did EVERYTHING together. Then one night as they watched a movie on the television, the gorilla grew very angry about a scene of another gorilla holding a cat over his head and appearing to make ready to throw it from the top of a tower. The gorilla smashed the television. The zoo keepers heard the noise, rushed in, and immediately decided to take Beauty away. The gorilla sat in fear and looked to Beauty. Beauty signed to the zoo keepers that she broke the television. Beauty and the gorilla lived together happily ever after.

High proficient readers reading with illustrations. The children who read *Apple Farmer Annie* also read *Little Beauty* under illustration or non-illustration conditions. They also completed all three data collection activities. They orally read *Little Beauty*, answered literal and inferential comprehension questions, were interviewed about their reading of the story and reading in general. In order to protect the children's identity, their names are coded. For example, the code, CLBHPI^{+}B1 indicates the type of story, complementary (C); the specific story, *Little Beauty* (LB); the high proficient illustration plus group (HPI^{+}); B (boy) and the first boy (1) who read the story. The three data collection activities that the children completed are discussed next.

Reading strategies used in oral reading. From analyzing the running records of the high proficient children reading *Little Beauty* with illustrations, children mainly used three strategies in their reading: sounding words out, substituting unknown words, skipping unknown words. They infrequently used the illustrations.

The high proficient children used the strategy of sounding out most frequently (46% of the time) in their reading (the overall percentage reading *Apple Farmer Annie* was 43). They read the beginning part of the words correctly most

of the time and sometimes the ending part. The most difficult part for them to sound out was the middle of the words. Take one child (CLBHPI^{+}B2) for instance, he misread 6 words in total, in which 5 were sounded out. Of the 5 words, he correctly read the beginning in 4 of the words and the ending twice, but none of the middle parts of the words (*tiret* for *taught*, *lags* for *language*, *anither* for *another*, etc.).

The second most frequently used strategy by the high proficient children reading *Little Beauty* with illustrations was to skip unknown words. They did not try to read unknown words 34% of the time which is higher than for the same children reading *Apple Farmer Annie* (24%). A possible explanation for the high percentage of omitted words may be that some words in *Little Beauty* have not been learned. For example, a number of the 10 children had difficulty reading words like *taught* (6 children), *special* (3 children), *sign* (4 children), and *language* (7 children), which indicates that the high proficient children may have not been taught these words or they were not a part of their sight word vocabulary. However, when the children saw unknown words, they did not try to take advantage of the illustrations to help them. Take one sentence for an example, *But the gorilla was sad*. In the illustration, only the gorilla's face portrayed. The gorilla frowns and puckers his lips, it seems that if the children used the illustration that they would be able to infer that the gorilla was not happy. They could then figure out the word, *gorilla*, if they used the illustrations and related them to the sentence. In addition, 18 out of the 29 pages in the story have the image of the gorilla, including the cover page, which indicates that the gorilla is the main character in the story.

The least frequently used strategy by the high proficient children reading with illustrations was substitution (20%). Similar to the substituted words when they read *Apple Farmer Annie*, they usually followed the orthographic forms of words. For example, they substituted *sign* by *sing*, *ever* by *every*, *gave* by *have*, and *another* by *other*. The substitutions usually shared a high orthographic similarity with the original words in the text, but were semantically incorrect and

sometimes syntactically unacceptable. The cases of meaningful substitutions were very few. Only two children used *TV* to substitute for the word, *television* (CLBHPI^{+}B1, CLBHPI^{+}G3). One child (CLBHPI^{+}B2) used *said* to substitute *sign* in the sentence, *One day he signed to his keepers, "I want a friend."* The words *said* and *sign* have a similar orthographic beginning. The substitution of *said* is both semantically and syntactically acceptable in the context of the story. It is possible that this child figured out the meaning of *sign* from the quotation marks used to signal dialogue, and then used a word that he knew to substitute *sign*. It is necessary to point out that illustrations were not used by the children most of the time in their reading. As discussed above, if the children could not use other effective strategies to read unknown words, they also did not use illustrations as an aid. For example, one child (CLBHPI^{+}B7) could not read the word, *honey*. In his reading, he did not appear to look at the illustrations, but simply omitted the word. In the illustration, one hand of the gorilla was depicted. The hand was holding a golden-colored jar, and the opening of the jar was just pointing to the mouth of the kitten which signifies that the gorilla was feeding the kitten with something. Even though this child could not figure out the exact word, he at least could use some words that he may know or guess from the illustration to substitute *honey*, such as *food* or *jam*. This finding suggests that the illustrations were not effectively used by the high proficient children when they saw unknown words. Even though there is no direct example to show that the high proficient children used the illustrations in their oral reading, some examples are provided in the children's interviews that indicate the children tried to use illustrations while they read. For example, when the little girl (CLBHPI^{+}G3) was asked whether and when she looked at the illustrations, she said that she used to look at words first but she also looked at whether the picture matched the words. When she was asked to give an example, she pointed at the page where the gorilla smashed the television and said that she knew the gorilla was angry from the illustration. Therefore, she looked at the illustrations while she read, and she may have used the pictorial clues to help her to read the word *angry*. Another example

is that two children (CLBHPI^{+}B1, CLBHPI^{+}B2) told me that their favorite picture in the story was when the gorilla broke the television. Their remarks reveal that the illustration of the gorilla breaking the television helped them to read words such as *broke*, *television* or at least to predict meaningful substitutes. The range of correctly read words for the high proficient children reading with illustrations was from 183 to 201. The average number of correctly read words was 193 out of the total number of 201 words. The median was 193.50, and the mode was 196.

Answers to comprehension questions. The high proficient children reading *Little Beauty* with illustrations used similar strategies to answer the questions as those used to answer questions on *Apple Farmer Annie*. They used the text, pictorial information or both to answer literal questions. Take one literal question, "Who broke the television?" The correct answer for this question is "The gorilla." In the words, it does not explicitly state that the gorilla broke the television. The sentence stated: *The movie made the gorilla very upset, and then very angry. The keepers rushed in, "Who broke the television?" asked one.* However, in the illustration corresponding to the words, the gorilla was smashing the television by using his strong hand, there was a big crack on the television screen, and the red colored background of the illustration signifies the angry emotion of the gorilla. If the readers relied only on the words, they may not be able to answer this question. However, give a correct response, they either had to look at the illustrations or use both the words and pictorial information. All children in this group answered this question correctly. This finding suggests that supporting illustrations offer readers an aid to know what happened in the story. Take another question, "What did the gorilla tell the zoo keepers that he wanted?" In the illustration, the gorilla was using his hands to sign to the keepers what he wanted to say. Three small individual illustrations were displayed to show what the gorilla signed and corresponded to "I," "want," "a friend." In the words, it says *One day he signed to his keepers, "I want a friend."* For readers who know sign language, they may be able to figure out what the gorilla signed from the illustration, but for readers who do not know sign language it is nearly impossible

to tell what he signed to the keepers by looking at only the illustration. In this case, the readers can either only follow the words or use both the illustrations and words to answer this comprehension question. All of the children in the group of high proficient readers with illustrations gave correct answers to this question. The two examples of how the children answered the literal questions indicate that using factual information either from the print, the illustrations or both to answer literal questions is an effective strategy.

Similar to when they read *Apple Farmer Annie*, these high proficient children combined what they read in the story with their prior experiences and knowledge to answer correctly inferential questions. The last inferential question asked was "*Why is it important to have a friend?*" In order to answer this question, the children needed to rely on their understanding of the story and their experiences of making friends to make the inference and give the correct answers (e.g., you have someone to play with, you will not be alone). For example, when answering the same question above, one child's (CLBHPI^{+}B3) answer was "Because friends always help you." By the end of the story, Beauty said that it was her but not the gorilla who broke the television so that she was not taken away from the gorilla by the keepers. The gist of the story is that the gorilla and Beauty loved each other and they wanted to stay together. This child's answer not only relates to what the story is about but also corresponds to people's general belief about friendship.

Only two children (CLBHPI^{+}B5, CLBHPI^{+}B7) used information carried in the illustrations to answer the comprehension questions. When one child (CLBHPI^{+}B5) was asked the question "Why is the gorilla in the story special?" he gave a partially correct answer that was "Because he gets a cat." Another child (CLBHPI^{+}B7) also gave a similar answer to this question. As mentioned previously, the zoo keepers gave the gorilla a kitten named Beauty as a friend. However, in the words of the story, no mention was made that Beauty is actually a kitten. The only place in the story that describes Beauty is the sentence, *They gave him a little friend named Beauty*. The readers need to look at the

illustrations to complete their understanding of the story in which Beauty is a kitten. Therefore, it is apparent that both children used what is depicted in the illustrations to answer the question even though their answers were not fully correct (the correct answer for the question is because that the gorilla knows sign language). This finding suggests that illustrations provide readers with information about the story, but thorough and complete interpretations require the reader to read the story dialogically, that is, being able to relate illustrations and words in an appropriate manner. The range of the correctly answered questions for the high proficient children reading with illustrations was from 6 to 9. The mean was 7.60 out of the total number of 10 comprehension questions. The median was 8, and the mode was 8. There were two questions that most of the children did not answer correctly. First, "Why is the gorilla special in the story?" Nine out of 10 children gave incorrect answers. The reason may be because most of the children did not know the words "*taught*," and "*sign language*." The second is an inferential question, "Do the zoo keepers like the gorilla? How do you know?" Similar to the first question, eight children in this group did not answer correctly. It is clear in the story that the zoo keepers liked the gorilla because they took good care of him and tried to give him everything that he wanted, but the fact that the gorilla broke the television seems to influence some children to think that the gorilla did something bad, thus the zoo keepers did not like him.

It is necessary to point out that the clues other than the words and illustrations provided to the children may also have given them some ideas about what the story is about. Some of the comprehension questions that were asked may carry information about the story. The order of the questions was arranged to follow the order of what happens in the story to prevent the former questions containing clues for answering the latter questions. The literal questions like "Why didn't the gorilla eat Beauty?" "Who broke the television?" may give the children clues about the story, such as the gorilla and Beauty lived together and they get along, the gorilla and Beauty may watch television together, and the

television was broken by someone. The children might also use these clues to help them to comprehend the story.

Interview responses and interpretations. The high proficient children reading *Little Beauty* with illustrations were asked the same interview questions as those asked when they read *Apple Farmer Annie*. They reported that illustrations have two main beneficial functions, namely, helping with unknown words and assisting with understanding of the story. First, the children think that pictures give them ideas about the words because pictures are supposed to match with words in picture storybooks. One child (CLBHPI^{+}B2) said, "when I don't know a word, I look at pictures because when they (the author and illustrator) do a book, they have to draw things same as the words." This child's statement suggests that the children expect or they are taught that illustrations in picture books can give them information about the words because illustrations are assumed to match what is described in the story. When these children were further asked when they looked at the illustrations while they read most of them said that they looked at the pictures when they did not know how to read a word. However, from my observations of the children's readings, very few children turned to illustrations for clues when they had difficulty in reading the words. When they encountered a word that they did not know, they usually focused on the word itself and tried to decode it. The strategies they used to read unknown words may be different (e.g., sounding out, substituting), but they did not use illustrations for the most part in their reading. The contradiction between what the children did while they were reading and what they said in the interview suggests that the children are taught that illustrations are helpful for their reading but they do not know how or when to use illustrations effectively.

Even though most of the children expressed their beliefs about the use of illustrations in assisting to recognize words, one child's (CLBHPI^{+}G3) remarks revealed a different perspective. She has noticed that sometimes illustrations seem to not necessarily represent a specific word in the story. When this child was asked whether she usually used pictures to help her read, she said "This

morning, I was reading a book about a polar bear, and on the first page, they show a polar bear, but there was a word starting with D, and I don't know it. I look at the picture, it didn't help me." Her confusion about how to use illustrations to help her to read unknown words indicates that using illustrations to decode a specific word most of the time is not an effective strategy. There are many mediating factors influencing whether a reader can use pictorial information to read unknown words. For example, to figure out the word, *language*, that many children did not know, the illustration needs to be related to that particular word, the reader needs to be able to make the connection between a particular part of the illustration and the word, and he/she also needs to make a meaningful connection between the words and illustrations. In most story books there is not a one-to-one correspondence between the illustration and the words.

Second, the children thought that the illustrations help them to know what happens in the story. One child ($CLBHPI^{+}G1$) said "pictures tell me what they are doing in the story, and then I can read." Based on the number of words that she correctly read (193 out of 201), she already had a good understanding of the story. It turned out that she gave eight correct answers out of the 10 comprehension questions. The running records of her reading showed that she omitted the word, *television* the first time, and tried to sound this word out the second time when she saw it in the story which may indicate that she did not know the word. However, she answered correctly the question "Who broke the television?" It then seems reasonable to speculate that the illustration of the gorilla smashing the television offered her cues to answer this question. Although some children said that illustrations help with understanding, one child ($CLBHPI^{+}G2$) pointed out that sometimes pictures tell only one thing in the story not the other. Therefore, relying only on illustrations to make meaning of the story may not be sufficient. The two functions of illustrations that were pointed out in the children's interview were the same as those reported when interviewed on *Apple Farmer Annie*. However, the running records reveal that these children seldom used illustrations, and they did not have specific strategies on how to use

illustrations while they read. The children's answers to the comprehension questions indicate that illustrations are helpful in terms of providing readers with information about the story, but readers need to read both the words and illustrations to completely grasp the story because the illustrations represent a part of the story as well as the words. Both the illustrations and the words are complementary and needed in the case of *Little Beauty*.

Overall summary. The high proficient children reading *Little Beauty* with illustrations tried to sound out unknown words most of the time in their reading, but they tended to skip more words than they did in *Apple Farmer Annie*. The reason may be because there are some words in the story of *Little Beauty* that they have not been taught. They mainly relied on the orthographic form of words to substitute unknown words. These substitutions usually were neither semantically nor syntactically acceptable in sentences. Illustrations were generally not used by the high proficient children to read unknown words. These findings confirm that illustrations cannot help to decode specific words most of the time and the children do not have specific strategies to use the illustrations effectively. The high proficient children reading with illustrations generally followed factual information to answer literal questions, and both factual information and their background knowledge to answer inferential questions. Illustrations were found to be useful in giving readers some information about the story, but in order to get a thorough understanding of the story, readers need to use both the illustrations and words. The two major functions of illustrations that have been mentioned by the same group of high proficient children reading both complementary storybooks, *Little Beauty* and *Apple Farmer Annie*, indicate that the children are told to use illustrations to help with unknown words and to enhance understanding. However, the analyses of the running records and observations of their reading reveal that very few of them really used illustrations effectively while they read. One explanation may be that the children do not know how to make use of the illustrations. In addition, factors such as how illustrations are depicted, how

illustrations relate to the words, and how illustrations represent the story determine whether readers can effectively use illustrations.

High proficient readers reading without illustrations. The children in the high proficient group reading without illustrations completed the same data collection activities as the high proficient group reading with illustrations.

Reading strategies used in oral reading. Unlike the high proficient children reading with illustrations, the children under the non-illustration condition used the strategy of skipping unknown words the most in their reading, followed by substituting and then sounding out. First, it is surprising to find that the children skipped unknown words in their reading (46% of the time). However, this percentage was skewed by two children. The two in this group skipped a number of words that were significantly more than the numbers by the other children. For example, one child (CLBHPI˙B1) skipped 23 words of the total of 25 miscues that he made, which is about 92% of the time in his reading. He seemed to have difficulty reading the words, *gorilla* and *Beauty* which appeared in the story quite frequently. He did not try to sound them out but rather merely skipped them whenever he saw the two words. From the kinds of miscues that he made, it seems that this child readily omitted words that he did not appear to know and did not notice that skipping is not an ineffective reading strategy. Another child (CLBHPI˙G4) skipped 12 words out of the 19 miscues that she made. In the seven times that the word, *Beauty* appeared in the story, she did not try to sound it out at all, but simply omitted it. The findings of how the two children read indicate that some of the high proficient children were not able to use effective strategies to help them to figure out unknown words. If both of the children knew how to use strategies such as using the context of the story, they would likely figure out that the word, *Beauty* is the name of the gorilla's friend. In that way, they may try to sound *Beauty* out. It is important to point out that the other eight children in this group skipped significantly fewer words than the two children (CLBHPI˙B1, CLBHPI˙G4). If only looking at the other children's

reading performance, the overall percentage of using the strategy of skipping was only 19%.

The second most frequently used strategy by the high proficient children under the non-illustration condition was substituting. They used this strategy 36% of the time in their reading. Unlike the children reading with illustrations, these children could not use illustrations for possible help. The major source that they could rely upon was the context of the story. However, the children reading without illustrations mainly used substitutions based on the orthographical form of the words. Most of the substitutions were syntactically but not semantically acceptable within the context of the story. For example, many of the children used *sing* as the substitute for the original word, *sign*. The two words contain the same four letters, but with a different order of the last two letters. Even though they are both verbs, the meanings are totally different. Other substitutions such as *smelled* for *seemed*, *other* for *another*, *loved* for *lived* are all orthographically similar and syntactically acceptable, but not semantically appropriate in the context of the story.

One child (CLBHPIG4) in this group was found to use an interesting substitution. In the sentence, *The movie made the gorilla very upset, and then very angry* she substituted the word, *angry* with *strong*. This substitution certainly is not semantically correct in the context of the story, but it is an appropriate adjective to describe what a gorilla looks like in children's minds. It seems that this child tried to use what she knows about a gorilla to figure out the possible meaning of the adjective and substituted a word that she knew. On the other hand, this finding also implies that this child did not follow and use the orthographic cues to read the original word. The word, *angry* starts with the letter *a*, but *strong* starts with the letter *s.* If this child wants to figure out the exact words, the word, *strong* is definitely not a good substitution. Unfortunately, her attempt to use the context of the story to decode the unknown words did not succeed. This finding suggests that successfully utilizing the context of the story to figure out unknown words requires readers to monitor what they are reading in

order to develop a consistent understanding of what the story is about and to logically follow the events that happen in the story.

The strategy of sounding out was used least frequently by the high proficient children reading without illustrations (18%). It was found that the children could read the beginning part of the words, but had difficulties with the middle and ending parts (*tangt – taught, lang-laughed, tevison-television, lan-language*). The children's focus on the graphophonetically similar beginning part of the words was similar to when they read *Apple Farmer Annie* under the same non-pictorial condition, which may suggest that it could be challenging for the high proficient children to sound out words. When the word contains blends, the children appeared to have difficulties segmenting sounds and reading the word as a whole unit. The average number of correctly read words in the high proficient group of children reading without illustrations was 191.60. The median is 195 and the mode is 197.

Answers to comprehension questions. The high proficient children used factual information in the story to answer literal questions and their answers were usually correct. Unlike the children under the illustration condition who could use supportive illustrations as a possible aid to help with understanding, the only information sources available to the children reading without illustrations were the words in the story and the context, and their evolving interpretation of the story as they read. Even though there were no illustrations, the high proficient children rarely had difficulty in answering the literal questions. One question, "Who broke the television?" was found to be challenging. Four out of 10 children answered this question incorrectly. Three of them (CLBHPIG3, CLBHPIB3, CLBHPIB4) gave the answer "Beauty" and one gave no answer (CLBHPIB1). It seems that some of the children were confused about this part of the story. Their confusion may be caused by the fact it was not explicitly stated who indeed broke the television but the inference could be made readily. In the story, it says *The movie made the gorilla very upset, and then very angry. Then the keepers rushed in. "Who broke the television," asked one.* In order to answer the question

correctly, the children needed to relate the two sentences. In the first sentence, the gorilla was the only character described, and the two adjectives, *upset* and *angry* used to depict his emotion indicated that he was going to do something unreasonable. Moreover, by the end of the story, Beauty said she broke the television so that the gorilla would not get into trouble and could stay together with Beauty, but everybody in the story knows that it was the gorilla who broke the television. As discussed in the section of those reading with illustrations, every child in that group correctly answered the question when asked. The illustration clearly depicts that the gorilla looked very angry and smashed the television. It then seems fair to say that the supportive illustration in the context of *Little Beauty* did provide readers with information about what happened in the story. Another literal question that the high proficient children reading without illustrations had difficulty answering was "Why is the gorilla special in the story?" None of the children in this group correctly answered this question. Similar to the children reading with illustrations, a number of children in the non-illustration group may not have been taught the key words or were not able to decode them in order to answer this question (e.g., *taught*, *language*, *sign*) which hindered their comprehension about this part of the story.

The high proficient children under the non-illustration condition also used the strategy of combining the factual information from the print with their prior knowledge to answer inferential questions. This strategy was found to be effective. However, there are two out of the five inferential questions that appeared to be difficult for these children to answer. First, the question "Do the zoo keepers like the gorilla? How do you know?" Like the children reading with illustrations, the fact that the gorilla broke the television in the story made them think that the keepers did not like the gorilla because he did something bad. Their focus on only this fact without connecting other important information in the story caused them to make an incorrect inference in response to the question. None of the children in this group gave correct answers to this question. However, there was one child (CLBHPI-B2) who gave a very interesting answer. He said "No,

because he (the gorilla) broke the TV, but the cat said that she broke it." As mentioned in the discussion of the high proficient children reading with illustrations, the words in the story do not explicitly state that Beauty is actually a kitten. For this child who read without illustrations, the only place that he could figure out that Beauty is a kitten is from the illustration on the cover page. On the cover page, a cute little kitten was portrayed to be sitting on the head of the gorilla and they both look very happy. This finding implies that supportive illustrations are helpful to provide readers with relevant information about the story, but only when readers know when and how to use the information.

The second question that most of the children did not answer correctly was related to the previous literal question "Who broke the television?" Given that some children were confused about who broke the television, eight out of 10 children gave incorrect answers to the inferential question "Why did Beauty say that she broke the television?" For example, two of them (CLBHPI-B3, CLBHPI-G3) said "Because Beauty did break the television." Three of them said they were not sure about the answer to the question. These findings indicate that even though the readers combined literal information with their background knowledge on the topic to make an inference, inferences based on inaccurate factual information in the story are also incorrect. The essential foundation for making an appropriate inference is the relevant and explicit information found in the story which guides readers to construct the meaning of the story from their previously acquired and relevant background knowledge. The overall mean for the high proficient children reading without illustrations who correctly answered comprehension questions was 5.8 out a total of 10 (the mean for literal questions was 3 out of a total of 5 and 2.8 for the inferential questions). The median was 6 and the mode was 6. All three measures are lower than those in the group of high proficient children reading with illustrations (mean = 7.6, median = 8, mode = 8, the mean for the correct literal questions is 4 and 3.6 for the correct inferential questions). Whether the differences in correct comprehension responses for the high proficient group with and without illustrations are significant will depend on

t-test analyses (see Chapter 5). In any case, the high proficient readers with illustrations clearly had a slight advantage in comprehension over those without illustrations.

Interview responses and interpretations. The high proficient children reading *Little Beauty* without illustrations were interviewed about whether they prefer to have illustrations included in the story, and what role they think illustrations play in their reading. Two major functions of illustrations were addressed by the children, namely, to help them to read unknown words and assist them to grasp the gist of the story. For example, one child (CLBHPI-G6) stated that she would look at illustrations if she did not know a word. She also gave an example, "If I don't know the *gorilla* word, I can look at the picture and then I will know." Another child (CLBHPI-G2) expressed "I like pictures going with the words. They tell you what happens (in the story)." Almost all the children said they liked the presence of illustrations in storybooks. However, when they were asked whether it matters to them that there are no illustrations in the story, 70% of them said that they do not mind. The major reason for them to think that the illustrations are not necessary for reading the story is because they could read the words. Take one child (CLBHPI-B3) for instance, he said "It doesn't matter to me (there are no pictures in the book) because all the words are easy." This child's remark suggests that the high proficient children do not or rarely rely on the illustrations when they know the words. In other words, when the children do not know how to read the words, they may tend to use the illustrations for help. However, from the observations of the children reading with illustrations, very few of them attempted to look at illustrations when they had trouble with words.

It is interesting to note that when the high proficient children were asked what they did to help them read unknown words when the illustrations were not available, over half of the children responded that they would use the strategy of sounding out. However, the analyses of the observation and running records show a different story because the children least frequently tried to sound out unknown words. It is apparent that these children are aware of the strategy of

sounding out, but they seem not to have mastered the strategy to the point where they know how and when to use it to help them.

In order to better understand how the high proficient children reading without illustrations see the role illustrations play in picture storybooks, they were also interviewed about how they choose books and what kinds of books are difficult for them to read. Almost every child stated that they would prefer books with pictures for two reasons. First, it is more interesting to read illustrated books than books with no illustrations. For example, one child (CLBHPI-G2) said "I like picture books, and I only read picture books because they (the pictures) are fun to look at." Another child (CLBHPI-B2) made a similar point, he said that he looks for books that have pictures because he likes seeing nice pictures in books. The children's comments reveal that for some of the high proficient children, the presence of illustrations in books is not only to help with reading, but also to provide enjoyment to their reading experiences through the colors, symbols, characters, and scenes. Second, books with illustrations are usually easier to read than chapter books because illustrations help them to read unknown words or carry information about the story. In addition, books with illustrations often contain fewer words and pages which make them easier to read. The two reasons that the high proficient children provided for why they thought that picture books were easier to read suggests that illustrations have at least three functions in storybooks in the eyes of these children: increasing reading enjoyment, helping with unknown words, and showing what the story is about.

Overall summary. Under the condition of non-illustrations, the high proficient children reading *Little Beauty* also used three reading strategies in their oral reading. However, unlike the high proficient children reading with illustrations, these children most frequently used the strategy of skipping when they did not know words. Particularly, two of the 10 children skipped significantly more words than the other children in this group. The second strategy that they used was substituting. The way that the children used substitution was still at the orthographic level of words which means that they

used words that have high orthographic similarity to substitute the original words. However, even though some of the substitutions are syntactically acceptable, they were usually not semantically appropriate. Surprisingly, the strategy of sounding out that was mentioned as the most frequently used strategy in the children's interviews was the one used the least by this group of high proficient children. The children used factual information in the story to answer literal questions, and both the factual information and their prior knowledge to answer inferential questions. It was found that the inferences that were made on the basis of incorrect literal information were also inaccurate. The two major functions of illustrations, helping with unknown words and enhancing understanding, that were stated by the children reading *Little Beauty* with illustrations were also mentioned by the high proficient children reading without illustrations. In addition, some of them further pointed out that illustrated storybooks usually have fewer words and pages, and thus are easier to read than books without illustrations. The high proficient children reading *Little Beauty* with illustrations tended to sound out unknown words more frequently than the children reading without illustrations. The major difference between the two groups of children is that the children got more information about the story from the illustrations than those reading without illustrations, particularly the information that is not explicitly stated in the words. It turned out that the children reading with illustrations correctly answered slightly more comprehension questions than those reading under the non-illustration condition but whether that advantage was significant will be reported in the quantitative analyses chapter.

Low proficient readers reading with illustrations. The low proficient children reading *Little Beauty* with illustrations completed the same data collection activities as the high proficient children reading under the illustrated condition.

Reading strategies used in oral reading. The analyses of the low proficient children's running records reveal that the strategy of skipping unknown words was used extensively (81%) by these children reading *Little Beauty* with

illustrations. For example, one child (CLBLPI^{+}G1) omitted 110 words from the total of 113 miscues that she made which means that this child did not try to read unknown words 97% of the time. Another child (CLBLPI^{+}B1) skipped 25 words in the 32 miscues that he made which is about 78%. When these children saw unknown words, they either skipped the words right away or paused for 1 or 2 seconds without trying other strategies and then kept reading the other words.

As discussed in the previous sections on how high proficient children read *Little Beauty*, it was found that the children seemed not to have effective strategies when they met unknown words in a story. A number of the low proficient readers under the with-illustration condition also had difficulties with words such as *gorilla* (6 of 10), *special* (7 of 10), *language* (9 of 10), *sign* (9 of 10), and *taught* (9 of 10). Interestingly, when the low proficient children did not know how to read unknown words, few of them tried to look at the illustrations for help. Take the word, *gorilla* as an example, for the six children who did not know the word, five of them simply skipped it, and only one tried to sound it out. None of them attempted to look at or relate the illustrations to help them read the word. In fact, from the illustrations, it is highly possible for the readers to know that the main character in the story is a gorilla. In addition, the word, *gorilla* appeared eight times in the story. If the readers tried to connect what is in the illustrations with the words, they may have been able to figure out the word. However, it seems they knew only in a vague sense "to look at the illustrations" and not how to use the illustrations effectively. Strategies like focusing on main characters and supportive details in illustrations in order to construct an informed understanding; and trying to make connections between unknown words and the pictures because the orthography of a word and something in the illustration may match (the gorilla was on the cover of the book and he is also on 15 pages of the book—so the children may have thought *ape or monkey* both of which would have been better than simply skipping the word, *gorilla).* Some children may have realized that they were looking for the name of a type of animal that begins with the letter *"g"*— thereby showing that they were attending to and monitoring

the way the word is spelled with the illustration; making connections from one illustration to the next to understand the sequence of the events and what happens in a story; and using information carried in symbols or colors to interpret mood and ideas or feelings of characters which could be useful to help children to read better. Skipping words is an ineffective strategy used all too frequently by these children.

The second most frequently used strategy was substitutions (the overall percentage was 14). The substitutions they used were mainly based on the orthographic form of the words. For this reason, the substitutions rarely made sense in the context of the story, and were only sometimes syntactically acceptable. For example, one child (CLBLPI^{+}B2) substituted the word, *want* with *went* in the sentence, "*I want a friend*." The two words share a high similarity in terms of their orthographic forms, and they are both verbs. However, the meaning of the two words is totally different. Another child (CLBLPI^{+}G6) used *at* to substitute for *eat* in the sentence, "*Don't eat her," said one of the keepers.* The substitution of *at* for *eat* is neither syntactically nor semantically acceptable in the context of story. This finding suggests that the low proficient children reading with illustrations were not able to use other meaningful cues to help them decode unknown words, but tried to follow what the words looked like to make substitutions, which in turn explains why these substitutions were not semantically acceptable. For the low proficient children reading with illustrations and with limited word identification strategies, it seems that the most direct cues that they could use to help with unknown words was information in the illustrations and the context of the story. However, very few of them turned to the information in the illustrations for help. Moreover, it was not clear that they knew what information in the illustrations was relevant in the context of the story or how to use it. Only one child (CLBLPI^{+}G3) used the illustrations to substitute a word. Unfortunately, the substitution was not successful. She used the word, *strong* to substitute the original word, *television* in the sentence, "*It . . . was . . . me! I broke the television!"* The two words are both semantically and

syntactically different. The substitution, *strong* is not acceptable in the context of the story. It is interesting that this child read the word, *television* correctly when she first saw it in the story. However, when the word appeared the second time in the above cited sentence, she substituted it with a word that made no sense in the story. The illustration that corresponded to the sentence depicts only the kitten. In the illustration, the kitten lifts both of her arms to show off her biceps and she has a big smile on her face. It is clear that this child's reading was influenced by the illustration. In her eyes, the kitten looked very strong which is also the information that the illustration tends to carry. Therefore, she thinks that the words must describe something that is related to the idea of being strong even though she already knew the word, *television*. This finding suggests that whether supportive illustrations can help the children to read the story somewhat depends on whether the readers can make appropriate connections between the words and illustrations, and how they interpret information carried in the illustrations in the context of the story being read. Readers thus may make inappropriate interpretations about the meaning conveyed even with supportive illustrations.

The least frequent strategy that the low proficient children used in their reading was sounding out (5%). Four out of the 10 children ($CLBLPI^{+}B1$, $CLBLPI^{+}G4$, $CLBLPI^{+}G5$, $CLBLPI^{+}G6$) in this group did not try to sound out any words at all. They easily sounded out the beginning part of the words, and sometimes the ending part. The most difficult part for them to sound out was the middle. Take one little boy ($CLBLPI^{+}B4$) for instance, this child used the sounding out strategy 4 times in 13 miscues that he made, in which he successfully sounded out almost every beginning part (e.g., *Biter-Beauty, ra-rushed, lan-laughed*), one ending (*azing-using*), and no middle parts of the words. The finding suggests that the low proficient children who tried to use phonological awareness were unable to integrate the grapho-phonic information to make sense of the unknown words, unfortunately most of the children did not even try to sound out the words. The average number of words that the low proficient children reading with illustrations correctly read was 153, and the

median was 164. Each value of the correctly read words occurred only once, thus there was no mode for this set of data.

There is no direct evidence (except in the case of CLPBLPI+G3 where she was unable to integrate the information) to show that the low proficient children used illustrations to help them to read the words, which may suggest that the children do not have specific strategies on how to use the illustrations to identify unknown words. However, the children's answers to the comprehension and interview questions revealed that the children looked at and tried to get information from the illustrations as they read. Details are discussed next.

Answers to comprehension questions. Analyses of the low proficient children's answers to the comprehension questions suggest that the children relied on the factual information carried in words or illustrations to answer literal and inferential comprehension questions. This group of low proficient children frequently used information carried in the illustrations to help them to answer literal questions. As discussed in the previous section on the high proficient children reading *Little Beauty*, the fact that Beauty is a kitten was depicted in the illustrations in the story. If readers read only the words, they would not know that Beauty is a kitten. On the other hand, if they indicated that Beauty is a "cat," it is apparent that they looked at the illustrations when they read the story. Five out of 10 children mentioned the "cat" when they answered literal questions. Take one child's ($CLBLPI^{+}G4$) answer as an example, when she was asked the question "What did the gorilla tell the zoo keepers that he wanted?" her answer was "A cat." She did not give the direct answer that the gorilla wanted a friend which is clearly stated in the words but rather used the information carried in the illustrations. More examples of the children using illustrations were found. One child ($CLBLPI^{+}G1$) did not read the word, *gorilla* wherever the word appeared in the story. However, when she was asked "Who broke the television?" her answer was "The gorilla." Another child ($CLBLPI^{+}G5$) did not read the words *milk* and *honey*, which are the two kinds of foods that the gorilla gave to Beauty, but she gave an acceptable answer to the question, "What did the gorilla give to his new

friend?" Her answer was "Some foods." Even though the answer of "some food" is too vague to be scored for the literal question, the two children's readings and answers to the comprehension questions imply that the supportive illustrations sometimes helped the low proficient children to overcome their limited reading vocabulary, to grasp the general idea of the story, and therefore to enhance their understanding of the story.

Although the illustrations were shown to be useful to help the low proficient children to read, some examples that illustrations may distract the children and distort their understanding of the story were also found. When one child (CLBLPI^{+}G2) was asked the question "What did the gorilla give to his new friend?", her answer was "A rose." In the words of the story, no place mentioned a rose. However, on the last page of the story, two roses can be found in the illustration corresponding to the sentence, *Beauty and the gorilla lived happily ever after*. This illustration does not explicitly portray the images of the gorilla and Beauty, but rather two roses, one white and one red were depicted to signify what is described in the words. Even though this child correctly read the words, *milk* and *honey* in her reading. The corresponding illustration misled her to think that the roses were something that the gorilla gave to Beauty. She thus gave an incorrect answer. Another child (CLBLPI^{+}G6) gave a similar answer to the same question. Her answer was "Flowers, roses and milk." This finding suggests that the illustrations may sometimes confuse the low proficient readers especially when they are unable to integrate the information provided in both the illustrations and the words.

Let's look at another comprehension question, "Do the zoo keepers like the gorilla? How do you know?" The little girl's (CLBLPI^{+}G2) answer was "No, because he broke the radio." The running record of the child's oral reading reveals that she did not know and read the word, *television*. What she relied on to answer this question was the information carried in the illustration in which the gorilla looks very angry and he smashed the television. However, to this child the square object that was portrayed and supposed to be the television looked like a

radio. This child's answer to the question suggests that she relied only on what she saw in the illustrations and did not relate it to the other information in the story in order to answer correctly. One scene in the story described that the gorilla and Beauty watched a movie together one day. If this child tried to connect this part of the story with what is depicted in the illustration, she would not get the idea that the square object in the illustrations was a radio. This finding also implies that readers need to be able to make meaningful connections between the words and illustrations in order to successfully utilize the pictorial information to help with comprehension. The average number of correctly answered literal questions was 2.9 (5 questions in total) with a range from 2 to 4.

The low proficient children reading with illustrations used both the factual information and their background knowledge on the topic to answer the inferential questions. The mean for the correctly answered questions was 3.2 (5 questions in total) and the range was from 2 to 4. The inferential question that the children struggled most with is "Why did Beauty say that she broke the television?" This question required the children to first have an overall understanding of what the story is about, and then to use their prior experiences on and knowledge about friendship to make the inference that Beauty said so because she did not want to be taken away by the zoo keepers but rather to stay with the gorilla. None of the children in this group gave a correct answer and seven children did not provide any response. Take one child's ($CLBLPI^{+}B3$) answer, he said "Because she doesn't know who broke the television." Another child ($CLBLPI^{+}G3$) said "Because she does not like to watch it." It seems that these children focused only on the fact that the television was broken to answer this question and did not relate information on the major theme of friendship. The way the two children answered the inferential questions suggests that they used fragmented factual information from the illustrations and story, and they did not have a general understanding of the story to make an effective inference. The mean for the correctly answered literal and inferential comprehension questions for the low proficient children reading with illustrations was 6.1. The median and mode are

both 6. Interestingly, these measures are almost the same as for the high proficient children reading the same story without illustrations (the means for the correctly answered literal and inferential questions are also the same), which may suggest that supportive illustrations compensate for low reading skills when asked comprehension questions that require an integration of the words and illustration information. It is necessary to point out that the beneficial use of the illustrations is constrained by many other factors (e.g., how readers make the connection between illustrations and words), which may explain why very few of the children were able to successfully use the illustrations to help them to read.

