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Exploring Storybook Illustrations in Learning Word Meanings

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Exploring Storybook Illustrations in Learning Word Meanings

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

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in
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by

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Acknowledgments

Many were the stories that helped me to develop this project; I wish to acknowledge at least some of the contributions that had an impact on my understanding of the potential influences of storybook illustrations on word learning. First, I would like to thank my parents for all the stories they told me, and their effort in raising nine children, teaching us the value of education. I am privileged to reach the first doctoral degree of my family; therefore, I must show my gratitude to a beautiful flower, Florisbela, and a mighty lion, Leonel.

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My journey with stories followed me through the doctoral studies. When I began the program in the Department of Curriculum and Instruction at the University of New Orleans in 2007, I had the joy of working in a children's literature library under the supervision of Dr. Patricia Austin, who introduced me to multicultural and immigrant literature. I have always admired her care and passion for children's books, and I am very thankful for the many lessons I have learned from her. It was in her class that I discovered *Angelina's Island* (Winter, 2007), a book that helped me understand the homesickness that children and adults experience when leaving their homeland to seek a new life in a new land, in this case America. Dr. Austin witnessed my journey as an international student, and she was always very supportive. She also shared many books that inspired my research, especially *Grandfather's Journey* (Say, 1993), and kindly allowed me to use the children's literature library that she directs. I am both grateful and

honored to have had her guidance and support.

After my work with the children's literature library, I began assisting Dr. April Bedford and had the opportunity to learn about her research on children's literature. She introduced me to *The Arrival* (Tan, 2007) and many other children's books that have deepened my multicultural experience. Again, a new world of possibility opened not only in children's literature but also in narrative inquiry. She taught me about ethnography making a powerful connection between teachers' lives, reading, and professional development. I was strongly inspired by her ideas about picture books, not to mention that she also strongly supported my study. I am especially thankful to the projects she invited me to join, including writing reviews of children's books (e.g. Bedford, 2010, 2011). I also am very grateful for the many children's books she personally donated to this study and for endorsing the donation of ten copies of *The Lotus Seed* through the Department of Curriculum and Instruction.

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acquisition. In her class, well-known researchers such as Stephen Krashen became familiar to me. Her linguistics instruction was filled with personal anecdotes, which helped me gain deeper and deeper knowledge of topics that were very complex even for language experts. I prize our friendship and our shared interest in language education, and I am grateful to all her comments and suggestions throughout my doctoral studies. In addition, I am particularly grateful for her willingness to join the doctoral committee during her retirement from the University.

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Abstract

This study explores storybook illustrations in learning word meanings among English learners in a university intensive language program. The impact of children's literature on the comprehension and vocabulary development of second language children is well-documented. However, the use of the literature with adults still needs to be researched. Therefore, a mixed-method study was designed (1) to investigate whether readers who read an authentic illustrated story differed from those who read the same story without illustrations; and (2) to learn more about the readers' process of learning words from storybook illustrations. Results suggest that illustrations play an important role in both comprehending the text and learning individual words, however issues related to the accessibility of the text and readers' ability to use context should also be taken into consideration. The findings support prior research that the benefits of learning from context take time to become robust. The study suggests that illustrated storybooks provide a rich context for adults to infer word meanings and recommends children's literature as an alternative source of reading in programs serving adult English learners.

English, second language, ESL, ELL, vocabulary acquisition, word learning, reading, context, context clues, lexical inference, learning strategies, children's literature, illustrations, pictures, storybooks, immigration, multicultural literature, adult education, college, intensive language programs, Vietnamese culture, cultural understanding

Chapter 1

Introduction

The new millennium for me started with a dream. I had wanted to undertake my graduate

studies in the United States to advance in my career as an English as a second language teacher.

I had no idea what it was like to study abroad, and I really wanted to have that opportunity. As a

native of Brazil and native-speaker of Portuguese, my first contact with the American culture

was puzzling, though. The America I came to know was very different from that of my

imagination—an imagination sparkled in my childhood with the reading of hero comics and

Western novels and continued in adulthood with increased exposure to various forms of media.

Regardless of my previous experiences with the American culture, I still struggled with cross-

cultural differences in the United States. For instance, I didn't feel comfortable speaking with a

foreign accent, especially when people couldn't understand me. I also felt frustrated when I

couldn't understand them. I was, to a great extent, new to the culture. However, throughout my

sojourn in the country, I gradually developed linguistic and cultural competence.

Before studying in America, where my English became robust, I developed English

fluency in Brazil. My earlier education began with grammar-translation methods throughout

middle and high school and continued during the undergraduate studies with the *communicative*

approach (e.g. H. D. Brown, 2007; Larsen-Freeman, 2000). The communicative approach

emphasized oral skills and was more intensive. I was trained to avoid the dictionary while

reading and to try to guess the meanings from context as much as possible.

The intent was to discontinue the old-school reliance on translation and to increase our exposure

to English. Until then, I could barely understand a question such as "how are you." However, I

gradually began to grow because the teachers spoke slowly, yet fluently, and they used gestures,

pictures, and simple sentences to facilitate our understanding. In other words, my teachers provided what is known in second language theory as *comprehensible input* (Krashen, 1982). When I became an English teacher myself, I followed their steps, learning from more experienced ones and adopting many of their beliefs and practices. As far as reading is concerned, I believed that students shouldn't use the dictionary before first trying to figure out meanings from context.

Likewise, the language and cultural issues facing international students in America can be compared with the experiences of immigrants, whose dreams and struggles have inspired a number of literary works. Particularly, children's stories such as *The Arrival* (Tan, 2007), *Grandfather's Journey* (Say, 1993), *When Jessie Came Across the Sea* (Hest, 1997), *Angelina's Island* (Winter, 2007), *The Color of Home* (Hoffman, 2002), and *Journey to a New Land: An Oral History* (Weinburger, 2000), just to name a few, demonstrate what it means to leave one's homeland and seek better opportunities in a new country. Many do return to their homeland, but many others cannot or do not want to go back (Gonzalez, 2004). And they must cope with the challenging transition to the new culture, new environment, and often new language. Many newcomers must learn to speak English and discover other ways to express themselves. With that comes the need to acquire word meanings.

The importance of learning words has been widely documented in the research on reading and vocabulary instruction. According to Schmitt (2008), successful vocabulary development depends largely on promoting students' engagement with words through multiple lexical encounters and several opportunities to practice and use different strategies. An example of a strategy for learning new words through reading is to infer meaning from context (e.g. by using *context clues*). Context clues include additional information such as examples, definitions,

synonyms, details, and pictures, provided by the writer to facilitate comprehension. For example, in a text about sharks, the author may add a definition or a visual representation of these admirable sea predators. Visual cues such as photos and drawings are particularly useful for young readers who are learning words and concepts together. However, illustrations can also help adult readers who speak another language and may not be familiar with either word or concept. Therefore, texts rich in graphic information, such as children's storybooks, may have a positive effect on second language vocabulary acquisition.

The potential benefits of children's literature are supported in first language and second language research, which features a powerful debate between extensive and intensive approaches to teaching reading and vocabulary. In extensive models, students read widely for pleasure and learn words incidentally from context. In intensive models, there is a strong emphasis on teaching individual words and skills. Proponents of *extensive reading* (also known as wide reading) such as Nagy and his colleagues argued that most vocabulary is learned from context (Herman, Anderson, Pearson, & Nagy, 1987; Kilian, Nagy, Pearson, Anderson, & García, 1995; Nagy, Anderson, & Herman, 1987; Nagy, Herman, & Anderson, 1985). Nagy and Anderson (1984) argued that the number of words acquired during school years is beyond the scope of the most powerful vocabulary program; therefore, vocabulary instruction might have a minimal impact, and students instead would benefit from wide access to books. On the other hand, proponents of *direct instruction* (Beck, McKeown, & Kucan, 2002; Beck, McKeown, & Kucan, 2008) argued, based on a series of studies (McKeown, Beck, Omanson, & Pople, 1985; Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983), that not all contexts are equally helpful for students to learn vocabulary (Beck, McKeown, & McCaslin, 1983), nor are most students skilled in deriving word meanings from context (McKeown, 1985). Therefore,

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teaching words meanings directly, but using a systematic and robust approach that extends

beyond teaching definitions, can make a difference in students' comprehension and vocabulary

development. Their research on *rich instruction*, a method using both contextual and definitional

instruction with ample opportunities for meaningful explorations of words, has been

acknowledged in several reviews of research as seminal work demonstrating the effects of

vocabulary instruction on reading comprehension (e.g. Baumann, 2009; Baumann, Kame'enui,

& Ash, 2003).

A similar, perhaps even more powerful debate, has taken place in second language

research. Krashen's (1982, 1985) version of incidental learning from context has been equally

controversial. Heated responses to his acquisition-learning distinction and input hypothesis gave

rise to a continued discussion about the most effective instructional methods and materials in

second language instruction. According to Krashen (1982), *acquisition* occurs naturally when

the learner is focused on meaning, not form. For instance, while reading a novel, a student may

acquire a word or grammatical structure, even though he or she was not deliberately focusing on

the form. *Learning,* however, is a conscious process that can help the learner in monitoring

rules (e.g. correcting errors), but doesn't lead to automatic production. An example is that many

learners continue to produce non-standard sentences after laboriously drilling a given structure.

What learners need, Krashen argued, is access to messages they can understand, such as

interesting stories with the language only slightly above students' comfortable level of

comprehension. His principles of augmenting exposure to comprehensible input in a naturalistic,

meaningful environment became well-known as *The Natural Approach* (Krashen and Terrell,

1983). With respect to vocabulary, Krashen (1989) argued convincingly that, like grammar,

words are acquired primarily from lengthy exposure to comprehensible input. He cited

numerous studies, including those carried out by Nagy and his colleagues cited above. In

addition, Krashen (1993) provided plenty of evidence for the impact of extensive reading on

language development, and his arguments were demonstrated in studies in which readers

reported improvements in vocabulary after reading books they understood and enjoyed (e.g. Cho

& Krashen, 1994; see also Cho, 1994). No doubt, Krashen is one of the most influential authors

in second language research. However, other researchers pointed out the limitations of

comprehensible input in promoting second language development, arguing that a focus on

meaning only is not sufficient, that is, a *focus on form* is also needed for learners to acquire a

second language (Doughty & Williams, 1998; Ellis, 2001; Long, 1996; Williams, 2005). The

research on *focus on form* (or form-focused instruction) stresses the benefits of *noticing* (Schmidt

& Frota, 1986) in raising one's awareness of language patterns used by native speakers

intuitively, and that may be difficult, if not impossible, for second language learners to acquire

without direct attention. This kind of "aha" moment, the research has found, is complementary

to learning from repeated exposure to comprehensible context.

The two learning approaches (one incidental and implicit, the other intentional and

explicit) have been understood in various educational fields as extremes of a continuum, rather

than a clear-cut dichotomy. The current state of affairs in second language reading research

leans toward a balanced view of reading and vocabulary instruction (e.g. Graves, 2006; Stahl &

Nagy, 2006), stretching throughout three decades. Integration of top-down and bottom-up

approaches (Carrell, Devine, & Eskey, 1988) with a more recent emphasis on lower-level skills

(Birch, 2002, 2007), dissolution of the acquisition-learning dichotomy with a greater focus on

vocabulary (Lewis, 1993, 1997a, 1997b; Lewis & Conzett, 2000), and synchronization of

meaning-based and language-focused methods (Nation, 2001, 2005, 2007, 2008; Nation &

Macalister, 2009; Nation & Webb, 2010) with an increased interest in fostering students'

engagement with words (Schmitt, 2008; see also Graves, 2006; Stahl & Nagy, 2006) and the use

of vocabulary learning strategies (Pavičič Takač, 2008)—all converge into the goal of supporting

the language/literacy development of second language learners (August & Shanahan, 2006,

2008; Barnitz, 1985; Bernhadt, 1991; Grabe, 2009; Gunderson, 2009; Hedgcock & Ferris, 2009;

Lems, Miller, & Soro, 2010).

Especially urgent is providing instruction that addresses the needs of diverse learners in

both K-12 and higher education in the United States (Baumann, 2009). With respect to

international college students , especially those for whom English is not a native language,

literacy and language instruction supporting their vocabulary development (Francis & Simpson,

2009; Simpson & Dywer, 1991; Simpson & Randall, 2000), comprehension development

(Holschuh & Aultman, 2009; Nist & Holschuh, 2000; Nist & Mealey, 1991; Prater, 2009), and

cross-cultural understanding (Abbate-Vaughn, 2009; Pintozzi & Valeri-Gold, 2000) can help

improve their academic performance. Paramount to a pedagogy that values affective, critical,

and social dimensions of literacy (e.g. Freire, 1997; Heath, 1983; Vygotsky, 1962; Rosenblatt,

1978) is the argument, within the area of discourse, that words are not fixed linguistic entities

with monolithic meanings but rather dynamic social constructs (Gee, 2008; see also Bakhtin,

1981; Fairclough, 1989; Kachru, Kachru, & Nelson, 2009) with cross-cultural as well as

affective implications (Osgood, May, & Miron, 1975) and dependent upon contextual constraints

(Anderson & Shifrin, 1980). Therefore, language and literacy education—and more specifically

reading, vocabulary, and literature-based instruction—must encompass the affective, linguistic,

and cross-cultural issues facing learners from diverse backgrounds, including their adaptation to

linguistic and cultural norms in United States higher education institutions (Gonzalez, 2004; Smith, 2009; Wiley, 2005).

In face of these educational challenges, literature has played a significant, if not fundamental, role. In fact, literature-based instruction has been shown to promote the linguistic and cultural development of learners from diverse backgrounds by providing a rich source of comprehensible input and opportunities for creating culturally relevant lessons (Au, 1993, 2006; Barnitz, Gipe, & Richards, 1999; Gipe, Richards, & Barnitz, 1992; see also Chomsky, 1972; Dole, 1995; Heath, 1996; Hoecherl-Alden, 2006; Lazar, 1996; Ketchum, 2006; Kong & Fitch, 2003; McKay, 1982; Paesani, 2005; Scott & Huttington, 2002; Weist, 2004, among others).

Using children's literature to facilitate second language acquisition is right in the midst of the debate between explicit instruction versus incidental learning. On the one hand, the books are highly illustrated, therefore more conducive to comprehension. On the other hand, they are rich in authentic language, which may contain a higher number of unfamiliar words for English learners, thus hindering comprehension. What the research on literature-based instruction has shown is that the effects of reading depend on factors beyond the actual reading process (Morrow & Gambrell, 2000). This extends the reading process to its social component, involving not just reading, but also talking and writing about books, or even responding visually. In particular, multicultural books—those recounting the experiences and perspectives of non-mainstream, minority, and international groups—can help bridge the gap between home and school literacy practices and empower students who are at risk of failing or already failing academically (Au, 1993, 2006; Baghban, 2007; Edwards, 1989; Edwards & Turner, 2009; Heath, 1996; Stewig, 1992; Stewart & Santiago, 2006; Yokota, 1993; see also Heath, 1983; Wiley, 2005). Likewise, literature portraying aspects of the American culture can serve as a tool for

intercultural understanding (Akrofi, Swafford, Janisch, Liu, & Durrington, 2008; Gilrane, 2007). In addition, illustrated books can add a visual literacy component to the language arts and second language curriculum (Griffin & Schwartz, 1997; Kiefer, 2007; Moss, 2007; Sipe, 2007) and scaffold adult language and literacy development (Bloem & Padak, 1996; Cho & Krashen, 1994; Dupuy, Tse, & Cook, 1996; Heitman, 2005; McKay, 1982; Miller, 1998; Mundy, 1996; Sharp, 1991; Silverman, 1990; Smallwood, 1992). However, if we delimit the process of reading children's books within the immediate interface between the reader and the text, it wouldn't restrict learning. Rather, it would seem more plausible in showing the effects of learning from reading context. Therefore, the present study investigated whether or not illustrations in children's storybooks influence learning word meanings. If the picture context affects incidental word learning, then one can expect readers with access to both words and pictures to outperform those with print-only exposure. If, however, there are no statistically significant differences between exposure and no exposure to pictorial input, then the treatment may not affect incidental vocabulary acquisition.

Research Questions

To examine whether or not storybook illustrations influence learning word meanings, I used a mixed-method design. The research questions are as follows:

1. Do storybook illustrations influence learning word meanings from context? (main research question)

2. Is there a significant difference between experimental Text Plus Picture (TP) and control Text Only (TO) groups in pre- and post-reading tests of vocabulary? (quantitative question)

3. How are illustrations helpful to individual students in promoting incidental word learning? (qualitative question)

The first question refers to the overall investigation, which encompasses both quantitative and qualitative methodologies. The second question corresponds to the quantitative methodology. The third question is addressed through the qualitative methodology.

Organization of Chapters

The organization of the chapters follows a logical argument centered on the nature of vocabulary acquisition. The first chapter is the *introduction*, which includes the research questions, definition of terms, conceptual framework, researcher's subjectivity, research background, and rationale for the investigation. The second chapter is the *review of literature.* The first section of the literature review deals with the process of reading in a second language. The second section focuses on teaching and learning vocabulary. The third section is dedicated to learning vocabulary from literature. The main focus of the review is the debate between contextual approaches to learning vocabulary, especially inferring word meanings from context, and approaches that emphasize the role of instruction in vocabulary development. The third chapter is *methods*, and it describes both quantitative and qualitative methodologies. The fourth chapter is *findings*. This chapter presents the quantitative and qualitative results, followed by a discussion of each type of findings separately. However, overlaps between these findings are highlighted. The fifth and last chapter is *discussion.* This chapter brings together findings from both quantitative and qualitative methodologies and discusses them in light of previous research detailed in the review of literature. The references include both research sources and children's books. Finally, a list of research documents is included in the appendices.

Study Purpose

The purpose of the study is to explore the potential influences of **storybook illustrations** (independent variable) on **learning word meanings** (dependent variable). The quantitative methodology examines whether or not there is a difference between adult English learners who read the illustrated storybook *The Lotus Seed* (Garland, 1993) and those who read the same text without illustrations in a single-word translation test featuring words from the story and words that were not used in the narrative. Forty participants were assigned to text-plus-picture and text-only conditions. The qualitative methodology investigates the process of learning words from storybook illustrations using six of the forty students, who talked about their experiences reading the book and provided detailed accounts of their strategies for inferring word meanings.

Research Background

A research problem does not occur in a vacuum, but in connection with the researcher's reading experience and curiosity. My first question about potential influences of storybook illustrations on vocabulary acquisition happened when I worked in a children's literature library and had the opportunity to read many picture storybooks and illustrated non-fiction books. Sometimes my supervisor tossed a book in my hand and asked for my opinion. Some books were about my culture, such as *Capoeira* (Ancona, 2007) and *Young Pelé: Soccer's First Star* (Cline-Ransome, 2007). I was thrilled to read about something so near and dear to me and somehow could see myself in the texts. Other books also offered a multicultural perspective that I could relate to. Among these were those recounting the experiences of immigrants to the United States, including *Grandfather's Journey* (Say, 1993) and *Angelina's Island* (Winter, 2007). While reading these suggested books and discovering others on my own, I couldn't help noticing that I was learning many words from context. For example, I acquired the meaning of

quarry after reading a book called *Egypt in Spectacular Cross-Section* (Biesty, 2005). The reason why I was able to determine the meaning without a dictionary and without asking anyone for help was probably the context but especially the illustrations. When I encountered the same word in another book, *Old Penn Station* (Low, 2007), I was able to remember the meaning and had no difficulty with the word. In addition, wordless books such as *The Arrival* (Tan, 2007) deepened my understanding of the immigrant experience. Because I could see the value of illustrations in my own learning, which extended beyond vocabulary, I decided to explore the potential benefits of illustrations for second language readers in earlier stages of vocabulary and language development.

On my first exploration with storybooks, I conducted a mini-pilot study for a research seminar. The purpose of this small experiment was to examine whether or not second language readers could figure out the meaning of unknown words in an illustrated story. Thus, I asked two adult English speakers and an adult Portuguese speaker to read *Pouce Par Pouce*, the French version of *Inch by Inch* (Lionni, 1960).

The book is about an inchworm who outsmarts his potential predators by using his ability to measure things. As he begs, "Don't eat me. I'm an inchworm. I'm useful. I measure things." And the worm goes on to measure everything he can, the robin's tail, the toucan's beak, and so forth. A decisive part in the story is when the nightingale demands that her song be measured. Once again, the worm has to use his wisdom to weave out a danger. This part is a difficult one because the reader has to think not in terms of measuring concrete things but as a metaphor. Before reading the story, the readers translated ten words from French into English. The selected words are as follows: *jour* (day), *chenille* (inchworm), *pattes* (legs), *bec* (beak), *mange* (eat), *chanson* (song), *mesurer* (measure), *colibri* (humming-bird), *cou* (neck), and *queue* (tail). The

first person didn't know any of the words. The second person knew almost half of them, and the Portuguese speaker knew only one word. The two English speakers knew some French, but the Portuguese speaker knew much less. They read the book, and soon after retold the story without the text. After the retelling, they repeated the translation task without the book.

The participants had similar positive results. Their understanding was excellent, even though their knowledge of French was, according to their own descriptions, equivalent to that of a lower-level reader. After reading, they took a simple single-word translation test with ten items. They could supply the meaning of all words they didn't know before. The third volunteer, the Portuguese-speaker, got confused in the song scene. Still, she was able to score 90% of the words in a second reading, and after a third reading, she could understand the whole message and the remaining 10% of the vocabulary.

The reason for this success may be that the selected words are high-context ones; that is, they are key to understanding the story and they are strongly supported by the illustrations. In addition, the text is relatively short, with many pages featuring not even a whole sentence. They also relied on their cultural and language background to guess the meanings. For example, one respondent guessed the word *chenille* (inchworm) by associating it with the fabric used in a popular type of blankets. Another one remembered French *mange* (eat) because she knew the Italian verb *mangiare*. This mini experiment shed some light on learning vocabulary from children's books. I kept wondering whether a longer text would yield the same results.

As I began exploring which children's books might be interesting to adult English learners, I found out that the average number of words in a book exceeded my expectations. In *Pouce Par Pouce*, the context is conducive to word learning for two reasons: (a) the text is short and (b) unknown words are easily inferred from illustrations because they represent universal

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concepts such as body parts. However, as I discovered other books for English learners, I

learned that on average the text was much longer and the words not as easy to infer from

illustrations. A little frustrated from my personally shocking discovery but still positive about

the value of illustrations in word learning, I decided to accept this challenge. The result of my

early inquiry and explorations with children's books I present in this study combining both

quantitative and qualitative methods.