Interview responses and interpretations. Similar to the children in other groups in the study (e.g., low and high proficient reading *Apple Farmer Annie* with and without illustrations), the two main functions of illustrations in the children's reading were also pointed out by the low proficient children reading *Little Beauty* with illustrations. These children thought that illustrations either helped them to figure out what the words are or what the story is about. From the analyses of the children's answers to questions on how they used the illustrations while they read the story, two major ways were generated. First, readers used the illustrations to help figure out unknown words, then they read the words to know what happened in the story. For example, when one child ($CLBLPI^{+}B1$) was asked how and when he looked at the pictures, he said "I look at the pictures first, so I know what the words are, and I know what happened (in the story)." Four other children ($CLBLPI^{+}B3$, $CLBLPI^{+}G1$, $CLBLPI^{+}G5$, $CLBLPI^{+}G6$) also expressed that they looked at the pictures first to help to read unknown words. However, in their actual reading, these children did not use the illustrations to help them with unknown words. It seems to these children that reading is merely a process of decoding words, and they see the major role illustrations play in their reading is to assist with recognizing words. Once they know how to read the words, they would know what the story is about. What they neglect is that reading is more than decoding words, but about also constructing meaning through comprehending words in context. It is necessary to point out that the

analyses of the children's running records show that using the illustrations to decode unknown words is not an effective strategy because it must be constrained by a lot of factors (e.g., details in the illustrations, how readers make connections between words and part of the illustrations). In fact, it seems that readers must know how to read most of the words in order to know what is relevant in the illustrations.

Second, readers can look at the illustrations first to grasp a general idea of what the story is about, and then the information may help them to recognize unknown words. Take one child (CLBLPI^{+}G4) for instance, when she was asked how she used pictures to help her to read the story, she said "If you see the picture, in the picture, he has a friend, then you know that he has a friend on the words." Another child's (CLBLPI^{+}B2) answered the same question, he usually looked at the pictures first because pictures tell him what the story is about and sometimes he does not need to read the words at all. Reading the words may or may not be necessary if he already knew what happened in the story. This child's remarks reveal that he does not have a clear idea of what constitutes reading. Even though the illustrations may give him ideas about what the words describe, only looking at illustrations without reading the words is not reading at all. In addition, his interpretations of the illustrations may be different from or distorted without knowing what is written in the text. Like the two children said, both of them used the pictorial information in the story to help them to know that Beauty is a kitten and she is the gorilla's friend. The interviews with the two children suggest that they saw the major function of illustrations in books was to provide information about the story. They think that when they know, based on the illustrations, what happens in the story, that they will be able to read the words. However, understanding the story in a general sense helps only to recognize specific words when readers know how to use effective strategies such as relating unknown words in the context of the story or a particular part of the illustrations.

For the purpose of better understanding the low proficient children's viewpoints on illustrated books, they were further asked about their preference for

the kinds of books they choose to read. Over half of the low proficient children reading with illustrations thought that picture books are easier to read than books without illustrations for two reasons. First, illustrations in books help with recognizing unknown words or carry information about the story. This reason was also addressed by the children in the interviews about how and why they looked at pictures while they read. Take one child's (CLBLPI^{+}G6) answer for instance, she said "*What You Can See* is easy to read because it shows the pictures. If there is a picture of F, then there is another letter F." This example implies that the children like illustrations that have a one-to-one correspondence to the words because this kind of illustration can better help them to read unknown words, Second, illustrated books, particularly those for young children, have fewer pages and easier words. The children think that these books usually take them less time to finish and they also get more time to look at the pictures. The low proficient children's viewpoints on illustrated books implied that illustrations play an important role in their reading, and they seem to rely on illustrations to assist them with reading even though they did not specifically know how to use illustrations.

Overall summary. The low proficient children reading *Little Beauty* with illustrations used the strategy of skipping most of the time in their oral reading, which suggests that they do not have effective strategies to help them to read. In addition, the low percentage that these children used the sounding out strategy implies that they have weak phonological awareness. Interestingly, the large number of omitted words in the children's reading seems not to significantly influence their understanding of the story when asked comprehension questions. However, it is clear that some of the questions may give them helpful information. For example, the second literal question, What did the gorilla tell the zoo keepers that he wanted? may provide some information to the children that the gorilla is the main character in the story and he requested something at the beginning of the story. Even though the children may not necessarily know the answer to that question, they certainly know that the animal is a gorilla. The average number of correctly answered literal and inferential questions for this group of children was

surprisingly similar to the high proficient children reading without illustrations. This finding implies that good illustrations help low proficient readers to grasp the gist of the story if they can make appropriate connections between the illustrations and words. The interviews with the low proficient children revealed that the children preferred illustrated books over books without illustrations for two reasons: illustrations help with unknown words or enhance understanding, and illustrated books have fewer pages and easy words. The former reason was emphasized in their interviews. However, the running records of the children's oral reading reveal that they did not have specific strategies to maximize use of the illustrations to help them to recognize unknown words. It is possible that they have been taught how to look at illustrations when they have difficulties with words.

Low proficient readers reading without illustrations. The low proficient children orally read *Little Beauty* with no illustrations, answered the accompanying comprehension questions, and were individually interviewed.

Reading strategies in oral reading. The reading strategies that the low proficient children reading without illustrations used were very similar to those reported by the children reading *Little Beauty* with the illustrations. The strategy that the low proficient children under the non-illustration condition most frequently used was to skip the unknown words. They used the strategy of skipping 73% of the time when they encountered words that they did not know readily. One child (CLBLPI˙G2) omitted 78 words in a total of 81 miscues that she made in her reading, which implies that this child did not have an effective strategy for reading unknown words. Another child (CLBLPI˙B5) skipped 36 words in the 48 miscues that he made which is 75% of the child's total miscues. One little girl (CLBLPI˙G1) who made comparatively few miscues (25) in this group of children also skipped 60% of the words that she did not know. My analyses of children's oral reading miscues revealed that they readily skipped words and showed little or no evidence of knowing about and trying other word identification strategies to help them with their reading. One possible explanation

for the large number of skipped words may be that the children did not know about or how to use effective strategies such as sounding out, using the context of story, or sentence structure to figure out the possible meanings of the words. The way the children used skipping was completely ineffective. On some occasions when a word is a proper noun it may be temporarily effective to skip the word while gathering clues in order to return to it for identification. The more words that the children skip in their reading, the more difficult it is for them to understand the story. The children showed no apprehension about skipping words and read as if to skip unknown words was the natural thing to do. This automatic and widely used approach by the low proficient children suggests that skipping unknown words is what they have been taught to do.

Analogous to the low proficient children reading with illustrations, the second frequently used strategy by the children under the non-illustrated condition was substituting. On average, substitutions were used 16% of the time, which is only slightly higher than that reported for the low proficient children reading *Little Beauty* under the illustration plus condition (14%) used. The children reading without illustrations primarily relied upon the orthographic forms of the words to make substitutions. For example, *her* for *his*, *this* for *then*, *mad* for *made*, and *every* for *ever*. These sorts of substitutions are similar to the original words at the orthographic level, but have different meanings. However, relying on the orthographic forms to substitute words would not help readers to figure out what the words mean in the context of the story. Thus, most of the substitutions were not semantically acceptable and only sometimes syntactically appropriate. Take one child (CLBLPI-G1) for instance, she used the strategy of substituting more often than other children in the group. She used the word *if* to substitute *of* in the sentence, *"Don't eat her" said one of the keepers.* The two words share a high orthographic similarity but are semantically and syntactically different.

Another child (CLBLPI-B2) substituted the word *there* with *three* in the sentence, *There were no other gorillas at the zoo*. All four letters in the two words are exactly the same but with a different order. The word *three* does not

make any sense in the sentence, and is not syntactically appropriate. Overall, no semantically acceptable substitutions were found in the low proficient group of children reading without illustrations. This finding suggests that these children do not know how to use other useful information to help them substitute unknown words. By substituting meaningful words for unknown words, the children can use information like the context of the story, sentence structure to help them figure out the possible meanings of the unknown words to make sense in the context of the story, *Little Beauty*. For example, one child (CLBLPI-B4) substituted *every* for *ever* in the sentence, *Beauty and the gorilla lived happily ever after*. He did not return to the sentence to check whether what he had read made sense in the context of the story.

The least frequently used strategy by the low proficient children reading without illustrations was to sound out unknown words. They only used the strategy 11% of the time in their reading. Like the low proficient children reading *Little Beauty* with illustrations, the low proficient children reading without illustrations could read, for the most part, the beginning and ending parts of the words, but few of them read the middle part. For example, one child (CLBLPI-G3) tried to sound out unknown words 13 times in the total number of 22 miscues that she made. In the 13 words, she correctly read most beginnings of the words and some of the endings, but none of the middle parts (e.g., *tel-television, lan-language, tat-taught, nat-night*). Another child (CLBLPI-B5) who used phonological awareness tried to sound out the unknown words seven times in his reading but sounded out most of the beginning parts but none of the middle word parts correctly (e.g., *id-idea, te-television, kins-keepers*). This finding suggests that the low proficient children have weak phonological awareness skills to help them to decode. The range for the correctly read words in the low proficient readers without illustrations was from 120 to 200. The average number of correctly read words was 162, the median is 168.50 and the mode is 120. It is interesting to note that the range and mean are slightly higher than for the low proficient children in the illustration plus condition (mean = 153; range = 87 to

189). This finding suggests that illustrations may not help the low proficient children in the illustration group to recognize more unknown words than the children in the non-illustration group. Illustrations are effective when readers know when and where to use them. The mere presence of the illustrations did not help the low proficient children in their reading of *Little Beauty*.

Answers to comprehension questions. The children reading without illustrations mainly used the factual information in the story to answer the literal questions, and both the factual information and their background knowledge to answer inferential questions. However, two cases of relying only on background knowledge to answer literal questions were found. One child (CLBLPI˙B3) gave the answer "A present, a toy" to the question, What did the gorilla give to his new friend? The analysis of the child's running records actually shows that he correctly read the word, *milk* but omitted *honey*. However, his answer to the question did not follow from what he read from the story, but rather he answered the question based on his prior experiences of what friends commonly give to each other. When another child (CLBLPI˙B2) was asked the same question, his answer was "Banana." He did not read the two words, *milk* and *honey* at all. He merely depended on his background knowledge of what a gorilla likes to eat to answer this question. Without the illustrations as a possible aid to show this child what the gorilla gave to Beauty, it seems reasonable for him to make up an answer for the question because he could not read the two words that explicitly stated what the gorilla gave to Beauty. At the same time, this child may also wonder why banana was not mentioned in the story because it seems to him banana is an appropriate answer for what a gorilla could possibly give to his friend. Even though he did not read the word, *banana* in the story at all, he relied on his background knowledge to answer the question. However, the answer for this comprehension question is bounded by the context of the story. Even though the answer "banana" sounds like an acceptable answer given the fact that gorillas like bananas, it is not related to what the story, *Little Beauty* is about. He also gave the same answer "Banana" to the question, What did the gorilla tell the zoo

keepers that he wanted which confirms that he did not comprehend the story. His running record reveals that he knew the word, *friend*, and correctly read the words wherever it appeared in the story, but he did not use what he read in the story to provide the correct answer to the question. This finding suggests that some of the low proficient children may have an over-reliance on their background knowledge to answer literal questions but ignore the information provided in the story. In addition, the strategy of using what readers know about the topic without following what is described in the story to answer literal questions was found to be incorrect.

It is interesting to find that some children in this group used the strategy of guessing to answer one literal question. When the three children (CLBLPI-B4, CLBLPI-B5, CLBLPI-G3) were asked the question "Who broke the television?" All of them gave the correct answer "The gorilla." However, examination of their running records demonstrated that none of them correctly read the word, *television* in the story which indicates that they might know that the gorilla broke something but they did not know what. Particularly, the little girl (CLBLPI-G3) was found to be really confused about this part of the story. When she was asked the following question, "Why did Beauty say that she broke the television?" Her answer was "Because she did break it." There are two possible sources of information that these children could use to guess the answer for this question. First, the context of the story provides them information to indicate that someone in the story broke the television. There are only two main characters in the *Little Beauty* story, Beauty and the gorilla. In the story, gorilla became very angry after watching the movie. It then seems reasonable to guess that it was the gorilla that broke the television. Second, the cues contained in the question itself (*television* was included in the question) may give the children ideas about the words that they have missed in reading. The children may already know that the gorilla broke something through reading the story, but they did not know what. When they were asked this question, they naturally related what is asked in the question to what they already heard, then they gave the correct answer of "gorilla." The

way the three children answered this question suggests that maximizing the use of the available information including the cues provided in the story and contained in the comprehension questions is an effectively strategy to help to answer the literal comprehension questions when readers could not understand the story completely because of their limited reading proficiency.

The group of the low proficient children reading without illustrations used the strategy of combining their background knowledge and the factual information in the story to answer inferential questions. When they followed this strategy, they answered the inferential questions correctly. The mean for the correctly answered inferential questions was 2.4, and the range was from 2 to 3. Like the children who read under the illustration condition, the children reading without illustrations struggled most with the inferential questions, Why did Beauty say that she broke the television? None of the children in this group answered this question correctly and five did not respond at all. A possible explanation is that most of the children were not sure about the part of the story about who indeed broke the television. Making good inferences on the basis of an incomplete understanding of the information is next to impossible. Another question that most of the children (9 of 10) did not correctly answer was, Do the zoo keepers like the gorilla? How do you know? As discussed in the section on the how high proficient children reading *Little Beauty* without illustrations, the children did not correctly answer this question because of their confusion on the fact that the gorilla broke the television in the story. They thus thought that the zoo keepers did not like the gorilla for what he did. The children at the same reading proficiency level read the story under the illustration condition also had the same problem. Six out of the 10 low proficient children gave the answer "Yes" but none of them provided acceptable reasons to support their answers (4 children did not provide a reason at all), which may suggest that these children did not have a clear understanding of this part of the story which is implicitly indicated in the story, and their limited understanding of the story prevented them from making correct inferences. The mean for the correctly answered comprehension

questions was 4.4 with range from 3 to 6. The median was 4.5, and the mode was 3. The mean is comparatively lower than the low proficient children reading the same story with illustrations (mean = 6.1). This finding suggests that the illustrations are useful to provide the low proficient children with general ideas about what happens in the story and thus enhances their understanding but only when they know how to effectively use the illustrations (e.g., focusing on the major part of the illustrations, connecting what they read to what is depicted in the illustrations).

Interview responses and interpretations. The low proficient children were interviewed about whether they preferred the book to include illustrations, and how they see the role that illustrations play in their reading. Most of the children in this group expressed their preference for books with illustrations. For example, one child (CLBLPI-B4) said that pictures are important for her because she can look at the pictures when she does not know a word. Another child (CLBLPI-G2) expressed a similar point. She thinks that she needs the pictures for help with unknown words. These children seemed to think the illustrations play a crucial role in helping them to recognize unknown words. However, in their actual reading, most of the low and high proficient children who read under the illustration condition did not or could not use the illustrations in the story to help them read unknown words. Although some of the children think that illustrations are useful in helping them to recognize unknown words, some of them like the illustrations in books because they think they help to understand what is happening in the story. Take one child's remarks for instance, he said (CLBLPI-B6) "I like pictures because I like to see what is happening in the story." Another child (CLBLPI-B2) said "I like pictures in books. Our teacher says if you don't know how to read, look at the pictures in the story and you know what is happening, and you know what it says." It is necessary to note that this child is the first one so far in my study who explicitly pointed out that the teacher taught them to look at pictures for help when they do not know how to read words. Although this child mentioned that they have been taught to look at the

illustrations when they cannot recognize words, my observations and the running records of the children reading with illustrations show that most of the children cannot make effective use of the illustrations to help them read better. It seems that the children were told to look at the illustrations but were not taught specific strategies on how to use the illustrations (e.g., focusing on the main part of illustrations). In addition, none of the children reading with illustrations gave any specific evidence of their use of the illustrations when they were interviewed on how they used illustrations while they read.

Only two of the low proficient children reading without illustrations reported that illustrations do not matter to them. Both of them seemed to notice the fact that not all books have illustrations, but they had different reasons for why they see that illustrations play a less important role than words in books. When one child (CLBLPI-B3) was asked what kinds of books he would choose to read, he said "Some books have pictures, and some don't because not all books have pictures." When he was further asked how he uses the pictures in books if there are any, he stated that he did not need pictures when the words are easy. This child's answer suggests that he thinks that the most important part in a book is words rather than illustrations. Another child (CLBLPI-B2) also expressed that he did not necessarily need pictures not because he could read words but because he can simply skip unknown words. His remark implies that some of the low proficient children use skipping as a strategy when they have difficulty with words. However, they seem not to realize that skipping words neither helps with reading nor enhances understanding.

By the end of the interview, in order to develop a deeper understanding about the low proficient children's viewpoints towards the presence of illustrations, they were asked what kinds of books are easy for them to read. Over half of the children expressed that books with pictures are easier to read than books without illustrations. The reasons they provided were similar to those given by the low proficient children reading with illustrations, namely, illustrations can show them what happens in the story, and illustrated books have

easier words and fewer pages than chapter books. Interestingly, one child (CLBLPIG3) thinks that whether a book is difficult to read can be determined either by illustrations or words because illustrations in books are the same as words. She said "I think that pictures and words are just the same thing because when you look at the words, they are the same thing in the pictures that you just looked at." It seems that this child assumed that all illustrations closely correspond to words, and depict exactly what is written. For her, "looking at illustrations is the same as reading words. By either reading words or looking at illustrations, they can understand what the story is about." However, not all illustrations in books are directly related to words. Even when illustrations and words are closely related, there are many other factors affecting whether readers can effectively use illustrations to help them to read. The interviews with the low proficient children on their viewpoints on what books are easy for them to read suggest that most of them attempt to rely on illustrations to help them to read better because of all the beneficial functions of illustrations mentioned in their interviews. However, studying the children's actual oral reading, few of them were able to effectively use illustrations to assist them with reading.

Overall summary. The low proficient children reading *Little Beauty* without illustrations used similar reading strategies to those at the same reading level under the illustration condition. They most frequently used the strategy of skipping, followed by substituting, and then sounding out. The findings on the strategies the children used suggest that the low proficient children have neither effective strategies nor good phonological awareness to help them read better. Three children used information available (context of the story, cues in comprehension questions) to guess the answers for some of the literal questions, and their attempts were successful. This finding implies that using the information available as much as possible to understand the story is an effective strategy. The children seem to struggle with inferential questions. The limited factual information that they understood from the story hindered them from making inferences based on information implicitly indicated in the story. The low

proficient children reading without illustrations answered fewer comprehension questions than those reading with illustrations, which suggests that supportive illustrations are useful for enhancing readers' understanding if they know how to make connections between the words and illustrations. It is clear that the children were told to look at illustrations when they see unknown words. However, lack of specific strategies to utilize effectively the information provided by the illustrations significantly reduces the children's word recognition and comprehension even when illustrations are available.

Counterpoint Books

Books are considered to be counterpoint when illustrations and print either do not correspond closely or represent the text information in different ways. The gap between the illustrations and print may thus increase the possibility of confusion, be misleading and cause inappropriate interpretations. Two books were categorized as counterpoint for this study, *Lily Takes a Walk* (Kitamura, 1998) and *Come Away from the Water, Shirley* (Burningham, 1977).

Summary of Lily Takes a Walk. In this story, the print tells about a little girl, Lily and her dog, Nicky's walk through the town. Nicky is a small white dog with black spots on his body and black ears. Lily likes to go walking with Nicky, and sometimes they walk for a whole day from the morning to the evening. Lily is not afraid when it is getting dark because Nicky is always with her. They usually go to a lot of places when they walk. They go to shop for Lily's mother; they walk past Mrs. Hall's house; they sometimes stop in the street to look at the stars; they go to the canal to say good night to the ducks and gulls; and they finally walk home when it is getting dark. On the other hand, the illustrations show Nicky is terrified by the imagined monsters he sees everywhere he goes with Lily. He sees a snake in a tree when they were on hills; a monster face shaped by leaves of a tree when they were in the street; he sees a mailbox with sharp teeth; he sees road lights with eyes when they stop to look at the stars; he sees the moon and a bell tower with big eyes when they pass Mrs. Hall's window; he sees a man come alive from a wall painting in the evening street; he sees a

long-neck dinosaur-like monster standing in the canal; and he sees lots of monsters protruding out of garbage bins when they walk home. While Lily enjoyed the hills, grocery-shopping for her mom, the stars and other delights, Nicky is exhausted from worry and concern. At the end of the story, when they get home, Lily talks to her parents about what she has seen on her walk. When it is bed time, Nicky is safe in his basket, but on the final foldout page, he is again frightened by an imagined bunch of mice. The interplay between the real and the imagined is designed to bring more enjoyment to readers. The counterpoint is that imagined monsters in Nicky's eyes portrayed in the illustrations do not complement the words that describe Lily's walk and her comfort that Nicky is there to protect her. In fact, in all cases the illustrations contradict the print.

High proficient readers reading with illustrations. The same three sources of information: running records of the children's oral reading of the story with or without illustrations, their answers to literal and inferential reading comprehension questions about the story, and individual interviews about their reading of the story and reading generally serve as the data for the children reading the counterpoint books. In order to protect the children's identities, their real names are coded by reading condition, gender, and the order in which they read the story in the particular group of children. For example, the code, CLTWHPI^{+}B1 means the type of story, counterpoint (C); the specific story, *Lily Takes a Walk* (LTW); the high proficient illustration plus group (HP^{+}); B (boy) and the first boy (1) who read the story. Thus, CLTWHP^{+}G4 means the counterpoint story type (C); the specific story (LTW); in the high proficient with illustrations group (HP^{+}); G (girl) and the fourth girl (4) to read the story under that condition. Each of the three data collection activities is discussed next.

Reading strategies used in oral reading. According to the running records of the high proficient children reading *Lily Takes a Walk* with illustrations, it is apparent that these children had a high reading level. The average number of the words read correctly is 178 out of the total of 182 words (median = 180.50, mode = 181). In the few cases where the children misread, the most frequent strategy

used was substitutions (56% of the time). The substitutions had a high orthographic similarity with the original words. However, none of them were found to be semantically acceptable in the context of the story, but a few were syntactically appropriate. For example, a child (CLTWHPI^{+}B5) substituted *hours* for *horses* in the sentence, *Sometimes they walk for hours and hours.* The two words *hours* and *horses* look orthographically similar and both are nouns, but they have very different meanings. The substitution, *horses* does not make sense in the context of the story. Other examples include *even* for *evening*, *least* for *last*, and *smile* for *smell*. These substitutions are all similar to the original words at the orthographic level, but not semantically acceptable.

It is necessary to note that some children in this group seemed to be using the strategy of substituting unknown words with known words, but the fact was that they misread the words that they actually recognized in the same story. Take two children (CLTWHPI^{+}G1, CLTWHPI^{+}B3) for instance, read *far* as *for* in the sentence, *Not far now*. Only the middle letters are different in the two words *far* and *for,* and the meanings are different. Given the reading level of the children in this group, it seems unlikely that they did not know the word, *far*. The two children may have mistakenly read *far* for *for,* and they did not monitor whether the substitution made sense in the context of the story. Both phrases are meaningful independently, but only the later fits within the context of this story. One child (CLTWHPI^{+}B4) substituted *small* for *smell*, and *supper* for *super* in the sentence, *She can see the light in her window and smell her supper cooking*. The two substitutions and the original words again share a high orthographic similarity. It is clear that some of the high proficient children did not monitor what they had read even when the miscues did not semantically fit in the sentences.

The second frequently used strategy by the high proficient children reading with illustrations was sounding out. They used this strategy 31% of the time in their reading. They could read the beginning and ending parts of the words, but not the middle part. For example, one child (CLTWHPI^{+}G4) tried to sound out unknown words 9 times in her reading, she read correctly all the

beginning parts (e.g., *sl-slip, ca-canal, spuler-supper*), and only one ending part (e.g., *aldy-already*) of the words. Other examples of how these children sounded words out include *gools-gulls, gills-gulls,* and *swap-swoop*. Take the *u* in the word *gull* for instance, one child (CLTWHPI^{+}B6) read it as *oo* like *gooll*, and another child (CLTWHPI^{+}G1) read it as *i* like *gill*, which suggests that these children sometimes had difficulty pronouncing vowels when blended in words.

Two of the 10 high proficient children attempted to use information from the illustrations to help them figure out words that they did not know (on average 8% of the time). One child (CLTWHPI^{+}B5) read the word, *gulls* as *eagles* in the sentence, *She stops by the bridge to say good night to the gulls and the ducks on the canal.* The two words *gulls* and *eagles* are orthographically dissimilar, but semantically speaking, both of them are birds even though they are different types of birds. In the illustration, Lily was standing on the bridge above the canal and appeared to be spreading something to the ducks swimming in the canal. Two white birds were portrayed to be flying above the canal. One speculation is that when this child saw the word, *gulls*, he may have used the illustrations and inferred that the bird was an *eagle*. He substituted *gulls* with *eagles*, which shares the similar concept of a bird. When another child (CLTWHPI^{+}G4) read the same sentence, she read the word, *gulls* as *goose*. The two words share the same beginning letter, *g*, but other parts are radically different yet a *goose* and a *duck* are both birds. They both represent birds that enjoy water. Therefore, unlike the first child (CLTWHPI^{+}B5) who seemed to rely on the illustrations to help with substituting the word, *gull*, this child may have used the illustrations or context of the sentence, or both to decode the word. These examples imply that the illustrations were not helpful with the identification of specific words in the story, but did assist readers to get the general concept.

As mentioned, illustrations sometimes represent information that is not related directly to the words in counterpoint stories. In *Lily Takes a Walk*, the layout of the book is a two page format, one with illustrations and words (usually one sentence), and the other with illustrations only. Some parts of the illustrations

depict information that is not mentioned in the words at all. For example, all the things that the dog, Nicky, sees on his walk with Lily (e.g., the monsters, the face on the tree) are not in the words. On the page of illustrations that relate to the above sentence, a long-necked dinosaur-like monster was portrayed standing in the canal and facing Lily's back. Only Nicky who was standing beside Lily is portrayed as seeing the monster, and he looks so scared with his eyes and mouth widely opened. The information carried in this part of the illustration is over and above that explicitly stated in the words and represents Nicky's imaginations while he is taking the walk with Lily. However, this part of the illustration did not seem to interfere with most of the children's oral reading of the story. Only one child (CLTWHPI^{+}G4) was found to misread one word and it appeared to be based on the illustrations. She misread the word, *corner* as *dragon* in the sentence, *At last she comes to her own corner*. In the illustration, Lily was walking towards home with Nicky behind her and scared by a group of monsters popping out of the garbage bins at the corner of the street. Three of the monsters were depicted as dragons and one looked like a bear. One possible explanation for this child's use of the word, *dragon* as a substitute for *corner* is that she looked at the illustration and thought that *dragon* might be the word. However, if she checked back to reread the sentence again, she would find that *dragon* does not make sense in the context of the story. Even though only one child appeared to be misled by the illustration while oral reading, this example does confirm that when illustrations are not straightforward and complementary to the print, they may present another layer of challenge for children to decode unknown words.

Only two children (CLTWHPI^{+}G4, CLTWHPI^{+}B6) in the group of high proficient children skipped words in their oral reading (one for each). Skipping words was used on average only 5% of the time in the children's reading, which suggests that this group of high proficient children mostly used effective strategies to help them read better (e.g., substituting, using context or pictorial information).

Answers to comprehension questions. The high proficient children reading with illustrations were asked the same number of comprehension

questions (n = 10) as those who read the complementary picture storybooks in which half are literal questions and half are inferential questions. The children more or less followed the information provided, in the print, or illustrations, or both to answer the literal questions posed (on average 4.7 out of 5 were correct). Their use of the factual information (in the illustrations, from the print or both) was effectively used to answer the literal comprehension questions posed. When children followed the relevant pictorial information to answer the literal questions, they made effective use of the information provided by the illustrations. Take the question, What did Lily do for her mother on the way home? for instance, four children followed what is portrayed in the illustrations to answer the question, and their answers were correct. Two of them (CLTWHPI^{+}B1, CLTWHPI^{+}G4) gave the answers "Pick up foods." And "Go buy some groceries," and two (CLTWHPI^{+}G2, CLTWHPI^{+}B6) answered "Buy some flowers." If the children followed only what is described in words, they should answer "She shopped," "Go shopping" because it is not explicitly stated what Lily bought for her mother. In the print, it just says, *Today on the way home, she does the shopping for her mother*. However, in the illustrations relating to this sentence, Lily is holding a bunch of beautiful flowers in her arms, she is standing at a farmer's stand and shopping for groceries. In addition, Lily was portrayed holding the flowers in almost every page after this one. These supportive illustrations that are not mentioned in words make the illustration look more attractive and the story more interesting, and appear to provide the children information about what the words say. The four children's answers to this question reveal that relevant illustrations are useful to provide the children with the information that they need to answer the literal questions.

Let's look at another example. When one child (CLTWHPI^{+}B4) was asked the question, Does Lily like the gulls and ducks? How do you know? he gave the answer, "Yes, she feed them with foods." His answer is incomplete, but partially correct. The correct answer for this question is "Yes, because she goes to see them and says good night to them" or answers that express a similar point.

As mentioned above, in the illustration corresponding to the sentence, *She stops by the bridge to say good night to the gulls and the ducks on the canal*. Lily seems to be standing on the bridge and feeding the ducks in the canal because she stretches one of her arms in the air. However, it is not clear in the illustration whether Lily is spreading food and feeding the ducks, or encouraging the ducks to swim to her, or reaching out her arm to wave good night. If the reader follows what the words describe, the last interpretation of the illustration seems to make more sense. It seems to this child, Lily was feeding the ducks in the illustrations and he thus gave an answer that was not related to what the words describe. How these children used the pictorial information to answer the questions implies that readers' understanding of the pictorial information is determined by their own viewpoint of what the illustrations represent. Therefore, when the illustrations aim to support what the words describe, they need to be precise and closely related to the words. Illustrations like the above one may not be sufficiently clear to represent the words and may mislead a reader's interpretation.

The high proficient children reading with illustrations basically used the information in the story and what they knew on the topic to answer the inferential questions. The average number of correctly answered inferential question was 3 out of the 5 questions. The question that the group of children had the most difficulty with was, Does Lily like the gulls and ducks? How do you know? Seven out of the 10 children could not give answers. However, most of them read the sentence that indicates Lily likes duck and gulls correctly, and six of them answered, "Yes" to the first part of the question, which is correct. These children seemed not to make the inference from the information provided in the story. One possible reason may be that the children focused on word identification rather than on the construction of meaning.

As discussed above, the contradictory part of the illustrations in *Lily Takes a Walk* is what Nicky imagines on the walk. He looks so scared of those things that he sees. However, all the things that Nicky imagines are portrayed in the illustrations but not mentioned in the words of the story. In addition, two places

in the words mention that Lily likes taking walks with Nicky, and she is not afraid even when it is getting dark because Nicky is with her. These words indicate that Nicky is there to protect Lily from dangers that she could possibly encounter on her walks. The difference between the illustrations and the words is apparent throughout the whole book, but the high proficient children's understanding of the story was negatively affected. When they were asked the question, "Why isn't Lily afraid when it is getting dark"?, all of them responded "Because her dog is there with her," "Because she had Nicky". The reason the high proficient children were not misled by the different information in the seemingly competing illustrations and words may be because their reading is proficient enough for them to grasp the main idea of the story so that they were not confused by the illustrations. The mean for the correctly answered questions was 7.7 out of the 10 questions, median is 8 and mode is 8.

Interview responses and interpretations. The high proficient children reading the counterpoint story with illustrations were asked the same interview questions as those asked for the complementary books. They were interviewed about whether and how they used the illustrations in their reading and what role illustrations play in their reading. The two major functions of illustrations were mentioned by the children reading *Lily Takes a Walk* with illustrations: helping with unknown words and enhancing understanding. For example, one child (CLTWHPI^{+}B4) in this group said that looking at illustrations made the reading of the words easier because the pictures match the words in the story. Another child (CLTWHPI^{+}G3) pointed out that pictures can show her what the characters are doing so that she can understand what the story is about. The high consistency in the children's point of view on the use of illustrations is not a coincidence, but implies that they were taught about how they can possibly utilize illustrations to help them to read better.

It is interesting to point out that only three children (CLTWHPI^{+}B2, CLTWHPI^{+}B5, CLTWHPI^{+}G4) in this group of high proficient children reading with illustrations clearly said that they did not look at the pictures while they were

reading because they could read the words. Others all said that they looked at the illustrations for a variety of reason (e.g., for recognizing words, illustrations are beautiful, see what is in the pictures). However, from the observation of the children's reading, few of them really paused and looked at the illustrations to help them to decode a word or find a clue about the story. They generally only scanned the illustrations before or after they read the words. It seems to these children that reading words without looking at the illustrations is not appropriate because the use of illustrations was constantly emphasized in their classes. They thus tended to say that they used illustrations in their reading for the reasons that they were taught.

Regarding the contradictory places between the words and illustrations in the story, only one child (CLTWHPI^{+}B2) mentioned that the illustrations look a little bit strange. When he was asked whether he liked the pictures in the book, he said "Yes, because when the monsters come out on one side, there is another monster comes out on another side, but the pictures are really weird." His remark on the illustrations reveals that he paid attention to the illustrations, but it seems he was not able to make use of them to help with the print in order to understand the story. One possible reason that only one child indicated that the illustrations looked somewhat different from what the words describe is that most of the high proficient children focused on reading the words rather than on the illustrations. Most importantly, because they were able to read the words, they already knew what happened in the written story because of their high reading proficiency.

All the children in this group thought that the story, *Lily Takes a Walk* was easy to read for the reason that they could read most or all of the words and not the illustrations per se. In addition, when they were interviewed about what kinds of books that they thought were easy for them to read, almost everyone said that books with pictures are easy not only because picture books have easy words but also because pictures help you to read. For example, one child (CLTWHPI^{+}G4) said "I like *Purple Princess Wins the Prize* because it has pictures and easy words in it." The interviews with the children imply that they see the role illustrations

play in their reading is to support the words and assist them to read when they have difficulties with words.

Overall summary. The high proficient children reading *Lily Takes a Walk* with illustrations misread only a few words in their oral reading. In the small number of the miscues that they made, they used the strategies of substituting the most, followed by sounding out, then the illustrations, and finally, skipping words. When orally reading the story, some of the children used the relevant illustrations to help them grasp the idea of unknown words and substituted words that shared similar meanings. On the other hand, the illustrations presented information irrelevant to the words and one child substituted the unknown words with words that did not make sense in the context of the written story. When the children followed the information provided in the words or the supportive illustrations or both, they usually answered the literal questions correctly. However, scenes that do not clearly correspond with the words may cause readers to have multiple interpretations about what the words describe, and thus confuse them about the story. It is important to note that the counterpoint parts of the illustrations generally seemed not to negatively affect the high proficient children's comprehension of the story. The reason may be that these children already have a solid understanding of the story because of their high reading proficiency, thus, the illustrations that are not directly related to, contradict the words, or tell a different story did not mislead their interpretation of the story. From the interviews with the children, it fair to say that the children were taught about the beneficial use of illustrations in their reading. Most of them mentioned the two major functions of the illustrations, helping with unknown words and to better understand the story. However, from my observations of the children's oral reading, few of them used the illustrations in their reading even when they met unknown words. In addition, these children tended to think that the words are more important than illustrations in a book. The children said that illustrations may help to read better, but oddly they didn't seem to use them to read unfamiliar words.

High proficient readers reading without illustrations. The group of children who read *Lily Takes a Walk* without illustrations followed the same procedure as those who read the story with illustrations.

Reading strategies used in oral reading. The high proficient children reading without illustrations tried to sound out the unknown words in their reading (48% of the time). They usually could sound out the beginning part and sometimes the ending part of the words, but the middle part appeared to be the most challenging. For example, one child (CLTWHP-G2) who sounded out four words in the total number of five words that she misread, correctly read all of the beginnings, only one ending and no middle part of the words (e.g., *fl-flitter, so-swoop, gails-gulls, can-canal*). She substituted the word, *supper* with *super*. Another child (CLTWHP-G4) sounded out some unknown words as *niver-never, birdge-bridge, earlyd-already*. Other examples included *gills-gulls, Hail-Hall, mom-momnet*. The way the children sounded out the words suggests that they did not have a strategy to help them with blends in the middle of words. It seemed that they just pronounced the middle part of the words by guessing how the vowels might sound and were unable to think about a word that sounded like the beginning and ending parts.

The second strategy that the high proficient readers tended to use was substituting. They substituted unknown words with words that they knew about 41% of the time. The substitutions that they used were similar to the high proficient children reading with illustrations, that is most of the substitutions looked highly similar to the original words, but were not semantically acceptable even though some were occasionally syntactically correct. Take one child (CLTWHP-G5), she substituted the word *hours* with *holes* in the sentence, *Sometimes they walk for hours and hours*. The first two letters of the two words are exactly the same, but they have radically different meanings. This child seemed to make the substitution without thinking about whether the word, *holes* made sense in the sentence and within the story, which suggests that she used only some of the orthographic clues of the words to substitute unknown words. Other

examples in her reading included *clear* for *clever*, *for* for *far*, *mountain* for *moment*. Three children in this group used the word *super* as a substitution for *supper*. The two words share a high orthographic similarity, but they neither have the same syntactical function nor similar meanings. Based on their reading proficiency, if these children were taught how to monitor what they read, they may have been able to detect that the substitution *super* does not make any sense in the sentence, *She can see the light in her window and smell her supper cooking*. This finding implies that sometimes the high proficient ESL children merely orally say the words without paying attention to whether their reading is correct in the context of what they are reading.

Only two high proficient children reading without illustrations skipped words (one skipped 2, another skipped 1). The average number of words that the children correctly read was 179 out of a total of 182, the median was 179.50 and the mode is 182. These measures are very close to those in the group reading with illustrations (mean = 178, median = 180.50, mode = 181), which indicates that the illustrations did not offer a significant advantage to the high proficient children's oral reading of the story with illustrations.

Answers to comprehension questions. The high proficient children reading without illustrations mainly followed the information provided in the print to answer the literal questions. The average number of correctly answered literal questions was 4 out of 5 questions (range was 2–5). Five children (CLTWHP-B1, CLTWHP-B2, CLTWHP-G1, CLTWHP-G2, CLTWHP-G6) in this group could not give a correct answer to one question, Where does Lily's dog sleep? In the words of the story, it explicitly says *Before long, it is time for bed. Nicky is already in his basket*. However, the 5 children seemed not to follow the information in the story but rather their own experience to answer the question about where a dog usually sleeps. Their answers included "downstairs," "in the house," and "in his bed," which gave only general places that a dog could possibly sleep rather than specifically where Nicky slept. The children's answers to this question implies that relying only on what the readers know generally on a

topic to answer a specific literal question is insufficient and thus not effective in the context of the story, *Lily Takes a Walk.* One child (CLTWHP-B1) may have used the illustration on the cover of the book to answer one question. He gave the answer "Get flowers" to the question, "What did Lily do for her mother on the way home?", suggesting from the book cover that Lily picked flowers for her mother because flowers are on the lower right hand picture of the cover. Under the non-illustration condition, the only sources of information were the print and the context. If this boy merely followed what is described in the words, *Today on the way home, she does the shopping for her mother,* his answer would be something like "Go shopping" or "Shopped for her mother" without mentioning the flowers. No place in the print indicates what Lily bought for her mother. On the illustration of the book cover for children reading without the illustrations, Lily is depicted to look very happy and she is holding a bunch of flowers as she walks on the street. It is thus reasonable to say that this child used the pictorial information carried in the illustration on the cover to answer the question, which suggests that supportive illustrations may offer the readers more information to help them to comprehend the story. Most of the children used both the print information and their background knowledge to answer the inferential questions. The strategy of combining the actual information with the readers' knowledge on the topic was shown to be effective when answering questions that require the readers to make inferences. The children answered correctly on average 3 out of 5 inferential questions. When the children used only the information provided in the story or only their background knowledge to answer the inferential questions, their answers were usually incorrect. For example, one child (CLTWHP-G2) gave the answer "Yes, because she said it is the best moment of all" to the question, "Does Lily enjoy her walk with her dog? How do you know?" This child used what is described in the print to answer the question. However, the information that she used was not correct for answering the question. The description in the sentence, *This is the best moment of all,* is used to express how happy Lily is when she finally gets home for dinner after a long walk. In the context of the

story, the description in the sentence is not related to the comprehension question asked. How this little girl answered the question suggests that to correctly answer comprehension questions requires the readers to use information relevant to the question asked rather than just any information in the story. Another child (CLTWHP-G1) who correctly read all the words in the story seemed to over-rely on her background knowledge to answer both the literal and inferential comprehension questions. When she was asked the literal question, "What do Lily's mother and father like to hear?", her answer was "Music? I forgot." Like she said in her answer, she forgot what she read in the story so that she could not give a correct answer. However, using the information in the question asked, she made a guess based on her knowledge on the topic of what people usually like to hear. When answering another inferential question, "After a good walk with the dog, does Lily want to go home? How do you know?", her answer was "Yes, it's maybe a little bit too cold." It is apparent that she did not follow the information provided in the story, but rather used only her experiences with what the weather feels like when it is getting dark to give an answer. The two children's answers to the questions indicate that to correctly answer the inferential questions requires readers to connect the relevant literal information in the story with their background knowledge on the topic. Relying on only one of the information sources is ineffective when answering inferential questions.

In this group of 10 high proficient children, three children (CLTWHP-G1, CLTWHP-G3, CLTWHP-G7) read all the words correctly. However, one of them (CLTWHP-G1) correctly answered only 4 out of the 6 comprehension questions, which was the lowest score of the 10 children. One possible explanation is because this child focused on decoding the words, which significantly reduced her ability to construct meaning while she was reading. This finding may suggest that some ESL children's comparatively poor understanding of a story may result from their intense focus on identifying words rather than constructing meanings which in turn would help both.

The average number of correctly answered questions was 6.9 out of 10 questions. The median and mode are each 7 with a range from 5 to 8. All three measures are lower than those of the group of high proficient children reading with illustrations (Mean = 7.7, Median = 8, Mode = 8 and range was from 5 to 9), which may imply a marginal advantage for the children reading with illustrations. In addition, the contradictory part of the illustrations that depicts Nicky's fear on the walk seems not to have affected the high proficient children's comprehension of the story possibly because their reading proficiency level was high enough for them to understand the story through reading the print and thus, helped them to overcome the confusions that may be caused by the contradiction between the illustrations and the words. For the children reading without illustrations, they were neither provided with pictorial information carried in the supportive illustrations nor misled by the contradictory part. Their comprehension of the story was basically determined by their reading proficiency level and their reading of the print. It is thus fair to say, compared to those reading with illustrations, the children under the non-illustration condition have only the print and the story context to assist them to construct the meaning of the story. Even though the contradictory part in the illustrations may mislead the children reading with illustrations, the other parts of the illustrations (e.g., Lily's facial expressions, the places where they walk, what Lily is doing) could possibly give them some information about the story. Moreover, the children's high reading proficiency ensured some advantage because in the case of the counterpoint illustrations the print alone was not sufficient to understand the story.

Interview responses and interpretations. The high proficient children reading *Lily Takes a Walk* without illustrations were interviewed about their viewpoints on whether they prefer to have illustrations in the story, how they would use the illustrations if there were any, and the role illustrations may play in their reading. Ninety percent of the children responded that it does not matter to them that the story has no illustrations. The major reason was that they were able to read most of the words in the story. When one child (CLTWHP-G5) was asked

whether it matters to her that there are no pictures in the story, she said "No, it doesn't matter to me because I can just read the words." Some children already stated that they acknowledge that not every book has pictures, they thus did not mind reading a book without pictures. For example, one child (CLTWHP-G1) said that books like *Harry Potter* do not have pictures, therefore, she thinks that reading a story with no pictures is just fine.

Even though most of the children stated that reading the story without illustrations is acceptable to them, over half of them expressed their preference to have illustrations in the story. The reasons that they gave can be generalized as two beneficial functions that illustrations may offer to their reading: helping with recognizing unknown words and showing what happens in the story. One child (CLTWHP-G5) pointed out that she likes seeing pictures because pictures help her to read unknown words. She even gave an example. She said "If I don't know *walk*, and then someone is walking (in the picture), then I know it's *walk*." Another child (CLTWHP-G2) stated a similar point, she used a word in the story as an example. She said "Like Nicky is a dog. If I don't know the word, *dog* and I don't know how to sound out the word, I can just look at the pictures." These children's remarks about how illustrations may help them to decode words reveal that they attempt to match the words with the illustrations while they read, particularly when they see unknown words. However, the examples of the words (*walk* and *dog*) that the children gave are words that they already knew. Therefore, it is fair to say that their use of the illustrations is not to identify but rather to confirm what they read. The analyses of the children's reading under the illustration condition revealed that the strategy of utilizing illustrations to decode unknown words is ineffective for many reasons (e.g., how the illustrations and print are related, whether and how readers make connections between the illustrations and print).

Two children mentioned their preference for books with illustrations for the reason that illustrations can show them what happens in the story. When one child (CLTWHP-B3) was asked whether and why he prefers books with pictures,

he said "I like pictures better than words because pictures are nice, and words are just plain. When you can't read or sound out (words), you can just guess from the pictures what's happening in the story." Another child (CLTWHP-G5) stated that she likes to see what things look like in the pictures. The interviews with this group of high proficient children on their viewpoint of the importance of illustrations in storybooks imply that to some extent they all have an idea about the possible use of illustrations in their reading. However, the study with the children at the same reading proficiency level reading with illustrations reveal that they did not have specific strategies to use the illustrations, particularly when they needed to use illustrations to recognize unknown words. In addition, many mediating factors (e.g., the nature of the illustrations, how the illustrations and words are related, etc.) affect how illustrations may be utilized by the readers.

By the end of the interview, in order to further understand how the children see the use of illustrations, they were asked about what kinds of books they tend to pick up to read. Similar to their intention to include illustrations in books, most of the children expressed that they like to pick books with pictures to read. For example, one little boy (CLTWHP-B3) said "I like books with nice covers and a lot of pictures because if you just look at the (picture) on the cover, you might roughly get what happens in the story, then you don't need to read that much." Another child (CLTWHP-G7) likes picture books for the reason that she needs to first see what's happening in the story, then she can read. Even though most of the children stated their preference for illustrated books, some of them indicated that they liked to read words only. The reasons that they mentioned basically focused on their willingness and ability to read only words. One child (CLTWHP-G6) said that she mostly picked non-picture books because she likes to guess when she does not know how to read some words or she can just sound the words out. The children's remarks on their preference to choose books reflect their different attitudes towards the role illustrations play in their reading. Even though three children stated that they like to read the words, it is necessary to note that illustrations are viewed by most children as an important source of

information while reading, particularly when they have difficulty with the print. However, their ideas on the use of illustrations are too general to be effectively used.

Overall summary. Like the children reading with illustrations, the high proficient children reading *Lily Takes a Walk* without illustrations also made few miscues in their oral reading. Mostly, they attempted to sound out the unknown words and sometimes they used substitutions that shared a high orthographic similarity to the original words. Only two children skipped a few words in their reading. Generally speaking, the children's understanding of the story was good. They mostly used effective strategies to answer comprehension questions, namely, using the factual information provided by the print to answer the literal questions and both the print information and their background knowledge to answer the inferential questions. A few children were unable to connect the relevant information with the comprehension questions asked and tended to rely on what they knew about the topic generally to answer inferential questions. However, the print alone was not sufficient to understand the story, *Lily Takes a Walk* because the illustrations and the print do not correspond. Lily and her dog, Nicky had different experiences as portrayed by the illustrations. These difference experiences were not available to the children reading without illustrations. The average number of correctly answered questions in this group of high proficient children under the non-illustration condition was slightly lower than the children reading with illustrations, which may suggest that the relevant part of the illustrations provided readers with information about the story. Most of the children reading without illustrations indicated their preference for books with illustrations for the reason that illustrations are useful for them to read better. Other children stated that they like to read words rather than look at pictures. They reported that they do not need illustrations for help because they are able to read words or they can sound out the words that they do not know. In the case of counterpoint stories where the illustrations tell a different story, the children would need both to understand the story in its entirety.

Low proficient readers reading with illustrations.

Reading strategies used in oral reading. The low proficient children read *Lily Takes a Walk* with illustrations and made lots of miscues in their oral reading. The average number of correctly read words was 152.5 out of 182 with a range from 126 to 170 (Median = 151.50). There was no mode for this data set. The most frequent strategy the children tended to use was skipping unknown words, which was on average 68% of the time in their reading. For example, one child (CLTWLI^{+}B5) omitted 52 out of 56 words which means that this child used the strategy of skipping over 92% of the time. Another child (CLTWLI^{+}G1) skipped 31 words out of a total of 35 miscues which is about 89% of the time in her reading. The child (CLTWLI^{+}G5) who made the fewest miscues (12) in the low proficient group of children reading with illustrations still skipped 7 of the 12 words (58%). These results suggest that the low proficient children simply skipped unknown words and appeared not to have any effective reading strategies to decode words that they did not know.

The second most frequently used strategy by the low proficient children was to substitute words (20% of the time). The substitutions that the children made were mostly orthographically similar to the original words, however, few of them made sense in the context of the story. For example, the child in the group of the low proficient children reading with illustrations (CLTWLI^{+}B1) who made the most substitutions (19) in his reading substituted *hours* with *heres*, *smell* with *small, supper* with *super*, *tight* with *that*, *sleep* with *stop, now* with *new, already* with *all day*, and *says* with *saw*. Take the example of *small* for *smell* for instance, only one letter in the two words is different, but the two words are different both syntactically and semantically. The substitution, *small* does not make sense in the sentence, . . . *and smell her supper cooking*. Take the substitution of *sleep* for *stop* as another example, the two words share the same beginning and ending letters, but have different middles. The meanings of the two words are also different, therefore, the substitution, *sleep* is not semantically acceptable in the context of the story. He also substituted *tight* with *that*, which made the sentence,

Sleep tight, become *Stop that*. The phrase *stop that* has meaning, however, not when used in this story. The miscues that the child made suggest that he substituted words based on appearance and not whether they made sense in the context of *Lily Takes a Walk*. Another (CLTWLI^{+}G2) substituted *clever* with *called*, *evening* with *everything*, *stars* with *stairs*, and *hours* with *homes*. Similar to the first child, this little girl's substitutions also had a high orthographic similarity to the original words, but only some were syntactically acceptable and very few were semantically acceptable. Examples of the substitutions used by other children in the group of low proficient children reading the illustrated story included *ever* for *even*, *horse* for *house*, *even* for *evening*, *for* for *far*, and *house* for *hours*. These and all the other examples suggest that the children substituted words that looked like those in the story and failed to consider whether the substitutions functioned syntactically and semantically in each specific sentence, which in turn significantly reduced the amount of text that they were able to understand. Therefore, it is fair to say that substituting merely based on orthographic forms of words is an ineffective reading strategy, especially when syntax and meaning are not considered.

The third most frequently used strategy by the group of low proficient children reading with illustrations was to sound out the unknown words. The average use of this strategy was about 11% of the strategies used by the children. One child (CLTWLI^{+}G4) did not sound out unknown words at all, and four children (CLTWLI^{+}G1, CLTWLI^{+}G3, CLTWLI^{+}G5, CLTWLI^{+}B5) sounded out only one unknown word in their reading, and they read only the beginning parts of the words correctly (e.g., *be-behind, ar-aren't, s-second, to-today*). Most of the time, the children could sound out the beginning parts of the words, and sometimes they could also sound out the ending but rarely the middle parts. For example, the child (CLTWLI^{+}B1) who used the strategy of sounding out the most frequently in the group of 10 children sounded out 9 words in his reading. He read most of the beginning parts correctly (e.g., *hourse-hou, wavy-waves, H-Hall's, marment-moment, ev-evening, beuse-because*), one middle part (*stas-starts*)

and one ending (*marment-moment*). Examples of the sounded out words from other children included *be-begins, can-canal, on-own, baskt-basket, Hill's-Hall's, birge-bridge,* and *be-behind*. The examples of the way the children tried to sound out unknown words show that the low proficient children usually were able to sound out the beginning parts of the words, and had difficulty with the middle and ending parts of the words, which implies that they have weak phonological awareness skills to help them to pronounce words containing more than one vowel.

Three children (CLTWLI^{+}B1, CLTWLI^{+}G3, CLTWLI^{+}B5) in the group of the low proficient children appeared to have used the illustrations in the story to help them to recognize words. One child (CLTWLI^{+}B5) used the word, *house* to replace the phrase *own corner* in the sentence, *At last she comes to her own corner*. Orthographically speaking, the word, *house* has nothing in common with *own corner.* However, in the illustration, Lily was depicted to be holding a bunch of flowers and walking towards two houses on the other side of the street. The sky was colored as black and dark blue to represent the evening coming. Based on the previous scenes in the story, it is thus natural for the readers to get the idea from the illustration that Lily was going home after a long walk. The substitution, *house* not only syntactically but also semantically fits in the context of the story. The examples of the children's possible use of the illustrations suggest that the illustrations corresponding to the print provided readers with information about the story. Please note that the contradictory parts of the illustrations in the story seemed to have no effect on the children's reading of the words. One possible reason could be that the counterpoint illustrations cannot provide the readers with useful information to help them recognize unknown words. Another reason could be because the low proficient children could read only a limited number of the words which made it even harder for them to relate the contradictory illustrations to what they were trying to read.

Answers to comprehension questions. The low proficient children reading *Lily Takes a Walk* with illustrations more or less followed the information either

in the print or in the illustrations to answer the factual questions. The children's comprehension of the factual information in the story was limited which was caused mainly by the limited number of words that they were able to read correctly. The mean for the correctly answered factual question was 2.5 out of 5 with the range from 1 to 4 (Median = 2.5, Mode = 2). The illustrations in the story were found to provide the children with some information about what was happening in the story. Similar to the high proficient children reading the story with illustrations, three low proficient children ($CLTWLI^{+}G2$, $CLTWLI^{+}B3$, $CLTWLI^{+}B5$) used the pictorial information to help them complete their answers for the question, What did Lily do for her mother on the way home? Their answers all expressed the similar meaning that Lily bought flowers for her mother (e.g., Pick some flowers, Bought her flowers, etc.). As discussed in the previous section on how high proficient children read with the illustrations, the print does not explicitly state that Lily bought flowers but rather only mentioned that she shopped for her mother. However, a bunch of flowers are held by Lily as she walks. This information carried in the illustrations showed these children what Lily shopped for her mom and therefore aided their comprehension. Another child ($CLTWLI^{+}G1$) also used the illustrations to help her answer the question, Where does Lily's dog sleep? She pointed to the last page of the story and said "Here, basket." In that illustration, Nicky was portrayed resting in a basket and his eyes were partially closed. The running record of this child's oral reading revealed that she omitted the word, *basket*, in her reading, but the pictorial information gave her the clues to answer the question. These children's use of the illustrations to answer the factual questions implies that relevant illustrations carry useful information for readers to get ideas about the story. It is necessary to note, however, that the contradictory part of the illustrations was found not to negatively affect the children's ability to answer the factual questions. One explanation is that the factual questions asked were not related to the contradictory part of the illustration that portrays Nicky's fear of the imaginative things. All of the factual questions are designed based on the written text of the

story. Thus, how effectively the children would have answered the factual questions about the contradictory part of the illustrations remains unclear and is a shortcoming of the questions asked.

The low proficient children were found to have difficulties in answering the inferential questions. One possible reason was that the limited factual information that they understood from the story prevented them from making inferences which requires an integration of both the text interpretation and background knowledge. Some children did not even respond to the inferential questions. For example, two children ($CLTWLI^{+}G3$, $CLTWLI^{+}G5$) did not give any responses to the five inferential questions, one child ($CLTWLI^{+}G1$) did not answer 4 out of 5 questions, and one child ($CLTWLI^{+}G4$) did not answer 3 out of 5 questions. The average number of correctly answered questions was only 1.4 out of 5 with the range from 0 to 3, the median was 2 and the mode was 2. Inferential questions require an integrative process whereas many factual questions mainly asked a child either to locate or recall the answers. Factual questions often do not tell us whether children have understood even though they answered correctly.

The illustrations were found to be used by the children when answering inferential questions. Their use of the illustrations seemed to be generated in two ways. First, they used the supportive information in the illustrations to help their understanding of the story. For example, when one child ($CLTWLI^{+}B4$) was asked the question, "Does Lily enjoy her walk with her dog?" How do you know?, his answer was "Yes, because Lily was happy, she looks smiley (in the picture)." This child used Lily's facial expression portrayed in the illustrations to make the judgment that Lily was happy, and then combined background knowledge to make the inference that Lily enjoyed the walk. When the other two children ($CLTWLI^{+}B3$, $CLTWLI^{+}B5$) were asked the question, After a good walk with the dog, does Lily want to go home? How do you know? Their answers were "Yes, the picture showed. It's time for dinner" and "Yes, in the story, I saw it was night and there was something that I thought was the stars." It is apparent

that the two children used the scenes, colours (dark colour to represent night), and symbols (the stars) depicted in the illustrations to generate information to make the inference. The examples of how these children used the pictorial information suggests that supportive illustrations carry useful information about what the story is about, and thus provide readers with possible aids to understand the story.

Second, some of the children were confused about what happened to the dog, Nicky, by the contradictory part of the illustrations. Take a child's (CLTWLI^{+}G4) answer for the question, "Why isn't Lily afraid when it is getting dark?" for instance, her answer was "She has her dog with her, but the dog is afraid of all the monsters." From the first part of her answer, it is fair to say that this child got the idea that Lily is not afraid because Nicky is there with her which is explicitly indicated in the print. However, her following statement in the answer implies that she was uncertain about what she said at the beginning. She seemed to be confused about why the dog was depicted to see the things that Lily did not see and looked so scared. Let's look at another , "Does Lily enjoy her walk?" "How do you know?" One child (CLTWLI^{+}G2) answered "Yes, she was the one that was walking, but the dog was afraid of the stuff." This child thinks that Lily enjoys her walk because the illustrations show that Lily was actually the one who was taking the walk, but the dog seemed not to enjoy the walk and was afraid of everything that he saw. This child seemed to have the same confusion as the previous child (CLTWLI^{+}G4) about why the dog was scared. Another child's (CLTWLI^{+}B3) answer for the question was "Yes, because I read. The dog was scared. I saw he is mad at all the scared stuff and Lily was walking and always didn't aware (of the scared stuff)." However, all of the dog's imagination on the walk portrayed by the illustrations was not mentioned in the print at all. The contradiction between the text and the illustrations made him think that the reason why Lily enjoyed her walk was because that she did not see the scary things that Nicky saw which is not correct. Reasons like "She likes walking with Nicky," "She went to a lot of places on her walk," "She saw and did a lot of interesting things," are examples of acceptable responses. How the children answered these

questions suggests that the contradiction between what the illustrations depict about the dog and what is described in the words made the children confused about what they read and understood, and then uncertain about how they should answer the questions. Their misunderstanding and confusion about what happened in the story in turn negatively affected the inferences that they made. The low proficient children reading with illustrations correctly answered 3.9 out of 10 questions on average (range from 1 to 6), median was 4.5 and mode was 5.

Interview responses and interpretations. Most of the low proficient children reading *Lily Takes a Walk* think that illustrations can help them to read unknown words. For example, when the children were asked whether they looked at the illustrations while they read and the reasons why they did so, one child (CLTWLI^{+}B5) said "Yes, just to help me read the book. Look at the pictures and then I know they are doing something, and then I know the words." Another child (CLTWLI^{+}G2) expressed a similar point, she said "Yes, because it helps me figure out the tricky words that I want to get right." The basic reason why the low proficient children see a major role for illustrations is to help them to recognize unknown words based on information depicted in the illustrations in order to get clues about the story and then to help them to figure out what the words are. However, analyses of the children's running records reveal that using the illustrations to decode specific words in the story is ineffective. Nobody in this group of the low proficient children successfully recognized an unknown word by looking at the illustrations. One child (CLTWLI^{+}G6) gave an example of how she could use the illustrations to help her. She said, "Like Lily is taking a walk, if I don't know the word, I can look at the pictures because she is walking (the pictures)." This child articulated the same viewpoint on the use of illustrations as the previous children. The example that she gave seemed to logically explain how she could use the illustrations to decode unknown words. Nevertheless, this example is actually a case to show that this child already knew the word, *walk* and used the illustrations to confirm what she read rather than how she uses the illustrations to decode the word, *walk*. When she was further asked how she used

the illustrations, she said that she looked at the pictures to see whether the pictures matched the words, which confirms that she was trying to make connections between the words and the illustrations rather than to use the illustrations to recognize the words.

Nine out of 10 children in the group of the low proficient children reading with illustrations reported that the story of *Lily Takes a Walk* is difficult for them to read. The major reason was that they couldn't read many of the words in the story. When they were asked further what kinds of books are difficult for them to read, they reported that books with illustrations are easier to read than books without illustrations for two reasons: books with illustrations usually have easier and fewer words; and, illustrations provide them with information about the story. The children's viewpoint on the difference between difficult and easy books revealed that they somewhat hope to rely on the presence of illustrations to help them to read better. However, the study on their reading of the story with illustrations suggests that they have neither clear ideas about how the illustrations can be used effectively nor specific strategies to make use of the illustrations.

Overall summary. The low proficient children reading with illustrations tended to skip words that they did not know. They made substitutions that share high orthographic similarity with the original words, but those substitutions often are not semantically or syntactically acceptable in the context of the story. A few children tried to sound out unknown words in their reading. However, they could only sound out the beginning part, and had difficulty with the middle and ending parts of the words. Three children used the illustrations to help them to get the possible meanings of the unknown words and then to make meaningful substitutions, which implies that the relevant illustrations provide readers with useful information to read better. The low proficient children's comprehension of the story was not good for at least two main reasons. The supportive part of the illustrations provided some of the children information to answer factual comprehension questions. On the other hand, the contradictory part of the illustrations confused the children about what they read which in turn negatively

affected their inferences. Most of the children in this group of low proficient children see the role illustrations play as to help them to recognize unknown words. However, the examination and observation of their oral reading suggests that using the illustrations to decode unknown words is ineffective. Some children think that illustrations can show them what is happening in the story and therefore enhance their understanding. Some examples of the children's answers to the comprehension questions revealed that the illustrations related to the words are useful in giving readers general ideas about what the story is about, but the information that they get from the illustrations does not necessarily reflect their comprehension of the story especially when they seem to miss the parallel story of Nicky and his imagination.

Low proficient readers reading without illustrations.

Reading strategies used in oral reading. The low proficient children reading *Lily Takes a Walk* without illustrations used substituting the most frequently in their reading. They substituted words about 48% of the time on average. Similar to the low proficient children reading the story with illustrations, most of the substitutions the children used were orthographically similar to the original words without evidence of consideration of the semantic and syntactic functions of the substitutions. For example, one child (CLTWLI˙G1) substituted 17 words out of 21 miscues that he made which is about 81% of his reading miscues. However, none of the substitutions made sense in the context of the story, and only some of them were syntactically acceptable in the sentences. Take one word for instance, she made the substitution *owl* with *own* in the sentence, *At last she comes to her own corner*. The two words, *owl* and *own* have a high orthographic similarity in which only the last letters are different, but they have different meanings and serve different semantic and syntactical functions. The substitution of *owl* does not make sense in the context of the story. Other examples of the substitutions she made include *base* for *bats*, *morning* for *moments, holes* for *hours, super* for *shopping*, *bird* for *bridge*, and *always* for *already*. Another example is *holes* for *hours*, the original word *hours* in the

sentence, "*Sometimes they walk for hours and hours*" was substituted by *holes*. The two words share similar beginnings and endings. Even though they are both nouns and thus serve the same syntactic function, semantically they have totally different meanings.

Let's look at another example, the child (CLTWLIG4) who substituted 23 words in her running record of reading (79%) read *smell* as *smile*. Even though the two words are both verbs and they look similar, they represent different meanings. The substitution, *smile* does not make sense in the sentence, . . . *smell her supper cooking*. Other substitutions that this child made are also partially orthographically similar to the original words (e.g., *stopped* for *shopped*, *birth* for *behind*, *cow* for *own*, and *breakfast* for *basket*). Some examples of substitutions from other children include *can* for *canal*, *no* for *now*, *stair* for *star*, *ever* for *evening*, *slip* for *stop*, and *some* for *smell*. The patterns across the substitution miscues the children made suggest that they tended to substitute words based on the orthographic forms of the words in the text without monitoring whether the substituted words were semantically or syntactically acceptable in the story. These substitutions suggest that the children were working hard to decode but making little meaning out of what they read and thus, their use of the substituting strategy was rendered ineffective.

The second most frequently used strategy by the low proficient children was to skip unknown words - 31% of the miscues. It is necessary to note that two children (CLTWLIG3, CLTWLIG5) did not skip any words in their reading. These children read comparatively better than the other children in the group of low proficient children. All other children more or less skipped some words. For example, one child (CLTWLIB3) skipped 41 words out of the total of 57 miscues that he made, which is over 70% of his reading miscues. Another child (CLTWLIB5) omitted 17 words of the 22 miscues which means that he did not know how to read unfamiliar or unknown words about 80% of the time in his running record of reading. The fact that most of the low proficient children

tended to simply skip the words that they did not know suggests that they did not have effective reading strategies to decode the unknown words.

The third strategy that the children used was to sound out the unknown words (22%). The beginnings of the words were the easiest part for the children, and then the endings, and the middles were the biggest challenge. The examples of the words that the children sounded out included *st-star, f-flitter, k-corner, nit-night, mi-mother, mon-moment,* and *tit-tight*. It is interesting to note that one child (CLTWLI-B1) in the group of the low proficient children could sound out only the first letter of some words that he attempted to read. Twenty percent of the words that he attempted to sound included only the first letter (e.g., *s-smell, e-evening, a-always, w-walk, s-say, s-she, a-all*). The low proficient children used the strategy of sounding out but it is evident that these children have weak phonological awareness skills to assist them to read words. Even though only one particular case of sounding out the first letter of the words was found, this case still reflects that some of these children's phonological ability may remain at the letter by letter alphabetical level rather than words as a whole. The average words that the children read correctly was 152.5 out of 182, the median was 160.5 with the range from 88 to 181. There was no mode in this set of data. The median is slightly higher than that of the low proficient children reading with illustrations (Median = 151.50), but the mean is the same. This result may suggest that illustrations do not help the low proficient children to recognize and read unknown words. Even if the illustrations are a possible aid to provide information about the story, the low proficient children did not read more words correctly than the children at the same reading proficiency level reading with no illustrations. On the other hand, this finding also confirmed the discussion in the previous section on low proficient reading with illustrations, that is, the contradictory part of the illustrations did not affect the children's reading of the words. Therefore, no matter the nature of the illustrations (complementary or contradictory), the children's oral reading of the words were neither positively nor negatively affected. Whether they were able to read the words was mainly determined by

their reading proficiency level rather than their dependence upon other sources of information provided in the accompanying illustrations.

Answers to comprehension questions. The low proficient children followed the factual information in the story to answer the literal questions, and their answers were usually correct. The average number of correctly answered question was 2.6 out of 5 questions (range from 1 to 4). The question that the children most struggled with was, "What do Lily's mother and father like to hear about Lily's walk?" Five out of 10 children answered it incorrectly, and four children did not give responses at all. For example, one child's (CLTWLΓB3) answer was, "Saying good night." As described in the story, Lily goes to say good night to the ducks and gulls in the canal when it is getting dark. This child simply used this information to answer the question without considering whether the information was relevant to the question asked. The answer of another child (CLTWLΓB1) to the same question was, "Her fun." It is speculated that this child used his background knowledge to answer the question. To this child, he thought that Lily must have fun while she is taking her walk with Nicky and Lily may tell her parents about her fun. It is explicitly indicated in the sentence, *Lily's mother and father always like to hear what she has seen on her walk*. However, this child responded on the basis of his experience with the topic rather than the information provided in the story to answer the factual question asked.

Another factual question that almost half of the children had problems with was, "What does Lily do for her mother on the way home?" Two children's answers (CLTWLΓG1, CLTWLΓG5), both expressed the meaning that Lily helps her mother to cook (e.g., cook dinner). It is apparent that they did not follow the information provided in the story but used what they know on the topic to provide an answer. The findings on how the children answered the factual questions imply that the low proficient children did not follow the information provided in the story when they answered the factual questions. Others did not respond. One possible reason for their non-response to the questions and the incorrect answers

may be attributable to the high number of substituted and skipped words, which resulted in their incomplete understandings of the story.

The low proficient children had even greater difficulty with the inferential questions. Three of the 10 children (CLTWLI-B1, CLTWLI-B2, CLTWLI-B3) did not answer any of the questions correctly. Most of the time, the other seven children gave no responses or answered "I don't know" when they were asked the questions, which suggests that their ability to make inferences based on the information provided in the story and their background knowledge was weak. One possible explanation could be that the limited information that they understood from the story prevented them from making the inference. It could also be that they did not know how to use effective strategies to answer the inference questions. The mean for the correctly answered questions was only 1.2 out of 5 (range from 0 to 3).

Unlike the children reading with illustrations, the low proficient children did not have illustrations as a possible aid or distraction available to them. As mentioned previously, the major contradiction between the illustrations and the print in the story is the place where the print describes that the dog, Nicky, is able to protect Lily while the illustrations portrayed Nicky as scared of the imaginative things wherever they went. For this group of low proficient children reading *Lily Takes a Walk* without illustrations, about 60% of them thought that the dog was there to protect Lily while they go for a walk. When they were asked the question, "Why isn't Lily afraid when it is getting dark?" their answers indicated that Lily is not afraid because Nicky is there with her. For example, one child's answer (CLTWLI-G4) was, "Because she got Nicky"; another child (CLTWLI-B5) gave the answer, "Because she has her dog with her." These examples suggest that most of these children's understandings of that part of the story were based on the information provided in the print, *Even when it begins to get dark, Lily is never scared, because Nicky is there with her*. In addition, a plausible reason for the other children's incorrect answers to the same question may be that the children relied only on their background knowledge rather than on combining their

knowledge with the factual information to answer the inferential questions. Their answers included, "Because she is brave," and "Because she has lights". Thus, it is fair to say that the low proficient children reading without illustrations seemed not to be distracted or confused about the contradiction between the print and the illustrations about whether Nicky is there to protect Lily while they go for a walk. The low proficient children answered correctly 4 out of 10 comprehension questions on average, the mode was 4 and the median was 4 (range from 1 to 7). These measures are similar to those low proficient children reading the *Lily Takes a Walk* with illustrations (Mean = 4, Mode = 5, Median = 4.5, range was from 1 to 6). This finding suggests that the low proficient children performed more or less the same under the illustration and non-illustration conditions. One possible reason for why they performed similarly is because the children's incomplete understanding of the story already made it difficult for them to make the connections between what is described in the print and what is portrayed in the illustrations. Another possible explanation may be that the two questions that were related in the context of the contradictory illustrations were, "Does Lily enjoy her walk with her dog? How do you know?" and "Why isn't Lily afraid when it is getting dark?" Both questions required the children to make inferences on the basis of the information provided in the story and their background knowledge. For both groups of children, no matter what pictorial condition they were under, most of them had difficulty answering inferential questions as discussed previously. The means for the inferential questions answered correctly for the two groups were 1.4 (with illustrations) and 1.2 (without illustrations), which indicates that the children's interpretation of the story was at a similar level. The results of the low proficient children's performance on the comprehension questions revealed that even though the contradictory part of the illustrations confused some of the low proficient children under the illustration condition about a specific part of the story (whether Nicky can protect Lily), their overall understanding of the story was similar to the low proficient readers reading without illustrations.

Interview responses and interpretation. Similar to other children reading the stories without illustrations, the low proficient children read *Lily Takes a Walk* without illustrations basically expressed two attitudes about the presence of illustrations in books. First, half of the children reported that it does not matter to them when there are no illustrations included in a book for a variety of reasons. For example, the reason that one child (CLTWLIG1) gave was because her mother told her that it is better to read books with no pictures. Two children (CLTWLI-G4, CLTWLI-G5) stated that they do not mind to read non-illustrated books because they know that some books have pictures but some do not. Second, for the other half of the children who reported that they want to read books with illustrations, they basically stated that the pictures help them either to recognize unknown words or to know what happens in the story. One child (CLTWLI-B5) said, "It matters because when you don't know the words, pictures help. Pictures show what it's doing." Another child (CLTWLI-G3) said, "Yes, (it matters). Pictures help me when I read. So I can understand the words." The children's differing attitudes towards the presence of illustrations in books indicates that not every child prefers to have illustrations in books. However, when the children were asked further whether they prefer to include illustrations in books that they read, most of them stated that they would like to have illustrations. The major reason mentioned by most of the children was that illustrations can help read unknown words. One child (CLTWLI-G1) when asked whether she preferred to have pictures included in the story, she said "Yes, so that you know what it means when you look at the pictures." Another child (CLTWLI-G3) even claimed that she could understand all of the words in books once she understands all the pictures. The children's remarks reveal that they know that recognizing words is the foundation of reading. However, they hope to use the illustrations as an aid to decode the unfamiliar or unknown words. These children's viewpoint on the role of illustrations is more apparent in the case of the low proficient children than in the case of the high proficient children because the low proficient children have more difficulty with words than the high proficient readers. Nevertheless,

examination of the children's oral reading including both the low and high proficient readers suggests that using illustrations to recognize unknown words in storybooks was constrained by many factors and thus is largely ineffective. Also, the fact that many children failed to recognize words that they omitted reveals that using the illustrations are not useful in helping children to decode unknown words.

It is interesting to note that one child (CLTWLI˙B3) in this group of low proficient children pointed out that he likes to have pictures in books because it is fun to read a picture book. His response indicates that some children may also see illustrations as a tool to bring more enjoyment to their reading experiences which is encouraging.