Definition of Terms

Before investigating whether or not adult second language learners can learn vocabulary

incidentally from storybook reading, I first need to define some of these terms. First, *adult* here

means age 18 or older, and second language means that students have already learned to speak

one or more languages before they start learning English. Second, for the purpose of this study, I

use *learning* and *acquisition* interchangeably, unlike Krashen (1982). Krashen defines

acquisition as an incidental type of learning that occurs naturally from exposure to

comprehensible language in meaningful contexts and does not require conscious mastery of

rules. In addition, he defines *learning* as a conscious process that can help students monitor their

language usage but does not lead to natural, automatic, native-like communication. However,

this distinction has waned in second language research since the impact of alternative views,

especially *noticing* (Schmidt & Frota, 1986), which emphasizes the role of consciousness and

attention in second language development. Third, *vocabulary* here is related to meaning

vocabulary, that is, words that students can understand in writing, but may not be able to use

orally. Fourth, *storybooks* refer to texts primarily written for younger children, offering copious

illustrations. Storybooks, also called picture books, are relatively short narratives that are part of

easy readers. Finally, *reading* in this study refers to silent reading as an individual rather than a

social practice. Thus, in this study reading is limited to the interactions between the reader and the text.

Another important term is *context*. The word traditionally refers to the sociolinguistic environment in which a message is conveyed. Because *context* is used in so many disciplines, it is important to provide an operational definition. First, I would like to make a distinction between **text** and **picture.** In children's literature, words and illustrations combine in different ways to tell a story, creating interdependent, parallel, or even conflicting narratives (Nikolajeva, 2006). Thus, *context* is used in this study to refer to the set of meanings created through the combination of print and image. For a more specific distinction, I will use a modifier such as written context and picture context.

Closely related to the notion of reading context is the term *context clues.* There are various types of clues, from word parts and synonyms to pictures and the reader's background knowledge. The word *clues* (or *cues*) implies that certain textual or visual features are salient and/or repetitive, functioning like reminders, highlighters, or pointers. However, saliency and repetition do not mean that readers will notice the clues as this is influenced by schemata and metacognition. Douglas (1998) makes an important distinction between external and internal context. External context refers to the message, what is out there. Internal context refers to the learner's perception of particular elements in the message, or what he or she finds meaningful. Therefore, even if the external context contains cues that clearly point the reader to the understanding of specific features in the message, such as word meanings, the reader must be internally motivated to perceive the clues. This process is comparable to the *noticing hypothesis* (Schmidt & Frota, 1986), discussed in chapter two.

Conceptual Framework

The conceptual framework displayed in the diagram (Fig. 1) can help explain what I mean by reading context. The study focuses on the influences of pictures on word learning in the context of storybook reading. However, the word *context* has a broader sense, relating to the reader's background knowledge as well as story clues, which include both written and pictorial input. Although the main focus of the research is the role of illustrations, as represented by the arrow, other factors that are part of the context must not be excluded. According to Krashen (1982), for the learner to benefit from the input, the input must be comprehensible. From this standpoint, Krashen (1989) contends that if the learner is exposed to *i*+1 (the content is simple enough to understand, and the language is slightly above the learner's comfort level), then language acquisition can occur, including but not limited to vocabulary. Therefore, if illustrations are part of the input, then they must also be comprehensible in order to affect word learning. That illustrations contribute to story comprehension has already been demonstrated (Newton, 1995; Schallert, 1980). However, because the relationship between comprehension and vocabulary is correlational rather than causal (Anderson & Freebody, 1981), facilitated comprehension from illustrations may not have a direct effect on vocabulary and may depend on factors other than lengthy exposure to comprehensible input. As Schmidt and Frota (1986) demonstrated, comprehensible input alone is not enough to trigger acquisition and that *noticing* is required for learners to recognize nuances in the input and, consequently, ignite the acquisition process. Therefore, to facilitate word learning, illustrations must provide details beyond text comprehension and toward word learning. Whether storybook illustrations are comprehensible enough to support word learning is the main question in this study. As much as the study

Figure 1: Conceptual framework

context

input   learner

story — reading

words   pictures → word learning
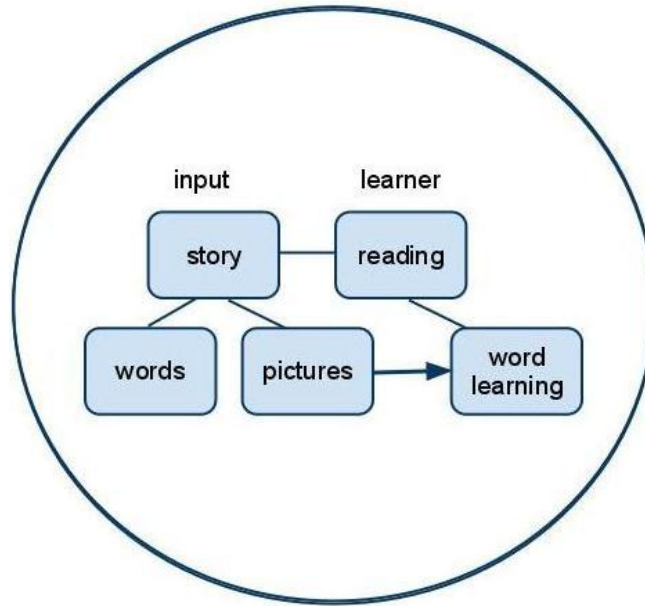
includes factors related to the immediate relationship between the learner and the input, other

aspects including social dimensions of reading such as reading preferences and the role of

instruction in vocabulary development are not within the scope of this study. The diagram

provides a bird's eye view of the process of learning words from storybook reading. A more

detailed description is necessary to help define what I mean by this learning process.

Learning Vocabulary from Illustrations

Another important definition is what *learning vocabulary incidentally from storybook*

illustrations means. This notion will be explored throughout the study and consists of the main

question leading this investigation. I would like to offer a visualization of the learning process

based in part on the literature and in part on my experience reading storybooks.

Pictures and words don't always go together. In Spanish, for example, many words have

a similar spelling and meaning to English (e.g. *tiger/tigre*). However, other words may be quite

different (e.g. *shark/tiburón*). If the reader does not know the first word in English (*tiger*), he or

she can easily guess correctly because of its similarity with English. On the other hand, if the reader does not know *shark*, a picture can be helpful. When a word and a corresponding picture are presented side by side out of context (e.g. flashcard), it is easier to associate them. So, it is not difficult to match the picture of a shark in a flashcard with its corresponding label. In context, however, this process requires awareness of what part of the illustrations corresponds to what part of the text, and most importantly that some elements from the pictures can be related to specific words. Because pictures serve a variety of purposes (Nikolajeva, 2006; Nikolajeva & Scott, 2001), they may not necessarily support the text, much less provide a one-to-one correspondence like that of a flashcard. Therefore, readers may have difficulty matching the illustration and its respective label. This happens because readers can achieve only partial understanding of word meanings through context. In addition, learners are not equally skilled in connecting words and pictures as they vary in the ability to infer word meanings from context (McKeown, 1985). However, given the attractive nature of children's storybooks, this study speculates that the illustrations will draw attention to portions of the text containing words that are hypothesized to be incidentally learned through context-based, word-picture matching. Therefore, to qualify as facilitating incidental learning from context, words must carry high context features to become more salient. High context will be provided in two ways: a) the word can be inferred from the text without illustrations; b) the word can be inferred from the text with illustrations.

Therefore, the interplay between contextual cues (words and pictures) and the reader's background knowledge is of particular interest in this study. The study does not control for the different types of context clues because an authentic text is used. However, the target words must be contextually decipherable. A contextually decipherable word is defined, for the purpose

of this study, as a word that can be inferred from written context alone or written and picture

context combined, even though the contextual cues are not intended to clarify word meanings. In

the examples above, both *tiger* and *shark* can be contextually decipherable. However, neither

can be a target word since they may be too easy. Instead, more difficult words are selected. In

addition, even though the text may present various types of clues, only illustrations are controlled

for. Because there is a great amount of research on context clues (e.g. Buikema and Graves,

1993; Emans & Fischer, 1967; Goodrich, 1977; McCullough, 1945; Schatz & Baldwin, 1986;

Webb, 2008), and a dearth of evidence on the relationship between illustrations and incidental

vocabulary acquisition, this study focused only on the role of illustrations.

Rationale for the Study

Although the impact of illustrations on text comprehension has been thoroughly

documented, and there is no doubt about its benefits (Schallert, 1980), the relationship between

illustrations and vocabulary development in incidental learning from context has not been

sufficiently explored. In the classical studies of incidental word learning from reading context

(Herman et al., 1987; Nagy et al., 1985; Nagy et al., 1987), illustrations were purposely removed.

The researchers provided no further explanation for this omission. Although Nagy et al. (1985)

argued that their texts were normal and representative of those encountered in schools, their

experimental conditions do not reflect the reading experiences of most children, whose texts are

usually highly illustrated. Not considering the impact that the illustrations could have had on

either comprehension or vocabulary development, had they been added to their experiments,

there appears to be a gap in the literature requiring further exploration.

This is not to say illustrations have never been used in incidental vocabulary acquisition.

Studies with children in first and second language settings demonstrate the benefits of reading in

language and literacy development in general, and vocabulary in particular. This is especially true for studies of extensive reading (Elley & Mangubhai, 1983; Elley, 1989, 1991, 2000), in which children had access to a wide number of illustrated books and were found to improve on various measures of language and literacy development compared to control groups receiving standard language arts instruction, which did not increase the amounts of reading. Similarly, read-aloud studies have documented children's vocabulary growth in experiences involving an adult and a child, or an adult and a group of children, reading and exploring content, illustrations, and word meanings together (Beck & McKeown, 2007; Brett, Rothlein, & Hurley, 1996; Collins, 2010; Eller, Pappas, & Brown, 1988; Medina, 1990; Penno, Wilkinson, & Moore, 2002; Sénechal, 1997; Sénéchal & Cornell, 1993; Sénéchal & LeFevre, 2001; Wasik & Hindman, 2009). However, there is not enough research investigating the effects of storybook illustrations on the vocabulary development of adult English learners. On the one hand, studies exploring pictures in rich and reduced context conditions, although they highlighted the value of illustrations in the comprehension of written and oral content, did not use children's books and focused primarily on comprehension, not vocabulary (e.g. Barnitz & Speaker, 1991; Mueller, 1980; Omaggio, 1979). On the other hand, studies that did use children's books (Flickinger, 1984; Garcia, 2007; Moffit, 1998, 2003; Schwartzer, 2001; Wu, 2001) focused on language and literacy development in general, with vocabulary receiving a secondary role. Overall, as the research on visual literacy has demonstrated, pictures have important implications for second language comprehension development; however, more research is needed to determine whether or not storybook illustrations affect incidental vocabulary acquisition.

Another important rationale for the study concerns the methodology. Hewitt (1982) argued for qualitative research as an alternative to the psychometric and cognitive approaches to

testing reading comprehension.   Since then, qualitative research has been a predominant approach to research on second/foreign language teaching and learning (Harklau, 2005), influenced by first language studies such as Heath (1983). However, quantitative methods are also popular in second language and literacy research (Johnson, 1992; Vellutino & Schatschneider, 2004), and especially in language testing (Lomley & Brown, 2005). Comparing qualitative and quantitative studies in four major journals in the second language field (*Language Learning, Modern Language Journal, Studies in Second Language Acquisition*, and *TESOL Quarterly*) from 1991 to 2001, Lazaraton (2005) found that qualitative designs accounted for 86% of the data in contrast with 13% for quantitative designs and 1% for mixed designs. As her results showed, the difference is much greater in the other journals than in *TESOL Quarterly*, a major journal in the teaching of English, featuring 59% (qualitative) and 41% (quantitative). Second language research methods are divided into the following: ethnography, case studies, quantitative studies, classroom research, and action research (Hinkel, 2005). Unlike the first three methods, which stem directly from research paradigms developed in disciplines such as anthropology, sociology, and psychology, classroom and action research methods are adaptations that target specific issues going on in the language class (Hinkel, 2005). For instance, classroom researchers observe and interview readers to learn about their strategies, attitudes, and interests while attempting to improve teaching and learning. Action researchers, however, also include a critical pedagogy component in their studies.

Both qualitative and quantitative designs have an important role in second language education. Second language reading research has been criticized for relying too heavily on first language studies instead of narrowing down second language reading processes (Eskey, 2005). However, first language research in reading and vocabulary acquisition has important

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implications for second language learners (Grabe, 2009; Stoller & Grabe, 1993). Therefore, the present study incorporated findings from first-language reading and vocabulary research. In addition, unlike most studies in second language acquisition, the present study used a mixed-method design. Mixed designs have the advantage of addressing the research problem from both a quantitative and qualitative perspective.

Researcher's Subjectivity

The decision to display the researcher's subjectivity depends on the lenses taken in the study. In quantitative designs, the traditional, objective writing style is preferred over a subjective one, which is popular in qualitative designs. However, in mixed-method research, the choice of writing style is less constrained and also benefits from reflection. Therefore, using reflective writing to investigate my role as a researcher, I discovered that my position as a second language expert could have an impact on the results. As a Brazilian teacher of English, with a background in linguistics and storytelling, I share many of the challenges English learners face coming to American universities. I also struggled to develop linguistic and cultural competence in English and am a proud member of the community of international students. My personal history is, in many ways, similar to the stories of immigrants, as portrayed in children's storybooks, in which families come to America searching for better opportunities. In my case, coming to America for my graduate studies represented a search for the American dream, a dream that doesn't necessarily translate into the decision to stay in the country, but in the hopes that an American degree will open up windows upon returning to the homeland. In addition, as an applied linguist, I cannot have a disengaged view of second language acquisition. I have also gone through the process of learning another language, and during my language teaching experience, have been in contact with different learning strategies and instructional methods.

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For example, my experiences with language learning and teaching vary from a focus on developing reading ability through deliberate study of grammatical rules and translation to the study of language within a communicative setting. Having been exposed to both traditional and natural approaches to language learning, I can see where students are coming from and what kind of difficulties they may encounter along the way. That said, I have opted to use a more personal style of writing to remind the reader of my membership of the international community and to have room for reflection. The rationale for this kind of reflective writing is thoroughly documented in educational research. Reflection has become a powerful tool for teachers and researchers alike to seek deeper understanding of their roles as knowledge makers . Blanton and other contributors, for example, reflect on their experiences as teachers of writing to English learners (Blanton & Kroll, 2002). Their reflections on teaching are filled with memorable research and classroom interactions, each story affirming the need for personal narrative in educational research. In addition to being a professional tool, reflective writing can also be a guide for novice researchers to gain insight into their topics and monitor subjectivity. Leshem and Trafford (2006), for example, found that ethnographic approaches such as journals and autobiographies helped their participants construct meaning through personal connections and move into a more abstract level of inquiry. *Narrative inquiry* (Clandinin, 2007) as a way of constructing knowledge has cross-cultural constraints that must be acknowledged (Andrews, 2007). Therefore, the possibility of reflecting on my own experience as an international student helps avoid overgeneralizations and misinterpretations that could obscure or skew the current study.

Delimitations

The study also has a few delimitations. First, learners from intermediate and advanced reading levels served as subjects. Lower-level readers were not included because the text contains a high number of potentially unfamiliar words, rendering comprehension more difficult and potentially frustrating for students with small vocabularies. Second, single-word items are used. Although phrases and compound words have an important role in vocabulary acquisition, they can be explored in future research. Third, the study examines a single reading exposure. While previous research shows that at least ten exposures are necessary for successful word learning, one encounter with visually-rich input is hypothesized to provide enough opportunity for an initial form-meaning match. Fourth, the delay between the pre- and post-reading assessment is relatively short (about ten to fifteen minutes), which may still result in a recent-memory effect. Previous research ranges from fifteen-minutes to weeks-long delays. Delayed post-tests are important because most forgetting occurs soon after finishing the task and gradually fades away if the vocabulary is not reinforced (Schmitt, 2000). Therefore, what is more relevant to the reader is remembered. Finally, the present study uses only one text, from a specific genre (narrative) and mode (reading). As Schallert (1980) pointed out, illustrations are beneficial for "reading as well as listening comprehension, adults as well as children, expository as well as narrative prose, and nonredundant as well as redundant text" (p. 519). That said, it can be hypothesized that the use of an illustrated story that appears to be meaningful to students could facilitate comprehension and, by so doing, have an indirect influence on word learning.

Summary

The current study, using a mixed-method design, examined whether storybook illustrations influence learning word meanings. In reading research, there is an essential discussion about learning words from reading context versus teaching words directly. One argument is that most words are learned from context, thus instruction plays a minor role. Another argument is that learning words from context is not an effective way to gain depth and breadth of vocabulary knowledge, thus instruction plays a major role. These perspectives are explored in the next chapter, which reviews the selected literature investigating reading and learning vocabulary in another language and the role of children's literature in adult second language vocabulary development.

Chapter 2

Review of Literature

One of the factors affecting reading comprehension in a native language (L1) or in a second or foreign language (L2) is the presence of unfamiliar vocabulary. When readers encounter a new word, they may ignore it and keep on reading, try to guess the meaning from context, ask someone for a definition, or look it up in the dictionary. The relationship between reading and vocabulary knowledge is strong and reciprocal, the correlation found to be .85 (Anderson & Freebody, 1981). That is, literacy helps learners acquire new words, and word knowledge positively affects comprehension. If word knowledge is fundamental to understanding, then teaching individual words should be a key component of reading instruction. However, there is an ongoing debate about how much instruction would be required. Because reading influences word learning, questions abound as to whether vocabulary should be taught at all. Or, if teaching words is indeed necessary, then the question is, what should be included in an effective vocabulary program? Therefore, the purpose of this review is the following: First, I will provide an overview of L2 reading processes. Second, I will address teaching and learning vocabulary in a second language. I am particularly interested in the concept of incidental learning from context and the use of context and picture clues. Finally, I will review studies using literature with L2 learners. I will focus on English language learners in particular and their reading of children's literature. In addition, given the relevance of illustrations for this kind of text, I will consider its impact, as well. The discussion unfolds into my investigation of whether adult ELLs can learn vocabulary in English from independent reading of picture storybooks.

Reading in Another Language

Reading is a subcomponent of human communication involving the interpretation of print and other visual information. From this standpoint, understanding written messages in a second language is not substantially different from reading in a first language. For instance, both first language and second reading require lower-level skills (e.g. decoding and word recognition) and higher-level skills (e.g. inferring word meanings and getting the gist of a message) (Anderson, 1999). However, examined more closely, L1 and L2 reading are not the same. In L1 reading the relationship between lower- and higher-level processes is understood to be a complex one. In L2 reading, however, there is even more complexity due to differences across languages (Koda, 2008) and writing systems (Perfetti & Dunlap, 2008). To elucidate some of the processes that occur in L2 reading, this section discusses three theories—schema theory, transfer, and comprehensible input, each with important implications for comprehension and vocabulary development.

Schema theory

Schema theory is associated with the idea that we all carry a "memory bank" of past experiences, and that these experiences are stored as cognitive blocks, or *schemata*, and are recalled when we face new events (Rumelhart, 1980). With respect to second language learners, Barnitz (1986) synthesized research on the effects of cross-cultural and discourse schemata, arguing that speakers of other languages rely on their cultural and linguistic prior knowledge to grasp meaning from English texts. An example from my own English learning experience was when I read about New Orleans Mardi Gras. I already had an idea about the celebration since I come from a strong carnival culture in Salvador, Brazil. Although each city is unique is some way or another, there are many similarities (e.g. huge crowd, fun, floats, music). Compared to

my Brazilian background, another student who had never seen carnival on TV, or never been exposed to a similar event, might have difficulty determining the meaning of such word as *beads*, *float*, and *krewe* (sic) from the reading context alone. Students' cultural experiences affect how they infer meaning from texts (Andersson & Gipe, 1983; Andersson & Barnitz, 1983). Along these lines, the second language research on schema theory identifies three types of schemata (Carrell, 1983). Content schemata refer to cultural issues such as topic familiarity. Linguistic schemata include grammatical and vocabulary knowledge. Formal schemata refer to knowledge of discourse, genre, and text structure. The following studies include some applications of schema theory and related critiques.

Schema theorists have investigated the effects of background knowledge and contextual cues on L2 reading comprehension. For instance, Steffensen, Joag-Dev, and Anderson (1979) found that subjects in the United States and India, who read different passages about an American and Indian wedding, could read faster, recalled more details, and produced more culturally relevant explorations when they read about the native culture. This finding indicates that familiarity is a facilitating factor in comprehension. As this and many other studies and research reviews demonstrate, schema theory has many implications for second language instruction. Carrell and Eisterhold (1983), for example, analyze several reading passages that pose difficulty for English learners if they are not familiar with the topics. Familiarity with topics allows readers to have more accurate interpretations. To avoid culture-specific comprehension problems, the authors suggest providing background information, previewing, and listening to students' interpretations. This method of teaching comprehension can help teachers to focus on what the learners are trying to achieve, not whether their answers are right or wrong. Without neglecting the importance of linguistic and discourse knowledge to understanding texts, the

authors emphasize the role of the reader in the construction of meaning. In another study, Carrell (1987) explored the simultaneous effects of both content and formal schemata on L2 reading comprehension. 52 subjects participated in the study, 28 of Muslim background and 24 of Catholic background. The subjects read texts on familiar versus unfamiliar topics. The study confirms the hypothesis that familiarity with both content and rhetorical form is significant. In general, content is more important than form. However, they play a different role in comprehension. For instance, structure is more important than content in the comprehension of narrative texts.

Applications of schema theory to reading and second language instruction (e.g. Melendez & Prichard, 1985) are many, particularly with the intent of facilitating comprehension. For example, C. L. Brown (2007) investigated the challenges L2 readers find in reading content area texts such as in social studies. Following schema theory's notion that comprehensible texts facilitate language development, the author suggests using simpler authentic textbooks to help novice L2 readers to move gradually to more complex written material. Similarly, Drucker (2003) draws on the role of content and formal schemata to reading comprehension and provides guidelines for reading teachers covering various aspects of second language reading, especially the need to use culturally appropriate grade-level material to facilitate academic proficiency. Academic language skills, rather than conversational skills, take much longer to develop. To help English language learners in this long process, the authors urge teachers to use comprehensible and familiar texts as a springboard to new and more challenging ones.   In a similar study,   Hauptman (2000) draws some hypotheses about the nature of ease and difficulty in L2 reading. In his application of schema theory he compares *the traditional view* of reading and what he proposes *the modern view*. The traditional view suggests beginning with familiar

vocabulary and grammar and progressively moving from shorter to longer texts. The modern

view follows into four hypotheses or ease factors: 1) background knowledge, 2) signaling, 3)

accessibility, and 4) language, discourse, and text length. Summarizing the four hypotheses,

Hauptman suggests that the reader's background knowledge is the primary ease factor in L2

reading. When background knowledge cannot trigger content schemata, illustrations and

redundant information such as photos, glosses, or visual organizers become the primary ease

factor. When background knowledge and signaling are equally balanced, the degree of signaling

determines the accessibility of the text. If all these factors are equal, then language, discourse,

and text length become secondary. In other words, familiar and highly signaled texts are easier

than unfamiliar and unsignaled ones. In sum, schema-theoretic studies have demonstrated strong

evidence that a reader's prior knowledge (or schemata) affects comprehension.

More recently, schema-theoretic views of reading have received a lot of criticism. For

instance, Nassaji (2007) proposes an alternative view of L2 reading based on Kitsch's (1988,

1998) construction-integration theory. Even though he acknowledges the role of background

knowledge in how readers interact with texts, Nassaji argues that schema theory falls short of

providing a more solid explanation of how lower- and higher-level processes operate in second

language reading. The author disagrees with previous findings from schema theorists that L2

readers are weaker in using higher level strategies than L1 readers, arguing that it is unskilled L2

readers who rely more heavily on inferences due to their lack of linguistic and textual knowledge

and, as a consequence, are more likely to have miscued interpretations. In the construction-

integration model, skilled L2 readers, even bilinguals, are theorized to rely more on textual cues

than L1 readers to build a textbase for comprehension. This mechanism slows down the reading

process because it overloads their memory, allowing little space for global connections.

Another criticism of schema theory concerns methodological issues in the assessment of reading. For example, Hewitt (1982) reviews both psychometric and cognitive traditions of research on reading comprehension. He argues both methods fall short of providing a genuine account of a reader's experience with a text. The psychometric tradition would reduce comprehension to answering questions, failing to notice whether lack of comprehension comes from the text, the reader, or the questions. The cognitive tradition focuses on content and formal schemata, wherein the reader's prior knowledge of topics and text structures influences his or her understanding of the material. He further argues that cognitive studies do not consider wider personal and sociopolitical dimensions of reading comprehension. Thus, he suggests a move toward qualitative inquiry.

As Grabe (2009) argues, schema theory and the idea of dividing reading into top-down and bottom-up models are better understood in terms of metaphorical frameworks and general propositions, rather than detailed descriptions of how reading works. Current reading research, he maintains, prefers to focus on specific models, e.g. dual-code processing (Paivio, 1990; Sadoski & Paivio, 2007) or construction-integration theory (Kintsch, 1988, 1998). Dual-code theory is of particular interest here, given its differential treatment of text and image, which are seen as independent, complimentary processes. Reading models based on the dual-code theory, Grabe notes, provide a more concrete description of the role of background knowledge in reading than schema-theoretic ones. Schema theory is still relevant to the study of second language reading and vocabulary. The research reviewed so far shows that there are different types of schemata, which positively affect comprehension. The role of background knowledge in comprehension is strongly supported in the literature, but the specific mechanisms by which a

reader's schemata work are not accounted for by schema-theoretic models of reading (Grabe, 2009). The next theory, transfer, sheds new light on the process of reading in a second language.

Transfer

Just as readers apply their background knowledge to interpretation of texts, they also seem to transfer those skills across languages. The ability to comprehend texts in the L2 depends on a number of factors including degree of L1 literacy development and familiarity with the writing system (Birch, 2007). This section focuses on the nature of transfer and its implications to second language reading.

As Snow (2008) reviewed, transfer is likely to occur when the similarities between two languages are greater than the differences; however, it is not usually negative as contrastive analysts assumed, and it is more powerful when readers have developed proficiency in the L1 according to the threshold hypothesis (Cummins, 1979). Snow argues that it cannot be ruled out. She notes, for example, that L1 vocabulary knowledge can have positive consequences for comprehension in a second language. Other reviews have found more positive than negative effects. For instance, (Figueredo, 2006) found evidence for transfer of spelling in a review of twenty-seven peer-reviewed articles: fifteen with positive and negative effects, eight only positive effects, and three only negative effects, and only one had no effects. In Dressler and Kamil's (2006) review, the authors provide evidence for transfer of cognates, words with similar spelling and meaning. As they synthesize, transfer

- can enhance word reading and comprehension of text.

- is mediated by typological similarity between the first language and English.

- is influenced by the degree of orthographic overlap between cognate pairs.

- is influenced by students' ability to discern systematic relationships among suffixes.

- is mediated by reading proficiency such that appears to occur at higher but not lower levels of such proficiency.

- can occur as reverse transfer in that vocabulary concepts and labels acquired in the language of instruction (English) can transfer to the first language.

- may impede comprehension in cases in which meaning associations that exist in one language are erroneously applied to the cognate in the other language.

- may impede comprehension if only phonological similarities between cognate pairs are considered.

- is influenced by learners' cognate awareness, which appears to develop with age.

    (Dressler & Kamil, 2006, p. 214)

In particular, orthographic as well as syntactic differences are crucial to second language reading development, as evidence from bilingual research demonstrated (Barnitz, 1978, 1982; see also Cowan and Sarmad, 1976). In another review, Birch (2007) cited evidence for transfer and facilitation for languages with similar writing systems and some positive effects between two alphabetic systems dependent upon the degree of transparency. As she pointed out, students literate in a language with a one-to-one correspondence may encounter difficulties "when they begin to experience the more opaque English writing" (2007, p. 42). She further suggests that ELL students need to develop language-specific strategies for reading in English. A more detailed model of transfer is Koda's (2008) Transfer Facilitation model. According to this model, transfer of abilities depends on four factors: (a) facilitation from shared language-independent properties between L1 and L2; (b) contribution of first-language sophistication; (c) language-distance effects; and (d) cross-linguistic variations. In other words, the possibility of transfer is mediated by the degree of match between the L1 and the L2, the learner's level of

proficiency, and the existence of language-specific components. Perfetti and Dunlap (2008) reiterate this assumption, arguing that writing system differences appear to be more important than language differences.

An example of negative transfer effects comes from a study of Arabic-speaking ELL students. Hayes-Harb (2006) investigates whether the transfer of lower-level strategies affects reading comprehension in English. Prior research suggests that the transfer of reading strategies from Arabic may contribute to lower reading comprehension for Arabic speakers because these students would rely on Arabic patterns that are not equivalent in English. For example, consonant groups in Arabic consistently have associated meanings (k-t-b is associated with writing—kitaab/book, kataba/he wrote; s-k-n has to do with *living*—sakana/he lived). Because vowels are predictable in Arabic, they are often omitted in writing. In fact, the presence of extra diacritic marks for vowels may hinder more than help readers. Proficient Arabic readers can fill in missing vowels based on context or regularity. This process makes consonants more salient than vowels in Arabic, but would be misleading in English because readers cannot infer meaning from consonants alone in English (e.g. words like 'paint', 'point', and 'pint' have no obvious semantic connection with one another). Therefore, readers must attend to both vowels and consonants to fully grasp meaning in English. Hayes-Harb's findings are consistent with the interpretation that native speakers of Arabic generally have more difficulty reading English texts than other non-Arabic ESL groups, including speakers of languages like Japanese and Korean, which also have different graphemes from English. These results confirm the hypothesis that Arabic students exhibit a differential treatment of vowels versus consonants in reading English and may require explicit training in word distinctions such as *heat*, *hate*, *hot*, *hit*, *hat* or *star*, *stare*, *store*, *story*, *stir*, *steer*.

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With respect to morphological aspects of second language development, Greene (1981) investigated the order of morpheme acquisition by speakers of Vietnamese. Vietnamese is a tonal, monosyllabic language that has no verb endings equivalent to English -*ed* or -*ing* forms, for example. Greene's study contrasts with earlier findings from children's first language acquisition (e.g. Dulay & Burt, 1974) and adult second language acquisition (e.g. Bailey, Madden, & Krashen, 1974; Larsen-Freeman, 1975). She challenged earlier findings that second language learners acquire morphemes in a universal, predictable order like that of native speakers. Greene compared learners with prior knowledge of morphemes, who spoke French in addition to Vietnamese, and learners without previous morpheme exposure, the Vietnamese-only group. Her findings showed that speakers with prior morpheme experience learned the English morphemes in a more comparable order with that of earlier findings than did Vietnamese-only speakers. Greene interpreted this difference in the morpheme acquisition order as to what she labeled "Morpheme Conceptualization Barrier." She explained that because Vietnamese-only speakers had not been exposed to morphemes before, they had not developed the linguistic concepts necessary for immediate acquisition of English morphemes to occur. Therefore, those learners would have more difficulty learning English morphemes and require more intensive instruction on morphological awareness. This study suggests that when grammatical features such as morphemes have been mastered through another language, they can be transferred to the target language. However, when the features are new, they must be addressed with explicit instruction.

However strong, the concept of transfer is challenged in at least one study. Walter (2007) argues that L2 reading comprehension does not depend on transfer, but *access*, which she defines as the ability to retrieve comprehension skills already developed. As she points out, literate

readers don't need to transfer skills, but access them. In this study 42 intermediate-level learners read narrative texts (100 words and 300 words) and performed anomaly detection tasks for main and subsidiary ideas in the L1 and L2. They also performed a working memory test, judging sentences as logical or illogical and remembering the first words. She found no significant differences for lower intermediate and upper intermediate learners for the L1 anomaly detection and only partial support for story length, but lower intermediate learners had difficulty detecting anomaly of text structure in the L2. There were also significant differences for L2, but not L1, in terms of working memory. Walter interprets these results as supporting evidence that the lower intermediate learners cannot access text structure because their working memory is occupied with lower-level reading processes such as decoding and parsing, which haven't yet been automatized.

In addition, the concept of transfer is not restricted to linguistic aspects of literacy, but encompasses broader domains, including but not limited to cultural exchanges or influences among societies with similar or different experiences with print and other forms of literacy. An example of such an exchange is Pearce (1988)'s study of transfer of advanced literacy from Greek to Latin from an historic perspective. The Romans taught Latin advanced literacy by teaching Greek language and literature, which facilitated the transfer of advanced literacy abilities back to Latin. As far as the English language is concerned, Greek and Latin influences can be noticed not only in the many cognates encountered especially in the academic language, but also in many cultural forms. Words such as *drama*, *tragedy*, *democracy*, *community*, *politics*, and *agriculture* are not just "words" but concepts that can be traced back to Greek or Latin linguistic and cultural roots, among others. Therefore, language-related transfer cannot be understood from a purely structural perspective.

Overall, the literature shows more positive than negative transfer effects between two languages with a similar orthography. However, no transfer or negative transfer is expected when the orthographies are too distinct. The studies reviewed here suggest that strategies are transferred differently across languages and that readers with lower levels of literacy and little experience with the target writing system may require additional training and support (Burt, Peyton, & Adams, 2003; Burt, Peyton, & van Duzer, 2005). Walter's (2007) study welcomes a different interpretation of L2 transfer. Her notion of access chimes in with Nassaji's (2007) discussion of the textbase, in which the reader builds a series of hypotheses and tests them against the text cues. Beginning readers appear to overload their working memory with lower-level skills, thereby losing track of global connections. While this theory sounds robust, Hayes-Harb's (2006) study clearly illustrates the process of transfer in second language reading. The next set of studies will look at another possibility that, in connection with schema theory and transfer, helps explain the process of reading in a second language.

Comprehensible input

Comprehension in another language can be facilitated with what Krashen (1982) calls *comprehensible input*. Krashen argues that instructional language at one level above the learner's proficiency level (i+1) and low affective filter (e.g. low anxiety) trigger second language acquisition. For example, when a teacher speaks naturally using simpler vocabulary and less complex sentences, she is helping students to learn the language from listening, not from her explanation of rules or her feedback on each student's performance. In addition, the teacher may choose a text that is neither too difficult nor too easy, but at the learner's instructional level. In order words, the teacher or the text is supplying content clear enough to understand, yet challenging enough to propel language acquisition. Krashen argues it is facilitated

comprehension from listening and reading that is most beneficial to second language development. That is, the focus is on the message, not the form. This proposition can be compared with the whole language movement and its avoidance of out-of-context, broken down language.

Despite its strong popularity and long-lasting influence in second language instruction, comprehensible input has encountered great resistance, especially from the *focus on form* movement. Although comprehensible input applies to second language acquisition in general, this review will focus on reading and vocabulary development and will be discussed in more detail in the section on vocabulary, including its critique. However, given its similarity with schema theory in facilitating comprehension, a few points are worth mentioning here.

Previously, we saw that schema theorists are interested in using familiar topics to enhance comprehension. Comprehensible input also shares an interest in creating materials that support comprehension and language development. One of the applications refers to the use of authentic versus modified texts. Authentic materials are original texts used with native speakers and without any simplification of vocabulary or structure. Modified materials are especially designed for instructional purposes (e.g. basal books for struggling readers or second language learners). For example, Young (1999) investigates the role of linguists and teachers in the modification of written material to facilitate reading and the effect of simplified versus authentic texts on reading comprehension. She invited two theoretical linguists and four college-level Spanish instructors to adapt both familiar and unfamiliar texts for 127 students and found that teachers and linguists underestimate the readers' capacity to understand authentic texts. Simplified texts accounted for lower comprehension scores. Young interpreted these result as an indication that the simplification process deletes discourse cues from the original versions that

are crucial for understanding. As the author suggests, when the focus is on comprehension, there is no need to simplify texts. However, simplification may be helpful when the focus is on form. Similarly, Oh (2001) did a study with 180 Korean high school students about the effects of two types of input modification (simplification and elaboration) on comprehension. Students took a multiple-choice test and a likert test to measure their comprehension of three types of texts: baseline, simplified, and elaborated. The simplification procedures included using shorter sentences, higher frequency words, simpler syntax, and one-word instead of multiword items. Elaboration implied expanding on the baseline syntax and word choice by adding appositives or improving text structure. Oh's findings indicate that elaboration results in better comprehension than simplification because elaboration "retains more nativelike qualities" and leads more smoothly to authentic, unmodified materials.

The choice between simplified versus authentic materials is not an easy one as it depends on factors beyond language. Artificial simplification has been understood to provide little input to facilitate comprehension because the paucity of the input does not trigger the reader's schemata nor does it push toward vocabulary and language development. On the other hand, both elaboration and signaling make authentic materials more accessible to L2 readers. Regardless of their benefits, comprehensible materials do not guarantee that language forms will be acquired from reading alone. Opponents of Krashen's comprehensible input hypothesis stress the role of explicit instruction in facilitating second language acquisition, which will be discussed in more detail below.

What holds the three theories together is the notion of facilitating comprehension; in addition, they illuminate some of the processes used by second language readers, shedding light on their language development. One of the insights from the research is that comprehensible

materials can be helpful in learning vocabulary incidentally. The next section will look at the relationship between second language reading and vocabulary in more detail.

Teaching and Learning Vocabulary

The previous section reviewed three major theories to second language reading: schema theory, transfer, and comprehensible input. This section will focus on teaching and learning vocabulary in a second language, especially in connection with reading instruction. The next set of studies examine the role of vocabulary in reading comprehension, arguments in favor of or against incidental learning from context, and the benefits of vocabulary instruction.

Before discussing the pedagogical implications of learning words from reading, there are few points to consider regarding the nature of vocabulary acquisition. Dale (1931) argues there are some fundamental issues that a vocabulary researcher must examine, namely what a word is, what knowing a word means, and how to assess word knowledge. First, we need to define what we mean by a word. We tend to think of a word in terms of single units separated by white space in print; however, the research on vocabulary has moved beyond that. For example, Schmitt (2000) lists three terms that have become popular among researchers: base word, lemma, and word family.

1. create (base word)

2. create / creates / created / creating (lemma)

3. create / creates / created / creating / creative / creation (word family)

As the author points out, the assessment purpose defines the best term to use. *Word family*, the base word plus inflections and derivatives, is more inclusive than *lemma*, a term Read (2000) coined. Another distinction concerns single-word versus multi-word items with literal or idiomatic meaning. An example is the verb *die* as compared to its phrasal equivalents *pass away*,

bite the dust, kick the bucket, and *give up the ghost* (Schmitt, 2000). They carry the same meaning, but are used in different situations. In addition, words are used in patterns. For instance, the verb *make* is likely to occur with *progress* and *mistake* whereas the verb *do* combines with *homework* and *job*. Therefore, this study will consider *word* in a broader sense than commonly understood, although for practical reasons I have used the term freely.

Another point to consider in vocabulary acquisition is what it means to know a word. For many people, learning another language usually begins with one-to-one translations of simple words or phrases such as *excuse me* and *good morning*. However, word knowledge is a lot more complex. It has been described as a continuum going from zero understanding of word forms and meanings to mature language use (Beck, McKeown, & Omanson, 1987; Dale, 1965). Knowing a word implies the ability to recognize its written and spoken form, understand its meanings and grammatical properties, and use it appropriately in multiple contexts (Nation, 2001; Schmitt, 2000; Richards, 1976).

A final consideration regarding vocabulary acquisition has to do with assessment. Research on both reading and vocabulary assessment stresses the need to use qualitative methods such as think-aloud protocols as an alternative to traditional multiple-choice tests (Alderson, 2000; Read, 2000; Schmitt, 2000). Schmitt argues that some tests evaluate only certain aspects of word knowledge; therefore, assessors must use a combination of methods to get a more accurate picture of the process, not just the product of learning.

In addition to the points mentioned above, the research on vocabulary acquisition has investigated whether learning words from reading is viable and whether vocabulary instruction is necessary. To understand these issues, we need to look at the arguments and mounting evidence from the research investigating the relationship between reading comprehension and vocabulary

acquisition as well as the implications and applications of their findings to second language instruction.

Vocabulary for comprehension

One of the reasons for learning vocabulary is to improve comprehension. As seen earlier, Anderson and Freebody (1981) found a strong correlation between word knowledge and reading ability. The need to strengthen this connection became evident with the "Mathew effects," the notion that students with a rich word bank are likely to understand texts better and add words from reading while those with a poor vocabulary will not only struggle reading but also fail to learn new words (Stanovich, 1986). However, according to a recent review (Baumann, 2009) the literature examining the direct effect of vocabulary instruction on comprehension is still relatively small, with only three studies (Beck et al., 1985; Beck et al., 1982; McKeown et al., 1983) considered to be seminal research. These studies will be reviewed further because they are also key in showing the effects of instruction on vocabulary development and because they raised a number of questions regarding the role of context in learning words from reading. Although word knowledge may indirectly be associated with gains in comprehension, the vocabulary-comprehension link is still a fuzzy area, or a *stubborn* one as Nagy (2010) puts it, referring to the so-called futility-fertility debate. Nagy's research group focused on incidental learning from context through extensive reading. Beck's group, on the other hand, focused on developing effective vocabulary instruction. Their points of divergence and convergence are noteworthy.

Learning from Context

The controversy between learning words from context and the role of vocabulary instruction, also known as the futility-fertility debate, laid the foundations for much of what is

known today in terms of vocabulary development. In a recent article, Nagy (2010) recalls "the word games," highlighting the key points in the discussion and many aspects of convergence. I will begin with Nagy and his group's position on the effects of incidental learning from context.

The research carried out by Nagy and his colleagues shows that most vocabulary acquired during school years are due to incidental learning from context, not from explicit instruction (Herman et al., 1987; Kilian et al., 1995; Nagy et al., 1985; Nagy et al., 1987). Nagy et al. (1985) investigated whether wide reading affects vocabulary growth. Wide reading is another word for extensive reading, and it basically means that students have lengthy access to books and read them for pleasure, not with the intent to learn vocabulary. The authors tested 57 eighth graders and found a small but significant effect for learning words from context, and they concluded that the results are statistically robust. In a subsequent study, Nagy et al. (1987) investigated whether word properties (e.g. length, morphological complexity, and part of speech) and text properties (e.g. strength of contextual support, readability, and density of difficult words) affect incidental vocabulary learning. The participants were 352 students in third, fifth, and seventh grade. Small, yet significant, effects were consistent across grade and ability levels. In a similar study, Herman et al. (1987) used only expository texts to find out whether text modifications in which the content had been enriched could have an effect on learning words from context. They tested 309 eighth graders using four different versions of two expositions and found that those who read texts with stronger conceptual support learned more than those who read regular texts. One study (Kilian et al., 1995) examined the relationship between focusing attention on words and learning from context. The authors tested 299 fourth and fifth graders, who were given various instructions before reading the target passage. The instructions asked some participants to focus on specific words (e.g. underlining difficult words and try to

learn them) while others just read for content. Their results confirm the earlier findings for incidental learning from context. In addition, they found that "purposefully focusing attention on individual words in a passage does not enhance word learning, and it interferes with passage comprehension" (Kilian et al., 1995, p. 13). Taken together, the studies conducted by Nagy and his colleagues showed that incidental word learning from written context has small, yet consistent, effects. Their research also suggested that learning words incidentally from context occurs in small increments, but tends to increase over time with large amounts of reading.

Rich instruction

Although wide reading is essential for vocabulary development, and many words can be learned incidentally from context, the benefits of incidental vocabulary acquisition are strongly disputed. Reasons for this discrepancy are many. First, the context of reading is often not enough for successful guessing, and only small amounts of learning can be obtained from extensive reading. Beck et al. (2002) argued that many students often do not experience the amount of reading necessary for incidental learning from context, or they do not have well-developed inferencing skills. The authors stated that teaching strategies for deriving meaning from context may be required. In addition, they pointed out that rich instruction providing both definitional and contextual explorations may be a more beneficial approach than learning from context in helping students to expand the amount of word learning needed for successful reading.

As mentioned earlier, three studies conducted by Beck and her colleagues provide evidence for the role of instruction in both comprehension and vocabulary development. In the first and second studies (Beck et al., 1982; McKeown et al., 1983), control groups receiving instruction beyond definitions of words outperformed experimental groups, who received conventional language arts instruction, in comprehension and vocabulary measures. In the third

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study, the authors examined the effects of type of instruction in more detail. Their variables

included type of instruction (conventional, rich, and extended rich) and number of word

encounters (four times and twelve times). The conventional group was taught definitions in a

traditional way. The rich group explored both definitional and contextual information in tasks

requiring deep semantic associations. The extended rich group differed from the rich one in that

it had additional out-of-class activities (e.g. games), which maximized students' engagement

with words. One of these activities was the *word wizard*, in which students took note of and

shared words learned out of class. Their findings showed that only teaching definitions and

meeting instructed words four times was enough to reach a basic level of vocabulary

understanding. However, as Baumann (2009) reviewed, for instructed words to enhance

comprehension, "a more elaborate form of instruction that included many encounters with target

words was needed" (p. 331).