Similar to the children reading with illustrations, the low proficient children think that the books with illustrations are easier to read than those without illustrations. They generalized that most illustrated books have fewer pages and words. In addition, for illustrated books, the words are usually easier than those in non-illustrated books. Examples of illustrated books that they mentioned as easy reading stories included book series of *Franklin* books, *Little Bear*, *Winnie the Pooh*, *Mr. Men* or *Little Miss*.

Overall summary. The low proficient children reading *Lily Takes a Walk* without illustrations mainly used the strategy of substituting words when they read orally. However, the substitutions were generally orthographically similar to the original words, but not semantically or syntactically acceptable in the context of the story. Skipping unknown words was the second most frequently used strategy by the children. The large number of words that the children omitted made it next to impossible for them to understand the story. The strategy that the children used the least was to sound out unknown words out. In the small number of words that the children tried to sound out, most of them were only the beginnings and sometimes the endings. The average number of words correctly read by the low proficient children reading without illustrations was similar to the low proficient readers reading *Lily Takes a Walk* with illustrations, which suggests that the counterpoint illustrations neither helped the children to recognize

more words nor distracted them from reading words that they knew. When the children could follow the information provided in the story, they usually answered the factual questions correctly. The children struggled with the inferential questions which require higher cognitive processing skills than answering factual questions. The children's general comprehension of the story was found to be at a level similar to those low proficient readers reading with illustrations for two possible reasons. First, the limited number of words that the children read made it difficult for them to make connections between the print and the counterpoint illustrations. Second, the children's weak inferential ability prevented them from answering the inferential questions related to the counterpoint illustrations and between the print and the illustrations and their background knowledge. This finding suggests that the counterpoint illustrations did not appear to have any positive effects on how much the low proficient children could read and understand in the story.

Half of the children expressed that they would like to read books with illustrations and half of them did not mind to read books without illustrations. However, no matter what their expressed preference was whether for or against the illustrations, almost all of them reported that the major role illustrations play was to help them to read unknown words. It seemed that the focus of the low proficient readers was to use illustrations to assist with words that they did not know rather than to better understand the story. The consistent viewpoint on the decoding function of illustrations in storybooks across the different groups of children was not a coincidence because it did not matter whether their reading proficiency was high or low, most of them stated that illustrations can be used as clues for reading unknown words. Thus, it is clear these ESL children were taught explicitly to utilize illustrations to identify words that they do not know.

Summary of Come Away from the Water, Shirley. This is a 22-page counterpoint illustrated book. It is a book that appears to be two stories, but with a young girl, Shirley, the main character in both. The story with print on the left illustrated pages with the exception of the opening and ending pages is about

Shirley going to the beach with her parents on a coolish and windy day. When they first arrive at the beach, Shirley's parents start putting up their beach chairs. Shirley's father seems to just want to have a rest as he sits and reads a newspaper and dozes. Shirley is given a couple of directions by her mother. She is told to go and play with other children on the beach, and not to do certain things. Her mother warns her not to get tar on her new shoes, not to throw stones, not to stroke the dog, and not to bring the smelly seaweed home. However, it seems Shirley is neither interested in playing with other children nor in paying attention to what her mother tells her.

Shirley is immersed in the joy of her own imaginative world which is portrayed only by the wordless illustrations in the book that are juxtaposed on the right hand side of the book. Shirley goes to the seaside along with the dog. In Shirley's imaginative world, she rows a boat towards the centre of the ocean. Suddenly, a big white ship is sailing closer to her boat. A group of pirates emerge and capture Shirley and the dog. Shirley fights back and eventually escapes from the ship by diving into the water. The dog snatches a treasure map from the pirates. In her vivid and active imagination, Shirley and the dog then return to their rowboat and go in search of the hidden treasure. On an island in the ocean, they find a big box of treasures. Shirley is excited. She puts on a crown and necklace. As the skies darken, she puts up a pirate flag on her boat and sails with the dog on their next adventure. On the other hand, by the end of the story told by the print on the left-hand illustrated pages, Shirley appears with her parents. It is later than her parents expected so they have to leave the beach in a hurry.

In this book, Shirley's imaginative pirate and treasure world fits into the family story where she goes to the beach with her parents. The counterpoint wordless illustrated story represents Shirley's imagination and may certainly challenge the children to wonder about the contrasting illustrations. The irrelevant and seemingly disconnection between the illustrations and print, and the wordless picture story may mislead and confuse some readers about what they are reading and what is happening. However, even the front cover of the book

depicts Shirley holding a sword and standing beside a pirate flag in a boat which gives readers the first clues that the story may be about sailing or pirates. The story told by the print and left-hand page illustrations is about a day at the beach. It seems clear that Shirley is resisting her mother's constant directions and escapes by creating her own imaginative world. The counterpoint story told by the illustrated print of her family going to the beach and the wordless illustrated story of Shirley doing adult-like things such as rowing a boat in the ocean and escaping from pirates would certainly create wonders for some children to figure out what is going on and to make sense of the counterpoint story. Some readers would no doubt find it challenging to create multiple interpretations of the story and make the counterpoint story even more difficult to comprehend, particularly if they read the book without any explanations or directions from an adult.

High proficient children reading with illustrations. The same procedure as the children reading other storybooks was followed for the high proficient children reading, *Come Away from the Water, Shirley*. The children's real names are coded in order to protect their identity by reading condition, gender, and the order in which they read the story in the specific group of children. For example, the code, CCAFTWSHPI^{+}G1 means the type of the story; counterpoint (C); the title of the story, *Come Away from the Water, Shirley* (CAFTWS); the high proficient reading group (HP); with illustrations (I^{+}); girl (G) and the first girl to read the story (1). Therefore, CCAFTWSHPI^{+}B3 means the counterpoint story type (C); the specific story (CAFTWS); the high proficient reading group (HP); with illustrations (I^{+}); boy (B) and the third boy to read the story (3).

Reading strategies used in oral reading. The high proficient children reading *Come Away from the Water, Shirley* with illustrations made very few miscues in their oral reading, and half of them (CCAFTWSHPI^{+}G2, CCAFTWSHPI^{+}G3, CCAFTWSHPI^{+}B1, CCAFTWSHPI^{+}B2**,** CCAFTWSHPI^{+}B4) did not make any miscues. The average number of correctly read words was 125 out of 127, the median was 126 and mode was 127 with the range from 116 to 127. In the small number of miscues that the children made, 75%

were substitutions. The high proficient children used the strategy of substituting the most frequently in their reading. Most of the substitutions were orthographically similar to the original words, but neither semantically nor syntactically acceptable in some cases. For example, the child (CCAFTWSHPI^{+}G4) substituted nine of the 12 miscues that she made, in which most of them did not make any sense in the context of the story. For example, she read the word, *whether* as *what* in the sentence, . . . *I am asking you whether you want a drink*. The two words have the same beginning, but have different meanings and serve different syntactic functions. The word, *whether* is often used as the conjunction to introduce one or two alternatives, and *what* usually functions as a pronoun to start a question inquiring about or requesting something. The substitution of *what* for *whether* is neither semantically nor syntactically acceptable in the context of this story. Another child (CCAFTWSHPI^{+}B6) used the word, *sought* as a substitute for the original word *ought* in the sentence, *We ought to be getting back soon*. The two words have a high orthographic similarity, and they are both verbs. However, the two words have totally different meanings. This substitution does not make sense in the story context. From the small number of substitutions made, examples from other children included *off* for *ought*, *fluffy* for *filthy*, and *left* for *late*.

It is interesting to note that some of the substitutions that the children made appeared to result from lack of attention, usage errors or failure to monitor. For example, the child (CCAFTWSHPI^{+}B3) who made only two miscues read the word, *going* as *gonna*, *getting* as *get*. The two substitutions are alternate forms of the original words. The meanings of the sentences have remained unaffected. These substitutions are everyday pronunciations for some children, thus the meaning is more or less intact.

The second frequently used strategy by the high proficient children was sounding out unknown words (25% on average). Similar to the children in other groups as discussed in previous sections, the beginning part was the easiest and the middle part was the most challenging to sound out. The child

(CCAFTWSHPI^{+}B5) who sounded out three words from a total of 5 miscues, all of the beginnings were correct, but none of the middle and ending parts (e.g., *fil-filthy, tair-tar, scar-stroke*). In the small number of words sounded out by other children, examples of miscues include *havin-heaven, o-ought,* and *filty-filthy*.

None of the high proficient children reading with illustrations skipped any words in their oral reading. This finding suggests that the high proficient children tended to focus on the print and used effective strategies when oral reading. It is important to point out that neither the counterpoint illustrations that depict Shirley's imaginative world nor the illustrations corresponding to the print seemed to affect how the high proficient children orally read the story. It seems that the children's high reading proficiency level ensured their correct reading of the words, and they neither needed to look to the illustrations for help with word identification nor to integrate the potential information in the illustrations into their understanding. Their lack awareness of the two sets of illustrations, the illustrations corresponding to the print and the counterpoint wordless illustrations, suggest that they failed to notice the two linked events of the one story and thus their over-attention on decoding reduced their attention to the illustrations.

Answers to comprehension questions. The high proficient children reading, *Come Away from the Water, Shirley* with illustrations basically followed the information provided in the print to answer the literal questions. Their answers followed the print and thus the children did not need to consider the counterpoint illustrations. They seemed not to be curious about what was going on in those wordless counterpoint illustrations depicting Shirley's imaginative world, which may suggest that their attention was mainly on orally reading and decoding the words. The mean for the correctly answered literal questions was 3.6 out of 5, median was 4 and mode was 5 (range from 1 to 5). It is necessary to note that one child (CCAFTWSHPI^{+}B3) did not answer any of the literal questions correctly, which skewed the mean. The reason for this child's poor reading comprehension performance seems to be that he focused only on decoding words (read correctly 125 words out of 127) and did not focus on

comprehending what he read. This finding suggests that some ESL children focus only on word identification while they read orally and fail to construct meaning from what they are reading.

The high proficient children's performance on the inferential questions was not good which confirms that they focused on decoding and did not monitor for meaning as they orally read. They answered only 1 out of 5 inferential questions correctly on average (Median = 1, Mode = 1, range from 0 to 2). Three of the children (CCAFTWSHPI^{+}G1, CCAFTWSHPI^{+}G4, CCAFTWSHPI^{+}B1) did not answer correctly any of the inferential questions. The inferential question that many children had difficulty with was "Was the weather nice on the day when they went to the beach? How do you know?" Of the six children who gave the correct answer, "Yes," three of them could not provide plausible reasons to support their answers and one child's answer (CCAFTWSHPI^{+}B5) was misled by the counterpoint illustrations, "I think so, because she went to swimming, and she dives." In one of the counterpoint illustrations that are on the right-hand page of the book, Shirley was portrayed diving into the ocean with the dog from the pirate ship. As discussed, the print focuses on the warnings that Shirley's mother gave her while they were at the beach. These warnings were not related to this child's response. It is reasonable to speculate that this child (CCAFTWSHPI^{+}B5) gave the answer based on what he saw in the counterpoint illustrations. The image that Shirley dives into the water with the dog gave him the impression that Shirley went swimming while she was at the beach. His understanding of this part of the story was thus distorted because he gave an answer based on what he saw in the counterpoint illustrations but not what was described in the story, and he did not attempt to integrate the counterpoint story. The children's answers to the comprehension questions indicate that their interpretation of the story described by the illustrated print was misled by the counterpoint illustrations representing Shirley's imaginative world. However, these children did not give any indication that they even noticed the two linked sources of the story or that they found the

whole story, including the illustrated print story and the wordless illustrated story confusing.

Another example that the children were confused by the counterpoint illustrations is the question, "Did Shirley play with other children on the beach? How do you know?" Eight children answered the question incorrectly, in which half of them were found to be misled possibly by the illustrations. Take one child's answer (CCAFTWSHPI^{+}B1), he gave a correct answer "No" to the question, but the reason that he provided was incorrect. He added "They are adults, real pirates, I think." The reason that the child gave suggests that he thought Shirley was playing with a group of pirates. Another child (CCAFTWSHPI^{+}B5) said "Yes, the children were pretending to be pirates." This child seemed to partially understand that the characters in the counterpoint illustrations were not real. However, he did not show any evidence that he grasped the wordless illustrations to be representative of Shirley's imagination, and did not integrate this information into what he read. He thus was not sure what happened in the story and responded incorrectly. Both children's answers to the question imply that their responses were based on information from the counterpoint illustrations. They both responded as if the pirates are characters in the story even though they did not read anything about pirates. This finding suggests that the counterpoint illustrations confused the children's understanding. The responses to the inferential questions by the high proficient readers indicate that their performance was affected by the presence of the counterpoint illustrations. The gap between the counterpoint illustrations and the print seemed to clearly cause the children to create an inappropriate interpretation based on the merging of the two stories even though one was imaginary.

The question that all children struggled with is, "Were Shirley and her parents late? How do you know?" To correctly answer this question, the children needed to grasp first the information from the sentence, *We are going to be late if we don't hurry*. Then, they needed to make the inference that Shirley and her parents will not be late if they leave the beach as soon as possible and hurry. Six

of the high proficient children answered "Yes" and three of them did not provide any answer to this question. It is expected that the children would not have difficulty with understanding because of their high proficient reading level. However, they could not make the inference that Shirley and her parents are not going to be late because they hurry and Shirley's mother said, "We are going to be late if we do not hurry." A possible reason for the children's poor performance on this question may be because that they could not recall or had ignored what is said after the conditional conjunction, *if*, in the sentence. Their understanding focuses only on the previous part of the sentence which is *We are going to be late*. The children's answers to this question implies that they responded on the basis of incomplete information. In addition, even though the high proficient children could orally read the words correctly, they did not monitor what they were reading and thus had difficulty with recalling the explicit and implicit information and missed much of the meaning in what they read. The high proficient children reading with illustrations correctly answered only 4.5 comprehension questions on average (range from 2 to 8), mode was 4 and median was 4. The high proficient children reading the illustrated story did not find the words to be difficult, but their comprehension was hindered. There could be two possible reasons. First, the children's focus was not on meaning and understanding but rather on decoding the words. They did not try to make sense of what they were reading. The two tightly linked stories may appear difficult for them to read as a whole without an explanation or guidance from an adult, but they seemed to be unaware of how the illustrations were both part of the story. They expressed no wonders or concerns about the why there are two sets of illustrations and how the illustrations go together. Second, the gap between the counterpoint illustrations and the illustrated print increased the likelihood that the children might construct inappropriate and misleading interpretations. The information carried in the counterpoint illustrations clearly increased the difficulty for the children to comprehend what they read because of the two stories of going to the beach and

Shirley's imaginary pirate adventure while there. The children clearly did not understand the complete story and they did not make queries about it.

Interview responses and interpretations. The high proficient children reading *Come Away from the Water, Shirley* with illustrations all expressed that the story was easy to read mainly because they already knew the words. However, when the children were asked whether they used the illustrations to help them read the story, half of them reported that they looked at the pictures and the rest of them stated that they did not look at the pictures. The children who said that they used the illustrations explained that the illustrations could help them to read unknown words. For example, one child (CCAFTWSHPI^{+}G4) said that she looked at the pictures when she had trouble with the words in her reading. She further stated, "If I am stuck, I can look at the pictures. I just look at what matches the words." Another child (CCAFTWSHPI^{+}B3) expressed a similar point that pictures help him to read more words. These children's remarks on their use of the illustrations in reading imply that the major role that illustrations play is to help them to identify more words. However, this viewpoint is based on the assumption that illustrations and the words have a one-on-one correspondence, which is rarely the case in illustrated storybooks, certainly not the case with counterpoint stories. On the other hand, those children who mentioned that they did not use the illustrations said so because that they were able to read all the words in the story. One child (CCAFTWSHPI^{+}G3) said "No, because I read the whole sentences, and I already know what happened." Another child (CCAFTWSHPI^{+}B4) said that he did not use the illustrations because he could sound out the words. Interestingly, one child (CCAFTWSHPI^{+}B5) further stated why he did not use the illustrations, he said "No, pictures help me to know what the words mean, but I don't do that. (why?) Because if it's right, I don't know if it's right or wrong from the pictures." His response clearly expressed his concern with the important factors determining how illustrations can be effectively used, that is, whether the illustrations are related to the words and which part of the illustrations that he should consider. His remarks also imply that the children may

not be taught specific strategies on how to use illustrations. No matter whether the children used or did not use the illustrations to help them to read, their responses to the interview questions suggest that the children have only a very vague idea about the role of illustrations in storybooks, and how the illustrations can be used to assist with word identification and comprehension. They did not acknowledge the fact that there are many kinds of illustrations in storybooks. In some storybooks, illustrations may not represent what the words describe. In this case, using illustrations to decode unknown words would not to be beneficial.

Almost all the children expressed the view that picture books are easier to read than books without illustrations because picture books usually have fewer words and pages. However, the most important reason for their viewpoint on the illustrated books was that illustrations not only help them to read but also show them what the story is about. For example, one child (CCAFTWSHPI^{+}G1) said that pictures already "said" the words. Another child (CCAFTWSHPI^{+}G3) stated that she does not need to read any words if it is a picture book. The children reported a book to be either hard or easy based on the number of pictures, the more pictures the easier the book. Even though only one child expressed his concern about how to use the illustrations, his remarks imply that the children may not get sufficient opportunities to discuss how illustrations can be used in their reading rather than just being told to look at the illustrations when they have difficulty with words. Unfortunately, an additional problem for the children is that the reading focus seems to be only on word identification, but not on both word identification and comprehension and the reciprocal relationship between the two.

It is important to note that not one child in this group of high proficient children indicated their confusion about the counterpoint illustrations. However, when they were asked whether they liked reading the story, some of their answers implied that they noticed the counterpoint illustrations while they were reading. For example, one child (CCAFTWSHPI^{+}B6) said "Yes, I like she is taking the treasures." Another child (CCAFTWSHPI^{+}G4) said that she likes the pirate ship.

Unfortunately, this information mentioned by the children was carried in the counterpoint illustrations, which suggests that the counterpoint illustrations more or less confused them about what they read. The children's responses were suggestive that the children thought there may have been treasures to take and pirates to see which clearly indicates that they did not understand them to be part of Shirley's imaginative adventure.

Overall summary. The high proficient children reading *Come Away from the Water, Shirley* with illustrations used the strategy of substituting words most frequently in their oral reading. The substitutions that they made were mainly orthographically similar to the original words, but often not semantically or syntactically appropriate in the context of the story. The second strategy that they used most frequently was to sound out the unknown words. Unlike the children in other groups that more or less skipped some words in their reading, nobody in the group of high proficient children reading with illustrations skipped any words in their reading. The children's high reading proficiency ensured they could read most of the words correctly. However, their unawareness of counterpoint illustrations may suggest that they did not notice the two tightly linked stories represented in the print illustrations and the wordless illustrations. The children mainly followed the information provided in the illustrated print story to answer factual questions. Nevertheless, their performance on the inferential questions was not good possibly for two reasons: their reading focus was on decoding the words rather than on making sense of what they were reading; and the gap between the illustrated print and the counterpoint illustrations seemed to increase the difficulty for them to comprehend the story. The children's responses to the comprehension questions did not show any indication of the children's curiosity or concern about the information carried in the counterpoint illustrations. This finding may imply that regardless of the nature of the illustrations, the children's major focus was on orally reading the words or decoding the words in some cases. They seemed not to make sense of reading the story as a whole. Half of the children stated that they used the illustrations while they read, and the rest did not.

Regardless of whether they used the illustrations, their remarks indicate that they did not know how to use specific strategies to better make use of illustrations to help them. In addition, the children's interviews also reveal that they may not get sufficient opportunities to discuss their own questions, concerns or ideas on how illustrations can be more effectively utilized to help them to read better.

High proficient children reading without illustrations. The high proficient children reading the story, *Come Away from the Water, Shirley* without illustrations followed the same procedure as the high proficient readers reading with illustrations. Both the illustrations complementing the print on the left-hand page and the wordless counterpoint illustrations portraying Shirley's imaginative adventure on the right-hand page were removed from the book. The only place that the children might get pictorial information was from the front cover on which Shirley is holding a sword and standing beside a pirate flag in a boat. Each of the data collection activities are discussed as follows.

Reading strategies used in oral reading. Similar to the high proficient readers reading *Come Away from the Water, Shirley* with illustrations, the high proficient children read the same story without illustrations made very few miscues in their oral reading. Half of the children (CCAFTWSHPIG2, CCAFTWSHPIG3, CCAFTWSHPIB1, CCAFTWSHPIB2, CCAFTWSHPIB4) read all of the words correctly. The mean for the correctly read words was 125 out of 127, which is the same as that for the high proficient readers reading with illustrations. The median was 125 and mode was 127 with the range from 122 to 127 words. The children used the strategy of substituting most frequently in their reading. In the small number of the miscues that they made, 67% were substitutions in which most were orthographically similar to the original words but made no sense in the context of the story. For example, two children (CCAFTWSHPIG4, CCAFTWSHPIG5) read the word, *mind* in the sentence, *Mind you don't get any filthy tar on your nice new shoes* as *mend*. The two words, *mind* and *mend* have high orthographic similarity. Only the second letter in the two words is different. However, the substitution *mend* does not have a similar

meaning as *mind*, but as a word shares the same syntactical function in the sentence. Take the child who substituted 3 words in his reading (5 miscues in total) as another example, he substituted *cross* for *course*, *water* for *whether*, and *what* for *that*. None of these substitutions are semantically and syntactically acceptable in the context of the story. The first pair of substitutions for instance, have the same beginning letter *c*, and similar endings *-se* and *-ss*. The substitution of *cross* clearly does not make sense in the sentence, *Of course it's far too cold for swimming, Shirley*. The word, *cross* serves as a noun with multiple meanings including a mark +, figure x, a crucifix, a mixture of two things, something that has to be endured. It may also be a verb y and again *cross* has multiple meanings and it may also be used as an adjective. Thus, it is impossible to see any connection either syntactically or semantically in the child's substitution of *cross* for *course*. However, it is fair to conclude that the child may have used the orthographic similarities between *cross* and *course* to predict the word. The way these children substituted words in their reading implies that they basically substituted words based on the orthographic similarity of the word rather than the meaning of the word within the context of the story.

The second most commonly used strategy by the high proficient children reading without illustrations was to sound out unknown words (33% on average). The children could usually sound out the beginning and ending parts of the words and the middle appeared either difficult for them to sound out or overlooked. In the small number of words that they tried to sound out, examples included *teard-tired*, *oct-ought*, *flity-filthy*, *hiven-heaven*, and *chors-chairs*.

Not one child in this group of high proficient children reading without illustrations skipped a single word in their reading, which suggests that the high proficient children tended to use effective strategies to help them to orally read and they clearly recognized the words in the story with few exceptions. Since the children read the story under the non-illustration condition (without the illustrations as a complement to the print and the counterpoint illustrations), their focus was mainly on reading the words. They could possibly get pictorial

information depicting Shirley was holding a sword and standing in a pirate boat but only from the front cover illustration. However, none of the children wondered about the illustration on the front cover that seemingly is irrelevant to what the print describes during or even after their oral reading. When there was no illustration in the story, the children's focus was mainly on reading the words and the counterpoint illustrations on the front cover of the book did not attract their attention or cause them to wonder about how the cover fitted with the words.

Answers to comprehension questions. Unlike the high proficient children reading *Come Away from the Water, Shirley* with illustrations, the children under the non-illustration condition read only the print without either the illustrations complementing the print or the wordless counterpoint illustrations depicting Shirley's imaginative world. In this particular case of a counterpoint illustrated book, the removal of the wordless counterpoint illustrations, the essential part in the story to portray Shirley's imaginative adventure which is tightly linked to the print story, was expected to negatively affect the children's comprehension of the whole story based on the questions asked which were mainly on the day at the beach with her parents. However, the children's answers to the literal comprehension questions appeared not to be affected. They mainly followed the information provided in the print to answer the literal comprehension questions. The average of correctly answered questions was 3 out of 5, and the median and mode were both 3. The question that the high proficient children reading without illustrations struggled most with was, "How many times did Shirley's mother ask Shirley whether she wanted a drink?" Eight out of 10 children did not give a correct response. The answer for the question is explicitly stated in the sentence, *That's the third and last time I'm asking you whether you want a drink, Shirley*. According to the running records of the children's oral reading, none of them had difficulty reading this sentence. Their responses to the question suggest that these high proficient children could not recall some of the information that they read, or that their focus in reading was on recognizing the words rather than on both decoding and comprehending.

Two individual cases have provided more evidence to suggest that the children may have a problem with recalling the information that they read which suggests that they did not understand what they read and their attention was mainly on identifying the words. First, the child (CCAFTWSHPIˉB3) who made only 5 miscues in the total number of 127 words answered just one literal question correctly. He did not give any response to the other three questions, and answered one question incorrectly, which suggests that this child did not comprehend what he read even though he misread only a few words. Second, when one child (CCAFTWSHPIˉG7) was asked the question "Why did Shirley's mother tell her not to get the tar on her shoes?", her answer was "I don't know what 'tar' is." However, she not only read the word, *tar* correctly in the sentence, *Mind you don't get any of that filthy tar on your nice new shoes*, but also made no miscues in her oral reading. Her answer reveals that she was able to read the word, *tar* correctly but did not know the meaning of the word and she did not try to figure it out in the context of the story. Another child's (CCAFTWSHPIˉG2) answer to the same question was "I don't know. I didn't read that part." The running record of her oral reading indicates that she read this part of the story with no miscues and she misread only 4 places in her oral reading. This child's answer to the question implies that she may have difficulty with recalling some information that she already read. How the high proficient children answered the literal questions in general and in combination with the performance of the two individual cases, shows that the high proficient children reading without illustrations over-attended to word decoding and thus their comprehension of what they read was more or less reduced, non-existent, or compromised.

The high proficient children reading without illustrations answered only 1.5 out of 5 inferential questions correctly on average (Mode = 2, Median = 2), which is slightly higher than the results for the children reading the same story with illustrations (Mean = 1, Mode = 0, Median = 1). This finding may suggest that the lack of illustrations, particularly the wordless counterpoint illustrations that seemed to be irrelevant to the print, made it easier for the children to

construct responses based on what they read. Even though the presence of the counterpoint illustrations makes reading of the story more interesting and provides essential information for the readers to understand the story as a whole, the high proficient children's comprehension of the story based on the questions asked seemed not to be affected by the lack of the counterpoint illustrations. Given the children did not have any access to the counterpoint illustrations, no questions were asked about Shirley's imaginative adventure. Let's look at the two inferential questions on which many of the children made mistakes. The first question that over half of the children did not give a correct answer, "Was the weather nice on the day when Shirley and her parents went to the beach? How do you know?" Six out of 10 high proficient children answered this question incorrectly, and four of them could not give any plausible explanation (CCAFTWSHPI˙G2, CCAFTWSHPI˙G5, CCAFTWSHPI˙G7, CCAFTWSHPI˙B1). Two of the children basically responded that the weather was too cold (CCAFTWSHPI˙G1, CCAFTWSHPI˙G4). In the print of the story, one sentence mentions that Shirley's mother told her it is far too cold to swim. Some children thus thought that the weather was too cold. Their understanding on this part of the story was only based on the information in the sentence rather the story as a whole. They ignored the fact that Shirley and her parents actually stayed at the beach for a whole day which indicates that the weather was nice but may not be warm enough for swimming in the ocean. The large number of children who did not answer the question correctly suggests that the children's attention was mainly on decoding the words rather than on making sense of what they were reading. In addition, the children's answers to this inferential question suggest that their comprehension was based on what they read in the print. However, some of the high proficient children reading with illustrations mistakenly used the information carried in the counterpoint illustrations as reasons to support their answers to the question (e.g., Shirley went to diving with her dog, etc.), none of the children reading without illustrations mentioned such incorrect explanations. This finding may imply that the removal of the counterpoint illustrations did not have an

apparent negative effect on the children's understanding of the story. However, it is interesting to note that among the four other children reading without illustrations (CCAFTWSHPIˉG3, CCAFTWSHPIˉG6, CCAFTWSHPIˉB2, CCAFTWSHPIˉB3) who answered this question correctly, three of them gave a similar reason. One of them (CCAFTWSHPIˉG6) said "Yes, there is sun." Another (CCAFTWSHPIˉB2) answered "Yes, because it was sunny." The print of the story does not explicitly state that it is sunny on that day rather "it is far too cold for swimming." The only place that the children could possibly get the idea that it is sunny is from the illustration on the front cover. In the illustration, a big golden-coloured sun is depicted on the right-hand side of the orange background. Shirley was standing beside the pirate flag in a boat. It is thus speculated that these children used the information carried in the cover illustration to answer the question. However, their attention on the illustration was very general because no child indicated concerns or confusion as to why Shirley was portrayed standing in a pirate boat in the illustration.

Another question that most of the high proficient children did not answer correctly was "Did Shirley play with other children on the beach? How do you know?" Seven out of the 10 children did not provide any response to the question, and the other three children gave incorrect answers. They all thought that Shirley went to play with other children because her mother told her to do so. However, the information carried in the print in fact describes that Shirley's mother expressed concerns that Shirley does not go and play with other children, which indicates that Shirley was just playing alone on the beach. The children's answers to the question suggest that they did not fully understand what they read in the print even though they had no difficulty with orally reading the words. Despite the fact that the illustration on the front cover depicting the scene that appeared to be irrelevant to the print information, the high proficient children's comprehension was not affected. On the other hand, none of the children expressed their curiosity or concerns on the counterpoint illustration on the front cover after they read the story. It seemed that these children did not even pay

attention to the front cover but rather focused only on identifying the words. Therefore, the children should have had no difficulty with answering the questions, particularly when no counterpoint illustrations were provided as a potential factor to confuse them about the other events (Shirley's imagination) in the story. Nevertheless, their answers to the comprehension questions did not show sufficient evidence that they understood the story well, which again confirms that the high proficient children reading without illustrations concentrated only on decoding the words rather on constructing the meaning of what they were reading. The high proficient children reading without illustrations correctly answered 4.6 out of 10 comprehension questions on average with the range from 1 to 8. The mode and median are both 5. All of these measures are slightly higher than those for the high proficient readers reading under the illustration condition (Mean = 4.5, Mode = 4, Median = 4). This finding may suggest that the presence of the counterpoint illustrations possibly makes comprehension of the story more complicated than it is without illustrations for the high proficient children, particularly when their main focus is on decoding the words. Even though the counterpoint illustrations are designed to bring more enjoyment to the readers' reading experiences, the two layers of the tightly linked events in one story may be difficult for the young readers to read alone. Appropriate guidance or explanations from an adult may be necessary for the children to fully understand the story, *Come Away from the Water, Shirley.*

Interview responses and interpretations. The high proficient children reading *Come Away from the Water, Shirley* without illustrations were individually interviewed about whether it matters to them that there are no illustrations included in the story and about their viewpoint on the use of illustrations in their reading of the story and reading in general. Most of the children expressed that they did not mind reading the story without illustrations mainly because the words in the story were easy for them to read. When they were asked further what they did to help them to read unknown words, almost all of the children stated that they would try to sound the words out. However,

sounding out words is a strategy only for decoding and pronouncing words. Readers need to use other information such as the context of the story to figure out the meaning of words. From the running records of the children's oral reading and their performance on the comprehension questions, it is clear that some of the children could sound out the words but they did not concern themselves with knowing what the meanings. The children's remarks also indicate that they seemed unaware that other reading strategies are needed to know the meaning of words, and that the strategy of sounding out can help them only to pronounce a word.

Interestingly, even though most of the children said that it did not matter to them to read the story without illustrations, some children indicated that it would be more interesting to look at the illustrations while reading. For example, one child (CCAFTWSHPI-B2) stated that reading could get boring if there are no pictures. Another child (CCAFTWSHPI-G5) made her point even clearer when she was asked whether she would like to include pictures in the story, she said "Yes, because I like seeing pictures, and they are kind of nice. I would like to see what the beach looks like in the book." The two children's responses imply that some of the children see illustrations more as a tool to bring enjoyment to their reading experiences rather than to help them to read.

The high proficient children reading without illustrations view the major functions that illustrations play in books as to: help to decode unknown words and assist with understanding. First, they think that illustrations are useful with recognizing unknown words because illustrations always match words in books. For example, when the children were asked how they would use the illustrations if there are any in the story, one child (CCAFTWSHPI-G2) said "Like the word that you don't know and if it is in the picture, you can think about it and then you know what it is." Her response implies that she assumed that pictures must match with words in a book, and she could find clues from a picture for any word that she does not know. Another child (CCAFTWSHPI-G5) basically expressed a similar point and she gave an example, "that pictures show me what things look

like. If there is someone is depicted to be walking in a picture, I would know what the word is, *walk*." This example is a word that she already knew, and does not illustrate helping to decode an unknown word but rather to confirm what she thought the word to be. Also, this child's viewpoint on the use of illustrations is based on her assumption that pictures match with words in picture books. However, this is not the case in all kinds of picture storybooks. In addition, despite the fact that illustrations sometimes complement words in a story, using illustrations to decode unknown words is constrained by many other factors and thus is often ineffective and even trial and error. Second, illustrations are viewed by the children as useful clues to know what happens in the story. For example, one child (CCAFTWSHPI-B3) said, "(pictures) help me guess what happened if I can't sound out any words or read them, then I could just guess what happened on that page." This response implies that the children generally think that information portrayed in illustrations shows them what the story is about, which is true only when the illustrations complement exactly what the print describes, which is rare beyond simple picture/word storybooks. However, even though illustrations complement print, they do not necessarily represent all information described in print. It is usually the case that illustrations portray only part of information carried in words. Therefore, relying only on illustrations to understand a story is not dependable. One child (CCAFTWSHPI-G4) in this group of high proficient children noticed this limitation of illustrations. She said, "Sometimes pictures look silly and funny. Pictures don't tell the whole story just a little." The children's remarks on the role of illustrations imply that they have a general idea about the possible use of illustrations in their reading. However, they neither know how to use illustrations specifically in their reading nor acknowledge the limitations of illustrations that may affect their reading.

It is important to point out that some children expressed that illustrations become not important for them, particularly when they already know all the words in a story. Take one child (CCAFTWSHPI-G3) for instance, she said "if you want to read a book, words are more important than pictures." She also added "Picture

books are for people who start to read. Chapter books have not that much pictures. They are for people (who) think that picture books are just so easy for them." Another child (CCAFTWSHPI-G5) also expressed a similar point. She said, "we have to learn not to look at pictures when they get older." What the two children stated here suggests that they know that reading words is the foundation of reading and they need to read books without illustrations when they know more words.

It is necessary to mention that one child (CCAFTWSHPI-G7) pointed out that there is no period after most of the sentences in the story. Careful studying of the 13 sentences in the story has confirmed that only 4 sentences end with periods, one ends with a question mark and the remaining sentences do not end with any punctuation. This little girl was the only one child so far in both groups of high proficient children reading with and without illustrations who addressed this issue of the story, *Come Away from the Water, Shirley*. This child made no miscues in her reading, but she answered correctly only 3 out of 10 comprehension questions. Her reading performance of the story and what she noticed while she was reading may confirm that she over-attended to the print rather than the construction of meaning. The individual interviews with the high proficient children reading without illustrations also revealed that not one child indicated curiosity or concerns about what is portrayed on the front cover. The first possible reason could be that only one page of illustration on the front cover could not convince the children that there is something else happening in the story. It is thus natural for them to read and understand the story based only on what they read in the print. The second reason may be because that the children's focus was mainly to decode the words but not to make sense of what they were reading.

Overall summary. The high proficient children reading the story without illustrations mostly used the strategy of substituting. Most substitutions were only orthographically similar to the original words but not semantically or syntactically acceptable, which suggests that the children focused on decoding the words rather than on understanding what they read in the context of the story. The second

most frequently used strategy was to sound out the unknown words. Not one child in the group skipped a single word in their reading. Also, during or after the oral reading, none of the children questioned or showed any interest in the illustration on the front cover of the book. This finding may imply that the children's attention was on recognizing the words and not on other information provided in the story or even their comprehension of the words that they were reading. The high proficient children reading the story without illustrations mainly followed the print information to answer the literal questions. They answered correctly the same number of questions as those high proficient children who read with illustrations, which suggests that the lack of the wordless counterpoint illustrations depicting Shirley's imaginative adventure did not have negative effects on the children's comprehension based on the questions asked. Some children had a problem with recalling information that they just read. The children's performance on the inferential questions was poor, but slightly better than those proficient children reading with illustrations. This finding suggests: first, the high proficient children over-concentrated on identifying the words and their comprehension was thus reduced; second, the removal of all illustrations and especially the counterpoint illustrations eliminated the chance of confusing the children about what happened in the story, and thus made reading of the story comparatively easier to understand than if it had the illustrations. The individual interviews with the children reveal that they see illustrations as a tool to help to decode unknown words and to help with understanding. They seemed not to be aware that illustrations in storybooks do not necessarily correspond to print and there are many factors restricting the use of illustrations as a tool to decode unknown words. In addition, it is usually the case that illustrations represent only part of the information described in print. Therefore, relying on illustrations to fully understand what happens in a story is not reliable. Some of the children also pointed out that illustrations are more like a tool to bring enjoyment to their reading experience. It is important to note that no child in the interviews expressed curiosity or concern about the illustration on the front cover, which may

imply that the high proficient children's focus on reading was to identify and orally read the words correctly rather than to construct their understanding of the story.