Although only these studies showed a direct effect on reading comprehension (Baumann,

2009), the research conducted by the Beck and her colleagues has been influential with respect to

the role of instruction in vocabulary development, stirring the debate on the effects of incidental

learning from context. As Nagy (2010) noted, Beck and her colleagues questioned the findings

from his research group on several grounds, most importantly the interpretation that learning

from context has a large, long-term effect. Beck and her colleagues have shown that, rather than

relying on context that is not very informative in the first place, well-planned and effective

instruction can account for a substantial amount of words students need to learn (Beck et al.,

2002, 2008). Nagy (2010) attributed the differences between their findings, especially

discrepancies in the relationship between reading ability and learning from context, to

differences in design. Nagy and his colleagues studied incidental learning from context and

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found little or no effects for reading ability. That is, participants could learn from context regardless of their reading levels. On the other hand, Beck and her colleagues focused on deriving word meanings and found there to be a strong relationship between reading ability and learning from context. According to Nagy (2010), his opponents were more concerned with, for instance, the role of *context clues* than Nagy's research group was. In fact, Nagy et al. (1985) emphasized that their texts were normal, that is, not "deliberately written to be informative about target word meanings" (p. 247). Despite their continuing differences, the two groups of researchers, Nagy (2010) acknowledges, have contributed greatly to a balanced view of vocabulary instruction, which will be discussed in more detail below. The impact of the futility-fertility debate can be compared to a powerful discussion in second language research.

Another important debate

Similar to the position taken by Nagy and his colleagues, second language research also features strong advocates of the power of reading, the most eloquent of whom being Stephen Krashen, whose *comprehensible input* hypothesis was briefly discussed earlier. Without oversimplifying his views, it is important to remember that Krashen (1982) states that second language acquisition only occurs through comprehension (reading and listening), not production. In other words, students acquire a second language by understanding messages and focusing on content, not form. With respect to reading, Krashen (1993) proposes that if given the right books and ample opportunities to read for pleasure, second language readers can learn vocabulary incidentally if materials are interesting and slightly above their level of comprehension. He suggests using *narrow reading*, a light version of extensive reading, in which students are more likely to encounter the same words in different situations, e.g. by reading books about the same topic or by the same author. Among the many studies documenting the benefits of extensive are

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Cho and Krashen (1994), in which four women learned vocabulary incidentally by reading interesting, yet comprehensible, novels. This approach to learning a language in ecological settings, termed the *Natural Approach* (Krashen & Terrell, 1983), was received with great approval by many, and still is very influential. As far as vocabulary instruction is concerned, however, the natural approach did not emphasize it. Although vocabulary is a central component of second language development, it took a secondary position in L2 pedagogy when the focus changed from teaching forms explicitly in restricted or controlled situations (e.g. using grammar-translation or audio-lingual methods) to pushing freer meaning-based communication (Zimmerman, 1997). As Zimmerman points out, teachers using communicative methods such as the natural approach did not stress vocabulary instruction because they assumed that word knowledge would develop naturally from context. Asking students to infer word meanings from context, without using a dictionary or asking for a translation, and to avoid using the native language in second language class, became synonymous with the idea of providing lengthy exposure to the target language and ample opportunities for social interaction. Such an emphasis on incidental learning, what Krashen termed *acquisition*, is very controversial.

In addition to understanding messages, other researchers suggest, learners need to develop focused attention in order to *notice* language patterns available in the input. This position became evident in a famous case-study of second language acquisition (Schmidt & Frota, 1986) that strongly questions Krashen's comprehensible input hypothesis. The authors reported on Schmidt's five-month-long experience learning Portuguese in Rio de Janeiro, Brazil. Schmidt copiously journaled about the language items he was taught and comfortable using. They stated that a form was learned and used when it was (a) taught early in class and highly drilled, (b) taught and subsequently heard in input, or (c) taught and subsequently heard and

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noticed. As the authors pointed out, the learner must *notice the gap*, that is, realize that

something is different in the way he she uses the language compared to other users, especially

native speakers. Schmidt and Frota's study has been of fundamental importance for later studies

stressing the effects of explicit instruction on second language acquisition, a role that many argue

go beyond providing comprehensible language and materials. Schmidt refined his position in a

number of publications stressing the role of attention and awareness in second language

acquisition (Schmidt, 1993a, 1993b, 1995), which overlap with findings from neurobiological

research demonstrating that "no learning is possible without attention" (Havranek, 2008, citing

Kandler, 2006). Subsequent evidence from *focus on form* studies confirmed his findings,

suggesting that awareness of forms is essential for second language vocabulary acquisition (e.g.

Ellis, 1994a, 1994b; Laufer, 2006).

The *noticing hypothesis* provides the rationale for an alternative position to incidental

learning vocabulary from context. The role of direct instruction, including the teaching of

strategies for deriving word meanings from context, is now acknowledged in both first and

second language research. For second language learners, the challenge of learning words from

context is even higher in comparison with the difficulties of native speakers (Folse, 2004). This

is especially true for lower-level students who are still developing their oral language ability,

learning many words native speakers take for granted, and may not have opportunities for

multiple exposure to context. In addition, to learn from context second language readers must be

able to understand 98% of the words in a text (Nation, 2006), which means they would need to

rely on specially designed materials, such as graded readers. Researchers agree that, although

context is important, its effectiveness depends on a number of factors, including type of material,

amount of reading, number of incidental encounters, and a reader's skill level and motivation

and that over time the effect of extensive reading appears to be large (Baumann, Kame'enui, & Ash, 2003). Because context is an important component in this study, we will now look at some of the strategies for teaching what is known in the literature as contextual cues, context clues, or contextual analysis.

Teaching context clues

The controversy in first and second language research highlighted the need for readers to develop strategies for learning from context. Learning words from reading is suggested to be an effective tool in promoting independent word learning (Nagy, 1988). In addition, as demonstrated in reviews of research on vocabulary instruction (Baumann, Kame'enui, & Ash, 2003; Baumann, 2009; Kuhn & Stahl, 1998) and a meta-analysis (Fukkink & de Glopper, 1998), there is some evidence for teaching context clues to promote students' ability to guess the meaning of unknown words in reading. This ability is related to the use of context clues, or contextual analysis. The use of context clues is the most important word-learning strategy (Graves, 2006; Klein, 1988; Nation, 2001) since most vocabulary is learned incidentally from context (Nagy, 1988; Sternberg, 1987); the pick-up rate, the rate at which students acquire novel words from reading, is estimated at around 15%, according to a meta-analysis (Swanborn & de Glopper, 1999). However, not all students have the necessary skills to benefit from context nor are all clues equally helpful (McKeown, 1985; Schatz & Baldwin, 1986). In addition, students need to encounter a word at least ten times in order to reach an adequate level of word knowledge (Jenkins, Stein, & Wysocki, 1984); see also Richards, 1976). Therefore, instruction in the different types of clues is required in helping students develop *depth* and *breadth* of word knowledge (Jenkins, Matlock, & Slocum, 1989; Stahl & Nagy, 2006; see also Nagy & Herman, 1987).

There are at least four basic types of clues in texts: word parts, syntactic clues, context clues, and illustrations. Word parts are also called structural analysis, and they refer to morphemes, such as affixes and roots (e.g. *in-vis-ible*, *vis-ion*). Syntactic clues are related to the structure of sentences or phrases, including word order. For example, in the sentence, "The dog bit the man," it is clear from word order that the dog is the one performing the action of biting, although from one's cultural schemata it is less likely that a man would bite a dog. Context clues refer especially to word meanings. Illustrations include visual images, such as photos or drawings, or other graphic displays such as diagrams and tables. In this study, however, illustrations refer mainly to drawings or photos since tables or diagrams are less frequently found in children's storybooks.

There is no exact definition of what context clues are, but many authors define them as redundant information clarifying or expanding text content. For instance, Johnson & Pearson (1978) define contextual analysis as an "attempt to understand the intended meaning of a word by scrutinizing surrounding context" (p. 114). That occurs when writers intuitively provide additional details when they suspect that a word will be unfamiliar to the readers. In addition to word parts and context clues, pictures are also considered as contextual support, and their role varies from clarifying or expanding text to providing alternative interpretations to the written message (Nikolajeva, 2006; Nikolajeva & Scott, 2001). When authors talk about context clues, they do not usually include word parts or pictures. However, there is no real consensus. For instance, Johnson & Pearson (1978) listed four types of context clues: a) typographical clues, pictorial and graphical clues, syntactic clues, and semantic clues. Semantic clues, the most frequent one according to the authors, include definitions or explanations, paraphrases, comparisons or contrasts, examples, substitutions, figures of speech (e.g. metaphor), and

inferences. The distinction between word parts (or structural analysis), context clues (or contextual analysis), and picture clues appears to be a helpful one, and it is the most frequently used recently.

Research abounds investigating the effects of reading context on both comprehension and vocabulary development. Benefits of volume reading have been shown in extensive reading research as illustrated in a case-study of second language vocabulary acquisition (Grabe & Stoller, 1997), similar to that of Schmidt & Frota (1986), but more focused on reading and word learning. Grabe spent five months in Brazil, traveling and learning Portuguese. His learning methodology included reading Brazilian newspapers and comic books, underlining unknown words, and looking them up in a bilingual dictionary. Although he used a dictionary frequently, he also spent a large part of his reading time just reading without looking up any words. In addition, he enjoyed watching Brazilian soap operas, which are aired during prime time and loved by most Brazilians, to augment his exposure to the oral language. Finally, he wrote frequent journal entries to document his language learning experience. Grabe and Stoller's case study supports, among other observations, that "learning to read in second language centrally involves learning words" and that "reading and vocabulary abilities will develop as a result of extensive reading practice" (Grabe & Stoller, 1997, p. 161). One of the reasons why Grabe learned vocabulary from extensive reading was that he enhanced his reading exposure through intensive word learning practice (dictionary use), which helped him direct his attention to specific word meanings. Like in Schmidt and Frota's study, Grabe and Stoller's case study showed that learning words in context and studying meanings can be beneficial for second language learners.

While the benefits of reading are acknowledged in research on the roles of extensive reading (Coady, 1997; Krashen, 1993), there are many concerns about the benefits of such programs as Free Voluntary Reading and Sustained Silent Reading on improving children's reading achievement as voiced in the report from the National Reading Panel (NRP) (National Institute for Child Health and Human Development, 2000). As Lenski and Lanier (2008) noted, the NRP's report on teaching children to read found no positive relationship between reading independently (without teacher guidance) and improvements in reading fluency, reading comprehension, and vocabulary development. In addition, as Lenski and Lanier pointed out, the report not only caused many teachers to raise concerns about the benefits of independent reading programs but also provoked outspoken rebuttal from believers in the power of reading such as Krashen (2001). Citing evidence from research on amounts of reading, Lenski and Lanier argued that the benefits of independent reading programs, including vocabulary development, are difficult to demonstrate in experimental studies, such as those supporting the NRP's recommendation. While the NRP's controversial report may have undervalued the benefits of extensive reading for vocabulary development, a significant amount of research on vocabulary development of native speakers and second language learners has shown the limitations of reading context for learning word meanings.

According to Folse (2004), the focus on learning from context in second language instruction is highly influenced by research conducted with native speakers, whose vocabularies are much larger than those of second language learners. Therefore, English learners face a greater challenge to infer word meanings from reading context, due to factors such as limited English proficiency and word knowledge.

Many other researchers have questioned the benefits of context for second language vocabulary acquisition, but also addressed areas in which context may be beneficial to word learning (Huckin, Haynes, & Coady, 1993; Coady & Haynes, 1997). Qian (2004) surveyed students from Chinese and Korean backgrounds about their vocabulary strategies and compared the data with follow-up interviews. His follow-up data showed that students did not appear to use top-down strategies as much as reported in the survey. Instead, use of syntactic and morphological strategies occurred more than global context. Haynes (1993) investigated guessing strategies of college ESL students. Students read passages in which they guessed nonsense words. She, then, conducted follow-up interviews to learn about their strategies for deriving word meanings from the passages. The decision to choose nonsense words as opposed to real words was to control for background knowledge as none of the students would know the words beforehand. Among her findings, she noted that ESL readers make good guesses when immediate clues are provided and that learners with limited proficiency may experience difficulty inferring meanings. She also found that students of different backgrounds used word analysis, showing that word-level inferencing is more predominant than use of syntactic cues. Another interesting finding in her study was that "ESL readers are often uncertain where a word is unfamiliar or not" (Haynes, 1993, p. 60). Based on these findings, Haynes suggested that teachers be sensitive to the difficulties facing lower-level learners when inferring word meanings. She also suggested that teachers acknowledge the use of word analysis as a "natural" strategy used by all learners.

Another study investigated cognate vocabulary among Brazilian learners (Holmes and Ramos, 1993) in the context of English for Academic Purposes instruction. Participants in the study summarized an academic text and provided details about their use of Portuguese cognates

to cope with unfamiliar English words. The results showed that students had no difficulty using cognates and that, with some exceptions, *false-cognates* did not represent a problem for comprehension. However, strategies for checking meaning acquired through teacher-led discussion of cognates and practiced with summaries were not transferred to noncognates.

Huckin and Bloch (1993) conducted an exploratory study to investigate what kinds of strategies students used when they encountered new words in context and to what extend context clues facilitated guessing. Using think-aloud protocols with three Chinese students, the researchers found that, overall, students successfully benefited from various clues. Word analysis was the preferred strategy. If that strategy was insufficient to provide meaning, students would move to extra-word strategies, including the use of immediate clues in the sentence. As they theorized from their findings, context helped learners both generate a hypothesis about their guessing and evaluate whether or not the guessing was accurate. In addition, as the researchers noted, problems with context occurred when students assumed they knew a word when in fact they didn't, thereby not guessing at its meaning.

Similar studies have shown contradictory findings. This interpretation can be observed in studies comparing in-context strategies (e.g. passage reading) and out-of-context strategies (e.g. word-definition lists, word-paired translations, and dictionary use), or in studies comparing context-reduced and context-enriched conditions. For instance, in a study with native speakers, Gipe (1978-1979) compared four methods of teaching vocabulary (association method, category method, context method, and dictionary practice) with 93 third-graders and 78 fifth-graders, who were taught twelve words per week during eight weeks and were assessed weekly. She found that the context method was the most effective method in both grades. Her study supports explicitly teaching words in context over teaching words in isolation. Webb (2008) also found

positive effects for rich over limited contextual conditions for Japanese learners of English. Her results show that quality of context rather than quantity of encounters with target words appears to influence acquisition of word meanings, although quantity is important for form. Similarly, quality over quantity of strategies as well as ability to use context seems to have a stronger impact (Nassaji, 2003). On the other hand, Walters (2006) found that teaching strategies for deriving word meanings had limited effects, although she urges for more research.

Although the benefits of context have been highlighted, other researchers argued that given the inadequacy of context as a strategy for learning word meanings, learners are better off attacking the problem directly. As Stein (1993) argued, "the best way to confront the problem is to face it head on; to be aware of the clues themselves, and of the places where any particular clue will fail" (p. 209). This position aligns with findings from first-language studies, some of which were reviewed earlier, demonstrating that learning word meaning from context might not be an effective method for acquiring new words because the clues are often vague in clarifying meanings (McKeown, 1985; Schatz & Baldwin, 1986) and because students themselves may have limited knowledge of vocabulary or inadequate reading strategies that dampen their ability to benefit from context (Stanovich, 1980, 1986). The notion that second language learners use compensatory strategies (the short-circuit hypothesis) to cope with limitations in language proficiency and vocabulary knowledge has also been explored (Clarke, 1980). Since first-language research has been informative for teaching and research with second language learners (Grabe, 2009; Stoller & Grabe, 1993), the convergence of findings showing the limitations of context must be addressed.

The limitations are especially evident when only one strategy, e.g. structural analysis, is used. Along these lines, Nation (1990) argues that focusing on word parts, rather than a strategy

for learning new words, is most beneficial for consolidating vocabulary acquired through other strategies such as dictionary use or guessing from context. The same is said of the weakness of context clues, which are better suited for "enhancing knowledge of words which have already been met" (Schmitt, 2008). Consequently, these strategies seem to work better in tandem. The relative roles of structural and contextual analysis have been explored either separately or in conjunction. For instance, Edwards, Font, Baumann, & Boland (2004) reviewed two studies comparing the effects of morphemic and contextual analysis on deriving word meanings from context (Baumann, Edwards, Font, Tereshinski, & Kame'enui, 2002; Baumann, Edwards, Boland, Olejnik, & Kame'enui, 2003). The first study indicates that students trained in either strategy, or in both, were more successful in applying the respective skill to infer meanings than those who didn't receive any training, thus showing a positive effect for instruction. Their findings show that "instruction in morphemic and contextual analysis can positively influence independent vocabulary learning but not necessarily comprehension of texts containing contextually and morphologically decipherable words" (Edwards et al., 2004, p. 162). In the second study, the authors compare combined instruction of structural and contextual analysis versus teaching content-specific vocabulary. Again, they found no significant differences between the strategies for gains on comprehension and content learning. However, their results suggest that combining the strategies is a beneficial approach for promoting students' vocabulary growth. As a guideline, the authors recommend focusing on high-frequency morphemes, those more likely to occur in a number of words, and five types of context clues (definition, synonym, antonym, example, and general; the last term refers to overall details clarifying the meaning of a word). As they pointed out, "students skilled in morphemic and contextual analysis have the potential to increase their vocabulary breadth and depth substantially" (Edwards et al., 2004).

As the studies reviewed in this section have shown, both morphological and contextual analysis can be used to infer word meanings from context. The use of context to develop vocabulary is strongly supported in the *lexical approach* (Lewis, 1993, 1997a, 1997b; Lewis & Conzett, 2000).

The lexical approach

The lexical approach (Lewis, 1993, 1997a, 1997b; Lewis & Conzett, 2000) focuses on learning words in meaningful chunks and, like most communicative methods, uses discourse functions as big umbrella concepts. In a strict sense, chunks are associated with phrasal vocabulary, including expressions with a metaphorical meaning (e.g. *have a bird's eye view*, *work around the clock*) and those used frequently in everyday speech (e.g. *have a nice day*, *good to see you*, *just let me know*). In a broader sense, such phrases are part of communicative functions such as *apologizing* and *expressing gratitude*, and *giving advice* (Wilkins, 1976). The exercise below is an example of *giving advice*.

"I'm not feeling well. I have a terrible headache."

a. "Maybe you should go to the doctor."

b. "If I were you, I would get some rest."

c. "Have you taken any pills?"

d. "Would you like some medicine?"

e. Other: _____.

Above, learners can select an answer or supply their own. The idea is not any different from Krashen and Terrell's (1983) *Natural Approach*. In the natural approach, students are provided with lengthy exposure to authentic, yet comprehensible, language serving as a model for their production. In the lexical approach, however, vocabulary gets a more active stance. The lexical approach highlights the importance of chunking as the basis for second language development.

Chunking has to do with another crucial issue in vocabulary acquisition: collocation. Schmitt states that the study of collocation and usage became more robust with the availability of huge collections of texts (corpora) and powerful search engines to handle them. Corpus linguistics has informed vocabulary instruction by looking at word frequency and contexts of use. As Nation (2001) points out, "vocabulary knowledge is collocational knowledge." Nation illustrates this issue with the following:

1. Please close the window.

2. I desire that the window be closed.

3. The closing of the window would greatly satisfy me.

4. The window should be closed, please.

As Nation explains, not all sentences are native-like, although apparently they all carry the same meaning. It's like saying *butter and bread* instead of *bread and butter*. The meaning is still there, but this is not how people would say it. That means, learning a second language is not so much the ability to generate "well-formed" sentences intuitively, as in first-language acquisition (Chomsky,1965), but the ability to recall memorized chunks automatically. As Lewis (1993) formulates, "language consists of grammaticalized lexis, not lexicalized grammar." This position emphasizes the role of vocabulary in second language learning beyond that of syntax. In such a perspective, a sentence like "Give me a call" is not the sum of its parts (give + me + a + call), but a lexical item in its own right. This concept may sound confusing if we think of the possibility of tweaking with the sentence structure, e.g. *give him a call* or *give me a holler*, which apparently seem to fit best into the structuralistic notion of splitting language into smaller and smaller units. However, as communicative language teaching methods have proposed, the lexical approach especially, is that a focus on larger units, including discourse functions and

phrasal vocabulary, can be of greater value than the focus on individual words and sentence structure. For instance, Larsen-Freeman (2003) used evidence from corpus linguistics to demonstrate the benefits of discourse-level grammatical analysis as a complement to the customary focus on sentence-level grammar. She argued that such an "aerial view" of grammar is crucial in identifying language patterns and observing how grammar shapes discourse. Larsen-Freeman's view of grammar aligns with Lewis's (1993) argument that "the grammar /vocabulary dichotomy is invalid" (p. vii). As he explained, although some phrases can be broken down into single-word units or phrases, the idea of chunking is closely related to actual uses, not hypothetical ones. Therefore, frequency is important. For instance, some constructions may be common in the affirmative, but rare or non-existent in the negative form, or the other way around:

Good to see you. (*Not good…)

Glad you like it. (*Not glad…)

Never mind. (*Mind.)

Don't worry. (*Worry.)

The implication of Lewis's theory for vocabulary instruction, although the effects of this method has not been empirically demonstrated (Schmitt, 2008), is a movement beyond the focus on individual words, which is taken for granted in L1-based studies according to Read (2000). Another implication is its flexibility in accommodating the benefits of comprehensible input and noticing. In this case, helping students identify language patterns can increase their independent learning from context. For example, he emphasizes the importance of vocabulary notebooks in which students do not simply list words with definitions or translations, but try to capture whole

phrases or sentences and information about the context. For instance, in the notebook they may log occurrences with the verb *give* that they hear frequently or encounter in reading:

Give me a chance.

Give me a holler.

Give me a break.

Give me a call.

Give me a minute.

Give me a dollar.

What is interesting about this learning task from the lexical approach is that students are actively and personally involved in the process of learning vocabulary. This activity can be compared with Graves's (2006) concept of fostering *word consciousness* and with what Manzo (1982) calls *a subjective approach* to learning vocabulary, arguing that students can learn meanings by creating personal connections with words. In addition, subjectivity in word learning has cross-cultural implications. Because cross-cultural experiences influence affective perceptions of word meanings (Osgood, May, & Miron, 1975) and the comprehension of texts (Andersson & Barnitz, 1983; Andersson & Gipe, 1983), vocabulary instruction focusing on personal experiences and background knowledge can effectively promote independent word learning. Personal engagement with words provided by activities such as *word wizards* (Beck et al., 2002), for instance, help students make meaningful connections between words. In addition, literature-based instruction using cross-cultural themes can enrich word learning among diverse students (Gipe et al., 1992), e.g. through the use of immigration picture books, a theme that will be explored in more detail in the next section.

In sum, the lexical approach highlights the role of vocabulary as the basis for language learning and illustrates the benefits of balancing context with direct instruction. The amount of evidence supporting this integrative path is huge, a consequence of the maturity gained in three decades of carefully-conducted research. Several reviews of research and books on teaching and learning vocabulary provide guiding principles for creating a balanced vocabulary program incorporating both context-based and direct approaches. We will now look at some of these frameworks.

Balanced vocabulary instruction

Beyond its effect on reading comprehension, vocabulary is a crucial component of second language development. In many adult language programs, students acquire the meanings of words and phrases as they learn how to piece them together. Although words are taught and used in context, few students become independent word learners. Learning vocabulary is an active, time-consuming process that goes far beyond looking up words in a dictionary. Truly learning vocabulary goes beyond classroom walls. Successful communication in another language means forgetting and remembering what is learned and constantly seeking opportunities to grow. In other words, students need to be in constant relationship with the language just as they do with their mother tongue. Because learning words requires so much recycling, vocabulary ought to be dealt with appropriately and fiercely. Therefore, this section on teaching and learning vocabulary presents a summary of frameworks and guidelines for effective practices for English language learners.

Graves (2006) provides a framework that synthesizes key principles for vocabulary instruction: (a) providing rich and varied language experiences, (b) teaching individual words, (c) teaching-word learning strategies, and (d) fostering word consciousness. Word

consciousness is related to developing in students a love of words so they can become independent word learners, and it is also related to developing metacognitive aspects of word knowledge. Note that his model goes from natural exposure to authentic language to the cultivation of what Lucht (2006) calls the wonder of word study. Graves's framework covers extensive and intensive approaches to reading and vocabulary instruction, and it could be easily integrated into second language programs.

Another framework that is more specific to second language settings is proposed by Nation (2001, 2005, 2007, 2008). Nation argues that vocabulary instruction and assessment should occur within four strands of a balanced language program, namely (1) comprehensible meaning-focused input; (2) language-focused learning; (3) fluency development, and (4) meaning-focused output. First, students have the opportunity to learn new language items spontaneously through listening and reading, as proposed by the *comprehensible input* hypothesis (Krashen, 1985). Second, they learn by deliberate study or direct instruction, which is known as *focus on form* (e.g. Ellis, 2001) and is related to the *noticing* hypothesis (Schmidt & Frota, 1986). Third, they do not learn new items but have the opportunity to perfect what they already know. This concept, as Nation (2008) explains, is different from the notion of fluency in reading. In second language terms, fluency refers especially to oral language proficiency. Finally, students develop the language through oral and written production of texts. As Nation points out, vocabulary development takes place throughout the four components; however, the deliberate study of words should fit into 25% of the class time spent on language-focused learning. Nation's framework is not just for reading but all aspects of second language development. Interestingly enough, Nation does not explicitly include *viewing* and *visually representing*. Viewing refers to comprehension skills such as reading and listening, and visually

representing is related to production skills such as writing and speaking. The reason for the omission might be that images have long been used in second language instruction, and their benefits are frequently taken for granted. However, according to National Council of Teachers of English and International Reading Association (NCTE/IRA, 1996) standards, there are six language arts, rather than the four-skill suite (reading, writing, listening, and speaking) commonly stressed in second language instruction and recognized by Teachers of English to Speakers of Other Languages (TESOL, 2003) standards. As recommended by NCTE/IRA, "graphic and visual messages influence contemporary society powerfully, and students need to learn how the elements of visual language communicate ideas and shape thought and action" (1996, p. 20).   Here, visual messages are related to still or moving images such as film, photography, and artwork; graphic messages refer to such elements as diagrams and tables. As far as storybook reading is concerned, both visual and verbal components are involved. Therefore, the NCTE/IRA recommendations for teaching viewing and visually representing should also be taken into consideration, especially when working with second language learners, who are in much demand for visual input to support their language development. Particularly helpful to students is the use of illustrations to facilitate comprehension and word learning.

Another useful framework geared toward choosing what words to teach is the tiered vocabulary instruction developed by Beck and colleagues (Beck et al., 2002), originally designed for native speakers of English. The first tier covers words that are familiar to students and can be recognized by hearing them. The second tier includes words that are highly frequent among educated speakers, but may be challenging for many students developing their academic skills. The third tier features rare words that are more likely to occur in content texts and are not part of the everyday vocabulary. This framework can be useful to second language learners, as well

(Beck et al., 2008); however, the focus would be different. For instance, an ELL student who is developing basic oral language ability does not know many of the words in tier one that are already part of a native speaker's oral vocabulary. Therefore, vocabulary instruction for second language learners must be geared toward their specific needs. A focus on high-frequency vocabulary would be most beneficial, especially to support the initial stages of second language acquisition, including oral language development (Nation, 2001) and basic levels of word knowledge such as the initial form-meaning link (Schmitt, 2008). In addition, the manner in which words are learned might also have an impact in their acquisition. For example, one approach to teaching words is to organize them according to the connections that there may exist between them such as synonymy (Aitchison, 1987). Activities such as word webs and semantic feature analysis (Johnson, 1983), for example, could highlight the relationship between words, such as those found in the Roget's thesaurus. However, Nation (2000) argued that learning vocabulary within the same semantic area is less effective because words compete with one another. For example, teaching verbs such as *change*, *repair*, *fix*, *modify*, and *transform* together could make the nuances between those words less noticeable than if they were taught separately. Therefore, teaching words that are not so closely-related such as *breathless*, *arrogant*, *overnight*, and *easel* could be a more effective way of supporting retention of meanings, provided that the context in which the words occur is available so the learner can understand the connections between those words, or create personal connections with the meanings (Manzo, 1982). Therefore, selecting specific words to teach also depends on the instructional goals. Graves (2009) asks a few questions that help teachers decide:

1. Is understanding the word important to understanding the selection in which it appears?

2. Does this word represent a specific concept students definitely need to know?

3. Are students able to use context or structural-analysis skill to discover the word's meaning?

4. Can working with this word be useful in furthering students' context, structural-analysis, or dictionary skills?

5. How useful is this word outside of the reading selection currently being taught?

(Graves, 2009, p. 26)

Graves's questions are more specific to reading instruction in k-12 classrooms but can be easily tailored to the needs of adult second language learners in intensive language programs. From my experience as an English learner, the following situations happened. First, the English word had an equivalent meaning in my native language, Brazilian Portuguese, but a slightly different spelling. I could understand *comfortable* but couldn't pronounce it until the teacher taught me a gimmick, to use a Portuguese phrase meaning "soccer field" that spoken quickly sounded a lot like the English word. Second, the word had a similar spelling, but the meaning was different. I had trouble with *faculty*, probably because the Portuguese equivalent means "college." Third, the word was different, but it represented an important concept, so I learned it. I had no difficulty learning *soccer.* Finally, both word and concept were different. It took me long to understand what a *touchdown* was in American football. Precisely for me, it took the home team, the New Orleans Saints, winning the Super Bowl XLIV! The point that I am making with these anecdotes is that although learning from context is viable for second language learners, balanced instruction, as illustrated in the various frameworks, can and does make a difference in their oral language, comprehension, and vocabulary development. In fact, the whole process of learning a language can be understood from the perspective of developing vocabulary.

Taken together, L1 and L2 research provides strong support for the incremental nature of vocabulary acquisition, on which Schmitt elaborates, "… virtually anything that leads to more exposure, attention, manipulation, or time spent on lexical items adds to their learning" (2008, p. 339). The research also shows that the demands for vocabulary instruction for ELLs are greater than, and require a different approach from, that of native English speakers. In addition, learning from context has modest but real results and requires multiple exposures for greater effects. One way to provide vocabulary-learning opportunities for readers of diverse backgrounds and empower students with culturally appropriate instruction is through the use of children's literature (Au, 1993, 2006). Therefore, the next section focuses the impact of literature-based instruction for English learners.

Literature-Based Instruction for English Learners

The section on teaching and learning vocabulary stressed the need for a balanced program consisting of extensive and intensive approaches, the lexical approach being one of the attempts to integrate learning from context and explicit instruction as well as comprehensible input and noticing. In addition, reading and second language research has investigated the effects of particular types of texts with specific learners in well-defined settings. This includes the use of alternative texts, such as children's literature, with adult ELL students in intensive language programs. Reviews of research on children's literature point to many benefits. For instance, Short and her colleagues identified four major roles of literature (Short, 1995):

1. literature as a way to learn language, especially reading and writing.

2. literature as a way to learn about other content areas and topics such as social studies and science.

3. literature as a way to critique the world through exploring social, political, and cultural issues.

4. literature as its own way of knowing.

Although children's literature can be used in a variety of ways and for a wide range of educational levels, this section will focus primarily on the impact of the literature on adult second language reading and vocabulary acquisition.

The Impact of Literature-Based Instruction

Before looking at the use of children's literature with adults, it is important to see the impact of literature-based instruction in k-12 education, where social interaction activities focused on storybook reading such as read alouds (Smallwood, 1991) and literature circles (Peterson & Eeds, 2007; Short & Pierce, 1990) are known to offer young readers the opportunity to learn from and respond to texts in a natural, meaningful way. The research on literature-based instruction has a strong theoretical foundation emphasizing social (Vygotsky, 1962), critical (Freire, 1997), and transactional (Rosenblatt, 1978) dimensions of literacy. Rosenblatt's transactional theory, in particular, describes the process of reading as moving along a continuum that includes both informational and aesthetic gains; readers take different stances in response to literature, some being closer to their personal experiences, others more abstract. Therefore, social interaction plays an important role in helping students to gain deeper understanding of texts. For instance, classroom discourse is key in promoting comprehension (Almasi & Garas-York, 2009; Nystrand, 2006). In addition, classroom discourse facilitates vocabulary acquisition. Positive results for vocabulary acquisition through storybook read-aloud and discussion have been demonstrated in both home and school settings (Eller et al., 1988; Elley, 1989; Sénechal, 1997; Sénéchal & LeFevre, 2001). For example, Brett et al. (1996) investigated vocabulary

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acquisition from listening to stories among fourth graders. The authors compared reading stories

aloud with and without brief explanations of word meanings. Their findings suggest that

students who heard the story with additional vocabulary information learned and remembered

words better after six weeks than those who just heard the story. Similarly, Wasik and Hindman

(2009) found that improvements in teacher language and learning environment led to significant

gains in children's vocabulary growth. This indicates that, within the context of children's

experience with literature, comprehension-only activities such as reading and listening to stories

are less effective in acquiring vocabulary from text than activities adding a language-focused

component. For example, Beck and McKeown (2007) found that children who received rich

instruction on target words in connection with read alouds performed significantly better than

those who were read aloud to without any vocabulary instruction. They define rich instruction as

teaching word meanings beyond providing definitional explanations, thus creating opportunities

for students to make judgments about word meanings and to use words in multiple contexts.

They also found that students receiving a stronger type of vocabulary instruction, labeled *more*

rich instruction, had more gains than those in the *rich instruction* group. Their findings show

that more instruction is required for students to acquire word meanings from read-aloud

experiences. In addition, as Morrow and Gambrell (2000) stress in their review of research on

literature-based instruction, what matters most is not just reading, but the quality of the

interaction. In a similar review, Cunningham (2005) emphasized coupling read alouds with

word analysis and discussion, whose vocabulary-building benefits persist through independent

reading stages. As she points out, "knowing a word's meaning *prior* to reading it in text (and

thus not having to guess its meaning while reading) facilitates comprehension and helps to

ensure more positive and enjoyable reading experiences" (p. 64).

In addition to the role of social interaction in literature-based classrooms, there is a growing interest in instruction and culturally relevant practices for English learners (Au, 1993, 2006; August & Shanahan, 2006, 2008; see also Barnitz, Gipe, & Richards, 1999). For instance, teacher-oriented texts (e.g. Cary, 2004; Cox & Boyd-Batstone, 2008; Hadaway, Vardell, & Young, 2002, 2006) provide guidelines for creating book clubs and exploring literature with second language learners, the literature serving as a rich context for literacy and language development in US mainstream classrooms (Brock, 1997). More specific gains have been reported in oral communication, attitude toward reading, and reading comprehension (Ernst-Slavit & Carrison, 2005), as well as vocabulary (Collins, 2010; Elley, 1991). The value of children's literature for ELL children is also evidenced in foreign language settings (Hsiu-Chih, 2008). Hsiu-Chih interviewed ten out of forty EFL teachers who answered a questionnaire about their attitude toward children's picture books. Her results show benefits related to (1) linguistic value, (2) value of the stories, and (3) value of pictures. Her interpretation of teacher perception shows that children's literature promotes deeper understanding of linguistic forms and functions in a meaningful context. In addition, her data indicate that the stories motivate learning, engage the readers, and sustain the reading process. Finally, her study also suggests that pictures increase comprehension and stimulate students' imagination.

The success of children's literature owes to the fact that children are not just immersed in books, they also take part in rich language- and content-learning experiences supported by effective literacy practices. Literature-based models such as Short and Pierce's (1990) *authoring cycle* emphasize the role of reading within a broader spectrum of literacy, one that integrates the language arts, encourages discovery and critical reading, and places a great value on issues of diversity. If culturally appropriate instruction is not yet the reality of most US classrooms

serving second language learners (Wiley, 2005), there is however plenty of evidence that literature-based instruction has a powerful impact on children's oral language and literacy development (Morrow & Gambrell, 2000).

Using children's literature with adults

Given the well-documented benefits of literature-based instruction in children's learning, researchers have looked for ways to use children's books in adult education. Children's literature is known to promote language and literacy development as well as content and cultural explorations. Examples include basic adult literacy (Buchanan-Berrigan, 1989) and content-area higher education (Meyerson, 2006), but especially teacher education (Colabucci, 2004; Martin, 2006; McNicholls, 2006). In addition, the literature has been implemented in college-level intensive and foreign language programs as an alternative source of reading for adult L2 learners. The next set of studies will look at the potential benefits and challenges of using children's literature with adult L2 learners and its implications to second language vocabulary acquisition.

One question that needs more investigation is whether books originally written for children could help adults to acquire another language. Children's books are examples of written/visual communication between a writer/illustrator and young readers. They distinguish from texts that are modified for instructional purposes, as discussed earlier, such as basal books written in special English for L2 readers. Because children's texts are highly illustrated, they may offer richer contextual cues and, as a result, serve as a powerful tool to acquire unfamiliar vocabulary. However, the illustrations and the context clues may not be enough for L2 readers to learn vocabulary without teacher intervention or focused word study. Many could argue that the texts, however copiously illustrated, still pose a lot of difficulty for non-native speakers because they use authentic language, which is rich in nuance and idiom. In addition, children's

book illustrations are not necessarily intended to support the text (Nikolajeva, 2006; Nikolajeva & Scott, 2001), let alone facilitate word learning. In fact, the modification of pictures and format to fit into basals reduces the quality of both books and the reading experience (Goodman, 1994). In addition, there is a concern that using the literature with a focus on words may shy readers away from global interpretations, including the exploration of critical and cultural understanding.

Reported uses of children's literature with adults void these concerns. Evidence from adult literacy and foreign language instruction shows that with sufficient scaffolding and support, adult readers can enjoy and learn from children's books in many ways (e.g. learning vocabulary and responding critically to the content). An example of adult literacy is Buchanan-Berrigan's (1989) research. In her qualitative study, she uses children's books with seven adult literacy learners. All participants were parents and enjoyed participating in the program because they would learn more about reading and be able to have book talks and read alouds with their children. Four themes emerged in her study: resistance, contracting, negotiating, and collaborating. In her model, acknowledging resistance and defining goals and needs are fundamental steps for learners to actively negotiate their literacy and develop strategies for ongoing learning outside of the instructional setting. This study also examines whether children's books are appropriate to use with adult literacy learners. She finds that when the books are carefully selected to match the interests and needs of adults, and the rationale for using them clearly explained, children's literature can offer them a rich literary and literacy experience in a reader-friendly way.

Positive effects have also been reported in L2 studies with regards to reading enjoyment and language development. In Moffit's (1998) study, her German class engages in extensive reading of children's literature and creative arts activities like pantomime. Moffit finds that

students enjoyed the experience of reading a whole book without glosses, learned language, and benefited greatly from focusing on content and personally responding to the book *Oya*, about the experiences of a Turkish 16-year-old girl living in Germany. In a subsequent study, Moffitt (2003) looks at the use of children's literature for cultural exploration, suggesting that authentic picture books are beneficial for beginning learners to develop grammar and vocabulary; however, with intermediate levels, a focus on cultural exploration is most successful.

Garcia's (2007) research also shows positive effects for Spanish. She studies the implementation of children's literature in college-level classrooms through top-down and bottom-up instructional methods and looks at student response to both teaching method and children's literature from beginning and intermediate students who attended an intensive, immersion program. The beginning class had one-hour tutoring and extra-curricular sessions, but the intermediate class only did extensive reading outside the class. The nine participants in her sample (5 females and 4 males) had free access to the selected children's books. One student was an ESL speaker, and one was in high school. The data collected came from teacher/researcher observations, videotaping, students' journals, formal and informal evaluations, and creative assessment (e.g. pictures). No interviews were conducted. Garcia found that some activities were difficult to implement because the teachers lacked experience working with top-down processing, activating background knowledge, adequately assessing performance, and teaching reading strategies. She found no difficulty fitting children's books into the course curriculum, managing time for reading, giving students choice, and providing voluntary reading. She states that students loved children's books and found them useful to learn Spanish. They found the books "challenging, yet comprehensible and also very interesting."

Other studies using children's literature with adult L2 learners have contradictory results. For example, Schwarzer (2001) uses children's literature in his year-long implementation of a whole-language program and qualitatively assesses response to children's literature through projects, literature circles, journal writing, and portfolios. In weekly readings of Hebrew picture books, students listened to the story at first and read the book again and again with the teacher. They were able to use the pictures to guess the meaning of the text and used words from the text in their oral and written assignments. Journals functioned as communication through writing between teacher and students, with no correction of grammar but modeling of conventional writing. Portfolios included student work (oral presentations, readings, notes) showing their growth. Schwarzer finds the experience valuable for bringing authentic language to the foreign language class and promoting alternative assessment of reading, but he claims that oral reading is not a viable resource. With regards to the value of children's literature, he notes that although reading picture books was successful throughout the year, by the end it became a less interesting activity to students.

Reading enjoyment was, however, positive in an experimental study of Taiwanese learners of English, although no results were found for language growth (Wu, 2001). Wu investigates whether children's literature has an effect on college freshman students' attitude toward reading and their progress in English. The author conducted an attitude measure and a cloze test for subjects' progress. Wu also used open-ended questions, anecdotal notes, and small group interviews for in-depth data collection. The results show that her experimental course did have an effect on attitude toward reading, but no significant effect on subject's English growth. The qualitative analysis also supported the suggestion that children's literature provides a pleasant way to learn English and has an influence in students' studying method and attitude.

Taken together, these studies show that children's literature can be an enjoyable source of reading for adult L2 learners, whose language learning experiences need to be enriched with direct instruction. These results support earlier findings from extensive reading and vocabulary research that the benefits of learning from texts take time to develop. The findings also indicate the importance of selecting appropriate books for adult readers.

Selecting books for adult readers

A key factor affecting adult L2 reading is the availability of culturally and linguistically appropriate sources. The research on adult literacy and insights from literature experts indicate that wisely selected children's books can be successful with adults. For instance, Tan (2001) gives the perspective of a writer/illustrator. He argues that a well-written and illustrated book should not just appeal to children. Just like other visual media (TV, paintings, photos), picture books are an art form for all readers. Regardless of preconceptions that consider children's books as the matter of children, these books can be enjoyed by people of all ages and walks of life.

Tan's claim resonates in the recommendations from adult literacy research. For instance, Bloem (1995) explains the benefits of using picture books in adult basic education. They can be valuable resources when selected appropriately so adult readers will not feel they are being treated as children or their own interests do not matter. In a subsequent article with Padak, the authors answer questions that teachers may have when selecting picture books for adult literacy classrooms (Bloem & Padak, 1996). One of the questions is whether children's literature is just for children. In response, the authors argue that many books are beneficial for and appeal to adults, as well. Especially helpful are books that create room for reflection and discussion.

Although the needs of basic literacy learners differ from those of second language learners (Burt, Peyton, & Van Duzer, 2005), the guidelines give insights into choosing culturally

appropriate books for adult readers. More specific guidelines for adult L2 learners, especially

ELL students, are available (Smallwood, 1992, 1998). In addition, many practitioner-oriented

publications offer a framework for exploring children's books and implementing literature

circles with this population (Hadaway, Vardell, & Young, 2006; Reid, 2002; Vaille &

QuinnWilliams, 2006).

Using multicultural children's literature

The research on literature-based instruction has stressed the importance of choosing

multicultural books for second language learners. Multicultural children's literature has many

benefits for second language children. For example, Baghban (2007) describes the various types

of immigrant families and provides a rationale for using picture books about the experiences of

immigrants. These books help children cope with change, teach them to love and respect their

culture, and motivate them to read other books, therefore developing their self-efficacy toward

learning. Similar educational benefits have been found for adult second language learners,

although the selection criteria must be even more rigorous since the books that can be successful

with adults are much fewer (Smallwood, 1998). Smallwood suggests selecting books that relate

to the curriculum, skirt around universal themes or have adult protagonists, are well-illustrated,

contain predictable language, use language slightly beyond the instructional level, and offer a

cultural or multicultural perspective.

Learning vocabulary from children's literature

Books that are useful to adults form a smaller subset than those successful with children

(Smallwood, 1992). Consequently, finding texts to support incidental word learning is even

more difficult. On the other hand, if the readers can relate to the books in a cultural and personal

way, their prior knowledge could facilitate comprehension, and guessing word meanings would

be viable. As a result, there is likelihood that important words will be remembered and used

afterwards. Of course, not only multicultural books can achieve this goal. Books with a

universal theme can also help readers find connections between reading and their lives. In

addition, illustrations play an important role in activating background knowledge and building

new concepts.

The role of illustrations

With respect to the role of illustrations in reading, there is also some controversy. For

example, Samuels (1970) found that pictures hindered the word recognition skills of low ability

readers in early stages of children's literacy development. However, the interpretation that

illustrations negatively affect comprehension is not supported in later reviews of research

(Schallert, 1980; Newton, 1995). In addition, there is strong evidence for developing visual

literacy in students (e.g. Dale, 1969; Messaris, 1994). As the research on visual literacy

suggests, words and pictures complement rather than impede one another. Dale (1969) argues

that reading a picture is like reading a text. Considering the proposition that words are

understood gradually and linearly while images are understood all at once, he points out that

allatonceness in a picture depends on how much is known beforehand. In other words, one must

also read a picture carefully to understand its details. He goes on to suggest that words and

pictures help each other in the process of understanding and communicating messages. A similar

position is taken by the dual-code theory of reading (Paivio, 1990; Sadoski & Paivio, 2007),

which indicates that reading words and images are independent, yet complementary, processes.