Low proficient children reading with illustrations. Children who are at the comparatively lower English reading level than those in the high proficient group also read *Come Away from the Water, Shirley.*

Reading strategies used in oral reading. The children identified to have low English reading proficiency used three common reading strategies while they read the story, *Come Away from the Water, Shirley*. Namely, skipping the unknown words, substituting, and sounding out unknown words, in which the strategy of skipping was used the most frequently (70% on average). For example, one child skipped 43 words in the total number of 44 miscues that he made (CCAFTWSLPI^{+}B5) which means that he did not use other effective strategies 98% of the time in his oral reading. Another child (CCAFTWSLPI^{+}G6) who read comparatively better in the group of low proficient children omitted 19 words out of the 20 places that she misread, which is about 95% of the time in her oral reading. The frequency of skipping unknown words among the low proficient children's reading suggests that these children tended to simply skip the unknown words rather than to figure out the words by using helpful strategies. In addition, the large number of words that the low proficient children skipped in their reading would certainly make the comprehension of the story difficult or next to be impossible. It seems that the children were either unaware of or unable to appeal to word identification or story meaning to help with unknown words.

The second frequently used strategy by the low proficient children was to substitute the words (19% on average). The substitutions that they made were mainly based on the orthographic forms of the original words in the story. For example, the original word, *tar* was substituted by some children in the sentence, *Mind you don't get any of that filthy tar on your nice new shoes*. One child (CCAFTWSLPI^{+}G2) substituted *far* for *tar*, and another child (CCAFTWSLPI^{+}G4) substituted *to* for *tar*. The first substitution *far* shares a high

orthographical similarity with *tar*. Only the beginning letters of the two words are different, but they represent different meanings. The word, *far* has multiple uses and syntactical functions. It can be used as an adverb together with other adverbs to describe the long distance from another such as far from, far away, or to represent something accumulated or expanded to a great degree (e.g., far better, far more, etc.). When *far* is used as an adjective, it describes a distance from a point in space or time. The word, *tar* is a noun to represent a dark and thick flammable liquid distilled from wood or coal that is often used in road construction. It is then apparent that the substitution *far* for *tar* does not semantically or syntactically fit in the context of the story. The second substitution *to* for *tar* is also only orthographically similar at the initial letter, and *to* is neither semantically nor syntactically acceptable in the context of the story. Take the word, *cold*, that was substituted frequently by the children, two children (CCAFTWSLPI^{+}G1, CCAFTWSLPI^{+}G3) both read the word as *could*. The substitution, *could* has only one letter more than the word, *cold,* in the medial position which is usually the most difficult part for children to get correct. Orthographically, the two words look very similar, but they have diverse meanings and syntactic functions. The word, *could* is either a past tense of the verb, *can* or a verb used to indicate possibility. The word, *cold* can be either used as an adjective to represents a low or relatively low temperature or as a noun to represent a common infection that typically causes running at the nose, sneezing or sore throat. The substitution, *could* is certainly not semantically and syntactically acceptable in the context of the story. The low proficient children's use of substitutions in their reading suggests that these children tried to use a relatively effective word identification strategy based on the orthographic forms of the words but whether a substitution makes sense in the context in which it is made is the greater challenge. Even though they read the substituted words in their oral reading, their comprehension was hindered because the substitutions that they made did not make sense in the context of the story.

The last strategy that the low proficient children used was to sound out the unknown words (11% on average). Only half of the children sounded out words in their reading, and the rest did not try to sound out at all. For example, the child (CCAFTWSLPI^{+}B3) who sounded out the most words in this group of low proficient children (14 words), he could sound out most of the beginnings (e.g., *chidin-children, fal-filthy, thor-those, sto-stone, fa-father*) and some of the endings (e.g., *dork-drink, trid-third, sheely-Shirley*), but none of the middle parts of the words. Examples of the words that other children sounded out included *hary-hurry, kiles-chairs, ter-tar, k-course, ret-rest, mit-might, ha-heaven*. The pattern across the words that the children sounded out suggests that the low proficient children had weak phonological awareness skills combined with limited alternate word identification strategies to help them to figure out the words and then to consider whether the substituted words made sense in the story being read.

It is commonly assumed that children who have low reading proficiency tend to use illustrations available to help with reading a story, not one child in this group of low proficient children reading with illustrations used the illustrations (neither the illustrations complementary to the print nor the counterpoint illustrations depicting Shirley's imagination) to identify any word in their reading. Most of the time, they just simply skipped the unknown words without trying effective strategies. However, carefully studying the running records of the children's oral reading reveals that one child (CCAFTWSLPI^{+}B1) paid a lot of attention to the counterpoint illustrations depicting Shirley's imaginative world in the book while he read. When he first saw the front cover of the book, he said "A pirate book?" In addition, he either wondered or stated what is in the illustrations several times while he was reading. For example, when he read the sentence, *That's the third and last time I'm asking you whether you want a drink, Shirley*, he pointed at the counterpoint illustration on the right-hand page of the book and said "Why she had a sword?" In that illustration, Shirley is portrayed to be holding a sword and fighting with the pirates on the pirate ship. While he kept reading, he also said things like "a pirate ship," and "dig for treasure". It is

apparent that this child not only noticed the counterpoint illustrations in the story, but also tried to figure out what is happening in the illustrations. From the viewpoint of decoding the words, the counterpoint illustrations did not negatively affect his recognition of the words. On the other hand, he did not make any comments about the complementary illustrations. The low proficient children's general use of the illustrations in the story plus the particular case of this little boy suggests that both the complementary illustrations and the counterpoint illustrations neither positively nor negatively affected the children's oral reading of the words. A possible reason is that the low proficient children's focus was mainly on recognizing and decoding the words, and they more or less ignored the information carried in the illustrations. The average number of words that the low proficient children with illustrations read correctly was 105 out of 127, the mode was 106 and the median was 106.

Answers to the comprehension questions. The low proficient children reading with illustrations did not perform well on answering the comprehension questions. They struggled with answering the literal questions. The mean for the correctly answered literal questions was only 0.7 out of 5 which means that the low proficient children answered about only one literal question correctly on average (Mode = 1, Median = 1). The major reason is likely because of the large number of words that the children did not read or misread thereby making comprehension of the factual information difficult. For example, it is expected that the low proficient children should not have much trouble answering the question "How many times did Shirley's mom ask Shirley whether she wants a drink?" because the correct answer is explicitly stated in the sentence, *That's the third and last time I'm asking you whether you want a drink, Shirley.* However, my examination of the running records revealed that only one child (CCAFTWSLPI^{+}B4) read the word, *third* correctly and one child (CCAFTWSLPI^{+}B1) substituted *three* for *third*, but the other eight children all skipped this word. The only child who answered this question correctly is the one who read the word, *third* correctly. This example suggests that omitting or

misreading the words, particularly when words carry essential information for understanding the story, certainly reduces the readers' comprehension.

Two low proficient children (CCAFTWSLPI^{+}B3, CCAFTWSLPI^{+}B5) used the illustrations complementary to the print to help them answer a literal question. When both of the children were asked the question "Why didn't Shirley's father have a game with her?", one child (CCAFTWSLPI^{+}B5) responded "Because he was reading the newspaper" and another child gave a similar answer. The print of the story states that Shirley's mother told her that *Your father might have a game with her after he's had a little rest.* which indicates that Shirley's father is having a rest so that he cannot play with her. Even though the print does not directly describe what Shirley's father is doing exactly while he is having a rest, a couple of places in the illustrations corresponding to the print depict that Shirley's father sits on the beach chair and reads his newspaper for a while, and then he dozes with the newspaper covering his face. It is apparent that the two children made their answers based on the information depicting Shirley's dad in the complementary illustrations. Although their answers did not clearly mention that Shirley's father was having a rest, both answers are related to the idea that Shirley's father was relaxing while they were on the beach and are thus acceptable answers. The two children's answers to this literal question imply that supportive illustrations relating to what the print describes give readers information about what happens in the story, particularly when the readers are able to make appropriate connections between the print and the illustrations.

Similar to the average number of the literal questions that the low proficient children answered correctly, they only correctly answered 1.8 out of the 5 inferential questions on average. The children appeared to have difficulty with making inferences based on what they read for the possible reason that their comprehension on the factual information is limited and incomplete. Five children (CCAFTWSLPI^{+}B1, CCAFTWSLPI^{+}B4, CCAFTWSLPI^{+}G 1, CCAFTWSLPI^{+}G2, CCAFTWSLPI^{+}G4) seemed to use the counterpoint

illustrations to help them to answer one inferential question. The question is "Was the weather nice on the day when Shirley and her parents went to the beach? How do you know?" Take one child's (CCAFTWSLPI^{+}B1) answer for instance, his answer was "Yes, because it is sunny, I looked at the pictures." Another child (CCAFTWSLPI^{+}B4) pointed at the front cover illustrations and responded "Yes, because the sun was over here." In the print of the story, no place has explicitly mentioned that the weather was nice on the beach. The idea of nice weather is indicated by the fact that Shirley and her parents stay at the beach for the whole day. However, in the counterpoint illustrations that portray Shirley's imaginative adventure, the golden-coloured sun is depicted in the background of several illustrations including the front cover illustration. These children noticed the counterpoint illustrations while they read and thus responded based on what they saw in the illustrations. This finding suggests that the low proficient children tried to get information about the story from illustrations. However, their attention to the counterpoint illustrations did not make them wonder how the counterpoint illustrations fitted with what they read in the print. There are two possible reasons. First, the low proficient children's limited reading proficiency prevents them from understanding what is going on in the story told by the print and thus they could not see the connection to how the counterpoint illustrations represented different scenes. Second, their focus on the counterpoint illustrations was very general, they seemed not to notice other details in the counterpoint illustrations depicting what Shirley is experiencing on her adventure. Even though these children appeared to depend on the counterpoint illustrations to answer the inferential questions that were specifically developed based on the print, coincidently the parts portraying the weather and the beach in both the complementary and counterpoint illustrations are similar because the counterpoint illustrations in fact are designed to represent Shirley's imagination while she and her parents are on the beach on the same day.

Some children in the group of low proficient children were confused about the counterpoint illustrations and gave incorrect answers to some inferential

questions. Take the question, "Did Shirley play with other children on the beach? How do you know?", one child's (CCAFTWSLPI^{+}G4) answer was "No, because they are not children, they are pirates." Another child (CCAFTWSLPI^{+}B1) responded "No, because pirates didn't let her go." Another example is the question, "Do Shirley and her parents enjoy their day on the beach? How do you know?" One child (CCAFTWSLPI^{+}B3) answered, "Yes, because she was finding the treasure. Her dad and mom were having a nice time at the beach." All of the information that these children used to answer the questions was carried only in the counterpoint illustrations in the story. They merely used what they saw in the counterpoint illustrations to answer the questions but failed to make the connections between the print illustrated by the complementary illustrations and the counterpoint illustrations. As discussed in the previous sections on the high proficient children reading the story with and without illustrations, readers are able to understand the counterpoint illustrations in the context of the story only when the connection between the two linked events is constructed simultaneously. If the readers could not make the connections, using the information carried in the counterpoint illustrations to answer the questions was potentially misleading and incorrect. The low proficient children reading with illustrations correctly answered only 2.7 out of 10 questions on average, the mode was 3 and median was 3 (range from 1 to 4). The limited number of comprehension questions answered correctly suggests that the low proficient children had difficulty understanding the story, not only the part described by the print but also the wordless counterpoint illustrations. However, their poor comprehension of the story seemed to be affected mainly by their limited reading proficiency rather than the presence of the counterpoint illustrations. It certainly would be easier for the children to understand the story as a whole if they were given explanations and guidance from an adult prior to and during reading.

Interview responses and interpretations. The low proficient children reading the story, *Come Away from the Water, Shirley* with illustrations reported that illustrations play two major roles in reading: first, illustrations help to identify

unknown words; second, illustrations assist with understanding. For the children who think that illustrations help them to recognize unknown words, they commonly assumed that illustrations and words match in a book. It thus sounds reasonable to use illustrations as an aid to help with decoding words. For example, one child (CCAFTWSLPI^{+}B1) said, "I would not be able to read the words if a book does not have pictures in it because I have to look at the pictures for knowing the words." Another child (CCAFTWSLPI^{+}G4) said "Yes, (pictures) help me to read. The words match the pictures." The children's remarks reveal that the low proficient children hope to rely on illustrations to help them to recognize unknown words because they think that illustrations are supposed to match the words in illustrated books. They seemed to be unaware of the fact that illustrations do not or only partly correspond to the print in illustrated books. In addition, the analyses of the children's running record from other reading groups in the study have revealed also that using illustrations to decode unknown words is ineffective.

On the other hand, some of the children stated that they could use illustrations as clues to know what happens in the story because the illustrations portray what is described in print and thus provide them with information about the story. For example, one child (CCAFTWSLPI^{+}G3) said "(pictures) help me to read, to see what they are doing in pictures." Another child (CCAFTWSLPI^{+}G2) stated that she would look at the pictures before she read because pictures might tell her what the story is about. These children's responses to the interview questions indicate that they have an idea that illustrations carry information about the story and can be used to assist with understanding. Nevertheless, like the story that they read, *Come Away from the Water, Shirley*, there are illustrations that are not directly related to the print information and even the complementary illustrations represent only some of the information described in the print. Therefore, solely relying on illustrations to make sense of a story is not dependable. The high similarity of the viewpoint on the use of illustrations across the different groups of the children regardless of level of reading proficiency

suggests that they were told the illustrations will help them to read. However, these children appeared to be neither aware of the limitations of illustrations nor the specific strategies to better use illustrations in their reading, which may in turn have reduced their chances to utilize illustrations as an effective tool to help them to read better.

It is important to note that some of the low proficient children indicated their awareness of the counterpoint illustrations in the story. When they were asked whether and how they like the illustrations in the story, three of them (CCAFTWSLPI^{+}G2, CCAFTWSLPI^{+}B3, CCAFTWSLPI^{+}B4) mentioned that they like the part that Shirley found the treasure, and two children (CCAFTWSLPI^{+}B1, CCAFTWSLPI^{+}B3) said that they like the pirate in the story. These children's responses imply that they noticed the counterpoint illustrations while they read. However, it seemed that they paid attention to the illustrations without trying to figure out what those illustrations represent, why there are two sets of illustrations and how the illustrations fit together in the one story. Interestingly, none of the children mentioned the complementary illustrations in the story in their interviews, which may suggest that the more colourful and attractive counterpoint illustrations drew the children's attention more than the complementary illustrations.

Almost all of the children expressed that the books with pictures are easier to read than books without pictures because picture books usually have easier words and fewer pages. For example, when the children were asked what kind of books they would prefer to read, one child (CCAFTWSLPI^{+}B4) said, "Picture books, because chapter books are so hard. You have to read a long time and some words you don't know." Another child (CCAFTWSLPI^{+}B3) said that he likes to read the lower reading level books in the classroom because those books not only have pictures, but also have easy and fewer words. The low proficient children's viewpoint on what easy books look like reflects the fact that many of the easy illustrated books have easier words and fewer pages than books without illustrations, particularly for books at the early reading levels. In addition, they

more or less hope to use illustrations as an aid to compensate for their low reading proficiency so that they can read better. However, using illustrations is not an effective way to improve reading skills because the foundation of reading is the reading of words rather than looking only at the illustrations and merely trying to guess the specific words in the story.

Overall summary. The low proficient children reading the story with illustrations skipped a large number of words in their reading. They then substituted a few words based merely on the orthographic forms of the original words without considering whether the substitutions were syntactically or semantically acceptable in the context of the story. Lastly, some children tried to sound out words while they read. Based on the small number of words that they sounded out, beginnings and endings of the words were usually the parts that they were able to do. The large number of words that the low proficient children skipped or misread made their comprehension of the story next to impossible. When answering literal questions, four children used the information carried in the complementary illustrations to give correct answers to a question, which suggests that information related to the print description may help readers to get an idea about what the story is about. The low proficient children's poor understanding of the factual information in the story further negatively affected their performance on the inferential questions. Some children used what is portrayed in the counterpoint illustrations to help with answering an inferential question, which suggests that the children noticed the presence of the counterpoint illustrations. On the other hand, some children were confused about what is going on in the counterpoint illustrations. They could not make the connection between the two tightly linked events in the story, Shirley goes to the beach with her parents and Shirley's imaginative adventure. The low proficient children reading with illustrations commonly view illustrations to play two major roles in their reading: help with identifying unknown words and help with comprehension. In the interviews, some children indicated that they paid attention to the counterpoint illustrations, but no child expressed their concerns or wonders about why the

counterpoint illustrations appear to be irrelevant to the print, which confirms their attention to the counterpoint illustrations was very general. Illustrated books were viewed by the children as easier books than non-illustrated books because illustrated books often have easier words and fewer pages. It seemed that these children hoped to use illustrations as a useful tool to help them to read better which is not a very effective strategy and one that ultimately may be misleading for them.

Low proficient children reading without illustrations. The low proficient children reading under the non-illustration condition read the story, *Come Away from the Water, Shirley* with both the complementary and counterpoint illustrations removed. The only place that carried any pictorial information is the front cover illustration that depicts Shirley standing in a boat with a pirate flag.

Reading strategies used in oral reading. The low proficient children reading without illustrations used three common reading strategies in their oral reading. Namely, substituting, skipping unknown words, and sounding out words. In the three strategies used, the strategy of substituting was used the most frequently (47%). Similar to the low proficient children reading the same story with illustrations, the children under the non-illustration condition generally followed the orthographic forms of the original words to make substitutions. The substitutions often were not syntactically and semantically acceptable. Take the child (CCAFTWSLPI-B1) who made the most substitutions in this group of low proficient children, none of the substitutions made sense in the context of the story and only some were syntactically appropriate. For example, he substituted the words *nine* for *nice*, and *now* for *new* in the sentence, *Mind you don't get any of that filthy tar on your nice new shoes*. The two substitutions have only the middle letter different from the original words, but neither of them fit semantically in the context of the story. The word, *nine* can be used as a noun to represent the number 9 or as an adjective to describe the quantity of 9. However, the original word, *nice* is an adjective to describe something is good-natured or someone is friendly and kind. It is thus apparent that the two words share

different meanings as well as sometimes diverse syntactical functions. The substitution of *now* for *new* is orthographically similar. The substitution, *now* is neither semantically nor syntactically acceptable in the context of the story. Let's look at another example. Three children (CCAFTWSLPI-G3, CCAFTWSLPI-G4, CCAFTWSLPI-G5) made the same substitution, *where* for *whether* in the sentence, *That's the third and last time I'm asking you whether you want a drink, Shirley.* Even though the two words more or less share similar orthographic forms, they have different meanings and serve different syntactical functions. Examples of substitutions that other children made included *fat* for *far*, *there* for *third*, *time* for *tar*, *way* for *why*, *mend* for *mind*, *black* for *back,* and *lost* for *late*. The patterns across the substitutions that the low proficient children made suggest that the children did not know these original words. In addition, their substitutions were based on the orthographic forms of the original words without consideration of whether the substitutions were either semantically or syntactically acceptable in the context of the story. Therefore, it is fair to say that their use of the strategy of substituting did not offer much help with their comprehension and thus was not effective.

The second most frequent strategy that the children used was to skip the unknown words (27%). Three children (CCAFTWSLPI-B4, CCAFTWSLPI-G3, CCAFTWSLPI-G4) did not skip any words in their reading and the other seven children skipped some words. The low proficient children reading without illustrations skipped fewer words than those low proficient children reading with illustrations (70%). It is speculated that the presence of the illustrations may have distracted the children's attention from reading the words and they thus skipped more words. The children's attention may have shifted from trying to decode the words to looking at the illustrations and attempting to find clues to help with unknown words, particularly when there are two sets of illustrations in the story which make the process of analyzing and interpreting the illustrations more complicated. The children reading without illustrations had only the words and the context of the story to use as they read. It is unfortunate that they did not

decode and identify words by using effective strategies rather than to simply skip the unknown words.

The children also used the strategy of sounding out in their oral reading (26%). The beginning parts of the words were the easiest for the children to sound out. Sometimes, they could sound out the ending parts of the words. The children had difficulty with sounding out the blends of sounds that usually appear in the middle of words, which may suggest that the children have weak phonological awareness skills. The examples of the words that the children tried to sound out included *sh-Shirley, caps-chairs, ted-tired, e-ought, rist-rest, h-why, cor-course,* and *mit-might*. The average number of words correctly read by the low proficient children reading without illustrations was 109 out of 127 ranging from 77 to 120, the median was 113.50 and mode was 120. These results are all comparatively higher than those for the low proficient children reading with illustrations (Mean = 105, Mode = 106, Median = 106). Two children (CCAFTWSLPI-G3, CCAFTWSLPI-B4) in the low proficient without illustrations group misread only 7 words in the total of 127 words skewed the results and this level of proficiency to be slightly higher. The results of the low proficient children's oral reading performance suggest the possibility that the children paid more attention to decoding and recognizing words when they read without illustrations.

Answers to the comprehension questions. The only resource for the low proficient children reading the story, *Come Away from the Water, Shirley,* without illustrations to rely on to answer the comprehension questions was the print, their background knowledge, and the context of the story. With both of the complementary and counterpoint illustrations removed, it was expected that the low proficient children's comprehension of the story might be negatively affected because the counterpoint illustrations represent a story that is tightly linked to the story told by the print and complementary illustrations. However, the low proficient children's answers to the questions appeared not to be negatively affected. They correctly answered 1.8 out of 5 literal questions on average, which

is slightly higher than the low proficient children reading with illustrations (Mean = 0.7). This result suggests that the removal of the illustrations did not negatively affect the children's understanding of the factual information in the story. There may be two possible reasons for why the children reading without illustrations performed better than those reading with illustrations. First, the comprehension questions were developed specifically based on the story described in the print to better examine whether the presence of illustrations would have an influence on the children's reading comprehension of the story. Therefore, once children could understand the print, they should be able to answer the questions. Second, the low proficient children's attention may be easily drawn to the illustrations because they often attempted to look for other clues in the book to help them to read better. Moreover, the counterpoint illustrations somewhat confused them about what they read, particularly when they could not construct a solid understanding of the story told by the print because of their limited reading proficiency and the counterpoint illustrations.

The children reading without illustrations had difficulty understanding the basic factual information in the story because they misread or skipped a large number of words in their oral reading. Some children just made up answers for the literal questions based on their background knowledge of or experiences on the topic. For example, one child (CCAFTWSLPI˙G4) gave the answer, "Because she needs them" to the question, "*Why didn't Shirley's mom ask her not to throw the stones?*" The running record of this child's reading reveals that she did not read the word, *throw* in the sentence, *Careful where you're throwing those stones. You might hit someone*. It is then reasonable to speculate that this child made up the response and did not follow the factual information provided in the story to answer the question. When another child (CCAFTWSLPI˙G2) was asked the question, "*Why didn't Shirley's mom want Shirley to bring seaweed home?*", she gave the response "Because she might eat them all." In this child's oral reading, she skipped the word, *seaweed* in the sentence, *You won't bring any of that smelly seaweed home, will you, Shirley*. This child seemed to use what she knew on the

topic, that is, seaweed is edible, to answer the question. Her answer sounded reasonable but was not related to the story being read. The two examples also suggest that skipping key words that carry essential meaning in sentences certainly negatively affected the children's comprehension.

Some children were unable to follow the information to give a correct answer even when they read the print correctly. Take one child (CCAFTWSLPI-G1) for instance, she read every word correctly in the sentence, *Your father might have a game with you when he's had a little rest*, however, she gave the answer "Because he went to swimming" to the question, "Why didn't Shirley's father have a game with her?" It is apparent that this child answered this question based on what she knew on the topic that people often go swimming when they go to the beach. The low proficient children's answers to the literal question suggest that they did not have a good understanding of the story. In addition, sometimes the children appeared unable to follow the information to answer the literal questions and they made up the answers based on their background knowledge. It seems they struggled to identify the words at the expense of their reading comprehension.

The low proficient children reading the story without illustrations struggled with the inferential questions. Four children (CCAFTWSLPI-B2, CCAFTWSLPI-B5, CCAFTWSLPI-G2, CCAFTWSLPI-G3) did not give responses to any inferential questions. The average number of inferential questions that the children correctly answered was 1.2 out of 5 with the range from 0 to 3. As discussed in the section on how the high proficient children read the story without illustrations, the only place that the low proficient children could possibly get pictorial information about the story is from the front cover illustration. The illustration depicting Shirley standing in a boat with a pirate flag may give the children the first clue about the story or make them wonder about why the illustration look differently from what is described in the print. Similar to the high proficient children reading the same story without illustrations, four children (CCAFTWSLPI-B1, CCAFTWSLPI-B3, CCAFTWSLPI-B4, CCAFTWSLPI-G5) used this illustration to correctly answer the inferential

question, “Was the weather nice on the day when Shirley and her parents went to the beach?” They all responded that the weather was sunny, which is not explicitly mentioned in the print but is implicitly indicated by the fact that Shirley and her parents spent a whole day on the beach in the story. The children gave such answers because the front cover illustration depicts a shining sun on the right-hand side of the golden-coloured background which gave them the idea that the weather was sunny. However, the children did not give any indication during or after their oral reading why the story did not seem to follow the scene portrayed on the illustrated cover, which suggests that they did not pay attention to other details in the illustration but only browsed the illustration in a general way. Another possibility is that they have an incomplete understanding of the story and thus were unable to build up the connections between the front cover illustration and the print, and hence did not consider the contradiction between the illustration and the print. The low proficient children answered correctly 3 out of 10 comprehension questions on average with the range from 2 to 6, the median was 2.5 and the mode was 2. The mean is slightly higher than the result (M = 2.7) for the low proficient children reading with illustrations, which may suggest that the counterpoint illustrations distracted the low proficient children’s attention from reading the words and more or less confused them about what they read in the print. Meanwhile, the complementary illustrations appeared not to offer any help for the low proficient children reading with illustrations to construct their understanding of the story. However, it is necessary to note that the two means are the same if rounded up. Therefore, more detailed quantitative analysis is needed for a better understanding of the role counterpoint illustrations play in the children’s comprehension of the story.

Interview responses and interpretations. The low proficient children reading the story, *Come Away from the Water, Shirley*, without illustrations expressed that they did not mind to read the story without illustrations because they could sound the words out when there are no illustrations. However, the running records reveal that the low proficient children actually used the strategy

of sounding out the least frequently in their oral reading. Even when they tried to sound out some words, they could not sound out the whole words but only the beginning or the ending parts of the words. In addition, sounding out is a strategy that helps readers to pronounce words rather than to know the meanings of the words which is a fact that the low proficient children seemed not to be aware. It is important for the children to know that as readers they need to depend on other reading strategies such as using the context of the story to figure out meanings of unknown words and to monitor whether the word they have sounded out makes sense in the context as they construct their comprehension of the story.

Most of the children expressed that they would like to have illustrations in the story because the illustrations help them to recognize the unknown words. For example, when the children were asked how they would possibly use illustrations while they were reading if there were any, one child (CCAFTWSLPI-B3) said, "Some pictures are kind of good, maybe they can show you some words and maybe there is a sign of words a little bit better, maybe a sign of letter." One child (CCAFTWSLPI-G1) also stated that she could know what the words mean if she could look at pictures. Another child (CCAFTWSLPI-G4) even claimed that pictures help her not only to know the words but also to spell the words. The children's remarks on the role illustrations play in their reading indicate that the assumptions about the connection between illustrations and words in storybooks is pervasively accepted among the children, that is, illustrations match with the words. The pervasiveness and uniformity of the responses indicate that the children are told to look at the illustrations to help with word identification. They think that illustrations help them to decode unknown words mainly because they assumed that illustrations carried the same information as the words. They thus think that they can use illustrations as a tool to recognize words that they do not know. However, as mentioned in the previous section on how the low proficient children read the same story with illustrations, illustrations usually represent part of the information in words and sometimes do not even correspond to the words. Therefore, relying on looking at illustrations to decode unknown words is not

effective which has also been confirmed by the analyses of the children's reading performance in other groups in my study.

Only two children (CCAFTWSLPI-G4, CCAFTWSLPI-G5) in the group of low proficient children mentioned that illustrations can also be used as an aid to know what happens in the story. One child (CCAFTWSLPI-G4) said, "Sometimes, people need pictures, if they don't have pictures, they won't know what the story is about." Another child (CCAFTWSLPI-G5) reported that she could guess what happens in the story if she did not know how to read. Similar to other children who view illustrations as a tool to assist with understanding, the two children's responses suggest that they have an idea that illustrations often carry information about the story and can be possibly used to give them clues about the story. It has been found in my study that illustrations provided the readers with information about what the story is about only when the illustrations corresponded to the print. It would be a great challenge for the young readers to build up the connections between the illustrations and words and then make sense of the story when the illustrations are superfluous or serve as counterpoint to the print. Therefore, generally saying or claiming that looking at illustrations is a strategy to assist with reading comprehension is not quite reliable. Illustrations are not a universal tool to offer help to the readers because the functions of illustrations in storybooks are always constrained by many mediating factors. No matter what reasons the low proficient children provided, their willingness to include illustrations in the story suggests that they more or less hope to utilize illustrations as a possible aid to help them to compensate for their limited reading proficiency and thus to understand the story better. However, their ideas about the use of illustrations are very general. More detailed instructions and guidance on specific strategies are needed for them to more effectively use illustrations in their reading.

Overall summary. The low proficient children reading the story, *Come Away from the Water, Shirley* without illustrations used three reading strategies in their oral reading. They used the strategy of substituting the most frequently.

However, the substitutions that they made usually were based on the orthographic forms of the original words, but were not semantically and/or syntactically acceptable in most cases in the context of the story, and thus could not offer any help to the children's comprehension of the story. Skipping unknown words was also used by the children. However, the number of words that they skipped was fewer than those by the children reading with illustrations, which may suggest that the presence of illustrations somewhat distracted the children's attention from reading the words. Some children also attempted to sound out unknown words with the middle parts the most difficult to sound out as was true for most of the low proficient children.

Some of the low proficient children made up answers for the comprehension questions based on their background knowledge rather than on the factual information provided in the story to answer literal questions. The average number of correctly answered literal questions by the children reading without illustrations was higher than those low proficient readers who read with illustrations. This finding suggests that the counterpoint illustrations more or less confused the children on what the story is about. In addition, the complementary illustrations did not provide any help for the children to better understand the story. Four children used the front cover illustration to correctly answer one inferential question. However, their attention to the illustrations was very general because not one child gave any indication about their wonders on the irrelevant connection between the counterpoint illustrations and the print. Most of the low proficient children expressed their intention to include illustrations in the story because they have been told that illustrations help to recognize unknown words. These children based their hope that illustrations assist with decoding unknown words on the assumption that illustrations always match with the words in storybooks. However, illustrations often represent only some of the print information and some illustrations do not even correspond to the print, which is a fact that the children seemed not to know. The children's preference for reading illustrated storybooks implies that the low proficient children hope to rely on

illustrations as another clue to help them to read better. Nevertheless, their understanding of the use of illustrations was very general. More instructions on the nature of illustrations and specific strategies to use illustrations are necessary in order to teach children that what they read ought to make sense.

Chapter 5: Quantitative Results and Discussion

The quantitative analysis of the findings in my study will further investigate whether the illustrations, the complementary or the counterpoint, indeed helped the Chinese ESL children to read and understand the stories in English, and examine whether the results support the predictions that were made at the beginning of the study.

In Chapter 1, four predictions on the performance of the more proficient and less proficient ESL children reading the two categories of the illustrated storybooks with and without illustrations were made for each exploratory experiment under the heading Purpose of the Study, Planned Experiments, and Research Predictions. Each of the predictions for high and low proficient children reading the complementary storybooks is discussed next.

Complementary Storybooks

Prediction 1. The more proficient readers will perform better on measures of reading with print and illustrations than with print alone.

Three sources of data serve as the evidence for the children's reading performance, namely, total number of words read correctly in the story, total miscues, and comprehension question scores. Table 5.1 presents means and standard deviations for words read correctly by the high proficient readers reading *Apple Farmer Annie* and then, *Little Beauty*.

Table 5.1

Means and Standard Deviations for Correctly Read Words by the High Proficient Children Reading With and Without Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
Mean	138.6	138.2	193.0	191.6
SD	*(3.84)*	*(5.87)*	*(5.10)*	*(7.79)*

Note. Total words for AFA = 147; Total words for LB = 201.

As can be seen, the high proficient children reading *Apple Farmer Annie* without illustrations read almost the same number of words correctly on average

as the high proficient readers reading with illustrations. In order to determine whether there is a significant difference between the oral reading performance of the high proficient children reading with and without illustrations, a t-test for independent means was conducted. Results of the t-test, $t(16) = .22$, $p = .41$ reveal no difference which suggests that the high proficient children orally reading *Apple Farmer Annie* with illustrations did not perform significantly different from the high proficient children orally reading in the non-illustration group.

Meanwhile, the high proficient children orally reading *Little Beauty* without illustrations also correctly read on average a similar number of words as the high proficient children orally reading in the illustration group (see Table 5.1). Results of the t-test, $t(16) = .48$, $p = .32$ reveal that there is no significant difference between the high proficient children's oral reading in the illustration and non-illustration groups.

Second, the miscues that the high proficient children made in their oral reading were analyzed as two types: acceptable miscues and unacceptable miscues. Namely, acceptable miscues fit semantically or/and syntactically in the context of *Apple Farmer Annie* and unacceptable miscues fit neither semantically nor syntactically in the context of the story. The average number of unacceptable miscues that the high proficient children reading without illustrations made was similar to the high proficient children reading *Apple Farmer Annie* with illustrations, respectively at 8.6 and 8.3 words (see Table 5.2). The high proficient children regardless of whether they were reading with or without illustrations on average made few miscues but when they did, the miscues were generally unacceptable. Only one acceptable substitution based on the illustration was found in the illustration group, and two meaning-based substitutions for the non-illustration group.

Table 5.2

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the High Proficient Children Reading With and Without Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
AM Mean	0.1	0.2	0.1	0
SD	*(0.32)*	*(0.42)*	*(0.32)*	*(0.00)*
UAM Mean	8.3	8.6	*7.9*	*9.4*
SD	*(3.65)*	*(5.87)*	*(5.13)*	*(7.79)*

Note. Total words for AFA = 147; Total words for LB = 201; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

The t-test reveals no significant difference (p .43) between the high proficient children in the two illustration groups in terms of acceptable miscues made. The few occasions when the high proficient children used the illustrations in their reading suggests either that the illustrations did not provide the high proficient children reading *Apple Farmer Annie* with useful information to better recognize unknown words or the high proficient children tended not to rely on the illustrations to help them to read. Rather, it seems the high proficient children knew the words but when they encountered unknown words, they did not display use of effective word identification strategies. The means for the unacceptable miscues that the high proficient children reading *Little Beauty* with and without illustrations made were respectively at 7.9 and 9.4 words (see Table 5.2). None of the miscues that the high proficient children reading without illustrations made were unacceptable, only one acceptable meaning-based substitution made by the illustration group. Results of the t-test, $t(16) = -.51$, $p = .31$ reveal that the difference between the types of miscues made by the high proficient children in the two illustration groups were not significant. This finding combined with the result on the total number of correctly read words indicates that the high proficient children in the illustration group did not significantly differ in oral reading of the story, *Little Beauty,* from the high proficient children reading without illustrations. Similar to when they were reading *Apple Farmer Annie,* no child in the

illustration group used the illustration information to help them to recognize unknown words. Previous studies focused mainly on the functions of illustrations on ESL readers' reading comprehension which demonstrated that illustrations enhanced adult or adolescent ESL readers' understanding (Liu, 2004). As an extension to their research, my results show that illustrations did not help the emergent Grade 1 ESL readers with decoding and identifying words while oral reading and was thus found to be an ineffective strategy. Third, Table 5.3 presents the means and standard deviations of literal and inferential comprehension question scores that the high proficient children in the illustration and non-illustration groups correctly answered in the stories of *Apple Farmer Annie* and *Little Beauty*. The means for the high proficient children reading *Apple Farmer Annie* without illustrations for both the literal and inferential questions were more or less the same as the high proficient children reading with illustrations, and the standard deviations are relatively similar. Results of the t-test, $t(13) = -.25$, $p = .40$ reveal no significant difference for the inferential questions. However, the difference for the literal questions was significant $t(18) = 2.01$, $p = .03$.

Table 5.3

Means and Standard Deviations for Correctly Answered Literal and Inferential Comprehension Questions by High Proficient Children Reading With and Without Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
LCQS Mean	4.4	3.8	4.0	3.0
SD	*(0.70)*	*(0.63)*	*(0.47)*	*(0.94)*
ICQS Mean	3.0	3.1	3.6	2.8
SD	*(1.15)*	*(0.57)*	*(0.70)*	*(0.63)*

Note. LCQC = Literal Comprehension Question Score (Total Possible = 5); ICOS = Inferential Comprehension Question Score (Total Possible = 5).

These results indicate that the high proficient children's identification of the factual information in the story, *Apple Farmer Annie* was enhanced by the

presence of the illustrations but not their inferential comprehension. Inferential questions require an integration of the relevant text information and readers' relevant background knowledge which is more challenging than mere information location or recall, which is sometimes all that is necessary to achieve correctness on literal questions.

Based on the analyses of the three data sources assessing how the ESL children read *Apple Farmer Annie*, it is noticeable that the performance of the high proficient children reading the story with illustrations did not differ significantly from the high proficient children in the non-illustration group. Compared to the non-illustration group, the illustration group did not correctly read more words, make more acceptable miscues, and significantly answer more inferential comprehension questions correctly, but the same was not the case for the literal comprehension questions. The illustrations in *Apple Farmer Annie* seemed to slightly help the high proficient children to answer correctly more literal comprehension questions than the children in the non-illustration group. Interestingly, the high proficient children in the two illustration groups reading *Little Beauty* answered correctly a similar number of literal and inferential comprehension questions on average (see Table 5.3). However, the t-test reveals a significant difference in the high proficient children's answers to both the literal $t(13) = 3.00$, $p = .01$ and the inferential $t(18) = 2.68$, $p = .01$ comprehension questions between the two illustration groups, which suggests that the illustrations in the story, *Little Beauty* not only assisted the high proficient children with locating or recalling the factual information but also with making inferences. It has been suggested in the monolingual literature that print-related illustrations help readers to recall more factual information (Brookshire, Scharff, & Moses, 2002; Waddill & McDaniel, 1992), and assist them with making more correct inferences (Pike, Barnes, & Barron, 2010). Similar results were also found when the high proficient ESL children read *Little Beauty*. However, this finding is somewhat different from how these high proficient children performed on the literal and inferential comprehension questions in *Apple Farmer Annie*, in which

the complementary illustrations helped the children correctly answer more literal questions than inferential questions. To examine the complete data further, the total number (10) of comprehension questions (literal and inferential combined) for both the high proficient with and without illustrations groups was examined for both *Apple Farmer Annie* and *Little Beauty*. Table 5.4 presents the means and standard deviations of the total number of correctly answered comprehension questions by the high proficient children reading the two complementary stories with and without illustrations.

Table 5.4

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by High Proficient Children Reading With and Without Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
Mean	7.4	6.9	7.6	5.8
SD	*(1.58)*	*(0.99)*	*(0.84)*	*(1.23)*

Note. Total Number of Comprehension Questions = 10.

As can be seen, the high proficient children reading *Apple Farmer Annie* with and without illustrations reading correctly answered on average more or less the same number of the comprehension questions. The t-test for independent means suggests no significant difference between the two groups $t(15) = .85$, $p = .20$. Even though the independent t-test for the literal and inferential comprehension questions revealed a small but marginal significant difference between the high proficient children reading with and without illustrations when answering literal comprehension questions, the examination of the total number of comprehension questions indicates no significant difference when combined. Therefore, it is fair to say that the probability is low on the basis of all three measures of reading of *Apple Farmer Annie* (the words read correctly, total number of accepted miscues, and total literal and inferential questions) that any significant difference exists.

Even though there is about a 2-point difference for the means of the correctly answered comprehension questions between the two illustration groups of the high proficient children reading *Little Beauty*. The t-test revealed no significant difference $t(16) = 3.82$, $p = .00$. This result suggests that the high proficient children in the illustration group reading *Little Beauty* performed marginally better though not significantly on answering comprehension questions than the high proficient children in the non-illustration group.

Interestingly, the results on the use of illustrations in ESL children's oral reading and answers to comprehension questions of *Apple Farmer Annie* do not support Prediction 1 that the high proficient children would perform better when reading with illustrations and print than with print alone. Neither do the results of the high proficient children's oral reading of *Little Beauty* support Prediction 1. Since there is more or less little difference between the high proficient children's performance on the two stories, *Apple Farmer Annie* and *Little Beauty*, it is speculated that the detailed features in the illustrations of the two books are uniquely different even though they are both complementary illustrations, and those differences may explain the result. A close look at the illustrations in both of the storybooks reveals that the illustrations on every page of *Little Beauty* are tightly integrated to tell a whole story. In addition, the illustrations are closely connected to the word descriptions (see Appendix D). Very few other unrelated details are depicted. Readers are able to glean what happens in the story by looking only at the illustrations in *Little Beauty*. Unlike *Little Beauty*, there are numerous decorative details in *Apple Farmer Annie* (see Appendix C) not only are there illustration-only pages but also illustrations on the pages with words. Examples of those details include worms in apples, apples with different colours, leaves, acorns, a cat on a tree, and a running dog. Even though the illustrations in *Apple Farmer Annie* correspond to the print descriptions, the variety and the quantity of unrelated details that do not correspond to the print in the illustrations neither provide readers with useful information to better understand the story nor assist them with making connections between the print and illustrations. It is

important to point out that some illustrators intend to add the extra details in the illustrations either to make the illustrations look more attractive or to help readers expand their imagination of scenes in the story. Notwithstanding the results, both *Apple Farmer Annie* and *Little Beauty* are complementary storybooks, so it seems specific features of even complementary illustrations as designed and portrayed may affect how ESL readers effectively use illustrations to assist with comprehension when at the emergent stages of English reading proficiency, which extends the current literature on the effects of different types of illustrations rather than on the detailed features in illustrations of the same category (Pike et al., 2010; Torcasio & Sweller, 2010). My finding points to the constraints of other mediating factors beyond those expected and indicated (e.g., readers' language proficiency, illustration types, and the age of readers.). Even illustrations categorized to be the same type had different effects on the ESL young children's reading and understanding of the complementary stories because of the diverse detailed features in the illustrations from book to book.

To sum up, the results of the high proficient children's reading of the two complementary storybooks, *Apple Farmer Annie* and *Little Beauty* suggest that the high proficient children do not orally read the stories differently when reading with illustrations and print than with print alone. To some extent, the high proficient children's comprehension was enhanced when reading with illustrations, however, only on the occasions where the illustrations tightly connected to the print, the amount of print was sparse, and where the details were minimal. Further research is warranted on types of complementary illustrations and their effects on ESL children's emergent reading.

Prediction 2. The less proficient readers will perform better on measures of reading with print and illustrations than with print alone.

The three sources of data for the low proficient readers' reading performance include the total number of correctly read words for each story, total miscues, and the total number of correct literal and inferential comprehension questions. Table 5.5 presents the means and standard deviations for total words

read correctly by the low proficient children in *Apple Farmer Annie* and *Little Beauty*. The mean for the low proficient group reading *Apple Farmer Annie* without illustrations was slightly higher than the mean for the illustration group.

Table 5.5

Means and Standard Deviations for Correctly Read Words by the Low Proficient Children With and Without Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
Mean	112.3	117.8	153.4	161.9
SD	*(19.09)*	*(19.26)*	*(34.32)*	*(29.76)*

Note. Total words for AFA = 147; Total words for LB = 201.

However, the t-test for independent means suggests no significant difference $t(18) = -.64$, $p = .26$ between the average numbers of correctly read words by the low proficient children reading without illustrations and the low proficient children under the illustration condition. Meanwhile, the low proficient children reading *Little Beauty* without illustrations correctly read about nine words on average more than the low proficient children reading with illustrations. However, the t-test reveals no significant difference $t(18) = -.59$, $p = .28$ between the two illustration groups.

Most of the miscues made by the low proficient children reading *Apple Farmer Annie* and *Little Beauty* were unacceptable. The mean for the unacceptable miscues made by the low proficient children reading *Apple Farmer Annie* with illustrations was somewhat higher than the mean for the low proficient reading without illustrations group (see Table 5.6).

Table 5.6

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the Low Proficient Children Reading With and Without Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
AM Mean	0.2	0	0	0
SD	*(0.42)*	*(0.00)*	*(0.00)*	*(0.00)*
UAM Mean	34.5	29.2	*47.6*	*39.1*
SD	*(19.16)*	*(19.26)*	*(34.32)*	*(29.76)*

Note. Total words for AFA = 147; Total words for LB = 201; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

Only two acceptable miscues were found in the illustration group, and the non-illustrations group made no acceptable miscues. Results of the t-test for independent means reveal no significant difference $t(18) = .62$, $p = .27$ between the total unacceptable miscues made by the children reading *Apple Farmer Annie* in the two illustration groups. The low proficient children reading *Little Beauty* with illustrations made more unacceptable miscues on average than the low proficient children reading without illustrations. No acceptable miscues were identified in either of the illustration groups. The t-test reveals that the difference between the total unacceptable miscues made by the two illustration groups reading *Little Beauty* is not significant $t(18) = .59$, $p = .28$. The results on the total unacceptable miscues that the low proficient children made when considered with their performance results on the total number of correctly read words suggest that the low proficient children reading both *Apple Farmer Annie* and *Little Beauty* without illustrations did not orally read the stories significantly differently from the low proficient children reading with illustrations, which indicates that the illustrations did not help these children to better orally read the complementary stories. A possible reason may be because the presence of the illustrations distracted the low proficient children's attention from recognizing and reading the words and/or their limited reading proficiency prevented them from making connections between the words and the illustrations. A number of studies have

demonstrated that the low proficient children's attention was more easily distracted by the presence of illustrations (Samuels, 1967; Torcasio & Sweller, 2010) and their oral reading performance was more negatively affected by the illustrations than the proficient readers (Lang & Solman, 1979; Willows, 1978). The result on the low proficient children's oral reading confirms another nuance that the complementary illustrations did not help either the high proficient or the low proficient ESL children to read more words correctly. This result, on the other hand, disconfirms the general claims that illustrations assist ESL children to better read in English, particularly the low proficient children who have limited vocabulary knowledge.

The low proficient children reading without illustrations correctly answered a similar number of literal and inferential questions on average when rounded as the low proficient readers in the illustration group for both of the stories, *Apple Farmer Annie* and *Little Beauty* (see Table 5.7).

Table 5.7

Means and Standard Deviations for Correctly Answered Literal and Inferential Comprehension Questions by Low Proficient Children Reading With and Without Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
LCQS Mean	3.2	2.4	2.9	2.0
SD	*(1.14)*	*(1.17)*	*(0.74)*	*(1.25)*
ICQS Mean	2.1	1.4	3.2	2.4
SD	*(1.20)*	*(0.70)*	*(0.63)*	*(0.52)*

Note. LCQC = Literal Comprehension Question Score; ICOS = Inferential Comprehension Question Score.

The t-tests reveal different results, that is, there was no significant difference between the two illustration groups in the correctly answered literal $t(18) = 1.55$, $p = .07$ and inferential questions $t(14) = 1.6$, $p = .07$ when reading *Apple Farmer Annie*. However, there was a significant difference between the two groups when

reading *Little Beauty* $t(15) = 1.96$, $p = .03$ for the literal questions, but not for the inferential questions $t(17) = 3.10$, $p = .00$.

To examine the total comprehension data further, the analyses on the total number of comprehension questions (10) was conducted. Table 5.8 presents the means and standard deviations of correctly answered total comprehension questions by the low proficient children in both illustration groups reading *Apple Farmer Annie* and *Little Beauty*.

Table 5.8

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by Low Proficient Children Reading With and Without Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
Mean	5.3	3.8	6.1	4.4
SD	*(2.16)*	*(1.23)*	*(1.10)*	*(1.35)*

Note. Total Number of Comprehension Questions = 10.

As can be seen, the low proficient children in the illustration group reading *Apple Farmer Annie* answered on average one more comprehension question correctly than the non-illustration group. The t-test for independent means reveals a significant difference between the two low proficient groups reading *Apple Farmer Annie* $t(14) = 1.91$, $p = .04$, which is different from the results of the independent t-tests for the literal and inferential questions which reveal no significant difference. The low probability on the basis of all three measures on *Apple Farmer Annie* (the words read correctly, total number of accepted miscues, and total literal and inferential questions) indicates no significant difference. There is about a 2-point difference in the means between the low proficient children in the two illustration groups when reading *Little Beauty*. The children in the illustration groups correctly answered more comprehension questions than the non-illustration group. However, the t-test suggests no significant difference $t(17) = 3.09$, $p = .00$. This result is not consistent with the result of the independent t-test for the literal and inferential comprehension questions, which indicates that

the illustrations only enhanced the low proficient children's comprehension of literal information in the story, *Little Beauty*. Previous studies where the low proficient ESL readers tended to rely on illustrations to find clues of what they were reading and their understanding was enhanced was not confirmed by my results (Liu, 2004). This minimal beneficial function of the illustrations appeared only in the case of the book, *Little Beauty*. As discussed in Prediction 1, a plausible reason for the low proficient children's different performance on the comprehension questions in the two storybooks may be the nature of the detailed features in the illustrations of the two books. The clear and tightly print-related illustrations with minimal details in *Little Beauty* offered more help than the more numerous and elaborate illustrations in *Apple Farmer Annie*, which seemed to contain more unrelated details.

In summary, the low proficient children in the non-illustration group did not orally read significantly differently from the low proficient children in the illustration group when orally reading both *Apple Farmer Annie* and *Little Beauty*. Neither was there a significant difference between the performances of the two illustration groups on answering comprehension questions on *Apple Farmer Annie*. These results do not support Prediction 2 that the low proficient children would perform better when reading with illustration and print than with print alone. Prediction 2 was not supported by the result that the low proficient children reading *Little Beauty* with illustrations correctly answered more comprehension questions than those reading without illustrations but the difference was not significant. The difference between the results on the comprehension questions in the two stories suggests that the unique features in the illustrations may have different effects on the low proficient children's comprehension even though both books are deemed to have complementary illustrations. The simple-natured illustrations that are tightly connected to the print information in *Little Beauty*, are more helpful than the illustrations having lots of decorative print-unrelated details in *Apple Farmer Annie*, for the low proficient children to better understand the story. In addition, for the low proficient readers whose reading proficiency is

limited, the illustrations with a variety of print-unrelated details may distract their attention from recognizing the words or further prevent them from utilizing the potentially useful information in the complementary illustrations to help with word identification and understanding. The vocabulary used in *Apple Farmer Annie* was more difficult than that used in *Little Beauty*.

The results on the performance of the low proficient children reading *Apple Farmer Annie* and *Little Beauty* correspond to the results on the performance of the high proficient children reading the same two stories, which suggests that regardless of the readers' reading proficiency, the complementary illustrations are helpful only when the illustrations provide minimal details and are tightly connected to the print. It has been suggested that the beneficial functions of illustrations on ESL children's reading performance is constrained by mediating factors including the nature of illustrations, the difficult levels of the reading materials, the readers' language proficiency (Hudson, 1982; Liu, 2004; Omaggio, 1979). My study advances the current literature which demonstrates that even the unique specific features in the complementary illustrations had different effects on young ESL readers' understanding of English stories. It is thus fair to say that capitalizing upon the potential benefit from the illustrations to facilitate reading is in fact much more challenging than it is generally assumed and claimed.

Predictions 3 and 4 on the comparisons of how the high and low proficient children reading *Apple Farmer Annie* and *Little Beauty* under the two illustration conditions are discussed next to examine whether the complementary illustrations are useful for the low proficient children to overcome their limited reading proficiency and thus are able to possibly read at or close to the high proficient children's reading level.

Prediction 3. The more proficient readers will perform better on measures of reading than the less proficient readers with print alone. In order to further examine the role illustrations play in the reading of ESL children at different reading proficiency levels, the high and low proficient children's reading

performance including the total of correctly read words, types of miscues and the correctly answered literal and inferential questions were compared respectively under the two illustration conditions. Table 5.9 presents the means and standard deviations for the correctly read words by the high and low proficient readers reading both the complementary books, *Apple Farmer Annie* and *Little Beauty* under the non-illustration condition. There are noticeable differences in the means of the correctly read words between the high proficient and low proficient children reading both *Apple Farmer Annie* and *Little Beauty* without illustrations. The t-tests for the independent means reveal no significant difference for the high proficient and low proficient groups $t(11) = 3.20$, $p = .00$ for *Apple Farmer Annie*, but a significant difference $t(10) = 3.05$, $p = .01$ for *Little Beauty*.

Table 5.9

Means and Standard Deviations for Correctly Read Words by the High and Low Proficient Children Without Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^-	LPI^-	HPI^-	LPI^-
Mean	138.2	117.8	191.6	161.9
SD	*(5.87)*	*(19.26)*	*(7.79)*	*(29.76)*

Note. Total words for AFA = 147; Total words for LB = 201.

Table 5.10 presents the means and standard deviations for the types of miscues made by the high and low proficient children reading *Apple Farmer Annie* and *Little Beauty* under the non-illustration condition. As can be seen, the low proficient children reading both stories without illustrations made considerably more unacceptable miscues on average than the high proficient children. This result is congruent with findings from previous studies wherein they found that the low proficient children not only have limited vocabulary knowledge but also often make more miscues compared to the high proficient readers (Ammon, 1987; Miramontes, 1990), which accounts in large measure for their lower oral reading performance.

Table 5.10

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the High and Low Proficient Children Reading Without Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI$^-$	LPI$^-$	HPI$^-$	LPI$^-$
AM Mean	0.2	0	0	0
SD	*(0.42)*	*(0.00)*	*(0.00)*	*(0.00)*
UAM Mean	8.6	29.2	*9.4*	*39.1*
SD	*(5.87)*	*(19.26)*	*(7.79)*	*(29.76)*

Note. Total words for AFA = 147; Total words for LB = 201; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

The high proficient children correctly answered four literal and three inferential questions on average when rounded whereas the low proficient children when reading *Apple Farmer Annie* correctly answered only two literal and one inferential question correctly (see Table 5.11).

Table 5.11

Means and Standard Deviations of Correctly Answered Literal and Inferential Comprehension Questions by High and Low Proficient Children Without Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI$^-$	LPI$^-$	HPI$^-$	LPI$^-$
LCQS Mean	3.8	2.4	3.0	2.0
SD	*(0.63)*	*(1.17)*	*(0.94)*	*(1.25)*
ICQS Mean	3.1	1.4	2.8	2.4
SD	*(0.57)*	*(0.70)*	*(0.63)*	*(0.52)*

Note. LCQC = Literal Comprehension Question Score; ICOS = Inferential Comprehension Question Score.

Table 5.12 presents the means and standard deviations for the correctly answered total comprehension questions by both the high and low proficient children reading *Apple Farmer Annie* and *Little Beauty* under the non-illustration condition. As shown in Table 5.12, there are apparent differences between the

means for the total comprehension questions correctly answered by the high and low proficient children for both of the stories. The t-tests also reveal no significant difference $t(17) = 6.20$, $p = .00$ for *Apple Farmer Annie*, and a significant difference $t(18) = 2.42$, $p = .01$ for *Little Beauty*.

Table 5.12

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by High and Low Proficient Children Reading Without Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI-	LPI-	HPI-	LPI-
Mean	6.9	3.8	5.8	4.4
SD	*(0.99)*	*(1.23)*	*(1.23)*	*(1.35)*

Note. Total Number of Comprehension Questions = 10.

Even though the independent t-test for the inferential questions for *Little Beauty* suggests no significant difference between the high and low proficient groups, the t-test on the total comprehension questions reveals a significant difference $t(18) = 2.42$, $p = .01$. Therefore, the high probability on the basis of all three measures of reading both *Apple Farmer Annie* and *Little Beauty* (correctly read words, types of miscues, correctly answered literal and inferential questions) indicates that the high proficient children read both stories significantly better than the low proficient children when there were no illustrations. This result supports Prediction 3 that the high proficient children would perform better than the low proficient children when reading with print alone. The readers' proficiency plays an essential and crucial role in their reading performance. By definition, it may appear that the result is obvious, however, the result was unknown for the variables and sample studied in this research. The findings of previous studies on the differences between the low and high proficient ESL readers are confirmed. The low proficient readers were found to not only have a lower level of vocabulary knowledge but also used fewer effective reading strategies than the high proficient readers, and thus could not perform as well as the high proficient readers (Hardin, 2001; Miramontes, 1990).

Prediction 4. The more proficient readers will perform better on measures of reading than the less proficient readers with print and illustrations.

The high and low proficient children's reading performances on the two complementary stories, *Apple Farmer Annie* and *Little Beauty* with illustrations were compared to further examine the role illustrations play in ESL children's reading. Table 5.13 presents the means and standard deviations for the correctly read words by high and low proficient children reading the two storybooks with illustrations. The high proficient children correctly read more words than the low proficient children on both complementary stories. The t-tests for the independent means reveal no significant differences $t(10) = 4.27$, $p = .00$ for *Apple Farmer Annie* and $t(9) = 3.61$, $p = .00$ for *Little Beauty*.

Table 5.13

Means and Standard Deviations for Correctly Read Words by the High and Low Proficient Children Reading With Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
Mean	138.6	112.3	193.0	153.4
SD	*(3.84)*	*(19.09)*	*(5.10)*	*(34.32)*

Note. Total words for AFA = 147; Total words for LB = 201.

The low proficient children made noticeably more unacceptable miscues than the high proficient children when reading both complementary stories with illustrations (see Table 5.14). The t-tests suggest that there were no significant differences between the two groups for *Apple Farmer Annie* $t(10) = -4.25$, $p = .00$ or for *Little Beauty* $t(9) = -3.62$, $p = .00$. Both the high and the low proficient children made only a few acceptable miscues on average in their reading of both books. This performance is consistent with the results for the high and low proficient children reading without illustrations, which suggests that miscues that are semantically and syntactically acceptable in the context of the story are a challenge for the ESL children. In addition, this result also indicates that the ESL children may not know effective strategies to help them figure out possible

meanings and syntactic functions of unknown words regardless of their reading proficiency levels.

Table 5.14

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the High Proficient Children Reading With Illustrations

Storybooks	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
AM Mean	0.1	0.2	0.1	0
SD	*(0.32)*	*(0.42)*	*(0.32)*	*(0.00)*
UAM Mean	8.3	34.5	*7.9*	*47.6*
SD	*(3.65)*	*(19.16)*	*(5.13)*	*(34.32)*

Note. Total words for AFA = 147; Total words for LB = 201; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

Table 5.15 presents the means and standard deviations for the correctly answered literal and inferential questions by the high and low proficient children reading *Apple Farmer Annie* and *Little Beauty*. The high proficient children correctly answered approximately only one literal and one inferential question more than the low proficient children on average when rounded for both *Apple Farmer Annie* and *Little Beauty*. The t-tests for the literal questions reveal a significant difference between the two groups $t(15) = 2.85$, $p = .01$for *Apple Farmer Annie*, but no difference $t(15) = 3.97$, $p = .00$ for *Little Beauty*. However, the t-tests for the inferential questions suggest no significant differences $t(18) = 1.71$, $p = .05$ for *Apple Farmer Annie*, and $t(18) = 1.34$, $p = .10$ for *Little Beauty*. This result indicates, first that the illustrations in both of the books provide the low proficient children with relevant factual information to perform similarly to the high proficient children on answering the inferential questions, which is also the case for monolingual young children who made more correct inferences when presented with the print-relevant illustrations (Pike et al., 2010); second, suggests that the low proficient children have similar background knowledge or prior experiences as the high proficient children on the topics of the two

complementary stories, which is essentially required for making inferences. In addition, the similar performance by the high and low proficient children on the inferential questions in turn suggests that the high proficient children's better comprehension on the two complementary storybooks were for the most part based on their recall or location of the relevant literal information in the stories. It is thus fair to say that the high proficient children's ability to use the information in the stories plus their background knowledge to make inferences was marginally better than the low proficient children. This finding is consistent with the work of Oakhill and Cain (2007). They found that literal comprehension questions do not effectively separate the high and low proficient first language readers. However, the inferential comprehensions do because low proficient readers have more difficulty integrating relevant text information across a text with their relevant background knowledge.

Table 5.15

Means and Standard Deviations of Correctly Answered Literal and Inferential Comprehension Questions by High and Low Proficient Children Reading With Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
LCQS Mean	4.4	3.2	4.0	2.9
SD	*(0.70)*	*(1.14)*	*(0.47)*	*(0.74)*
ICQS Mean	3.0	2.1	3.6	3.2
SD	*(1.15)*	*(1.2)*	*(0.70)*	*(0.63)*

Note. LCQC = Literal Comprehension Question Score (Total Possible = 5); ICOS = Inferential Comprehension Question Score (Total Possible = 5).

A close look at the total comprehension questions is necessary for a complete analysis of how the high and low proficient children reading the complementary stories with illustrations performed when answering the comprehension questions. As presented in Table 5.16, the high proficient children correctly answered noticeably more comprehension questions than the

low proficient children for both complementary stories, *Apple Farmer Annie* and *Little Beauty*. The t-tests suggest significant differences between the two groups for *Apple Farmer Annie* $t(16) = 2.48$, $p = .01$, and no difference for *Little Beauty* $t(17) = 3.42$, $p = .00$.

Table 5.16

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by High and Low Proficient Children Reading With Illustrations

Storybook	*Apple Farmer Annie* (AFA)		*Little Beauty* (LB)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
Mean	7.4	5.3	7.6	6.1
SD	*(1.58)*	*(2.16)*	*(0.84)*	*(1.10)*

Note. Total Number of Comprehension Questions = 10.

In addition, the p values for the total comprehension question were robust enough to suggest that the high proficient children performed significantly better than the low proficient children when reading *Apple Farmer Annie*. Nevertheless, considering the *p* value .10 for the inferential questions on *Little Beauty*, it is fair to say that the low proficient children more or less were helped by the illustrations to answer more inferential questions, which was somewhat closer to the high proficient children's performance. The high probability on the basis of the three data sources for *Apple Farmer Annie* and *Little Beauty* (total words read correctly, types of miscues, correctly answered literal and inferential questions) suggests that the high proficient children performed better than the low proficient children when reading both complementary storybooks with illustrations, which supports Prediction 4. This result suggests that the low proficient children did not perform at or close to the level of the high proficient children even with the presence of complementary illustrations. Moreover, even though illustrations are presumed to help the low proficient children overcome their limited reading proficiency, clearly they do not in all cases.

The foundation of reading is readers' reading proficiency. The effective use of complementary illustrations was constrained by many mediating factors

including the readers' level of reading proficiency, the quantity and variety of trivial details in the illustrations, and the readers' ability to make connections between the print and illustrations, which makes effectively utilizing the relevant information in illustrations a challenge. Instructions and explanations on how to use illustrations are necessary and important for helping ESL readers to effectively utilize illustrations in reading (Koenke & Otto, 1969; Vernon, 1954). However, no explicit suggestions were given on the kinds of instruction necessary to increase the effectiveness of utilizing illustrations while reading. Based on the findings of my study, instructions to explain the functions of illustrations in reading and specific strategies are necessary. Based on my observations of the 80 children I worked with, it is clear that these children needed explicit strategies and I thus offer the following. Teachers first need to make clear and explain to the children that using illustrations is not an effective strategy to recognize unknown words unless there is a one-to-one correspondence between the illustration and the word which is not typically the case with stories. Teach children to look at the illustrations for visual clues of what might happen in stories. Some ideas of specific strategies include: identifying the main characters in the illustrations (e.g., the gorilla and the cat in *Little Beauty*); paying attention to the facial expressions and actions of the main characters (e.g., the gorilla's frowned eyebrow at the beginning and his smiling face by the end of *Little Beauty*); focusing on the main part of the illustrations rather than other details (e.g., on all of the apples, on what Annie was doing on her farm, in the kitchen, and in the market and note with interest the decorative details such as the dog, the cat, worms, and birds in *Apple Farmer Annie*); trying to make connections between the illustrations and print rather than solely relying on illustrations (e.g., the scene that the gorilla broke the television was portrayed in the illustrations as well as described in the print in *Little Beauty*); questioning the relationship between illustrations and print (e.g., the wordless illustrations represent different information from the print in *Come Away from the Water, Shirley* [Burningham, 1977]); making predictions on what the seemingly print-irrelevant illustrations may represent (e.g., Nicky's reactions

to the things that he saw were not real but his imagination at work in *Lily Takes a Walk* [Kitamura, 1998]; Shirley's imagination was represented in the wordless illustrations in *Come Away from the Water, Shirley*).

When teaching the specific strategies, selecting appropriate storybooks and providing good examples are pedagogically sound, teachers also need to point out to children that utilizing the visual clues in illustrations is only a potential tool to help them to read better. Merely depending on illustrations to completely understand a story is ineffective because the foundation of reading is to learn and recognize words. And, finally teaching children to wonder whether what they have said makes sense given the clues in the illustrations and in the print. Further research is needed in order to understand the use of complementary illustrations in ESL children's emergent reading in English and to examine whether these and other strategies are effective in the improvement of ESL children's reading proficiency.

Counterpoint Storybooks

Four predictions on the performance of the more proficient and less proficient Chinese ESL children reading the two counterpoint storybooks with and without illustrations were made. Each of the predictions for the high and low proficient ESL children reading the counterpoint storybooks are discussed next.

Prediction 1. The more proficient readers will perform better on measures of reading with print and illustrations than with print alone.

Table 5.17 presents the means and standard deviations for correctly read words by the high proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley* under the two illustration conditions, with and without illustrations. The high proficient children reading *Lily Takes a Walk* without illustrations correctly read one word more than the high proficient children reading with illustrations. The t-test for independent means reveals no significant difference $t(12) = -0.46$, $p = .33$ for the high proficient children with and the high proficient children without illustrations. Meanwhile, the same two groups of high proficient children also read *Come Away from the Water, Shirley*. The high

proficient children reading without illustrations correctly read the same number of words as the high proficient group reading with illustrations. The t-test also reveals no significant difference $t(14) = -0.08$, $p = .47$. On the basis of total number of words read correctly, the counterpoint illustrations seem to have neither added to nor detracted from the high proficient children reading of the two counterpoint stories.

Table 5.17

Means and Standard Deviations for Correctly Read Words by the High Proficient Children Reading With and Without Illustrations

Storybooks	*L Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
Mean	178.0	179.1	124.7	124.8
SD	*(6.88)*	*(3.00)*	*(3.50)*	*(1.87)*

Note. Total words for LTW = 182; Total words for CAWS = 127.

In order to completely examine the high proficient children's oral reading, the types of miscues made by the high proficient children were analyzed. The high proficient children reading *Lily Takes a Walk* with illustrations made 1 unacceptable miscue more when rounded than the children reading without illustrations (see Table 5.18).

Table 5.18

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the High Proficient Children Reading With and Without Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
AM Mean	0.3	0	0	0
SD	*(0.67)*	*(0.00)*	*(0.00)*	*(0.00)*
UAM Mean	3.7	2.9	*2.3*	*2.2*
SD	*(6.25)*	*(3.00)*	*(3.5)*	*(1.87)*

Note. Total words for LTW = 182; Total words for CAWS = 127; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

The t-test reveals no significant difference $t(13) = .36$, $p = .36$ between the miscues made by the two groups, that is those reading with and without illustrations. The high proficient children in the two illustration groups made the same number of unacceptable miscues when reading *Come Away from the Water, Shirley*. The t-test also suggests the difference was not significant $t(14) = 0.08$, $p = .47$. Only the high proficient children reading *Lily Takes a Walk* with illustrations made miscues that were semantically and syntactically acceptable in the context of the story, which suggests when the high proficient children did not know some words, they seemed to lack effective reading strategies to help with figuring out the possible meanings and syntactical functions of unknown words. The results on the types of the miscues that the high proficient children made and the total words read correctly indicate that the non-illustration group reading the two counterpoint storybooks did not perform significantly differently from the illustration group, which suggests that the counterpoint illustrations neither negatively nor positively affected the high proficient children's oral reading of the two stories. Neither the counterpoint part about the dog in the illustrations of *Lily Takes a Walk* nor the wordless counterpoint illustrations in *Come Away from the Water, Shirley* generated any effects, positively or negatively on the high proficient children's oral reading of the stories. This finding is consistent with the work of Torcasio and Sweller (2010) wherein they found that print-irrelevant illustrations did not distract monolingual children's attention from decoding the words. It seems that the high proficient ESL children in the current study also did not pay attention to the counterpoint illustrations in the two storybooks while oral reading. One possible reason may be because the children's high reading proficiency enabled them to correctly read the words in the stories and they were thus not dependent on the counterpoint illustrations. This result is consistent with the previous result for the high proficient children reading the two complementary storybooks. It is speculated that the high proficient children relied mainly on their proficient reading ability to identify and decode the words rather than on information in either the complementary or counterpoint illustrations. Thus, their

oral reading performance was not affected by the presence of the illustrations regardless of the nature of whether the illustrations were complementary or counterpoint. This result on the role of both complementary or counterpoint illustrations, in the ESL children's oral reading is new. Previous studies mainly focused on how the illustrations affected the ESL children's reading comprehension in English, but in this study examined in detail children's oral reading miscues and their understanding of what they read. Interestingly and importantly, it has been found in this study that illustrations neither helped nor interfered with the high proficient ESL children's oral reading of English. The low proficient children's oral reading performance is discussed in Prediction 2.

Table 5.19 presents the means and standard deviations of correctly answered literal and inferential comprehension questions by high proficient children reading the counterpoint stories, *Lily Takes a Walk* and *Come Away from the Water, Shirley* with and without illustrations. The high proficient children reading *Lily Takes a Walk* with illustrations correctly answered 1 more literal question when rounded than the non-illustration group, and the two groups correctly answered the same number of inferential questions. The t-test reveals a significant difference for the literal questions $t(13) = 2.09$, $p = .03$, but no significant difference for the inferential questions $t(16) = 0.25$, $p = .40$. As discussed in Chapter 4 on the qualitative analysis of the children's reading of the storybooks, the major counterpoint part between the illustrations and the print in *Lily Takes a Walk* is the Nicky, Lily's dog. Nicky's imaginative reactions to the commonplace things around him when they go for a walk , for example a tree turns into a monster face, a mailbox has an opening mouth and sharp teeth, and a building with a man coming out of the wall, which may confuse and mislead the children about what the text says when they read. Other parts of the illustrations are related mainly to the print description (see Appendix E). The significant difference revealed by the t-test on the literal questions indicates that the counterpoint illustrations in *Lily Takes a Walk* did not negatively affect the high proficient children's understanding of the literal information in the story.

However, the other parts of the illustrations that are related to the print may have helped the children with answering the literal questions.

Table 5.19

Means and Standard Deviations of Correctly Answered Literal and Inferential Comprehension Questions by High Proficient Children Reading With and Without Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
LCQS Mean	4.7	4.0	3.6	3.1
SD	*(0.48)*	*(0.94)*	*(1.35)*	*(1.29)*
ICQS Mean	3.0	2.9	0.9	1.5
SD	*(1.05)*	*(0.74)*	*(1.20)*	*(1.18)*

Note. LCQC = Literal Comprehension Question Score (Total Possible = 5); ICOS = Inferential Comprehension Question Score (Total Possible = 5).

Meanwhile, the high proficient children reading *Come Away from the Water, Shirley* with illustrations correctly answered 1 more literal question when rounded than the children in the non-illustration group. The t-test reveals no significant difference $t(18) = 0.85$, $p = .20$. On the other hand, the illustration group correctly answered only one inferential question whereas the non-illustration group correctly answered approximately two inferential questions when rounded. The t-test reveals no significant difference $t(18) = -1.13$, $p = .14$. It is important to point out that the high proficient children in both illustration groups answered considerably fewer inferential questions when reading *Come Away from the Water, Shirley* than when reading *Lily Takes a Walk.* Since the two storybooks are considered as examples of counterpoint books with an estimated reading level of Grade 1, it may account for the difference in performance by the two high proficient reading groups. A close examination of the specific features of the two books may explain the difference between the high proficient children's performance on the inferential questions. As discussed previously, only a portion of the illustrations on each page in *Lily Takes a Walk,*

shows the dog is scared by the imaginative things that he sees, and yet Lily takes her dog Nicky with her as protections when really the dog seems to be afraid of his own shadow. Other parts of the illustrations basically correspond to the print information. Unlike the illustrations in *Lily Takes a Walk*, there are two sets of illustrations in *Come Away from the Water, Shirley* (see Appendix F). On the left hand side of each page in the book are the illustrations with print that correspond to each other to tell a story that Shirley goes to the beach with her parents, while on the right-hand page of the book are the wordless illustrations designed to depict Shirley's imagination that is not described in the print. The counterpoint illustrations in the story are designed to parallel the series of events where Shirley's imagination is portrayed by the wordless illustrations that are totally unrelated to the print. To completely understand *Come Away from the Water, Shirley*, readers need first correctly grasp the factual information carried in the illustrated print, then look through and make sense of the wordless illustrations, and then combine what they read in the print and what they see in the wordless illustrations to make appropriate interpretations of the story. Therefore, it seems that readers would certainly face more difficulties when reading *Come Away from the Water, Shirley* than when reading *Lily Takes a Walk* because of the two different events (a dull day at the beach with her parents and an adventurous imaginary day) in the story of *Come Away from the Water, Shirley*. Considering the results on the inferential questions in the two counterpoint stories, the difficulty that the high proficient children had when reading *Come Away from the Water, Shirley* was to make inferences.