As Anderson (2005) reviews, the dual-code theory is supported by cognitive studies such

as Santa (1977), which demonstrates that visual and verbal input is processed differently.   In this

experimental study, subjects viewed a target containing a square, triangle, and circle, displaying

a visual representation of a human face. Then they were asked to indicate whether the target was the same or different from a set containing the following: a) exact elements and graphic display; b) same elements but linear display c) different elements but same graphic display; and d) different elements in linear display. Santa expected that the exact figure would be processed faster because subjects would encode the information visually, remembering both elements and their position. The findings confirmed his hypothesis. In the second part of the experiment, subjects viewed the words *square*, *triangle* and *circle* instead of pictures. However, the target was presented as a linear configuration. Santa predicted that words would be processed faster in a horizontal, linear configuration as subjects would remember the position in which words normally occur in prose. The results show that words, as expected, were encoded linearly. In addition, the author found a sharp interaction between pictures and words, suggesting that the processes are interconnected. The implication of this finding for visual literacy is that pictures and words occur through different channels; however, they assist each other in comprehension.

In addition to being processed differently, both words and pictures can be enriched with discussion, as Dale (1969) points out. He elaborates by stating that "pictures both complement and supplement words as instruments in communicating subject matter" and that "we do not use pictures without talking about them and around them" (p. 443). This position can be compared with Vygotsky's (1962) focus on social interaction. Following this argument, text and illustrations can be understood as part of the symbiotic relationship between thought and language, which takes place both mentally (inner speech) and socially (outer speech), and which cannot be dissociated without loss of communication. Think, for example, how helpful it would have been to view diagrams illustrating Santa's experiment above.

With respect to the relationship between words and pictures in reading, it is possible to have some comprehension of images but no comprehension of text, which would happen if somebody gave me a children's book in Arabic or Chinese. In addition, there are many wordless books that tell stories just in pictures, such as *The Arrival* (Tan, 2007), suggesting that words are not even necessary to understand them. On the other hand, many beautiful stories can be told with just words, such as most adult novels. However, even in the case of novels, we cannot disregard the fact that excellent writers evoke powerful mental imagery. In addition, it is questionable whether one can fully understand a picture without putting it into words, even mentally. This is not to say that all thinking is mediated through language; however, words play a huge role on how we *see* the world. Therefore, the argument that words and pictures cannot be dissociated is a powerful one. In fact, the connection between words and pictures dates back to the early development of writing (Nilsen & Nilsen, 1978).

Although common sense suggests that "a picture is worth a thousand words," it is a fact that pictures are not that obvious to understand, especially if one has not acquired important concepts of visual literacy such as perspective, focus, movement, and so forth, or is not aware of the context in which it was produced (Dale, 1969). Therefore, the development of new conceptual knowledge from both visual and verbal input must build on what students already know and understand (Gipe, 1980) such as concepts and skills acquired from first language literacy and earlier experiences with images. In learning words from storybook reading, the gradual transition from known to unknown, as supported in schema theory, transfer, and comprehensible input, can have positive effects. However, the effects would depend on one's ability to comprehend the message (e.g. story and illustrations) as well as the individual words associated with it. Encountering a new word in a children's book and guessing its meaning

correctly would not lead to immediate learning, but the word would create an image in the mind if the reader notices it. With repeated readings and multiple encounters, the word would finally stick. Therefore, the possibility of guessing a word correctly from a children's book would depend on a number of text factors, including quality and comprehensibility of the material and the degree of matching between image and print, and most importantly the extent to which the reading experience is meaningful to the learner. In addition, the benefits of children's literature among adults could result from a combination of psycholinguistic and social factors, including students' prior language/literacy learning experiences, reading motivation, genre tolerance, and learning expectations. However, the social dimension of reading, although key in understanding the processes of adult second language readers of children's literature, is beyond the scope of this investigation.

In conclusion, the discussions on second language reading, vocabulary acquisition, and literature-based instruction highlighted in this review are relevant to the present study. First, there is a trend toward choosing materials and instructional methods that activate prior knowledge, benefit from the first language, and facilitate comprehension. Second, in the United States there is an urgent need for effective vocabulary instruction supporting the language and literacy development of a growing number of ELL students in all grades and from different backgrounds (Baumann, 2009). This in turn increases the demands for culturally relevant practices (Au, 1993, 2006; August & Shanahan, 2006, 2008; Heath, 1983; Wiley, 2005). Such practices include but are not limited to recognizing the value of students' prior language and literacy experiences as well as their cultural background knowledge. For example, research on the reading strategies of second language learners has shown that readers benefit from instruction that highlights the similarities and differences between the native language and English, such as

the use of cognates (Jimenez, Garcia, & Pearson, 1996; Nagy, Garcia, Durgunoglu, & Hancin-Bhatt, 1990).

Therefore, vocabulary research using alternative methods such as children's literature can be of great value. One issue that the research must take into consideration is to what extent the context of children's literature is sufficient for adult L2 learners to acquire vocabulary from reading alone, without the meaningful social interaction and learning support of teacher-guided literature circles (e.g. Vaille & QuinnWilliams, 2006) and without ample word-learning opportunities through rich vocabulary instruction (e.g. Beck et al., 2008). The point made here is not to undervalue the benefits of literature-based instruction and social dimensions of reading. Instead, the approach taken in this study is that of a closer relationship with words and illustrations. Therefore, the study investigates the potential influences of storybook illustrations, using the children's book *The Lotus Seed* (Garland, 1993), on learning word meanings for adult English learners enrolled in intensive reading courses.

This chapter reviewed the selected literature on reading and learning vocabulary in another language, discussed the benefits of learning words from context versus teaching words directly, and highlighted the benefits of children's literature for adult English learners. The next chapter present the methods, materials, and procedures used in this mixed-method investigation.

Chapter 3

Methods

My review of the literature in chapter two shows that learning vocabulary in another language from reading context alone is less effective than from a balanced program involving extensive and intensive approaches. The concept of learning words from textual context has been a controversial one. Although there is plenty of evidence that students can learn words incidentally from reading (Herman et al., 1987; Kilian et al., 1995; Nagy et al., 1985; Nagy et al., 1987; Sternberg, 1987; Swanborn & de Glopper, 1999), to learn words from context most students may require training in using different clues (Baumann, 2009). Context clues include explanations, definitions, details, or synonyms to clarify or expand the meaning of a word. Writers often use them whenever they feel that a word is not familiar to the reader or needs more details. Yet, as Beck and her colleagues have argued, not all clues are helpful for learning new words (Beck et al., 2002). As they pointed out, students frequently encounter new words which they cannot guess because the context does not provide sufficient information, or they lack the skills to infer the meanings (McKeown, 1985; Schatz & Baldwin, 1986). Another problem is when the number of unknown words is greater than the amount recommended for successful guessing. As Nation (2001) puts it, readers need to comprehend 98% of the running words in a text in order to benefit from guessing.   If students do not know the meaning of words encountered in reading, then the teacher might (a) let them infer meanings from context while focused on content, (b) teach strategies for deriving meanings from context, and (c) teach word meanings directly in or out-of-context.   Recent research on vocabulary instruction seems to emphasize the third approach, as evidenced in studies on reading aloud to children (e.g. Beck & McKeown, 2007; Silverman & Crandell, 2010). With respect to English learners, direct

instruction in tandem with exposure to context is advocated as a more effective method of developing vocabulary than context alone (Folse, 2004). Considering the well-documented impact of children's literature on young readers' comprehension and vocabulary development, which include the role of illustrations, research is needed to determine whether or not the benefits of the literature, are also true for adult English learners. As a result, in this mixed-method study, I explore the potential influences of storybook illustrations on learning word meanings by adult English learners in a university intensive language program. In this chapter, I present the quantitative and qualitative methodologies. I will discuss both methods separately to provide an accurate picture of the research process.

Research Questions

The research questions are as follows:

1. Do storybook illustrations influence learning word meanings from context? (main research question)

2. Is there a significant difference between experimental Text Plus Picture (TP) and control Text Only (TO) groups in pre- and post-reading tests of vocabulary? (quantitative question)

3. How are illustrations helpful to individual students in promoting incidental word learning? (qualitative question)

Quantitative Methodology

The main research question in this mixed-method study is the following: Do storybook illustrations influence incidental vocabulary acquisition? The question guiding the quantitative methodology is as follows: Is there a significant difference between readers who read an illustrated storybook and those who read the same story without illustrations? In order to reject

the null hypotheses, results must be significant at or below alpha = .05, the probability of committing a type I error, which is an acceptable level for educational research.

Effect Size

The study predicts a small effect size since only one approach to learning vocabulary (incidental word learning from context) is involved. Previous research demonstrates that successful readers employ a variety of strategies and encounters with words to learn vocabulary (Pavičič Takač, 2008).   In addition, the research predicts that only one or two exposures cannot produce a strong effect for learning from context (Stahl & Fairbanks, 1986).

Sampling

A sufficient number of participants is required to ensure internal validity.   A sample equivalent to forty participants (N=40) is an appropriate size in classroom-based experiments. Forty participants from sixteen language backgrounds and previously screened for reading ability were randomly assigned to experimental, text-plus-picture (TP) and control, text-only (TO) conditions. Randomization was performed with an online tool, *Research Randomizer*, developed by Urbaniak and Plous (2008).

Setting

The research was conducted in an intensive English program affiliated with a Southern higher-education institution in the United States. The program's primary goal and function is to prepare students for the academic and cultural demands of the university. Gaining access to the setting was the first step before collecting any data. I knew some of the teachers and was acquainted with the program in general. I had volunteered with them as a conversation partner and grammar tutor in the past, and I also had the opportunity to work with two Vietnamese students as part of fieldwork for one of my doctoral courses on reading instruction and

assessment. In addition, I met Brazilian students who attended the program and who sometimes invited me for social gatherings (e.g. cultural presentations) or asked me for help with English. Therefore, the setting is a familiar place, although students do come and go.

To obtain more specific information about the program and to establish an initial contact with the institution, I met with the academic coordinator, who learned about my research plan, signed the school consent letter (Appendix B), and provided details about the students and curriculum. The program serves students ages 17 or older (19-25, primarily) from various backgrounds, with Chinese, Korean, Vietnamese, and Latin Americans forming the vast majority. Most students continue their college education afterwards. Although no official statistics were available at the time of our conversation, the coordinator estimated that about 70% of the students are learning English to be admitted to college and nearly 95% are highly literate in their native languages, at least as far as reading ability is concerned.

The program is located on the main campus of the university. Having incorporated the ESL classes previously offered separately by the university, the curriculum has a strong academic focus. The course is divided into 8-week sessions, including 20 hours of intensive instruction. Students are taught grammar and writing in the mornings, and they have reading, speaking, and listening classes in the afternoons. There isn't a specific course unit on vocabulary, but new words are incorporated throughout the lessons. The program does not have its own library, but students can take graded readers to read at home, and they also have access to campus facilities, including the main library, computer labs, and the fitness center. In addition to the academic components, social events designed to engage and integrate students with the local culture and to increase their exposure to spoken English are also part of the program. These include sports and cultural activities, city tours, and language exchange. For instance, students

pairing up with volunteer-based conversation partners have the opportunity to practice their English more freely and spend time with a local family. In sum, the information I collected in direct contact with students and faculty, my conversation with the coordinator, and a quick visit to their website allowed me to have an overall understanding of how my experiment could be accommodated with the type of instruction offered and the goals and expectations of the learners.

Participants

Participants come from ethnically and linguistically diverse student populations. Forty-nine adults, enrolled in intermediate and advanced reading courses, were invited to participate in the study. Forty of them served as subjects in an experiment designed to explore the influence of reading context (text plus picture vs. text only) on incidental word learning. Seventeen of the participants served as the experimental group and twenty-three as the control group. The experimental group was assigned the text-plus-picture condition, and the control group was assigned the text-only condition. There were twenty-three males and seventeen females. The unequal number in the groups owes to the fact that some students had returned the consent letter (Appendix A), confirming their participation, but didn't attend the assessment meeting.

To qualify for the experiment, participants must have been screened for reading ability. The screening process had been conducted by the school prior to testing, and students had been placed into specific reading levels. Placement into reading levels was carried out using the English Placement Test (Corrigan, Dobson, Kellman, Spaan, & Tyma, 1978) consisting of a 100 questions (20 listening, 30 grammar, 30 vocabulary, and 20 reading). In addition, the placement process included qualitative evaluations, such as reading a paragraph out loud and talking about its content, providing an indication of the student's oral and reading ability. To minimize the

effects of instruction, participants were tested for this study in the beginning of the teaching period. Demographic details obtained prior to testing include students' gender, age, language(s), nationality, and English learning experience.

Participants were informed that the research had no connection with their coursework and grades, and that their individual test results would not be reported to the intensive English program. In addition, they were reminded that their decision to take part in this research was voluntary and had no consequences on their academic performance. Also, they learned that their participation or lack thereof would not affect or be affected by their grades in the English program. Finally, they were informed that they had the right to withdraw from the study at any time without penalties. They were also informed that pseudonyms would be used in reports to ensure their privacy and identity.

Of the forty-nine students invited to participate in the study, only forty-two returned their consent letters, agreeing to participate. However, only forty students were present for the classroom assessment. Table 1 shows the number of students by condition (text plus pictures vs. text only). There were twenty-three males and seventeen females. There were twice as many males as females in the text only condition. Eleven different languages form the sample: Arabic, Spanish, French, Chinese, Turkish, Korean, Russian, Vietnamese, Italian, Japanese, and Urdu. French is the native language of only one of the six students who used French in the translations. Three students speak Haitian Creole, and two African students speak Natania and Wolof, respectively. However, all of them used French in the translations. For Russian, only one student speaks it as a native language. The other one speaks Kyrgyz, yet Russian was the language of choice for the translation. Although all participants were instructed to translate the test items into their native languages, they used a language of seemingly wider access.

Four out of six reading levels are present: levels three, four, five, and six. Placement into reading levels was conducted by the intensive English program teachers prior to the research, as described in chapter three. With respect to age, three-fourths of the students were born in the 1980s or 1990s, which shows that most of them are young. The groups with the highest number of students (Arabic, Spanish, French, Chinese, and Turkish) correspond to 77.5% of the sample.

Table 2 shows the number of males and females per level. There were twice as many females in the highest level, and three times as many males in the lowest level. In addition,

Table 1: Number of students by condition

	Text Plus Pictures	Text Only
Gender		
Male	7	16
Female	10	7
Language*		
Arabic	4	6
Spanish	4	4
French	2	4
Chinese	2	2
Turkish	1	2
Russian	1	1
Korean	1	1
Vietnamese	0	2
Italian	1	0
Japanese	1	0
Urdu	1	0
Reading Level**		
Three	3	9
Four	5	5
Five	6	5
Six	3	4
Age		
1990s	4	3
1980s	9	13
1970s and below	4	4
Not reported	0	3

Note. * Language of translations; ** reading course levels in which students were enrolled.

females are distributed more evenly throughout the levels than males.

Table 2: Gender by reading level

	Three	Four	Five	Six	Total
Male	9	5	7	2	23
Female	3	5	4	5	17

Table 3 shows the number of students per language and reading level. There are more students in the lower levels (55%) than in the higher ones (45%).

Table 3: Languages by reading level

	Three	Four	Five	Six	Total
Arabic	5	1	1	3	10
Spanish	1	4	1	2	8
French*	1	2	3	0	6
Chinese	2	0	2	0	4
Turkish	1	1	1	0	3
Russian**	0	0	2	0	2
Korean	0	0	1	1	2
Vietnamese	1	1	0	0	2
Italian	0	0	0	1	1
Japanese	0	1	0	0	1
Urdu	1	0	0	0	1

Note. *Only one student speaks French as a native language. Three students speak Haitian Creole, and the other two speak Natania and Wolof, respectively. ** One student speaks Russian as a native language. The other one speaks Kyrghyz.

Table 4 shows the number of males and females according to languages. The highest number of males is in the Arabic group, followed by the French group, and the highest number of females is in the Spanish group.

Table 4: Language by gender

	Male	Female	Total
Arabic	8	2	10
Spanish	2	6	8
French	5	1	6
Chinese	3	1	4
Turkish	1	2	3
Russian	1	1	2
Korean	1	1	2
Vietnamese	1	1	1
Italian	0	1	2
Japanese	0	1	1
Urdu	1	0	1

Overall, the descriptive statistics from such a small sample (N = 40) is large enough to compare means within a normal distribution. Considering that the research was conducted with as many students as there were available in the four levels, and some languages had a higher number of speakers than others, it was not possible to allocate an equal number of students from each variable (gender, level, and language) in experimental and control groups. However, because students were randomly assigned to conditions, differences between means or lack thereof should not be attributed to sampling bias.

Materials

The materials selected for the study are described in the following sequence: text, words, and test. However, the selection occurred concomitantly. Finding a perfect match between an interesting story and potential words for incidental learning from context was not possible since authentic texts are not purposely designed to teach word meanings. Also challenging was finding a test that could elicit vocabulary knowledge without drawing too much attention to target words. As the study investigates incidental word learning, an attempt was made to choose words whose meanings could be inferred from context. However, since the context in an authentic text is not necessarily helpful, as the research reviewed above demonstrates, the story

rather than the words was emphasized. Therefore, the relevance of the story to the participants

was considered first and foremost. In addition, other factors such as text length and number of

unfamiliar words were taken into consideration.

Book Selection

Choosing the book out of a million titles is a challenging enterprise. However, given the

direction indicated in the literature review, texts with familiar topics and comprehensible

language are the best choice, especially those directly related to the experiences of international

students. Culture shock, cross-cultural adjustment, immigration, the American culture are

themes for which a number of texts can be assigned. These themes are hypothesized to be of

high-interest to the target audience. Therefore, in order to choose the book that best fit the

research purpose, the following criteria were observed: 1) the text length is typical of the genre

(storybook) with an average of 25 words per page; 2) the theme is familiar to students (e.g.

related to the experiences of college-level English learners); 3) the book appeals to an adult

audience, not only children (e.g. contains adult protagonists and adult-friendly illustrations); 4)

the book is considered to be high-quality children's literature (e.g. featured in award-winning

lists or reviewed positively); and 5) the book contains a few contextually decipherable words.

The children's literature library used in this study contains over 17,000 titles, divided into

easy readers, non-fiction, and fiction. Easy readers are books typically written for younger

children. The collection has close to 7,500 easy readers, mainly storybooks. The steps for the

selection were these. First, searches using these entries--immigration, homesickness, and cross-

cultural studies--were performed on the collection's website.   Then, a list of items containing

only easy readers was devised. Another source of texts was from book lists and reviews, such as

Baghban (2007), Matulka (1997), Smallwood (1991), and Winston (1997). In addition to the

suggested items from the published sources, other books were discovered through personal communication with literature experts and librarians. As a result, books that had not been included initially were later added to the potential list. Once the final list of storybooks was established with fifty titles, then the researcher began an analysis of what texts fit the selection criteria described above. Bilingual and wordless books were excluded from the sample because they did not the match experimental conditions. Also excluded were texts in which words were glossed. In sum, the final list included standalone narratives which were short enough to provide a comfortable reading experience in a test-taking environment.

As a first step toward selecting an appropriate text, a sample of fifteen high-quality storybooks exploring multicultural topics was created out of the fifty initial items. This process involved elimination of out-of-print and out-of-stock titles. Also, the books were divided into different cultures and themes. The themes include but are not limited to the following: living and working in America, learning English, and remembering the homeland. The books that did not fit into the themes were eliminated. Finally, a sample of three books was singled out for potential use. A letter requesting permission to use and reproduce the copyrighted materials was sent to respective publishers. Two of the books were approved, but only one was selected.

The Lotus Seed

In choosing a story that could appeal to the participants in the study, care was taken so that the text matched the interests, experiences, and proficiency level of the students. The reason why *The Lotus Seed* (Garland, 1993)*,* written by Sherri Garland and illustrated by Tatsuro Kiuchi, became the experimental text is both cultural and logistic. From a cultural standpoint, the Vietnamese have a strong presence in the city, and the story provides a unique opportunity for readers to learn more about the Vietnamese culture. In addition, the book portrays an

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immigrant perspective that can appeal to many learners because international students share the experience of leaving their homeland to pursue a dream in America (Gonzalez, 2004). The story, narrated by a Vietnamese-American woman's granddaughter, recounts the grandmother's journey to America from Vietnam with her children and other family members. The woman brings a lotus seed to the new land as a memory of her homeland, which she had to flee, and as a memory of the emperor, who represents the cultural heritage of Vietnam. This summary below provides a preview of the story, based on Propp's (1968) framework for analyzing narratives, in which the hero goes through a series of challenges to accomplish his or her goals. In *The Lotus Seed,* each two-page spread is composed of a small passage and a large illustration, with the exception of the authors's note, which has only a small picture of a lotus pod and a five-paragraph-long text. A total of fourteen spreads forms the book, and each spread corresponds to a scene, as follows:

1. Hero (girl) sees emperor cry outside palace

2. Hero picks up seed from imperial garden

3. Hero hides seed in a piece of silk under family altar

4. Now grown-up, hero gets married; husband goes to war

5. Hero and children escape from war

6. Hero's family gets onto a boat

7. Hero's family arrives in America

8. Hero and relatives live and work together

9. Grandson finds seed and plants it

10. Grandmother cries when seed is gone

11. Lotus flower blooms

12. Grandmother happily gives each child a seed

13. Granddaughter wraps seed in piece of silk

14. Author's notes detail historical background

The Lotus Seed evokes a feeling that is very common among international students: remembering the home culture. Because the theme is familiar and the text relatively short, students are assumed to have less difficulty understanding the context and consequently allocate their attention to word meanings.

Text length is an important factor. The fewer words per page, the more likelihood that readers will focus on individual items. *The Lotus Seed*, which for the most part, features a small paragraph in large font on the left and a picture on the right, fits the criteria. The total number of running words is 774, with 32 pages, thus an average of 24 words per page. That means, if one word in every twenty-five is unknown, the reader knows 96% of the vocabulary in the text. The optimal rate has been established as 98% for second language learners in texts in which the vocabulary is recycled over and over (Nation, 2006). However, this estimate is based on text alone, not text with illustrations. Therefore, 96% appears to be a reasonable rate for visually-rich input. The short number of words per page may allow readers to notice textual or visual clues, thus facilitating incidental word learning. Dividing the average number of words in a children's book (between 500 and 800 words) by the average number of pages (24.9, according to "Pages of children's books," 2008), one gets an average of 26 words per page. Therefore, *The Lotus Seed* is close enough to the optimal rate and still close to the average number of words per page in the genre. A more detailed analysis of the target words is, however, necessary.

Word Selection

After the book is chosen, the selection of words begins. The other way around would not be possible because the study uses an authentic story rather than one specifically designed for

research purposes. Since there are so many different words in an authentic story, the literature review serves as a starting point. Particularly helpful is the framework proposed by Beck et al. (2002) with respect to tiered-vocabulary instruction. High-frequency words (tier one) and high-frequency academic words (tier two) are the most useful for second language learners (Beck et al., 2008) since they are the most commonly used in everyday speech. As research suggests, developing oral language ability is fundamental to second language literacy development (Shanahan, 2006). To use one of Beck et al. (2008)'s examples, *fast* (quick) is a highly frequent word, can be easily expressed with a picture, and represents a universal notion. On the other hand, the other meaning of *fast* (restraint from eating as part of a religious practice) is less frequent and more conceptually complex. The problem is, while the first notion may be too easy and already part of the students' vocabulary, the second may be best understood within the context of a book or may require rich vocabulary instruction for those who are not familiar with the concept (Beck et al., 2002).