The imaginary story depicted by the full-page wordless illustrations greatly seemed to hinder the high proficient children from making correct inferences. Certainly, the high proficient children would have wondered about the two sets of illustrations which may have confused them about what actually happened in the story, which in turn negatively affected their ability to make sound inferences. This result is supported by the work of Pike et al. (2010). In a study where they replaced the original illustrations with information irrelevant to

the print in illustrations, they found that illustrations irrelevant to the print interfered with young readers' understanding of the factual information in the story and they were more likely to make incorrect inferences. The noticeably fewer inferential questions that the high proficient children correctly answered when reading *Come Away from the Water, Shirley* than when they were reading *Lily Takes a Walk* indicate that the degree to which the print contradicts the illustrations somewhat affected the high proficient children's ability to make correct inferences. Compared to the much simpler one part contradiction between the illustrations and print in *Lily Takes a Walk*, the two set of illustrations and the full-page wordless counterpoint illustrations in *Come Away from the Water, Shirley* apparently had a negative effect on the high proficient children's inferential performance. Even though the two storybooks are both considered to be accepted examples of counterpoint storybooks, the detailed and unique features in each book made the high proficient children's reading performance on the two books slightly different. In order to complete a thorough data analysis, further examination of the total (literal and inferential combined) comprehension questions answered correctly is necessary.

The high proficient children reading both of the counterpoint stories with illustrations correctly answered a similar number of comprehension questions when rounded as the non-illustration group (see Table 5.20). The t-tests suggest no significant difference $t(18) = 1.66$, $p = .06$ for *Lily Takes a Walk* $t(18) = -0.10$, $p = .46$ and for *Come Away from the Water, Shirley*. Even though the independent t-test result for the literal questions in *Lily Takes a Walk* reveals a significant difference, the marginal *p* value .03 combined with the result of the t-test on the total comprehension questions suggests that the high proficient children did not perform significantly differently on the literal questions when reading *Lily Takes a Walk*.

Table 5.20

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by High Proficient Children Reading With and Without Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	HPI^-	HPI^+	HPI^-
Mean	7.7	6.9	4.5	4.6
SD	*(1.16)*	*(0.99)*	*(2.12)*	*(2.12)*

Note. Total Number of Comprehension Questions = 10.

The low probability on the basis of the three measures of reading both *Lily Takes a Walk* and *Come Away from the Water, Shirley* (total words read correctly, types of miscues, correct literal and inferential questions) indicates that the high proficient children reading the two counterpoint storybooks with illustrations did not perform significantly better than the high proficient non-illustration group, which does not support Prediction 1. Some studies claim that illustrations enhance the high proficient ESL children's reading comprehension because they would have the added advantage of being able to read the words as well as utilize the illustration information to enrich their understanding of the story (Hudson, 1982; Liu, 2004). It was thus suspected that the high proficient children would perform better with illustrations and print than with print alone even though the illustrations are not directly related to the print information per se. For example, when these children read *Lily Takes a Walk,* they would not merely comprehend that Lily enjoys going for a walk with her dog and think that the dog is there to protect her. From the counterpoint illustrations, they would also grasp the interesting information that as a matter of fact the dog is afraid of many things that he sees on the walk. Through reading the print and looking at the illustrations, their reading experiences would be enriched. When reading *Come Away from the Water, Shirley*, the high proficient children's comprehension of the story would be enhanced and more complete if they were able to make sense of the right-hand side wordless that represent Shirley's imaginations she was on the beach plus their understanding of the print description. In this way, their experience of

reading, *Come Away from the Water, Shirley* would be more interesting. However, the results suggest that the counterpoint illustrations did not affect the high proficient children's performance on reading the stories. The performance of the high proficient illustration group was similar to the non-illustration group. Two reasons may explain this finding. First, the high proficient readers' comprehension was based on their reading of the words rather than on attention to the illustrations. Second, their high reading proficiency at least ensures they can read and understand the story from at least a general sense. Their comprehension thus was neither enriched nor negatively affected by the presence of the counterpoint illustrations. This result differs from the findings of previous studies (Hudson, 1982; Liu, 2004) that the high proficient children would perform better when reading with illustrations. The previous studies did not specifically categorize and examine types of illustrations based on whether they were complementary or counterpoint but rather examined illustrations as if they were all the same. In addition, the number of studies on the role illustrations play in ESL children's reading is sparse, which may account for the difference between the prediction and the actual results. For a further understanding of the role counterpoint illustrations play in ESL children's reading, analysis of the low proficient children's reading performance is discussed next.

Prediction 2. The less proficient readers will perform equally on measures of reading with print and illustrations and print alone.

The same three sources of data including the correctly read words, types of miscues and correctly answered literal and inferential questions were examined for the low proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley*. Table 5.21 presents means and standard deviations for the correctly read words by the low proficient children reading the two counterpoint storybooks with and without illustrations. The low proficient children in the illustration and non-illustration groups reading *Lily Takes a Walk* correctly read the same number of words. The t-test for independent means reveals no significant difference $t(15) = 0.00$, $p = .50$.

Table 5.21

Means and Standard Deviations for Correctly Read Words by the Low Proficient Children Reading With and Without Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
Mean	152.5	152.5	104.6	109.2
SD	*(15.72)*	*(26.86)*	*(11.05)*	*(13.87)*

Note. Total words for LTW = 182; Total words for CAWS = 127.

However, the standard deviation for the non-illustration group was much larger (26.86) than the low proficient illustration group (15.72), which suggests that there was a greater variability in the number of correctly read words by the low proficient children in the non-illustration group. Meanwhile, the low proficient children reading *Come Away from the Water*, *Shirley* without illustrations correctly read 4 more words when rounded than the low proficient children reading with illustrations, and the standard deviations were within approximately two points of one another. The t-test also suggests no significant difference $t(17) = -0.82$, $p = .21$. The total number of correctly read words by the low proficient children on the two counterpoint stories indicates that the counterpoint illustrations in both books neither helped nor detracted the low proficient children's reading of the two counterpoint stories.

In order to completely examine the low proficient children's oral reading, the types of miscues were analyzed. The low proficient children reading *Lily Takes a Walk* with illustrations made a similar number of unacceptable miscues as the low proficient non-illustration group (see Table 5.22), but with a lower standard deviation (15.53) than the non-illustration group (26.86).

Table 5.22

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the Low Proficient Children Reading With and Without Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
AM Mean	0.3	0	0	0
SD	*(0.48)*	*(0.00)*	*(0.00)*	*(0.00)*
UAM Mean	29.2	29.5	*22.4*	*17.8*
SD	*(15.53)*	*(26.86)*	*(11.05)*	*(13.87)*

Note. Total words for LTW = 182; Total words for CAWS = 127; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

The high variability among the low proficient readers without illustrations suggests that despite the same mean for both low proficient groups, that the group reading with illustrations appeared to have an advantage over the non-illustration group. However, the t-test reveals no significant difference $t(14) = -0.03$, $p = .49$. The low proficient illustration groups reading *Come Away from the Water, Shirley* made only four more unacceptable miscues when rounded than the low proficient non-illustration group. Since the two illustration groups did not make any acceptable miscues, the standard deviations were the same as the ones for the correctly read words which were within approximately two points of one another. The t-test suggests that there was no significant difference between the two illustration groups $t(17) = 0.82$, $p = .21$. Only the low proficient group reading *Lily Takes a Walk* with illustrations made some acceptable miscues which is consistent with the other two groups of low proficient children's performances on the complementary storybooks that the low proficient children made few acceptable miscues in their reading. This result suggests that the low proficient children did not know effective strategies to figure out the possible meanings and functions of unknown words that are syntactically and semantically acceptable in the context of the story. All three acceptable miscues were nouns (e.g., *house* for *own corner*, *goose* for *gulls*), which may either be made based on the context of

the story or part of the illustrations related to the print in *Lily Takes a Walk*. The results on the types of miscues made by the low proficient children and their performance on the words read correctly suggest that their oral reading performances on both counterpoint storybooks were similar under the illustration and non-illustration conditions. Like the high proficient children reading the counterpoint storybooks discussed previously, the low proficient children's oral reading performances seemed to be mainly based on their reading proficiency rather than on attention to the illustrations, which is also consistent with the findings on their oral reading of the complementary storybooks. This result again confirms the new finding in the current study that complementary or counterpoint illustrations neither assist nor interfere with the ESL children's oral reading of the English stories regardless of their reading proficiency levels.

Table 5.23 presents the means and standard deviations of correctly answered literal and inferential comprehension questions by the low proficient children reading the counterpoint stories, *Lily Takes a Walk* and *Come Away from the Water, Shirley* with and without illustrations.

Table 5.23

Means and Standard Deviations of Correctly Answered Literal and Inferential Comprehension Questions by Low Proficient Children Reading With and Without Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
LCQS Mean	2.5	2.6	0.7	1.8
SD	*(0.85)*	*(1.17)*	*(0.48)*	*(0.92)*
ICQS Mean	1.4	1.3	2.0	1.2
SD	*(1.07)*	*(0.95)*	*(1.41)*	*(1.14)*

Note. LCQC = Literal Comprehension Question Score (Total Possible = 5); ICOS = Inferential Comprehension Question Score (Total Possible = 5).

The low proficient children reading *Lily Takes a Walk* with illustrations correctly answered a similar number of literal and inferential questions as the low proficient

children reading without illustrations. The t-tests for independent means reveal no significant differences for literal questions $t(16) = -0.22$, $p = .41$ and inferential questions $t(18) = -0.22$, $p = .41$. Meanwhile, the low proficient children reading *Come Away from the Water, Shirley* without illustrations correctly answered 1 literal question when rounded more than the illustration group. The t-test reveals no significant difference $t(14) = 3.35$, $p = .00$. Moreover, the low proficient illustration group correctly answered 1 inferential question when rounded more than the non-illustration group, and the t-test suggests no significant difference $t(17) = 1.39$, $p = .09$. The results indicate that the low proficient children's understanding of the literal information rather than their ability to make inferences in *Come Away from the Water, Shirley* was negatively affected by the presence of the counterpoint illustrations. As discussed in the section of the high proficient children's performance on the two counterpoint storybooks, the two different events designed in the illustrated print and counterpoint wordless illustrations within one story, *Come Away from the Water, Shirley* would be more difficult for readers to understand than *Lily Takes a Walk* in which only a portion of the illustrations contradict to the print. The result on the low proficient children's performances on literal questions suggests that the low proficient children reading with illustrations appeared to be more or less confused or misled by the counterpoint illustrations in *Come Away from the Water, Shirley*. In order to thoroughly examine the data, the total number of comprehension questions (literal and inferential) answered correctly was examined.

The low proficient children reading *Lily Takes a Walk* with illustrations correctly answered the same number of comprehension questions as the low proficient without illustrations group (see Table 5.24). The t-test reveals no significant difference $t(17) = 0.00$, $p = .50$. And, the low proficient children reading *Come Away from the Water, Shirley* under both illustration conditions also correctly answered the same number of comprehension questions when rounded. No significant difference is suggested by the t-test $t(18) = -0.50$, $p = .31$. The results on the total comprehension questions correctly answered by the low

proficient children reading both counterpoint storybooks indicate that the low proficient illustration group did not perform significantly differently than the low proficient non-illustration group.

Table 5.24

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by Low Proficient Children Reading With and Without Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	LPI^+	LPI^-	LPI^+	LPI^-
Mean	3.9	3.9	2.7	3.0
SD	*(1.60)*	*(1.91)*	*(1.25)*	*(1.41)*

Note. Total Number of Comprehension Questions = 10.

The low probability on the basis of the three measures (total words read correctly, types of miscues, correct literal and inferential questions) suggests that the low proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley* with illustrations performed similarly to the low proficient non-illustration groups, which supports Prediction 2. The results on the low proficient children's performance on the two counterpoint storybooks is consistent with the other two groups of low proficient children's performances on the two complementary storybooks, that is the illustrations did not help them to read better. This result disconfirms the findings from the previous studies that illustrations enhanced the ESL low proficient children's comprehension in English (Hudson, 1982; Liu, 2004; Omaggio, 1979). Unlike previous research, where they studied either ESL adults or adolescents, the participants in the current study were young ESL children, which may account for the differences in performance. The young children are still learning to read and thus must attend more to the words in order to identify the words and are less automatic in their ability to monitor both what they are reading as well as to capitalize upon potential benefits from illustrations. One possible reason may be that the low proficient children's limited reading proficiency hindered them from making connections between what they read in print and what they saw in the illustrations regardless of whether the illustrations

was complementary or counterpoint. They thus were neither helped by the complementary illustrations nor confused by the counterpoint illustrations whereas they focused on reading the words. This result in turn confirm the finding that the role illustrations, either complementary or counterpoint, play in ESL children's reading of English storybooks is constrained by many mediating factors, which include readers' reading proficiency level, the unique details in the illustrations, the degree in which the illustrations relate or contradict the print, and readers' ability to make connections between the illustrations and print. Therefore, simply saying that complementary illustrations enhance the low proficient children's understanding or counterpoint illustrations are detrimental for misleading the low proficient children is not precise enough for making generalizations about illustrations. In order to further examine the role counterpoint illustrations play in ESL children's reading, the high and low proficient children's reading performances under the two illustration conditions were compared in Prediction 3 and Prediction 4.

Prediction 3. The more proficient readers will perform better on measures of reading than the less proficient readers with print alone.

Table 5.25 presents the means and standard deviations that the high and low proficient children reading both *Lily Takes a Walk* and *Come Away from the Water, Shirley* without correctly read. The high proficient children read noticeably more correct words on average than the low proficient children reading without illustrations (see Table 5.25). The t-tests for independent means reveal a significant differences $t(9) = 3.11$, $p = .01$for *Lily Takes a Walk* and but no difference for *Come Away from the Water, Shirley* $t(9) = 3.52$, $p = .00$. In order to further analyze the high and low proficient children's oral reading performances, the types of miscues that the children made were examined.

Table 5.25

Means and Standard Deviations for Correctly Read Words by the High and Low Proficient Children Reading Without Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI$^-$	LPI$^-$	HPI$^-$	LPI$^-$
Mean	179.1	152.5	124.8	109.2
SD	*(3.00)*	*(26.86)*	*(1.87)*	*(13.87)*

Note. Total words for LTW = 182; Total words for CAWS = 127.

Table 5.26 presents the means and standard deviations for acceptable and unacceptable miscues made by the high and low proficient children reading the two counterpoint storybooks without illustrations. The low proficient children reading both counterpoint stories without illustrations made considerably more unacceptable miscues than the high proficient children reading without illustrations. The t-tests suggest a significant difference $t(9) = -3.11$, $p = .01$ for *Lily Takes a Walk* and no difference $t(9) = -3.52$, $p = .00$ for *Come Away from the Water, Shirley*.

Table 5.26

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the High and Low Proficient Children Reading Without Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI$^-$	LPI$^-$	HPI$^-$	LPI$^-$
AM Mean	0	0	0	0
SD	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*
UAM Mean	2.90	29.5	*2.2*	*17.8*
SD	*(3.00)*	*(26.86)*	*(1.87)*	*(13.87)*

Note. Total words for LTW = 182; Total words for CAWS = 127; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

The results on the total words read correctly and types of miscues made by the high and low proficient children reading the two counterpoint storybooks without illustrations indicate that the high proficient children orally read the two

stories significantly better than the low proficient children under the non-illustration condition, which is consistent with the result of the high and low proficient children reading the complementary storybooks without illustrations. The results on the high and low proficient children's oral reading on both the counterpoint and complementary storybooks suggest that the high proficient children always orally read the stories better than the low proficient children when there is print alone which is congruent with the literature that the high proficient ESL children not only have more vocabulary knowledge but also tend to make fewer miscues than the low proficient ESL children in oral reading (Hardin, 2001; Miramontes, 1990). By definition, the high proficient children's reading proficiency is higher than the children defined to be low proficient. What was of interest in my work, however, was whether in the absence of the illustrations the low proficient children's reading performance would be significantly worse. Although neither the high proficient nor the low proficient children reading both *Lily Takes a Walk* and *Come Away from the Water, Shirley* made any acceptable miscues, it is important to note that the high proficient children made only three miscues anyway. The facts are different for the low proficient children because they made many unacceptable miscues (see Table 5.26) which suggests that the low proficient children did not have effective strategies to help them with the identification of unknown words.

Table 5.27 presents the means and standard deviations of the correctly answered literal and inferential comprehension questions by the high and low proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley* without illustrations. The high proficient children reading *Lily Takes a Walk* without illustrations correctly answered 1 literal question and 2 inferential questions on average when rounded more than the low proficient children in the non-illustration group. The t-tests reveal no significant differences for both literal questions $t(17) = 2.94$, $p = .00$ and inferential questions $t(17) = 4.21$, $p = .00$. Meanwhile, the high proficient children reading *Come Away from the Water, Shirley* answered correctly one more literal question when rounded than the low

proficient non-illustration group. The t-test reveals a significant difference $t(16) = 2.60$, $p = .01$. The numbers of inferential questions correctly answered by the high and low proficient children were similar. The t-test suggests no significant difference $t(18) = 0.58$, $p = .28$. It seems that the more complicated relationship between the illustrated print and the counterpoint illustrations in *Come Away from the Water, Shirley* confused even the high proficient children about what happens in the story and thus negatively affected their ability to make correct inferences. Therefore, an examination of the data using the total number of comprehension questions answered correctly by the high and low proficient children (literal and inferential combined) were analyzed in order to complete the analysis.

Table 5.27

Means and Standard Deviations of Correctly Answered Literal and Inferential Comprehension Questions by High and Low Proficient Children Reading Without Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^-	LPI^-	HPI^-	LPI^-
LCQS Mean	4.0	2.6	3.1	1.8
SD	*(0.94)*	*(1.17)*	*(1.29)*	*(0.92)*
ICQS Mean	2.9	1.3	1.5	1.2
SD	*(0.74)*	*(0.95)*	*(1.18)*	*(1.14)*

Note. LCQC = Literal Comprehension Question Score (Total Possible = 5); ICOS = Inferential Comprehension Question Score (Total Possible = 5).

The low proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley* without illustrations correctly answered noticeably fewer comprehension questions than the high proficient children (see Table 5.28). The t-tests reveal no significant differences for *Lily Takes a Walk* $t(14) = 4.40$, $p = .00$, but a significant difference for *Come Away from the Water, Shirley* $t(15) = 1.95$, $p = .03$. These results suggest that the high proficient children's performance on the comprehension questions was significantly better than the low proficient children when reading without illustrations. The *p* value .03 for the total comprehension

questions does not correspond to the result of the independent t-test that revealed no significant difference on the inferential questions in *Come Away from the Water*.

Table 5.28

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by High and Low Proficient Children Reading Without Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^-	LPI^-	HPI^-	LPI^-
Mean	6.9	3.9	4.6	3.0
SD	*(0.99)*	*(1.91)*	*(2.17)*	*(1.41)*

Note. Total Number of Comprehension Questions = 10.

Therefore, based on the three measures of high and low proficient children's performances on correctly read words, types of miscues, correct literal and inferential questions suggests that the high proficient children performed significantly better than the low proficient children when reading the two counterpoint storybooks without illustrations, which supports Prediction 3. This result corresponds to the results on the other two groups of high and low proficient children reading the two complementary storybooks without illustrations that the high proficient children performed significantly better than the low proficient children, which suggests that the high proficient children likely would always outperform the low proficient children when illustrations are not available. The high proficient children's reading proficiency enables them to not only orally read but also to comprehend the stories better than the low proficient children.

It has been established that the high and low proficient ESL children differ in their vocabulary knowledge levels, and in their use of effective reading strategies in reading comprehension, with the high proficient children performing better on both (Ammon, 1987; Hardin, 2001; Jiménez, Garcia, & Pearson, 1996). The high proficient children used effective reading strategies like predicting, integrating background knowledge, and utilizing the context of the story, while

the low proficient children tended to use inappropriate reading strategies like reading words and sentences in isolation of the context, and over-reliance on their background knowledge. Even though the current study did not specifically examine the reading strategies that the high and low proficient children used while reading, the consistently better reading comprehension performance of the high proficient children on the complementary and counterpoint storybooks was not a coincidence. Their high level of vocabulary knowledge and better use of reading strategies ensured a better performance than the low proficient children when reading without illustrations. However, it is necessary to note that the high proficient children's comparatively lower performance on the inferential questions in *Come Away from the Water, Shirley* may suggest that even though they were better at reading the words, they too experienced difficulty comprehending the counterpoint story. The high and low proficient children's performances on the two counterpoint storybooks with illustrations were compared for further analysis.

Prediction 4. The more proficient readers will perform better on measures of reading than the less proficient readers with print and illustrations.

Table 5.29 presents means and standard deviations for correctly read words by the high and low proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley* with illustrations. The high proficient children reading the two counterpoint stories with illustrations correctly read considerably more words than the low proficient on average.

Table 5.29

Means and Standard Deviations for Correctly Read Words by the High and Low Proficient Children Reading With Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
Mean	178	152.5	124.7	104.6
SD	*(6.88)*	*(15.72)*	*(3.5)*	*(11.05)*

Note. Total words for LTW = 182; Total words for CAWS = 127.

The t-tests reveal no significant differences for *Lily Takes a Walk* $t(12) = 4.70$, $p = .00$ or for *Come Away from the Water, Shirley* $t(11) = 5.49$, $p = .00$. The types of miscues made by the high and low proficient children were also analyzed to complete the examination of their oral reading performance on the two counterpoint storybooks. The high proficient children reading both counterpoint books with illustrations made noticeably fewer unacceptable miscues on average than the low proficient children (see Table 5.30).

Table 5.30

Means and Standard Deviations for Acceptable and Unacceptable Miscues by the High and Low Proficient Children Reading With Illustrations

Storybooks	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
AM Mean	0.3	0.3	0	0
SD	*(0.67)*	*(0.48)*	*(0.00)*	*(0.00)*
UAM Mean	3.7	29.2	*2.3*	*22.40*
SD	*(6.25)*	*(15.53)*	*(3.50)*	*(11.05)*

Note. Total words for LTW = 182; Total words for CAWS = 127; AM Mean = Acceptable Miscues Mean; UAM Mean = Unacceptable Miscues Mean.

The t-tests for independent means reveal no significant differences for *Lily Takes a Walk* $t(12) = -4.82$, $p = .00$ or for *Come Away from the Water, Shirley* $t(11) = -5.49$, $p = .00$. The high proficient children reading *Lily Takes a Walk* with illustrations made the same number of acceptable miscues on average as the low proficient children. However, neither group made any acceptable miscues when reading *Come Away from the Water, Shirley*. This result suggests that the illustrations relating to the print in *Lily Takes a Walk* may have provided the high and low proficient children with helpful information to figure out the possible meanings and functions of some words. However, regardless of the reading proficiency levels the minimal number of acceptable miscues in *Lily Takes a Walk* and zero acceptable miscues for *Come Away from the Water, Shirley* indicates that both the high and low proficient children did not make use of the illustrations to

assist with their reading. Moreover, we see again that even though both *Lily Takes a Walk* and *Come Away from the Water, Shirley* are both classified as counterpoint stories, they are not equivalent in form. *Come Away from the Water, Shirley* is a more challenging story for the low and high proficient readers in this study because the two sets of events described by the illustrated print and depicted in the counterpoint wordless illustrations may confuse readers about what happened in the story. Also, it seems that the ESL children do not know effective strategies to assist with recognizing and decoding unknown words. Moreover, the overused strategy of skipping unknown words used by the low proficient children is certainly not advantageous. The results on the total of correctly read words combined with the types of miscues suggest that the high proficient children orally read the two counterpoint stories better than the low proficient children under the illustration condition which is to be expected.

Table 5.31 presents the means and standard deviations of the correctly answered literal and inferential questions by the high and low proficient children reading *Lily Takes a Walk* and *Come Away from the Water, Shirley* with illustrations.

Table 5.31

Means and Standard Deviations of Correctly Answered Literal and Inferential Comprehension Questions by High and Low Proficient Children Reading with Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^{+}	LPI^{+}	HPI^{+}	LPI^{+}
LCQS Mean	4.7	2.5	3.6	0.7
SD	*(0.48)*	*(0.85)*	*(1.35)*	*(0.48)*
ICQS Mean	3.0	1.4	0.9	2.0
SD	*(1.05)*	*(1.07)*	*(1.20)*	*(1.41)*

Note. LCQC = Literal Comprehension Question Score (Total Possible = 5); ICOS = Inferential Comprehension Question Score (Total Possible = 5).

The high proficient children correctly answered about two literal and inferential questions more on average when rounded than the low proficient children when reading *Lily Takes a Walk* with illustrations. The t-tests reveal no significant differences (*p* .00 for both the literal and inferential questions). The high proficient children correctly answered three literal questions more on average when rounded than the low proficient children when reading *Come Away from the Water, Shirley* with illustrations. However, the t-test reveals no significant difference $t(14) = 7.12$, $p = .00$. The high proficient children correctly answered only one inferential question on average whereas the low proficient children correctly answered two inferential questions. The t-test reveals a significant difference $t(18) = -1.88$, $p = .04$, this result plus the high and low proficient children's comparatively lower performances on the inferential questions when reading the same story under the non-illustration condition suggests that the high proficient children's ability to make inferences was not superior to the low proficient children. In addition, the story, *Come Away from the Water, Shirley* appeared to be more difficult for both the high and low proficient children to understand than *Lily Takes a Walk* because of the two paralleled events (Shirley's day with her parents on the beach portrayed on the left side of the pages and Shirley's imagined day on the right side of the pages) confused them about what happens in the story whereas *Lily Takes a Walk* was easier because only the portion depicting Nicky's reactions to the imaginative things contradict to the print. This finding suggests further that the high proficient readers may have been distracted by the counterpoint illustrations in *Come Away from the Water, Shirley*. In order to completely examine the high and low proficient children's comprehension of the two counterpoint storybooks, the total comprehension questions (literal and inferential combined) were analyzed.

The high proficient children correctly answered twice as many comprehension questions on average than the low proficient children when reading *Lily Takes a Walk* with illustrations (see Table 5.32). The t-test reveals no significant difference $t(16) = 6.09$, $p = .00$. They correctly answered two

comprehension questions more on average when rounded than the low proficient children when reading *Come Away from the Water, Shirley*. The t-test also suggests a significant difference $t(15) = 2.31$, $p = .02$. The result combined with the results of the independent t-tests for the literal and inferential questions answered by the high and low proficient children when reading both counterpoint storybooks with illustrations indicate that the high proficient children performed somewhat better than the low proficient children on the literal and inferential comprehension questions.

Table 5.32

Means and Standard Deviations of Correctly Answered Total Comprehension Questions by High and Low Proficient Children Reading With Illustrations

Storybook	*Lily Takes a Walk* (LTW)		*Come Away from the Water, Shirley* (CAWS)	
Groups	HPI^+	LPI^+	HPI^+	LPI^+
Mean	7.7	3.9	4.5	2.7
SD	*(1.16)*	*(1.60)*	*(2.12)*	*(1.25)*

Note. Total Number of Comprehension Questions = 10.

However, both the high and low proficient children correctly answered more comprehension questions on *Lily Takes a Walk* than on *Come Away from the Water, Shirley*, which indicates that the second event (Shirley's imagination) depicted by the counterpoint wordless illustrations created more difficulties for the ESL children's understanding and misled them about what in fact happens in the story. This finding suggests that the degree in which the illustrations contradict the print in counterpoint storybooks would affect readers' comprehension differently, even though they are both considered as examples of counterpoint storybooks. Similar results were found also in the case of the complementary storybooks in which the positive effects of complementary illustrations were reduced when they contained more print-irrelevant details. These findings extend the current literature because other studies have examined the type of illustrations (e.g., print-irrelevant illustrations, relevant illustrations)

whereas this study examined the function of illustrations The results of the current study suggest that even the illustrated storybooks categorized as either complementary or counterpoint, they contain different specific details which within each category that had unequal effects on young readers' understanding, which made the finding on the function of illustrations in children's reading more precise.

To sum up, on the basis of the three measures (correctly read words, types of miscues, correct literal and inferential questions) on the high and low proficient children's performances suggests that the high proficient children read *Lily Takes a Walk* and *Come Away from the Water, Shirley* with illustrations better than the low proficient children, which supports Prediction 4. This result corresponds to the results on the other two groups of high and low proficient children reading the two complementary storybooks with illustrations. However, both the high and low proficient children scored higher on the total comprehension questions (10) when reading the complementary stories than the counterpoint stories under the illustration condition. This finding suggests that the counterpoint stories were more difficult for the children to understand than the complementary stories. To completely understand counterpoint stories, the children need to grasp what is described in the print, make sense of the relationships between the counterpoint illustrations and the print, and then combine what they understood from the print and what they saw in the illustrations to make informed interpretations of what happened in the stories. Neither the counterpoint portions of the illustrations in *Lily Takes a Walk* or the wordless counterpoint illustrations in *Come Away from the Water, Shirley* designed to bring enjoyment to readers' would make sense to the children if they are unable to work through the three steps required to understand a counterpoint story. Regardless of the nature of the illustrations, the high proficient children always performed better than the low proficient children when reading either the complementary or counterpoint stories, which again confirms that the foundation of reading is readers' reading proficiency rather than attention to the illustrations. When the children are able to decode and recognize

words, their focus is on reading the story rather than looking at the illustrations; when they are less proficient in recognizing words, it seems more difficult to make meaningful connections between the print and illustrations. Based on the results of this study, the complementary illustrations seemed to be somewhat more helpful than the counterpoint illustrations which appeared to be deleterious for the ESL children's reading regardless of their level of proficiency. When the relationship between the print and counterpoint illustrations gets much complicated like the case of *Come Away from the Water, Shirley*, they more or less mislead the ESL children about what actually happens in the story. And, though it has been claimed repeatedly that illustrations help, and they do somewhat in specific cases as we have seen, they are not helpful in the absence of effective word identification strategies.

Overall Summary

Based on the results of Chapter 4 and Chapter 5, Paivio's (1987, 2007) dual-coding theory proved to be useful in the context of my study. When nonverbal and verbal systems, illustrations and print are used together, the L2 children's recall of information was enhanced even though this enhancement occurred only when illustrations were tightly related to print information and contained a minimum number of other details. This finding also extends the dual-coding theory because the encoding of meaning at the representational level to facilitate memorization of information was constrained by the unique features contained in the nonverbal system, and thus shows how the two symbolic systems are related.

It was found that the children at the same reading proficiency level were not be able to make more correct inferences when reading the stories with both types of illustrations. This finding challenges the idea in dual-coding theory that illustrations may provide additional cues to help L2 learners to make meaningful inferences. Making correct inferences requires readers to combine the factual information and their background knowledge. My study does not provide evidence to support the idea that encoding of information by both symbolic

systems would help readers who have limited background knowledge to infer meaning from an unfamiliar language.

Overall, Paivio's dual-coding theory is helpful in terms of its notion on the mnemonic function of dual-coded information, which provides a useful theoretical framework for understanding the interaction between L2 and imagery in L2 reading. More in-depth research is needed to confirm the finding that L2 children's ability to make meaningful inferences was not assisted by the dual-coded information.

Complementary storybooks. The high and low proficient children's reading performances on the complementary storybooks, *Apple Farmer Annie* (Wellington, 2011) and *Little Beauty* (Browne, 2008) were analyzed for the four predictions made at the beginning of the study. The results were either congruent with or contradictory to the predictions. Table 5.33 presents in graphic form the status of the four predictions for the two complementary storybooks.

Table 5.33

Four Predictions and an Overview of Whether the High and Low Proficient Children's Performances on the Complementary Storybooks were Accepted (✓) or Rejected (✗)

	Predictions							
	One		Two		Three		Four	
	OR	CQ	OR	CQ	OR	CQ	OR	CQ
AFA	✗	✗	✗	✗	✓	✓	✓	✓
LB	✗	✓	✗	✗	✓	✓	✓	✓

Note. AFA = *Apple Farmer Annie*; LB = *Little Beauty*; OR = Oral Reading; CQ = Comprehension Questions.

As can be seen, neither the high proficient children's oral reading and responses to the total comprehension questions (10) for *Apple Farmer Annie* nor their oral reading for *Little Beauty* under the two illustration conditions supported Prediction 1 that the high proficient children would perform better with illustrations and print than with print alone. It was found that the high proficient children performed equally under the two illustration conditions. However,

Prediction 1 was supported by the high proficient children's comprehension responses in *Little Beauty.* The unique features of the two complementary storybooks were examined to provide a plausible explanation that the information carried in the clear and supportive illustrations with minimal print-unrelated details in *Little Beauty* helped the high proficient children to understand the story. On the other hand, the variety and quantity of the print-unrelated details in *Apple Farmer Annie* seemed to hinder even the high proficient children from using the illustrations to help with comprehension even though the illustrations are supportive of the print.

Neither the low proficient children's oral reading nor answers to comprehension questions in *Apple Farmer Annie* and *Little Beauty* supported Prediction 2 that the low proficient children would perform better when reading with illustrations and print than without illustrations. Therefore, the results on the high and low proficient children's performances on the two complementary storybooks under the two illustration conditions basically did not support Prediction 1 and Prediction 2. It is important to point out that the children's oral reading performances were not facilitated by either of the illustrated books regardless of the readers' reading proficiency. This finding suggests that using illustrations to help to decode and recognize unknown words is not an effective strategy. Thus, it is necessary to question whether ESL children's reading comprehension is facilitated by illustrations in light of the fact that their responses to the literal comprehension questions were based on the illustrations rather than on what they read. The question is whether they understood what they read.

Prediction 3 and Prediction 4 on comparisons between the high and low proficient children's performance on the two complementary storybooks under the two conditions, namely, with and without illustrations were both supported (see Table 5.33). It was found that the high proficient children always performed better than the low proficient children when reading the two books without illustrations, as predicted in Prediction 3. The reason is obvious because the high proficient children's higher reading proficiency enabled them not only to correctly

read more words but also to make fewer miscues than the low proficient readers because they were identified as high proficient readers at the beginning of the study. Under the condition with illustrations as a possible clue, the low proficient children still did not perform as well as the high proficient children, which supports Prediction 4. The complementary illustrations utilized were demonstrated to be ineffective in identification of unknown words or comprehension of what has been read. It is necessary to point out that the high proficient children's performances on the inferential questions in both *Apple Farmer Annie* and *Little Beauty* under the two illustration conditions were similar to the low proficient children even though their performance on the total comprehension questions was significantly better. This result suggests that the inferential comprehension question performance of the high proficient children differentiated them from the low proficient children's performance mainly because both the high and low proficient readers recalled and located factual information in the story whereas the high proficient children were able to make correct inferences though not at a significant level. These results suggest that it is unclear whether the low proficient readers even understood what they read.

Based on the results for the four predictions for the complementary storybooks, it can be concluded that the ESL children's oral reading of the stories was not facilitated by the complementary illustrations. Complementary illustrations helped the ESL children to better understand only when the illustrations were clear and simple, tightly related to print, and contained minimal print-unrelated details. Like the case of the two complementary books used in this study, the illustrations with unrelated print details in *Apple Farmer Annie* hindered readers' comprehension when compared to the print-related illustrations in *Little Beauty,* even though both books are considered as examples of complementary storybooks.

Counterpoint storybooks. Four predictions were made about the high and low proficient readers' performances on the counterpoint storybooks, *Lily Takes a Walk Kitamura,* 1998) and *Come Away from the Water, Shirley*

(Burningham, 1977) under the with and without illustrations conditions. Table 5.34 presents a summary of the results of the children's performances (oral reading and answers to total comprehension questions) for the two counterpoint storybooks.

Table 5.34

Four Predictions and an Overview of Whether the High and Low Proficient Children's Performances on the Counterpoint Storybooks were Accepted (✓) or Rejected (×)

	Predictions							
	One		Two		Three		Four	
	OR	CQ	OR	CQ	OR	CQ	OR	CQ
AFA	×	×	✓	✓	✓	✓	✓	✓
LB	×	×	✓	✓	✓	✓	✓	✓

Note. LTW = *Lily Takes a Walk*; CAFWS = *Come Away from the Water, Shirley*; OR = Oral Reading; CQ Comprehension Questions.

As can be seen from the table, the results of the high proficient children's reading performance on the two counterpoint storybooks under the two illustration conditions did not support Prediction 1 for the counterpoint stories that the high proficient children would perform better when reading with illustrations than without illustrations. The high proficient children were found to perform equally well under both illustration conditions when reading the two counterpoint storybooks. The counterpoint illustrations did not appear to affect their reading performances neither when oral reading nor when they responded to the comprehension questions. A possible reason is because the high proficient children's proficient reading level enabled them to recognize most of the words in the stories, and they thus ignored the illustrations. The counterpoint information portrayed in illustrations in both *Lily Takes a Walk* and *Come Away from the Water, Shirley* were designed to enrich readers' reading experiences and yet they seemed not to play a role in their reading.

Prediction 2 for the low proficient children's performance on the two counterpoint storybooks under the two illustration conditions was supported by

the results. Not only the low proficient children's oral reading but also their total comprehension question performance was similar both with and without illustration conditions. The counterpoint portion in the illustrations of *Lily Takes a Walk* and the counterpoint illustrations in *Come Away from the Water, Shirley* seemed not to distract the low proficient children's attention. Rather, the low proficient children's similar performances under the two illustration conditions suggest their low reading proficiency hindered them from making connections between the print and illustrations. Another plausible reason may be that the low proficient children's attention was mainly on decoding the words rather than looking at the illustrations. The counterpoint illustrations seemed neither to provide enjoyment to their reading experiences nor enhance their overall performance.