Another way to choose vocabulary refers to frequency lists (West, 1953; Coxhead, 1998). Acquiring around 2,000 English words is a realistic goal for students developing initial oral language proficiency (Schmitt, 2000). According to Nation (2001), the 2,000 most frequent word families from West's (1953) *General Service List*, a classic inventory still in effect today, correspond to 80% or more of coverage in spoken and written texts in a wide range of areas. Nation goes on to suggest that developing vocabulary in the 2,000 level is "the best decision for learners going on to academic study" (2001, p. 15). Complementing West's list, the *Academic Word List* (Coxhead, 1998) contains 570 high-frequency academic word families that are not part of the *General Service List*. With these lists combined, there is a possibility that "one word in every ten will be unknown" for students whose vocabulary size is estimated around the 2,000

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frequency level (Nation, 2001). However, Beck et al. (2008) do not recommend frequency lists as "the primary resource for selecting words to teach" and further argue that "frequency merely indicates how often a word appears in print and does not translate precisely into how difficult a word is or even how useful it is to the a user's repertoire" (p. 14). Instead, Beck et al. suggest choosing words that could be used in various domains or can help students to learn other words or concepts.

Although both the tiered-instruction guidelines and the academic word lists provide a framework for choosing what words to teach, other considerations must be taken when selecting words for learning from reading. In tiered-vocabulary instruction, there's a focus on the deliberate study of words. However, in incidental word learning from reading context, which is the approach taken in this study, the goal is to develop vocabulary without drawing readers' attention to the words. The focus of this study is not on what words to teach, but rather what words may require less instructional support since the learners could acquire them from reading context. In addition, contrary to the notion of choosing words based on frequency lists, this study looks at word difficulty in relation to context. This focus on context is based on the schema-theoretic assumption that familiar topics and contextual cues facilitate comprehension and vocabulary.

Level of conceptualization is also taken into consideration. Rather than developing concepts deeply, which is a long-term goal for vocabulary instruction, the study focuses on partial word knowledge, that is, the initial form-meaning recognition (Schmitt, 2008). If readers can achieve an incomplete but acceptable understanding of word meanings, we can assume that learning has been triggered. For example, knowing that a *robin* is a bird is one step toward

developing a more advanced schema and being able to use the word appropriately in context. That early word-meaning relationship is the main focus of this study.

Target Words

The target words, determined from the pilot study, are as follows: *emperor* (n), *sneak* (v), *pod* (n), *altar* (n), *silk* (n), *clamor* (v), *scramble* (v), *towering* (adj), *bloom* (n), *patch* (n), *unfurl* (v), *dormant* (adj), *moat* (n), *turmoil* (n), and *refugee* (n). Nouns were presented in the singular form without articles, verbs were shown in the infinitive form with the particle *to*. Adjectives didn't change. In some languages there are no inflected plurals or inflected past tense verbs. Removing those features would cause less confusion for speakers of languages in which there are no equivalent forms. These words were selected because they were found to be the most difficult ones from both native and non-native speakers in the pilot study, which I discuss below. One word per paragraph was selected, totaling twenty items, which were reduced to fifteen words. Fifteen words, which are more difficult to remember than ten or the "magical seven" (Miller, 1956), is a reasonable number to avoid focusing attention on individual items. Again, the purpose of the vocabulary measure is to assess words without drawing too much attention to them. Therefore, the number of words in the test must be neither excessive lest it becomes tedious nor insufficient lest it loses its incidental feature.   Because students are required to provide translations in their native languages, which is in itself a difficult task, a total of thirty words with distractors appears reasonable.

Distractors

In order to avoid over-exposure to target words and maintain the incidental nature of the study, fifteen distractors were added. The distractors in the vocabulary test are as follows: *fascinating* (adj), *interested* (adj), *fragrant* (adj), *referee* (n), *stream* (n), *senator* (n), *cot* (n), *to*

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push (v), *ill* (n), *ladder* (n), *soap* (n), *wisdom* (n), *balloon* (n), *to undo* (v), and *jaguar* (n). Both familiar items such as *soap* and more difficult ones such as *wisdom* were added to prevent target words from being easily clustered as the challenging ones.

Instruments

In this section I present the rationale for choosing single-word translation in comparison to other types of vocabulary tests found in the literature. The main instrument of the study is the vocabulary test, and the secondary instrument is the comprehension test. Both are discussed below, and the whole packet can be viewed in Appendix F.

Test selection

As part of the selection process, it is necessary to determine whether the book and words fit with the assessment method and vice-versa. The test chosen for the study must be sensitive to context. Two points must be taken into consideration. First, the words must carry enough meaning to be understood out of context. Because the purpose of the study is to examine incidental word learning from reading context, the pre-reading measure cannot provide too many cues such as in a cloze test.   Second, readers must not focus more attention on words than typically expected in incidental vocabulary acquisition. Thus, amount of time spent on target words or the nature of the task could influence the way in which participants attend to target words. Therefore, the most suitable test must be considered.

Some studies used yes/no checklists with real and nonsense words to determine whether or not the target vocabulary was known prior to testing (Anderson & Freebody, 1983; Herman et al., 1987; Nagy et al., 1985; Nagy et al., 1987). If respondents checked nonsense words as known, their score could be considered an overestimate and would be subtracted from the results using a formula. The advantage of this measure is that it does not require deep semantic

processing. However, the test in and of itself cannot indicate whether words checked as known are indeed part of the test takers' repertoire. Even with nonsense words incorrectly checked as correct and the score readjusted, there is a risk of unknown words passing as familiar ones.

Other studies asked students to underline unknown words while reading (Kilian et al. 1995; Cho & Krashen, 1994). The advantage of this method is that it is simple and natural, as many students frequently mark unknown vocabulary as they read. However, the underlining task is unnecessary when investigating the acquisition of specific words selected by the researcher, which is the case of this study. In addition, participants were not allowed to annotate the books because they might be used in follow-up studies or donated to readers in developing countries.

In read-aloud research, a different procedure is used since the participants (usually young children) are not yet reading independently. For instance, Sénéchal and Cornell (1993) investigated the effects of a single storybook reading exposure on pre-schoolers' receptive and expressive vocabulary. They pre-tested ten words, and then tested them again after reading a book aloud. To determine whether or not the children were familiar with the target words, the researchers used a picture matching test similar to the Peabody Picture Vocabulary Test (Dunn & Dunn, 2007), which has been widely used with various age groups as a measure of verbal intelligence (Markusic, 2009). During pre-testing, the researcher reads a word out loud, and the participants choose the corresponding picture from a set of four numbered line drawings. The test lasts 20-30 minutes and is simple to administer. With students reading independently, a visual prompt could also be provided, instead of reading the words out loud. The drawback, however, is that by focusing attention on illustrations, test takers may be prompted to use the same strategy during reading, which affects the incidental nature of the experiment. In addition,

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just as in standard multiple-choice tests, test takers have 25% chance of guessing the right answer.

Single-Word Translation

An alternative to the above test types is the single-word translation test, a measure frequently used in settings where all the participants speak the same language. The advantage of this technique is that participants need not just indicate that they know the target words, but also provide some proof. When the students speak a different language from the researcher, human translators are required. In my study participants come from various language backgrounds, so I needed help with translation. However, as a member of the international community, I had easy access to language volunteers, who agreed to translate the test responses.

Another concern is that, unlike the checklist, the underlining task and the picture-matching test, the translation test may require deeper semantic processing. One thing is to check unknown words in a list or underline them in a text, or even match a word with either a synonym or a picture. Another thing is to retrieve an equivalent meaning in the students' native language. This process involves cross-linguistic and cross-cultural differences. For example, a concept or structure may not exist in the student's culture. Therefore, he or she may find it difficult to provide a translation.

On the other hand, the translation test was selected because of its simplicity and because it minimizes test attrition. According to Creswell (2002), attrition occurs when the effects are attributed to facilitative factors from the test, rather than the treatment. If students were given any hints such as in multiple-choice tests, they would have more chance of guessing correctly. If they were given excerpts from the story to provide more context for the target words, then they

would have been exposed to context prior to reading. Therefore, to certify that the selected test was suitable to the audience and to reduce context-related attrition, a pilot study was necessary.

Pilot Study

In order to determine the suitability of the materials for the population under investigation, a two-stage pilot study was conducted.   Stage one focused on the suitability of the text and test format. I asked a Vietnamese-speaking volunteer to read *The Lotus Seed* and take the pre- and post-reading assessment containing thirty target words and thirty distractors. The analysis of the test results showed there were too many words and that the instructions needed to be more reader-friendly. After discussing the story with the student and getting her feedback, I understood that the story would interest other English learners. Therefore, I judged it unnecessary to do another pilot with speakers of languages other than Vietnamese.

Stage two focused on the selection of target words. I asked six volunteers, three native and three non-native speakers of English, to highlight the most difficult word in each paragraph in a text-only photocopy of *The Lotus Seed*. All the volunteers are graduate students or higher education professionals. For the non-native speakers, I suggested that they consider adult language learners as the audience. For the native speakers, I recommended the audience to be English-speaking eight-year-old children. Participants were instructed to underline one word in each paragraph, words they found difficult for their respective audience and that required an explanation. They were asked to imagine what words they would need to explain to the reader in a read-aloud situation. The results show that native and non-native speakers chose similar words regardless of the audience. This pilot led me to conclude that words deemed difficult for English-speaking children may also pose difficulty for adult English learners. The pilot study also indicated what words should be included in the test. Although twenty words were

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highlighted in the pilot, the number of words in the assessment was reduced to fifteen because the latter fit better with the expected duration of the test (fifty minutes).

Procedures

Once the texts, words and test are selected, permission to use the copyrighted materials (Appendix C) and to use human subjects granted (Appendix D), and the instruments piloted, the data collection process starts.

Consent and Scheduling

The first step toward collecting data refers to obtaining permission from the school and students. In addition to contacting the program director and academic coordinator, I also met with the teachers to discuss the schedule and procedures for the assessment as well as obtain consent from students. In our meetings, we talked about my research questions, and I made it clear that the study did not involve instruction. I emphasized the importance of letting students comfortably choose whether or not to participate. In addition, I shared with the instructors my initial interest in assessing all levels, but they pointed out that the lower-level students might feel intimidated by reading a story with too many new words. I considered their suggestion and decided to focus on intermediate and advanced levels only. The decision was a turning point on my research because it represented a shift from the focus on high-frequency words to low-frequency ones. The shift was necessary because the chance for students at the intermediate and advanced levels to know high-frequency words are greater than for those at beginning levels.

Assessors

To help run the assessment, I invited a classmate from the doctoral program. She teaches English composition at a nearby college and has worked with English learners. We met a couple

of times to discuss the assessment procedures, and went over the oral instructions we read during

the assessment (Appendix E).

Assessment Packet

The assessments were printed on five different 8.5x11 inch light color paper sheets,

double-sided, each color corresponding to a section: white (researcher's note and test

instructions); blue (background knowledge and vocabulary); yellow (reading instructions);

purple (comprehension); and green (vocabulary). The rationale for using colors was to facilitate

the comprehension of the procedures by showing that each color represented a different activity.

The primary measure, designed to assess the influence of storybook illustrations on learning

word meanings, is a thirty-item single-word translation test (Fig. 2).

Figure 2: Excerpt from vocabulary assessment

The secondary measure, designed to function as a distractor, is a ten-item, multiple-choice

comprehension test (Fig. 3).

Figure 3: Excerpt from comprehension assessment

Comprehension Assessment

Circle the best answer according to the story.
1. The writer tells the story of an immigrant family from _____.
   a) Poland
   b) Japan
   c) Somalia
   d) Vietnam
2. The family leaves their home country because _____.
   a) there is a war
   b) they want to attend university
   c) they are looking for freedom of religion
   d) they have no jobs

(10 multiple-choice questions)

Since the purpose of the study is to investigate vocabulary acquisition, not comprehension, the comprehension component serves mainly as a way to prevent participants from deliberately paying attention to individual words. The assumption behind this decision is that once focused on content, readers would deflect from purposefully attempting to derive unfamiliar word meanings from the selected story. Given the incidental nature of this investigation, participants were not informed that the study focuses on vocabulary.

Test Procedures

First, the assessor reads the researcher's note and explains the instructions. The *note* reminds participants of the purpose of the study and its ethical commitments, such as protecting participants' privacy and identity. The *instructions* list the different sections and the expected duration of the assessment. In addition, they emphasize the test rules. For example, students are requested to turn off their cell phones and not use a dictionary.

Second, all participants translate thirty words into their native languages. The test contains fifteen target words and fifteen distractors. All target words are judged to be unfamiliar,

yet contextually decipherable. Distractors are for the most part easy to translate, but contain a few difficult items.

Third, participants read the selected text silently. The experimental group reads the text with illustrations, and the control group reads a photocopied version without illustrations. The book jacket is removed because it contains pictures and text that could interfere with the testing conditions. Photocopying the book for the control group was straight-forward because most pages had no illustrations; therefore, only two pages needed to be typed out in similar font-size and style. Participants are allowed to flip through pages back and forth during the set time. The book represents the meaningful context in which participants encounter vocabulary incidentally. Because it is an authentic text, the context is not purposely designed to teach word meanings. In addition, during reading, participants are not instructed to focus attention on specific words. Nor are they instructed to direct their attention to details in the illustrations. Instead, they are asked to focus on the story and try to understand it even if some words are new.

Fourth, after reading all participants take a multiple-choice comprehension test. The comprehension test is intended to help readers to stay focused on meaning. While focused on content, they are hypothesized to deflect their attention from specific word meanings. In addition, the comprehension test serves as a delay procedure. The delay is necessary to assure students do not remember word meanings because they memorized portions of the text, but because they understand the words out of context. Target words were not included in the comprehension test.

Fifth, all participants take the same pre-reading test as a post-test. The only difference is that words were randomized once again. Randomization is necessary to avoid the task being

tedious for participants and to exclude any potential facilitation factors due to memorization of the position of words.

Translators

As students answered the test in Arabic, Spanish, French, Chinese, Turkish, Russian, Vietnamese, Italian, Japanese, Korean, and Urdu, languages which I don't know except for Spanish, I had to enlist the assistance of volunteer translators to help me interpret the responses (Table 5). Volunteers were graduate students and faculty at the university. Most of them were contacted in person, and a few knew about the research already. For Italian, I was able to look up the words in a dictionary and later double-checked the responses through online chat with a former foreign exchange student from Italy. For Vietnamese, Russian, and Turkish the translators were contacted through an international student listserv, where I posted a message asking for support with the assessments (Appendix G).

Before meeting with the translators, I photocopied the tests, removed the names and other details that might identify the students, and grouped the test papers by language. Then, in our individual conferences, we went over the story and words together. First, I explained my research purpose and the assessments. Then I explained how they could help with the research. Those with four or more tests were allowed to mark the answers at home. They were told to put a check next to the right answer, put an *x* next to the wrong answer, and write down the response in English. They discussed the answers with me after marking all the tests. The other translators, who had fewer tests, were available to mark and discuss the answers along with me in one meeting only.

The meetings with the translators were a linguistic and multicultural experience for me. Each translator not only had insightful comments about his or her home culture and language,

Table 5: Translators

Country*	Gender	Language**	Tests
Lebanon	female	Arabic	10
Spain	male	Spanish	8
France	female	French	6
Taiwan	male	Chinese	4
Turkey	male	Turkish	3
Vietnam	male	Vietnamese	3
South Korea	female	Korean	2
Russia	female	Russian	2
Japan	female	Japanese	1
India	male	Urdu	1

Note. * Native country of translator; ** language
of test responses.

but also interpreted the responses as accurately as possible. They were frank when they couldn't

figure out the answers for reasons such as misspelling or dialectic variation. We discussed both

target words and distractors, and I didn't highlight which ones were the target words, although I

occasionally mentioned whether or not a word was in the story. I tried to capture their comments

in brief notes during the conversation, and I also wrote a little after each session ended.

Arabic: The translator examined the tests, and we discussed only a couple of them when

she was done. She is interested in literacy and language learning. So, her comments had a

linguistics tone. One theme that came up in Arabic is the miscue involving homographs or

words with a similar spelling such as *soap*/*soup* and *stream*/*scream*. Some students translated a

verb such as *to push* with *to* as a preposition, not the infinitive. Regional use was observed with

the translation of *patch* as *peach*, the same word meaning *plum* in other Arabic-speaking

countries. The translator was able to notice where the students were from based on this

difference. The distinction between nouns and adjectives also posed difficulty to students who

switched between the forms *-ed* and *-ing,* or between *ill* and *illness*. Sometimes the word was not translated but simply transposed into Arabic letters.

Chinese: The translator also examined the tests. He had previously explained the differences between the writing system in Taiwan and China, showing that characters may differ in terms of number or elaboration of strokes, Taiwan opting for a more traditional, elaborated type rather the more popular, simplified character set of China. During our meeting, the translator shared his view of the different responses. He was a little reserved at first, and he didn't want his comments to influence my analysis. However, I assured him that his comments would be very helpful in showing his interpretation of the responses. After a brief overall discussion, we went over each test and discussed potential miscues. He found the level of Chinese of the students below the college level. For example, some characters were not clearly defined, which made it harder to interpret the responses. The general perception of the translator was that some concepts like *undo* were difficult for a Chinese student because the word could have multiple interpretations. He also mentioned the fact that students use different English-Chinese dictionaries, which vary in their interpretation of word meanings from English.

Spanish: The translator took the time to mark the answers and discuss them with me. First, he browsed the book while I told him the story. Then he began marking the answers and discussing them, pausing to make linguistic and cultural connections between the words. When he wasn't sure about the exact term, he looked it up online in a Spanish-English dictionary. Overall, he noticed some colloquialisms and special uses in the students' Spanish. He can speak Portuguese well, so we switched back and forth between Portuguese, Spanish, and English to get the right meaning of a word. I was glad to have asked for his help because there were many Spanish words which looked like but were different from Portuguese ones. These include *sobre*

(envelope)*, matera* (pot)*,* and *tela* (fabric). He also discussed the nuances between *-ed* and *-ing* adjectives and their Spanish equivalents. From a cultural perspective, he called attention to the fact that many Spanish speakers do not take pride in their own language and don't know enough about the Spanish- and much less the Portuguese-speaking world.

French: We discussed the answers after the translator had marked all of them. She was familiar with the research and was eager to help. She wrote detailed notes about responses and the extent to which they approximated or deviated from acceptable meanings. There were issues with nouns versus adjectives, including the distinction between *-ed* and *-ing* adjectives. The translator noticed several misspellings which she attributed to a possible influence of the oral language. She said the misspellings were close to the way the words are pronounced. She also noticed that some responses appeared to be from non-native speakers of French, which is true. In addition to French, most test-takers speak either a French-based Creole or an African language.

Japanese: She didn't read the story, but we browsed it together as I summarized the plot for her. I also read passages containing words that presented challenges to students. Then we went over the responses. Sometimes she said the Japanese word out loud to intuit its meaning and usage. She pointed out that the distinction between *interested* and *interesting* or between *ill* and *illness* in Japanese is not as clearly-cut as in English. The change between nouns and adjectives also occurred in words such as *fragrant*. A noteworthy observation in our meeting refers to *altar*, which she interpreted from the student's response as a "memorial" or "tombstone." As the translator explains, the student appropriated a concept that occurs in the Japanese tradition. In this case, *altar* is seen as an object to honor or remember someone and

does not imply religion. This meaning contrasts with my Brazilian background, in which *altar* has a religious meaning as in an altar in a church.

Korean: She read the story quickly to get the gist. Then, as she started marking the answers, she referred to the story to clarify the meaning of a few words such as *pod*, *towering*, and *scramble*. The first test was from the picture group, and the second test from the no-picture group. She noticed that the first test had better results than the second. Like the Japanese translator, she also noticed some flexibility between nouns and adjectives, with *bloom* translated as either *blooming* or *bloomed.* Our linguistic discussion led to a cultural one. I asked her if there were emperors in Korea like in China. She said that the country is so much smaller that it couldn't be compared with China and that there were no emperors, just kings. Another point of note was her explanation about the Korean alphabet. Each character represents a syllable rather than a word or concept as in Chinese.

Urdu: He speaks Hindi and knows some Urdu. Since the answers were in the Hindi alphabet, I needed an Urdu speaker who also knew the Hindi written language, or a Hindi speaker who knew enough about Urdu. The second choice turned out be the case. The translator used the internet to double-check the answers. As per my request, he annotated the responses both semantically and phonetically, and provided equivalent Hindi meanings. The translator found the student's level of English too low and he pointed out that the student might not be helpful for the research. I further asked him why he knew Urdu, and he explained the strong presence and cultural significance of the language in Northern India. We also had the opportunity to enjoy Urdu and Hindi music videos. He pointed out that Urdu is the language of love and poetry. He also showed differences in Urdu and Hindi settings, the former with roots in the Muslim tradition as opposed to the Hindu foundations of Hindi.

Italian: I met with the translator online as he moved back to Italy. He is a former university student, but didn't know about the research yet. He didn't have a chance to read the story, but I gave him the gist, clarified word meanings, and explained what the research was about. When necessary, I also wrote phrases from the story to help him contextualize the words. In addition, there were only a few words to translate, so it didn't take long.

Vietnamese: We read the story together, and I explained some of the words. He didn't know the meaning of *unfurling*, but he said he could get it from the picture. At first, I was concerned that I might not be able to understand him because of his accent. However, as our conversation progressed, I noticed that his comments were thoughtful and he didn't take long to figure out whether or not the answers were right. He would smile when the answer was not the right one, such as the translation of *towering* as *towel*. He found it funny that the author translated the word "River of Perfume", which is a proper noun. He also discussed word meanings in detail such as the subtle differences between *alter*, *change*, *repair*, *fix*, and *adjust*. He was an experienced language learner and knew about the different parts of speech. As to the Vietnamese language, he pointed out that it is monosyllabic. For example, he said that to form the word *emperor* in Vietnamese, one needs two monosyllables. In addition to his acute linguistic perception, he explained various aspects of the Vietnamese culture, from farming to family customs and religion. For instance, he told me what was on the altar in the book (the incense holder and plate with food). Then, he said people made their offerings and only ate after the incense extinguished. They also offered a special meal, not leftovers. The idea was that the ancestors would eat first. He also mentioned there is a gap between the Vietnamese and the Vietnamese-American students and that they don't mingle so well. He said he didn't have many friends, so I told him about the Vietnamese American students association.   I found his

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comments of fundamental importance to understand the Vietnamese culture depicted in the story and illustrations.