Corresponding to the results for the complementary storybooks, Prediction 3 and Prediction 4 on the counterpoint storybooks were both supported by the high and low proficient children's performance regardless of whether they read with or without illustrations. As predicted in Prediction 3, the high proficient children would perform significantly better than the low proficient children when reading the two counterpoint storybooks without illustrations. This result again confirms the finding that the high proficient children would always perform better than the low proficient children when only print is available. Prediction 4 on the comparison of the high and low proficient children's performance on the two counterpoint storybooks under the illustration condition was also supported. As discussed for Prediction 1 and Prediction 2, the counterpoint illustrations neither enriched the high proficient children's reading experiences nor improved the low proficient children's reading performance. It is thus reasonable to say that the high and low proficient children's reading performances were mainly attributable to their level of reading proficiency regardless of the illustrations. However, as discussed in the section on counterpoint storybooks in this chapter, the low proficient children correctly answered considerably fewer literal questions in *Come Away from the Water, Shirley* than for *Lily Takes a Walk*, and the high and

low proficient children answered a similar number of inferential questions in *Come Away from the Water, Shirley* but not in *Lily Takes a Walk*.

These results suggest that the ESL readers were more or less confused about what they were reading especially when the counterpoint illustrations were unrelated to the print and thus made the reading process more complicated as evident in the two events created by the illustrated print and counterpoint illustrations in *Come Away from the Water, Shirley*. The illustrations in *Come Away from the Water, Shirley* seemed not only to confuse the low proficient children about what happened in the story but also the high proficient children and hindered both groups of readers from making more correct inferences. In addition, the results also suggest that the high proficient children's ability to make inferences did not exceed the low proficient children's ability in the counterpoint stories. The results of the children's performances for the four predictions indicate that the counterpoint illustrations appeared not to aid either the high proficient or the low proficient children's overall oral reading performances. However, their understanding was challenged by the lack of correspondence between the counterpoint illustrations and print.

Complementary and counterpoint storybooks. The major difference between the complementary and counterpoint storybook lies in the nature of the illustrations. Complementary illustrations are directly and tightly related to the print and correspond to print to tell one story; the counterpoint illustrations are not related to and may even contradict the print which makes understanding of the counterpoint story more challenging for readers. Based on the synthesis of the results on the high and low proficient children's performances on the complementary and counterpoint storybooks with and without illustrations, four conclusions were drawn about the children's reading performance. First, regardless of the children's reading level, the ESL children's oral reading proficiency was not affected by the complementary or the counterpoint illustrations. In other words, they orally read the stories based on their reading proficiency. Second, the high proficient children always read both the

complementary and counterpoint stories even when they had print only significantly better than the low proficient children. Third, the high proficient children still performed better than the low proficient children when the illustrations were available. It seems the presence of the complementary illustrations was not enough to help the low proficient children improve their oral reading proficiency and comprehension. The children's reading performance was consistent with their level of reading proficiency, which suggests that the low proficient children either did not or could not use illustrations, either complementary or counterpoint in their reading. Fourth, even though the high proficient children always performed better than the low proficient children under both illustration conditions, the high proficient children's ability to make correct inferences was not superior to the low proficient children when they read the more complicated storybook, *Come Away from the Water, Shirley*.

It is important to point out that both the high and low proficient children correctly answered more comprehension questions in the complementary storybooks than in the counterpoint storybooks, which indicates that the counterpoint storybooks are more difficult than complementary storybooks for the ESL children to understand. A possible reason is that the counterpoint stories require readers to not only be able to read some words to grasp the factual information in the story but also to figure out what the counterpoint illustrations may represent and then build meaningful connections between the illustrations and print. Even though the counterpoint illustrations did not appear to affect both the high and low proficient children's oral reading performance, young ESL children seemed not to be able to fully understand the deliberately designed counterpoint illustrations and then had difficulty integrating them with the print when reading the stories individually. For young readers learning to decode and recognize words, counterpoint storybooks appear to be challenging. It may not be a good idea to use counterpoint storybooks with young ESL children for independent reading. Guidance and directions from adults is necessary. Unlike what is usually claimed that young ESL children tend to use or look at the

illustrations while they read, it is surprising to find that both the high and low proficient children's focus was mainly on reading the words rather than on paying attention to the illustrations. However, the analysis of the children's interviews in Chapter 4 revealed that they were taught to look at and use illustrations when they did not know how to read. It seems these young ESL children may have received different instructions at home (read the words) and at school (look at the illustrations). Unfortunately, the children's actual reading behaviours indicate that they did not or could not use the illustrations. More instructions on effective strategies to possibly use illustrations in ESL children's reading are needed. Moreover, regardless of the nature of the illustrations, the high and low proficient children's reading performance were not affected generally by the presence of the illustrations, complementary or counterpoint. Rather, they relied on their reading proficiency. The directions by teachers and the statements in government documents need to be reconsidered because the role illustrations play in ESL children's reading cannot be simply over generalized as "beneficial" or "detrimental," warranting further examination of the ESL children's use of illustrations in future research.

Chapter 6:

Review of Study, Conclusions, and Recommendations

This chapter focuses first on a brief review of the study and presents the major findings and results. The second section touches base on several conclusions in order to provide a more thorough understanding of the limited but potential use of illustrations in reading. The final section calls attention to the practical and useful recommendations for teaching practice in order to effectively capitalize upon illustrations to help ESL children, and spotlights the limitations of the study.

Study in Review

The purpose of my study was to determine whether illustrations were helpful to young ESL children when reading stories in English. According to most of the research and professional literature and even some government documents, it is repeatedly claimed that illustrations are beneficial for ESL children to read and understand English. Illustrations are presumed to provide ESL children with clues and information to help them to better acquire and learn English words when reading. Therefore, the purpose of this study was threefold: first, how high and low proficient ESL children's oral reading and reading comprehension differed with illustrations; second, how high and low proficient ESL children's oral reading and reading comprehension differed without illustrations; and third, what the young ESL children's reported to be their experiences when oral reading with illustrated and non-illustrated storybooks.

Eighty Chinese children who were enrolled in Chinese-English bilingual programs in elementary schools participated in the study. They were all close to the end of Grade 1 at the time of the data collection. The children were equally divided into two groups, high (N = 40) and low (N = 40), according to their English reading proficiency levels determined by their teachers' judgments and the results of school-administered reading tests during the year. Based on the design of the study, the children at each proficiency level were further equally divided into two groups to read the two types of storybooks (complementary and

counterpoint) categorized by the nature of the illustrations (N = 20). For each of the illustration groups, the children were again equally divided into two groups (N = 10) to read the same books under the conditions of with and without illustrations.

The materials used in the study were four illustrated storybooks at Grade 1 reading level. The two books selected as the complementary storybooks were *Apple Farmer Annie* (Wellington, 2001) and *Little Beauty* (Browne, 2008), in which the illustrations are closely related to the print. The two counterpoint storybooks were *Lily Takes a Walk* (Kitamura, 1998) and *Come Away from the Water, Shirley* (Burningham, 1977) wherein the illustrations carry different information from the print or even are contradictory to the print. All of the participants in the study read two storybooks according to the group that they were randomly assigned (complementary or counterpoint). For example, for a child who was in the complementary storybook group, he or she read *Apple Farmer Annie* and *Little Beauty*. The children in the illustration group read the books with illustrations while the non-illustration group read the books without illustrations. After oral reading the books, children then answered reading comprehension questions (literal and inferential) on the stories. The final step was to interview the children about their experiences with and thoughts on illustrations while reading the books.

The running records of the children's oral reading and their scores to the reading comprehension questions were analyzed to compare not only the performance of children at the same reading proficiency levels reading the same storybooks under the two illustration conditions, but also the performance of the high and low proficient children reading the same storybooks under the same illustration condition. The interviews with the children were interpreted to develop a deeper understanding of their perspectives on the function of illustrations in their reading. The qualitative interpretations and quantitative analyses of the data led to several major findings.

First, the complementary illustrations did not help either the high proficient or the low proficient children to orally read the stories, *Apple Farmer Annie* and *Little Beauty.* With the presence of the complementary illustrations, the children did not correctly read more words and make fewer miscues. Their oral reading performance was similar to the children reading without illustrations. However, both the high and low children's reading comprehension of the complementary stories was slightly different in the two stories. There was no significant difference between their reading comprehension of the story, *Apple Farmer Annie* with and without illustrations, which suggests that the complementary illustrations in *Apple Farmer Annie* did not enhance their understanding of the story. On the other hand, their comprehension of the story, *Little Beauty* was better when reading with illustrations than without illustrations, which indicates that the complementary illustrations in *Little Beauty* helped the children to better understand the story. The tightly connected illustrations and print in *Little Beauty* apparently offered more help to the children than the illustrations with numerous print-irrelevant details in *Apple Farmer Annie.* The different effects of illustrations in the two books on the children's reading comprehension suggest that even the various details and unique features in the same type of illustrations, that is both are complementary, appear to have differential effects on children's reading performance.

Second, both the high and low proficient children's oral reading of the two counterpoint storybooks, *Lily Takes a Walk* and *Come Away from the Water, Shirley* was not affected by the presence of the counterpoint illustrations. Their oral reading performance of both books was similar under the two illustration conditions. In addition, there was no significant difference between their reading comprehension performances with and without illustrations. These results suggest that counterpoint illustrations in both books neither negatively affected the high and low proficient children's oral reading nor their understanding of stories. However, the high proficient children answered fewer inferential questions, while the low proficient children answered fewer literal questions in

Come Away from the Water, Shirley than *Lily Takes a Walk*. The more difficulties that the children had in understanding *Come Away from the Water, Shirley* than *Lily Takes a Walk* indicates that the more complicated counterpoint illustrations in *Come Away from the Water, Shirley* somewhat confused the children about what they read, which suggests that the children's reading comprehension was challenged by the non-correspondence between the counterpoint illustrations and print.

Third, regardless of the types of the illustrations, complementary or counterpoint, the high proficient children always performed better than the low proficient children. The high proficient children not only correctly read more words and made fewer miscues but also correctly answered more literal and inferential comprehension questions than the low proficient children under both illustration conditions. The presence of either the complementary or the counterpoint illustrations did not aid the low proficient children to overcome their limited reading proficiency which suggests that without an informed understanding of how to use illustrations when reading as well as a more competent level of reading proficiency, then illustrations are not beneficial and may in fact hinder the emergent readers' oral reading and reading comprehension.

Last, several findings were generated from the interviews with the children. First, most of the children expressed their willingness to include illustrations in storybooks. They mainly viewed illustrations as a tool to help them to recognize unknown words and to provide clues to better understand what they read, even though they did not or could not effectively use the illustrations while reading. The high consistency in the children's remarks on the use of illustrations indicates that they may be taught to "use pictures to help you." Second, the low proficient children seemed to rely more on illustrations to assist with reading than the high proficient children because they were told that the illustrations would make reading easy, and when children cannot read, well then they seem to be doubly disadvantaged because they neither have a sufficient reading vocabulary nor independence to monitor for clues. Third, both the high and low proficient

children had only a vague idea that illustrations are beneficial to their reading. However, they were unaware of specific strategies on how they may effectively use illustrations to help them to read. Fourth, almost all children considered illustrated books to be easier to read than books without illustrations because they had been taught that the illustrations help them to read better. Enjoyment was another reason that some children preferred to read illustrated books. Through looking at illustrations, they knew what the "things" in the story look like. Finally, only a few children expressed their concerns about some illustrations in books, which include the lack of correspondence between the illustrations and print, and a few reported that illustrations only represent part of the story. The findings suggest that the children did not get sufficient opportunities to discuss their own ideas, concerns, and questions on how they could better use illustrations to assist with reading.

To sum up, neither the complementary nor the counterpoint illustrations helped the ESL children to decode and recognize unknown words and to enhance their reading comprehension. The beneficial functions of the complementary illustrations were constrained by mediating factors, which effectively made utilizing the illustrations a big challenge. When the contradictory relationship between the counterpoint illustrations and print became more complicated, the children were confused about what they read in the print. It is thus fair to say that simply claiming that illustrations are helpful for ESL children to read and learn English is not explicit and precise enough. Moreover, it is clearly reflected in the interviews with the children that they were merely told to look at illustrations for clues rather than taught specific strategies to effectively use and monitor illustrations in their reading. The guidance to merely look at the illustrations for clues was insufficient. The illustrations may have been helpful if students were taught effectively the information that illustrations contained. Further research is warranted not only on the assumptions about illustrations but also the actual teaching practice of using illustrations, on the theoretical assumptions that

underlie illustrations, and on ways to more effectively take account of the challenges for ESL children when reading in English.

Major Conclusions

Major conclusions are drawn from all the findings and results that have been reported. First, the study supported a number of conclusions documented in the literature review. The study confirmed the positive effects of complementary illustrations on children's understanding of what they read in English but only when the illustrations are tightly related to the print and both are minimal in content. Both the high and low proficient children's reading comprehension was enhanced only when reading print-related illustrations which provided the children with clues to get an idea about what happens in the stories. However, this positive effect presented only in the book, *Little Beauty,* in which the illustrations are tightly connected to the print information and contains minimum or no other print-irrelevant details. In *Apple farmer Annie,* even though the illustrations are related to the print, neither the high nor low proficient ESL children benefitted from the illustrations. The variety of print-irrelevant details in the illustrations seemed to reduce the effectiveness of the complementary illustrations to provide the ESL readers with helpful information. This result suggests that the amount and type of details in the illustrations rather than the types of illustrations matter in the ESL children's reading comprehension. It also points to the crucial importance of paying attention to the specific and unique features in complementary illustrations which in fact affected young readers' reading comprehension.

Consistent with the literature reviewed, the counterpoint illustrations did not distract both the high and low proficient readers' attention from decoding and identifying the words when the counterpoint relationship between the print and illustrations is not too complicated, for example, in the case of *Lily Takes a Walk*. The high proficient children already knew most of the words and therefore did not pay attention to the counterpoint illustrations while the low proficient children struggled with decoding unknown words and could not make connections

between the counterpoint illustrations and the print. Regardless of the children's reading proficiency level, their focus was mainly on decoding words while reading the counterpoint storybooks. However, the counterpoint illustrations in *Come Away from the Water, Shirley* were more complicated and included two sets of events, Shirley's day on the beach with her parents and her imaginative pirate adventure, it was then a challenge for the children at the emergent phase of reading proficiency to monitor both the illustrations and print simultaneously. Both the high and low proficient children were more or less confused by the counterpoint illustrations in *Come Away from the Water, Shirley*. The result showed that the low proficient children's literal understanding of the stories was negatively affected and the high proficient children answered considerably fewer inferential questions correctly than in *Lily Takes a Walk*. The counterpoint relationships between the illustrations and print in *Come Away from the Water, Shirley* were complicated for those struggling to read the words. The role counterpoint illustrations play in the ESL children's reading comprehension was consistent with the findings on the complementary illustrations, which indicated what indeed mattered in the children's understanding was the specific features of the illustrations rather than the type of the illustrations. Therefore, in order to maximize the use of and minimize the negative effects of illustrations in ESL children's reading comprehension, nuances of all aspects in illustrations need to be taken into consideration when making claims on the role illustrations play in ESL reading.

Low proficient children tended to rely more on the presence of illustrations than the high proficient children was confirmed by this study. Their comparatively limited vocabulary knowledge and use of ineffective reading strategies not only distinguished them from the high proficient readers, but also accounted for their comparatively lower reading comprehension performance. For the children reading under the illustration condition, the low proficient children were more likely to turn to the illustrations for clues when having difficulties recognizing unknown words than were the high proficient children. In

the interviews, the low proficient children also expressed their apparent desire to include illustrations in books. They reported their wishes to make use of illustrations to help them to recognize more words and to read better. On the other hand, most of the high proficient children indicated that they did not mind to read books without illustrations because they already knew how to read the words but illustrations were okay to have in stories. The result suggests that the ESL children's preference for illustrated books was closely associated with their levels of English reading proficiency. The lower their reading proficiency, the more they hoped to possibly use illustrations to decode the unknown words. However, their actual oral reading of the stories did not support the claim that illustrations help to read more words. Therefore, teachers need to understand the limited use of illustrations for emergent ESL readers and provide explicit explanations to children about the role illustrations play in their reading and how to use them effectively

Second, the study extended the current literature on the functions and uses of illustrations. The study divided reading into two aspects: oral reading and reading comprehension, and individually investigated the functions of illustrations from these two aspects. The results suggest that both types of illustrations, complementary and counterpoint did not offer any help to either the high or the low proficient children to identify more words correctly while oral reading. Clues in illustrations that may have prompted the decoding of unknown words proved to be ineffective regardless of the children's reading proficiency, which challenges the persistent and often vague advice on the beneficial functions of relying on illustrations to assist ESL children with identifying unknown words. In addition, the result showed that the most frequent strategy that the low proficient children used when they happened upon unknown words in their oral reading was skipping. This result confirms first, that the low proficient ESL children tended to use ineffective reading strategies when oral reading and then extends the research literature that the low proficient children tended to skip simply unknown words and it is reasonable to wonder whether they knew more effective strategies. The

high frequency with which the low proficient ESL children skipped unknown words across the different illustration groups in the study suggests that the children's use of this ineffective strategy may have been widely endorsed by the teachers. It calls attention to the need for ESL children to be taught effective phonological and word identification strategies because mere skipping does not draw children's attention to the word and the more words skipped the less is understood.

One more mediating factor limiting the advantageous use of illustrations in ESL children's reading was identified in this study and extends that previously indicated in the literature. The same type of illustrations had different effects on the children's reading and understanding. The children's reading comprehension was affected by the unique and specific details in the illustrations rather than the types of the illustrations. For the complementary illustrations, the simple-natured illustrations with minimal or no print-irrelevant details in *Little Beauty* proved to be more helpful in providing the readers with clues than illustrations containing trivial print-irrelevant details in *Apple Farmer Annie*. On the other hand, the comparatively simple counterpoint illustrations in *Lily Takes a Walk* did not have any effect on either the high or low proficient children's reading comprehension. However, the more complicated counterpoint illustrations in *Come Away from the Water, Shirley* somewhat confused both the high and low proficient children about what happens in the story. The results suggest that effectively utilizing complementary illustrations to facilitate reading comprehension is in fact a big challenge; the counterpoint illustrations did not affect the ESL children's reading comprehension unless the illustrations are contradictory to the print and at a level beyond the children's ability to construct meaning on their own. Most importantly, the results indicate that even the same types of illustrations had different effects on both high and low proficient children's reading comprehension because the specific details and features in the illustrations could be largely diverse. In other words, not all illustrations are created equally.

Given the focus of my study was on young ESL children's reading, the study extended the literature to reveal the ESL children's perspectives on the role illustrations play in their reading. All of the children's responses regardless of their level of reading proficiency expressed the similar viewpoint that illustrations help them to recognize unknown words and show them what happens in the story. The high consistency across the children's viewpoint on the use of illustrations suggested that the children were told to look at illustrations for help when they had difficulty in reading. However, their actual oral reading revealed that using illustrations to decode words was ineffective, and their performance on the comprehension questions suggested that relying on illustrations to enhance understanding was challenging and unreliable. The ESL children's understanding of the role illustrations play in their reading was too vague and they were unaware of specific strategies to help them to use the illustrations effectively. There is thus a need to provide children with explicit instructions on how to effectively use illustrations and give them sufficient opportunities to discuss their concerns and questions.

Third, the study questioned and disconfirmed the repeated assertions and assumptions on the beneficial functions of illustrations. When children are not taught how to effectively use illustrations in their reading, then merely directing children to look at the illustrations is unhelpful. I found that relying on illustrations to decode and recognize unknown words is for the most part ineffective for ESL emergent readers no matter the type of illustration. Moreover, using illustrations to help with reading comprehension is constrained by mediating factors that considerably limit the potential advantages of the function of illustrations even though illustrations may provide readers with information about what they read. These results disconfirmed the extensive claims on the usefulness of illustrations in ESL children's reading of English and provided sufficient evidence to show that utilizing illustrations to facilitate reading, either oral reading or reading comprehension, is much more challenging than it is generally assumed and sometimes even useless. Current documented claims on

the beneficial use of illustrations need to be reconsidered and further discussed to develop more precise and accurate generalizations on the role illustrations play in ESL reading.

Illustrations had neither positive or negative effects on ESL children's oral reading nor on their reading comprehension despite the types of the illustrations, complementary or counterpoint, which led to a query of the research literature that indicates that the category of illustrations matters in ESL reading. The result suggested that the enhancing effects of complementary illustrations on reading comprehension presented only when the illustrations are tightly connected to and well integrated into the print. The complementary illustrations need to contain no or a minimum number of print-irrelevant details to be helpful in the sense that the children can truly capitalize upon the illustrative information. The counterpoint illustrations did not distract the children's attention from decoding the words and did not confuse them about what they read orally. However, the children's comprehension was somewhat hindered when the counterpoint illustrations made the story more complicated and the children were not able to figure out what was happening. Counterpoint illustrations require a priori discussion if they are to be helpful to ESL children. These results call attention to the need for an in-depth investigation on the relationship between the category of illustrations and their effects on older ESL children's reading comprehension.

Recommendations

This study was based on the dual coding theory and drew upon the L2 research on emergent literacy and illustrations in L1 and L2 to develop a theoretical framework. From there, my key research question was to examine whether illustrations are beneficial for young ESL children learning to read in English, and to develop a deeper understanding of the young ESL children's experiences while oral reading storybooks with and without illustrations.

The results and findings of my study point to several suggestions for teachers and policy makers that could potentially help ESL children to develop a better understanding of the functions of illustrations and specific strategies in

order to more effectively use illustrations to assist with oral reading and reading comprehension. First, the analysis of the low proficient children's oral reading revealed that they often skipped unknown words regardless of whether they were reading with or without illustrations. Even though the children reported trying to use the strategy of sounding out unknown words, their most frequent tendency was to simply skip unknown words. Skipping words was done with ease and by all of the children, it is thus reasonable to conclude that they were told to do so without guidance on how to use the illustrations effectively. The difference in the low proficient children's frequent use of skipping and their reports on the use of sounding out suggested that their use of the ineffective strategy was not questioned and corrected, and may have even been endorsed by the teachers. This endorsement of using the strategy of skipping calls attention to the need to provide the low proficient children not only with instruction on phonological and word identification strategies, but also opportunities to practice those strategies under the guidance of their teachers.

Second, the children expressed similar viewpoints on the functions of illustrations in reading, namely, that illustrations help to identify unknown words and shows what happens in stories. However, the observation of the children's oral reading revealed that both the high and low proficient children focused on decoding and recognizing words rather than on the illustrations for clues to identify the words or clues to better understand the story. The difference in the children's perceptions of the role of illustrations and their actual reading behaviours suggests that they were told merely to "look at the pictures" when they have difficulty in reading words rather than specific strategies to enhance their reading. Furthermore, their understanding that illustrations would assist them with decoding unknown words proved to be a misconception based on the findings of this study. In reality, the illustrations did not offer any help for either the high or low proficient children to correctly identify unknown words no matter the types of the illustrations, which reinforces the need to provide explicit and accurate explanations to ESL children about the role illustrations play in reading.

Print-relevant information carried in illustrations enhanced understanding only when minimum or no trivial decorative details were provided. As discussed previously in Chapter 5, possible effective strategies to use illustrations to help with reading comprehension borne out by this study include: distinguishing the main characters of the story from the illustrations; making judgments about the main characters' emotions based on the facial expressions or actions; focusing on the central part of the illustrations rather than the decorative details; making connections between the illustrations and print or some key words if unable to recognize many of the words; making use of the sequence across each illustration to make sense of how the story develops; questioning the apparent print-irrelevant illustrations and guess making about what they may represent; and making predictions on the relationship between the print-irrelevant illustrations and print information. The last two suggested strategies would require clear and systematic explanations and guidance from teachers as well as extensive training and practice. It is demanding for young children who have limited experiences and background knowledge to figure out diverse scenarios represented by print-irrelevant illustrations, especially when monitoring two sources of information, illustrations and print, at the same time is already a challenge for young children at the emergent stage of reading proficiency.

Another implication for future research is that comparing control groups with experimental groups taught the recommended strategies to effectively use illustrations would be informative in order to provide empirical evidence for employing these strategies in practice. Future research on the topic of ESL children and illustrations that included verbal reports of the ESL children's thoughts while using different strategies would inform us about how they find particular strategies useful and whether they understand and know how to use the strategies rather than merely repeat and report the strategies.

Third, neither the complementary illustrations nor the counterpoint illustrations had any effects on the children's reading comprehension of the stories regardless of children's reading proficiency level. Thus, it is clear that

illustrations are not created equally, even those categorized as the same type (complementary, counterpoint). Comprehension questions also vary as well as the vocabulary in text. In this study, the focus was on illustrations and it was not the type of illustrations that mattered in the ESL children's reading comprehension but rather the unique features in the illustrations. Further research to examine the relationship between the category of illustrations and reading comprehension of ESL children across a variety of grade levels is warranted. It is important to learn whether older and more proficient readers would have read differently. The examination and comparison of the performance of children in different grades on whether either the category of illustrations or the specific details in illustrations, or both have beneficial effects on ESL children's reading comprehension would also be informative.

Fourth, given the complementary illustrations did not significantly help the young ESL children to better understand the stories regardless of their reading proficiency, further study to develop a more thorough and precise understanding of the role complementary illustrations play in ESL reading is warranted. Meanwhile, the counterpoint illustrations had neither significant negative nor positive effects on the children's reading comprehension, which implies that whether counterpoint illustrations could be effectively used to teach ESL children to comprehend better and to extend their reading experiences would be helpful.

Fifth, given the variability of illustrations, vocabulary and story structure in children's literature, an important next step in my research is a detailed analysis of the quality of illustrations and lexical profile of the complementary and counterpoint stories used in this research in order to better understand potential significant difference beyond those studied in the research reported here.

Sixth, ministries of education and ESL documents need to be revised to include specific and effective strategies on the ways to effectively use illustrations when reading. It is not sufficient to suggest that teachers use illustrated materials on the erroneous assumption that they are easier than print, the research evidence does not support such a conclusion.

Finally, pre-service and in-service teachers should be taught the types of illustrations, the correspondence between illustrations and print, and effective ways to teach students how to better use illustrations when reading.

Limitations of the Study

The participants of the study were selected Grade 1 Chinese ESL children in particular schools. The study is limited by the language and age of the children and thus the results and findings should not be generalized to ESL children who are from other native language backgrounds and study in different schools, although it may provide insights into what to expect under similar situations.

The sample size in the study was limited even though I made every effort to acquire more participants. An increase in the participant sample would make the statistical analyses of the group differences more robust. Unfortunately, it is extremely difficult to obtain a large number of participants when conducting research in L2 context, particularly with young L2 children.

Given the age of the children in the study, they were asked to read aloud in order to establish the relationship between word recognition and reading comprehension. Whether the results of this study would hold if the children read silently is another interesting question.

In addition, findings of the effects of illustrations on reading comprehension were limited to storybooks. Generalizations about whether illustrations are helpful for other genres of reading materials such as expository texts remain unknown.

Finally, as an observer of children's other behaviours in reading, I had to make decisions about what to record and omit in the Running Records. While interpreting the data, I also had to make decisions about what was significant and what was not, but I was guided by the questions of my study and the evidence provided in my data. I tried at all times to remain objective and to seek support for my decisions.

In closing, my study on reading English storybooks with and without illustrations: Performance and experiences of young ESL Chinese children was

challenging, rewarding and informative. The widespread mantra to use illustrated materials with ESL learners has been shown to be an oversimplification of the complex nature of reading and one that may be a hindrance to young ESL children learning to read.

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Appendix A

Sample Pre-interview Activities and Questions

(To be used before reading)

In an attempt to create a relaxing environment for children, the following sample activities will be used before the interview. For each participant, a list of 2 or 3 possible activities will be provided for them to choose. They can work on one of the activities independently or together with me.

1. Draw a picture showing one of your favourite school days.
2. Make a series of comic strips to show one of your favourite stories.
3. Design a new cover for your favourite storybook.

Pre-Interview Questions

The pre-interview questions may be asked during or after the pre-interview activity stage.

1. Do you have a favourite book?
2. Why is it your favourite?
3. Does your favourite book have pictures?
4. What do you like about the pictures?
5. Do pictures help you understand your favourite book? How? Why not?

Appendix B

Sample Interview Questions (To be used after reading)

For children who are in the illustrated storybook group

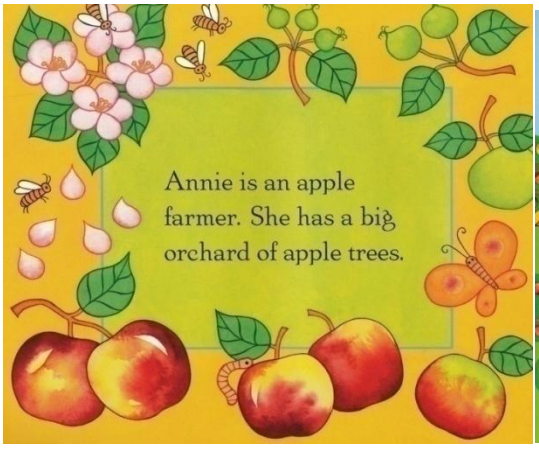
1. Did you like the storybook you just read? What did you like or not like? Why?
2. Was the book hard or easy for you to understand? Why?
3. Did you enjoy the pictures? Why?
4. Did you look at the pictures while you were reading the book? Why? Why not?
5. When do you look at the pictures while you were reading the book? Why?
6. Did you connect the pictures with the words to understand the story or did you read them separately? How? Why?
7. What helped you to understand the story? How? Why?
8. When you are looking for a book to read, what do you look for? Why?
9. Are some books easier to read than others? What kinds of books are easier? Why?

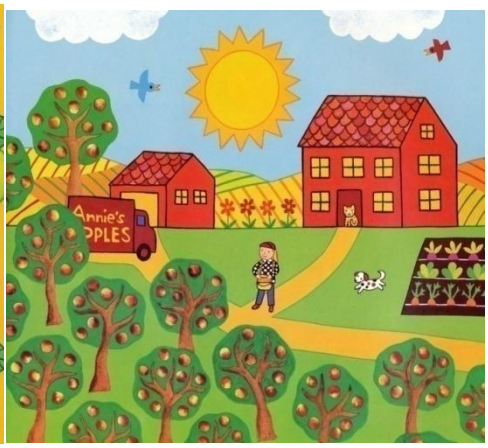
For children who are in the non-illustrated storybook group

1. Did you like the storybook you just read? What did you like or not like? Why?
2. Did you understand the book? How do you know?
3. What do you do to help you understand a story when there are no pictures in a book?
4. Does it matter to you that there were no pictures in the book?
5. Would you rather have pictures in the book? Why? Why Not?
6. Can you tell me how use the pictures when you are reading?
7. What do you think pictures in books are important? Why? Why Not?
8. When you are looking for a book to read, what do you look for? Why?
9. Are some books easier to read than others? What kinds of books are easier? Why?

Appendix C

Sample Pages from *Apple Farmer Annie*

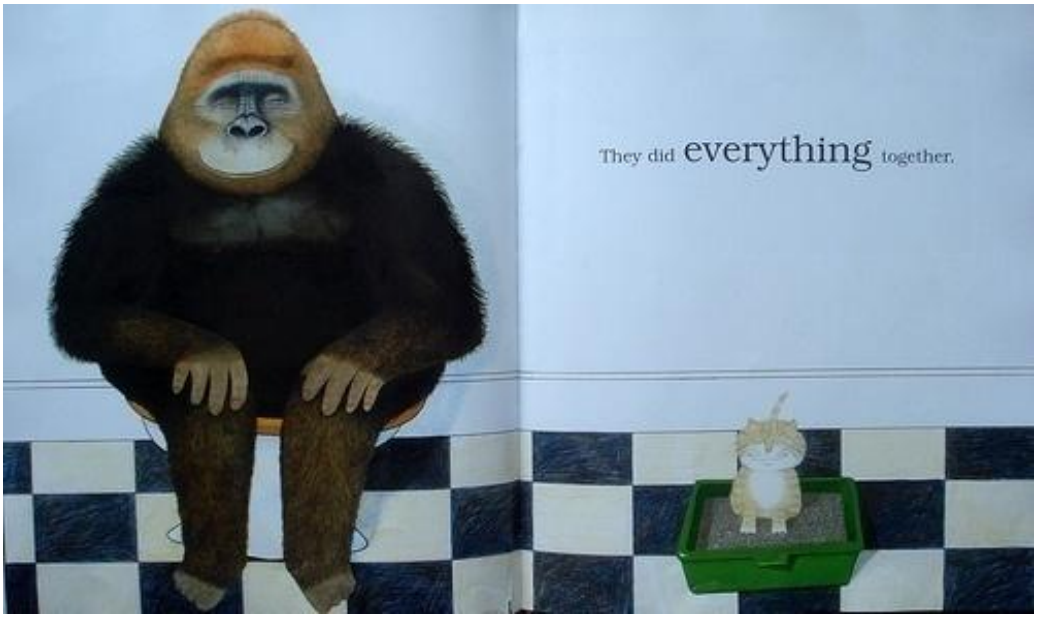




Wellington, M. (2001). *Apple Farmer Annie* (pp. 1–2). New York, NY: Dutton Children's Books.

Appendix D

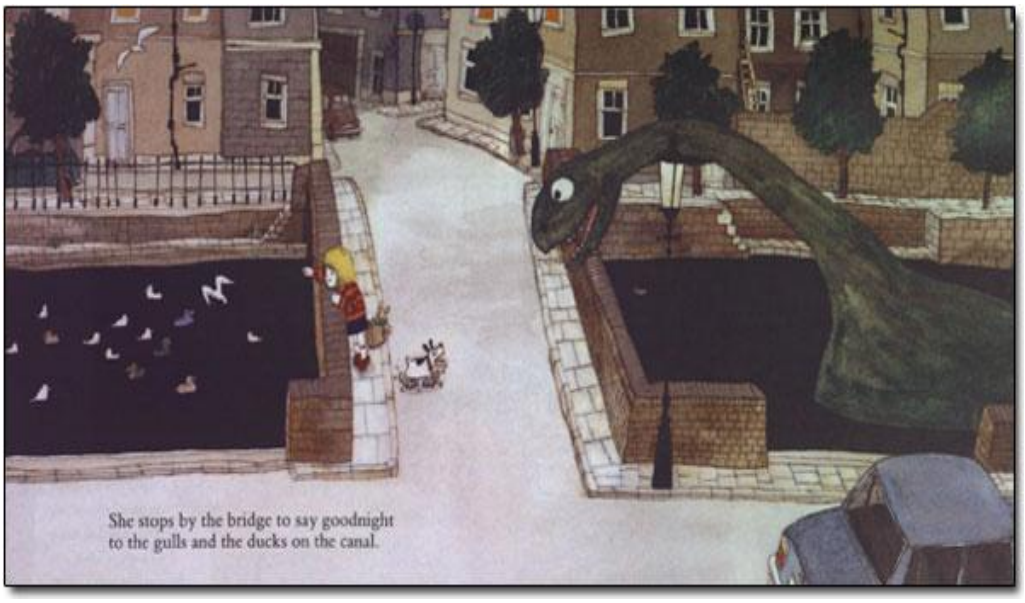
Sample Pages from *Little Beauty*



Browne, A. (2008). *Little Beauty* (pp. 13–14). Somerville, MA: Candlewick Press.

Appendix E

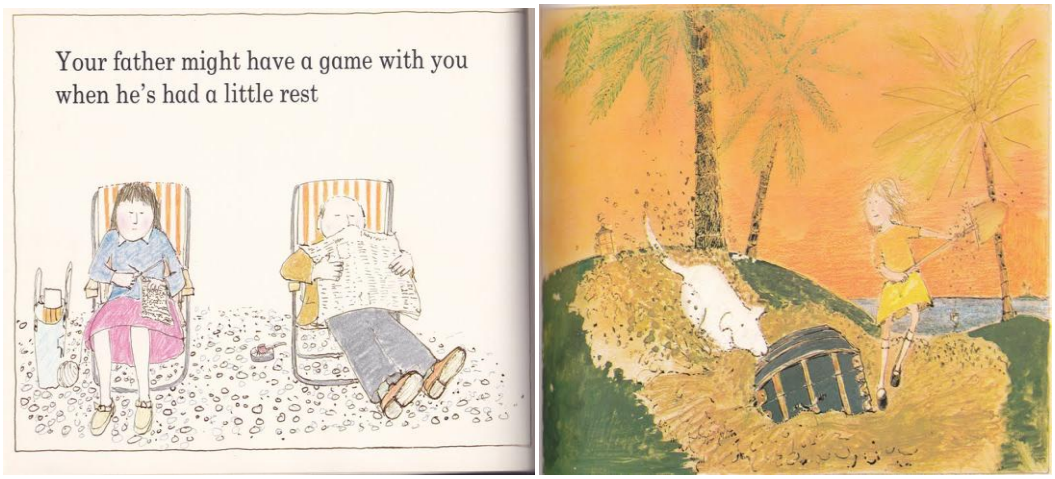
Sample Pages from *Lily Takes a Walk*



Kitamura, S. (1998). *Lily Takes a Walk* (pp. 14–15). New York, NY: Dutton Children's Books.

Appendix F

Sample Pages from *Come Away from the Water, Shirley*



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