Russian: She read the book silently while I waited. We then discussed the meaning of a few words such as *pod* and *moat,* and she began translating. She could tell the first test was from someone whose native language was not Russian because there were differences regarding grammatical usage. Also, there was a word she didn't know, and she said it could be a regional variation. She noticed the other test-taker spoke Russian as a native language because all the words were grammatically correct. We engaged in a comfortable cultural exchange. I told her that she had beautiful handwriting, which she denied. I noticed that Russians seem to have a high standard for handwriting. When I asked her if she liked Russian literature, she said not as much as she does Spanish literature. She also told me she was interested in the Brazilian culture, which made me connect with her instantly.

Turkish: Initially, he wasn't sure whether he would be able to help because he hadn't been in Turkey for the last three years. However, I assured him that he would be of great assistance. First, I told him about my research questions and the experiment I conducted. Then I allowed him to read the story and after that we discussed the meaning of some of the target words. His contribution to the research is clearly observed in his analytical stance. He looked at the responses with a conceptual perspective, considering what the students meant based on their background knowledge. An interesting point in our conversation was his comment on the words *altar* and *senator*. When I asked him about Turkey's Christian past, he briefly taught me about the shift from Constantinople to Istanbul and the fact that it is a predominantly Muslim country. He acted as an adovocate to the the students, suggesting linguistic and cultural connections as possible explanations for their answers. For instance, in the case of *altar*, he explained students

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may be familiar with the concept because of the Greek Orthodox churches. Thus, he explained that the Turkish word *imge,* which means "image," may represent what they see in the church. Sometimes, while searching for the exact term in Turkish, he quickly used an online dictionary from his cell phone. He also took his time to comment on the Turkish language, its alphabet and verb system. We ended our meeting with a strong sense of accomplishment.

In sum, the linguistic and cultural explorations with the translators not only made it possible to unlock the meaning of the responses in different languages but also enriched my multicultural understanding. The translators helped me see word meanings from the perspective of the students, helping avoid misconceptions and creating the foundations for subsequent analysis. Yet, another task was to come. The transition from written responses into numeric scores demanded further interpretation.

Scoring System

Pre- and post-reading raw scores were entered into an SPSS 19.0 spreadsheet for analysis using, among other statistical procedures, the independent samples test with alpha set at or below .05. The independent samples test can be used when comparing two groups of means such as males vs. females, or experimental vs. control conditions. Before the statistical analysis, all data were checked for accuracy. In addition, a detailed analysis of the responses in conjunction with the translators led to three research-defined levels of acceptability. The written responses were scrutinized before the conversion into numbers. This careful process guaranteed that the responses were scored following the same criteria. I follow the scoring system below to mark the test responses.

$1 = Acceptable$ – translation or definition corresponds to target meaning

$.5 = Partially\ acceptable$ – translation or definition approximates the target meaning

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0 = *Unacceptable* – translation or definition not provided or unrelated to target meaning

An example of an acceptable answer is the Spanish word *emperador* in response to the English word *emperor*. A partially acceptable response could be *fabric* instead of providing a translation for *silk*. An unacceptable response could be a word equivalent to "snake" as a translation for *sneak*.

Assumptions

The quantitative component is based on three assumptions. First, all participants are familiar with the genre (narrative) and theme (immigration). It is unlikely that students have no narrative background since talking about past events and telling stories are ancient traditions. In addition, they all share the experience of living and studying in the United States. Even if they didn't know what the word *immigrant* means, they do know what it means to come from a different culture. Therefore, this study does not predict any difficulties due to lack of familiarity with the genre or theme. Second, all participants can read in English. To meet this assumption, only students in the intermediate and advanced reading levels are selected. Third, all participants can understand the gist of the story. That is, the text is neither too easy nor too difficult. If they already know all the words, then there is no point in testing their learning. On the other hand, if the text is way beyond students' reading level, the number of unknown words could affect the comprehension of the story.

Qualitative Methodology

Unlike the quantitative design, the qualitative portion of the study has no pre-established hypotheses. According to Miles and Huberman (1994), qualitative research is data-driven rather than theory-driven. Therefore, the hypotheses should emerge from the data. As Creswell (2002) points out, the qualitative portion in a mixed-method design can be carried out after selecting

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extreme cases, or outliers, for a more in-depth investigation. Another option is to identify cases according to some pre-defined criterion (Miles and Huberman, 1994).

Participants

Six participants from the quantitative study were invited for the interviews (Table 6). The sample, which is composed of languages of varying writing systems, is considered to be representative of the whole group of students. Three students are from the experimental and three from the control condition. There were three males and three females. The sampling criterion for the interviews is based on most-occurring languages (Arabic, Spanish, French, and Chinese) plus student's individual test performance (higher comprehension scores). The rationale for not choosing low scorers was that students would need to have higher oral language skills to talk about their learning experiences. If their test scores were low as a consequence of lower reading ability, then they might not be able to provide much information about how illustrations might have influenced word learning. Since the purpose of the interview was to learn about the students' experience learning words from storybook illustrations, then the focus on those who appeared to have benefited from the illustrations is justifiable.

Table 6: Participants in interviews

Student	Gender	Language	Level	Condition
Francine	Female	French	5	TP
Duc	Male	Vietnamese	3	TO
Na	Female	Vietnamese	4	TO
Kim	Female	Chinese	3	TP
Arif	Male	Arabic	6	TO
Esperanza	Female	Spanish	6	TP

Note. TP = Text Plus Picture; TO = Text Only.

Materials

Two tape recorders with regular cassette tapes were used to record the interviews—one tape recorder functioned as a back-up. In addition, an illustrated copy of *The Lotus Seed* with sticky notes next to target words is provided. For instance, the label *emperor* appears every time this word occurs in the text. If a target word occurs just one time, one label only is provided. If the word occurs more than once, the appropriate number of labels is provided. The label was the same as in the test. For example, the label *to sneak* appears next to the word *snuck,* and the label *refugee* is posted next to *refugees*.

Procedures

Data Collection

Because qualitative methods such as interviews and think-aloud protocols are argued to provide a better perception of the individual processes of reading (Hewitt, 1982; Alderson, 2000), such as the ways in which readers select elements in the pictures to guess the meaning of particular words, an individual interview is conducted with six of the forty participants, three from the experimental and three from the control condition.

Notes

My notes are brief, usually focused on one event. For instance, I take notes after interviewing someone, or when an idea or feeling occurs. However, I missed many opportunities to document my emotions when I had to make important decisions such as what kind of test, how many people to interview, and so forth. On the other hand, I did take plenty of notes regarding my research plans, keeping drafts of e-mails, drawing mind maps, scratching calculations, keeping small pieces of writing everywhere. For instance, I saved a napkin where a Vietnamese

elderly man I met at a party wrote down the translation for *emperor*, *flower*, and *altar* per my request. This was useful during the interviews with the Vietnamese students because I could ask them more specific questions.

Events

Although I didn't always take notes, I participated in cultural events that could enrich my multicultural experience, enabling me to interpret the data in more depth. For example, I attended many campus activities promoting diversity, including a presentation on Vietnamese culture. In this presentation, I learned about various aspects of the culture such as religion, family, cuisine, and clothing. I discovered the meaning of *ao dai* in real life when I saw the Vietnamese women wearing their traditional costumes. Events like this helped strengthen my cultural understanding and renew my ties with the international community. In addition, they created personal connections with my readings of multicultural and immigrant children's literature that served as foundation for the study.

Interviews

The interviews occurred a month after the written assessment. The delay was necessary for two reasons. First, time was needed to process and analyze the quantitative results, which helped indicate who should be interviewed. Second, the delay was required to avoid a recent-memory effect from the first exposure. The students selected for the interview were contacted by e-mail and via their classroom instructors. I asked the teachers directly to remind the students to read my e-mail. In addition, I went to the program during the break and was able to talk to the students. I politely invited them to the interview, making sure they didn't feel pressured to accept. They filled out their appointment slot in a weekly table, which also featured the same message they received through e-mail (Appendix H). During the interview participants

described their strategies for guessing target word meanings. Students read the story and talked about their understanding of the target words.

Audio-Taped Interviews

Another type of notes was the recording. The interviews took place in my office, located in the same building as the intensive English program, but on a different floor. I used my recorder from early research on storytelling and an old battery-run recorder as a back-up. I initially considered adopting the new technology such as a digital recorder, which facilitates uploading to a computer. However, I didn't want to raise an ethical issue with the participants worrying about their voices sent over the internet. A modern recording device presented this threat while an old piece of equipment helped assure that the recording would be used locally and for research purposes only. In addition, I assumed the students would be familiar with cassettes. Finally, to help create a comfortable setting for the interview, I also offered them cookies and coke to break the ice.

Transcription

In transcribing the interviews, I tried to remain faithful to the context of the conversation but at the same time free from extreme linguistic fidelity. For example, when a student didn't pronounce the *-ed* ending of a regular verb, I added the *-ed* when I couldn't determine whether the student didn't know the form, or if it was a matter of accent. However, the changes were minimal in order to maintain some fidelity. For instance, some repetitions that didn't carry much meaning were deleted while others revealing the student's thinking process were maintained. When a passage is not clear but audible, I put it into brackets [like this]. If, however, something wasn't clear at all, I simply marked [unclear]. I also used brackets after a sentence to make comments, such as [reading aloud] or [pointing to picture].

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Coding

After the recordings were reviewed for accuracy, I started reading and coding the transcripts. The coding system is, in part, based on the literature review and, in part, unique to the data. There are some overlaps such as IL (illustrations) and RS (reading strategy) because it comes from the literature, but also emerges in the interviews. Below is a list of the most frequently occurring codes:

CC – context clues

IL – illustrations

BK – background knowledge

CG – cognates

CH – comprehension

UV – unknown vocabulary

UG – unable to guess

GU – guessing

RS – reading strategy

The codes were generated as I read and annotated the transcript for each case. Then, they were consolidated in the cross-case analysis.

Data Analysis

The qualitative portion of the study followed techniques described by Miles and Huberman (1994) for collecting, managing, analyzing, and interpreting qualitative data. The authors suggest useful guidelines for various stages of the research, especially reducing and making sense of the data. For example, they highlight the role of different types of note-taking, from writing personal reflections or more objective field notes to labeling and coding the

transcript to uncovering meaning through unique phrases, memorable vignettes, and powerful metaphors. However, because the design also has a quantitative component, the data reduction process was not as complex as in a standard qualitative study.

One may argue that the interview could have been substituted for another quantitative measure such as a multiple-choice questionnaire. Others may suggest that an alternative qualitative technique such as think-aloud protocols would have been preferable. However, the study did not follow that course of research for these reasons. First, given the inferential nature of reading, a qualitative method is preferred. Because the clues appeal to readers in very distinct ways, it is not possible to generate a quantitative instrument that captures, in enough detail, the multitude of nuances that come into play when readers interact with text and illustrations. Second, although think-aloud protocols are popular in studies investigating learning or reading strategies (e.g. Block, 1986; Lawson & Hogben, 1996), interviews serve a similar purpose. For example, in Block's (1986) investigation of the comprehension strategies of second language college students, participants were given tape-recorders to document their learning strategies (e.g. coping with unfamiliar words while reading), and they were allowed to use the native language. However, in the current study, interviews focused on specific target words, thus asking students directly in English was logistically more feasible than having them record their observations in the native language. In addition, the interviews restrict the data collected to only what is relevant to the study, which is an advantage over think-aloud protocols. In sum, while the quantitative designs provides an overview of the potential influences of storybook illustrations on incidental vocabulary acquisition among readers with or without access to visual input, the qualitative design can capture richer detail about the process of learning words from the illustrations in direct contact with the selected learners.

Assumptions

Because the interviews occurred a month after the written assessment, the participants are assumed to have forgotten some of the story and the meaning of new words. They are also expected to have shared their experiences reading *The Lotus Seed* with others. The objective of the interview is not to test their knowledge of target word meanings, but learn about the ways they interact with an illustrated story.

Summary

This chapter described the methods used in this study, which explores the potential influences of storybook illustrations on learning word meanings. Forty participants were tested with a single-word translation measure containing fifteen target words and fifteen distractors. The measure was applied before and after the reading of the selected text, a picture storybook portraying an immigrant experience. An experimental and a control group were assigned to a text-plus-picture and text-only condition, respectively. To reject the null hypothesis that there are no significant differences between the groups, results must be significant at an alpha level of .05. In addition to the quantitative data, six participants were interviewed for a more in-depth investigation of the individual processes of learning vocabulary from children's literature. The qualitative portion of the study investigated the extent to which storybook illustrations can facilitate incidental word learning among adult English learners. The next chapter presents the findings and other data from both quantitative and qualitative components of this mixed-method investigation.

Chapter 4

Findings

This study used a mixed-methods design to investigate whether or not storybook illustrations influenced learning word meanings. The quantitative design examined whether students who read *The Lotus Seed* (Garland, 1993) with illustrations differed in pre- and post-tests of vocabulary from readers who received no visual support. The qualitative design explored the extent to which the illustrations benefited a small portion of the students in terms of vocabulary. The results from each design have been analyzed and interpreted according to their respective methods. As mentioned above, I have preferred a more personal style of writing because my involvement with language learning is such that any attempt to remain *objective* would mislead readers. However, I would like to anticipate that both quantitative and qualitative data have undergone a thorough investigation. The results of the quantitative data from forty adult English learners, collected via paper-based single-word translation and multiple-choice tests, were analyzed with the SPSS statistical software program, version 19.0. The qualitative data, collected from six individual interviews, were analyzed within and across cases (Miles & Huberman, 1994). Because I discussed the data collection process in chapter three, I now turn to the analysis. First, I present the quantitative findings, interpreting the results based on the statistical procedures set for the study. Second, I present the qualitative findings and discuss the results using an inductive approach from narratives to patterns and finally to themes. Before presenting the findings, I would like to revisit the research questions.

Research Questions

The research questions are as follows:

1. Do storybook illustrations influence learning word meanings from context? (main

   research question)

2. Is there a significant difference between experimental Text Plus Picture (TP) and control

   Text Only (TO) groups in pre- and post-reading tests of vocabulary? (quantitative

   question)

3. How are illustrations helpful to individual students in promoting incidental word

   learning? (qualitative question)

Quantitative Findings

The quantitative design examined whether readers who read a story with illustrations differed from those who read the same story without any visual support. The experimental group read the illustrated book *The Lotus Seed* (Garland, 1993). The control group read a photocopied version without the pictures. For differences between the experimental, text-plus-picture (TP) and the control, text-only (TO) conditions to be significant, results must be at or below alpha .05, which is an acceptable level for educational research.

Vocabulary

Results from the vocabulary assessment show that the majority of the target words were unanswered (blank). Table 7 shows the means and standard deviations for blanks in the pre- and post-tests for vocabulary (single-word translations).

Table 7: Means and standard deviations for blank items in vocabulary test

	Blanks	
Condition	Pre*	Post**
	M (SD)	M (SD)
Text Plus Picture	11.41 (2.00)	9.41 (2.98)
Text Only	11.00 (2.75)	8.65 (3.80)

Note. Not significant: * $p = .61$; ** $p = .50$

The high occurrence of blank items in the post-reading test indicates that students either didn't

know or couldn't remember target word meanings after reading the story. The difference was not

significant between the Text Plus Picture and the Text Only conditions.

Compared to the control group in terms of number of blanks, the experimental group

produced fewer occurrences, which shows the students in that group had more attempts at

guessing word meanings. However, the difference was not significant as shown in Table 8.

Table 8: Gain in blank items for vocabulary test

Condition	Blanks Gain
	M (SD)
Text Plus Picture	2.00 (2.00)
Text Only	2.35 (2.74)

Note. Not significant: *p* = .66

Further analyses using the vocabulary test responses were conducted to determine

whether readers who read the story with illustrations differed significantly from those who read

the same story without any visual support in the vocabulary assessment. No significant results

were found in both pre- and post-tests for the Text Plus Picture and Text Only conditions. The

experimental group, who viewed the illustrations, produced a higher number of correct responses

than the control group. However, like in the analysis of blank items, the results were not

significantly different.   Table 9 shows the means and standard deviations of correct responses

for both groups in pre- and post-tests.

Table 9: Vocabulary test results

Condition	Vocabulary	
	Pre*	Post**
	M (SD)	M (SD)
Text Plus Picture	1.79 (1.480)	3.18 (2.371)
Text Only	1.46 (1.306)	2.57 (2.409)

Note. Not significant: * *p* = .44; ** *p* = .43

Compared to the control group in terms of vocabulary improvement (mean gain), the experimental group did produce higher mean scores. However, once again, the results were not significantly different as shown in Table 10.

Table 10: Vocabulary gain

Condition	Vocabulary Gain
	M (SD)
Text Plus Picture	1.38 (1.41)
Text Only	1.11 (1.46)

Note. Not significant: $p = .56$

The results from the vocabulary assessment indicate that viewing storybook illustrations did not influence word learning significantly. Given the role of visual information in expanding meaning from text, as evidenced in the review of the literature (e.g. Schallert, 1980), subsequent analyses were performed to determine whether illustrations did influence reading comprehension.

Comprehension

Although comprehension was not the focus of the present study, these findings are worth reporting because of their relevance to vocabulary research. For the comprehension assessment, a one-way ANOVA was conducted, showing significant differences between the experimental and control groups, $F(1, 38) = 9.680$, $p = .004$. Table 11 shows the means and standard deviations for comprehension test results according to treatment condition.

Table 11: Comprehension test results

Condition	Comprehension Post*
	M (SD)
Text Plus Picture	9.29 (1.160)
Text Only	7.61 (1.994)

Note. * $p = .004$

Because statistically significant results were found for comprehension, a secondary analysis was performed to determine how the significant differences played out for the four reading levels described in Chapter 3. Therefore, scores from the comprehension measure were assessed using a linear regression to determine the extent to which reading ability as determined by placement into four reading levels could predict success in comprehension. When compared with the highest reading level, significant differences were found only for the lowest reading level, $F(3,36) = 3.976$, $p = .007$. Although the model only predicts 25% of the variance, these differences in comprehension scores might be related to ability effects.

Overall, the study fails to reject the null hypothesis. That is, there are no significant differences between experimental and control means for both pre- and post-reading vocabulary assessments. Although the comprehension measure was not the focus of the study but served as a distractor to help students focus on story content, rather than individual words, the findings are consistent with the observation that illustrations may have influenced the way students comprehended the story, due to the significant results for comprehension between experimental and control groups.

If illustrations provided extra contextual support for learning word meanings, then the picture group should score significantly better than the no-picture group. If, however, the illustrations only supported comprehension, this might explain the significant differences in comprehension between highest and lowest reading levels. For example, difficulties reading words in English as indicated in the *sneak/snake/snack* responses discussed below show that, for some students, their reading skills are still developing, which in turn may affect the extent to which they may have benefited from written context to acquire word meanings. Arabic students were particularly prone to this kind of error, as in Hayes-Harb's (2006) study, and they formed

25% of the sample. Also, more than half of the Arabic speakers are in the text-only condition and lower reading levels. Therefore, students' reading ability may have influenced their use of context to infer word meanings from the story.

With respect to reading ability, the selected vocabulary research on learning from context reviewed in Chapter 2 shows apparently disparate results. On the one hand, the *learning from context* group, represented by Nagy and his colleagues (Herman et al., 1987; Kilian et al., 1995; Nagy et al., 1987; Nagy et al., 1985) found small ability effects, as Nagy (2010) pointed out. On the other hand, the *teaching words directly* group, led by Beck and her colleagues (e.g. Beck et al., 2002) found a strong relationship between reading ability and learning from context (e.g. McKeown, 1985). Comparing these results from first language research with later second language research on the role of context on success at inferring word meanings (e.g. Nassaji, 2007, Webb, 2008), one can conclude that more able readers are more likely to benefit from context.

The notion that readers in greatest need to learn words are at a disadvantage when using context to infer word meanings aligns with observations from second language reading research. According to Anderson (1999), second language reading is more complex than first language reading; therefore, lower-level readers may have more difficulty comprehending texts and, consequently learning words from context because their working memory is occupied with bottom-up processes such as decoding and parsing (Birch, 2002, 2007), which haven't yet been automatized, and because differences across languages (Koda, 2008) and writing systems (Perfetti & Dunlap, 2008) might affect comprehension. As a result, readers with small vocabularies are particularly vulnerable to the Mathew effect (Stanovich, 1986), thereby contributing to gaps in word knowledge that may have negative consequences to academic

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achievement (e.g. context-area reading and writing) if not addressed properly with culturally appropriate instruction (Au, 1993; August & Shanahan, 2006; Wiley, 2005). While many studies have shown the benefits of wide reading for vocabulary development (e.g. Cho & Krashen, 1994; Krashen, 1989; Krashen, 1993), other researchers have argued that inferring words from context works best as a strategy for reinforcing previously learned vocabulary, rather than as a strategy for learning new words (Folse, 2004; Nation, 2001). In addition, as Folse (2004) pointed out, "the true pedagogical value of guessing may be for reading comprehension and not for vocabulary learning" (p. 82). Therefore, to understand whether illustrations might have played a role in word learning, even if only indirectly, the process of inferring word meanings should be explored in more detail.

In sum, access to illustrations appeared to have facilitated story comprehension, but not word learning, which supports research affirming that context has a small effect on vocabulary acquisition. Whereas students' comprehension was facilitated by the illustrations, their ability to use context may have been influenced by cross-language and ability factors. Because learners may have used various resources to comprehend the story and cope with unfamiliar words, more research would be required to explore the role of illustrations versus other inferential resources in storybook reading, including the reader's cultural and language background. In order to investigate these issues further and learn more about the process of learning words from storybook illustrations, a qualitative study was conducted. Thus, the next section focuses on the qualitative findings.

Qualitative Findings

The current study explored the potential influences of storybook illustrations on learning word meanings. The qualitative design investigated the process of learning words from

storybook reading, guided by the following question: How are illustrations helpful to individual students in promoting incidental word learning? My purpose for this investigation was to examine the extent to which illustrations in *The Lotus Seed* were helpful in unlocking the meaning of unfamiliar words. Keeping the question in mind as a way to guide my writing, I now turn to my observations while going over the transcripts.

An important decision in qualitative research is to allow the data to guide the research question, not the other way around. Of the six participants that I had the opportunity to interview, two had demonstrated interest in the study even though I had not asked them any questions. One was a French speaker who commented that she understood the words when she was reading the story, but couldn't remember the meanings during the second vocabulary test. The other one, a Chinese speaker, wanted to learn more about studying in the United States and was quite uninhibited to introduce herself and start a conversation. My first impression was that these women would have more to say about the study. In addition, French and Chinese along with Arabic and Spanish had the largest number of participants. Finally, I invited the Vietnamese students because their unique background knowledge could serve as a control criterion. These students are nicknamed with a pseudonym: Francine (French), Duc (Vietnamese), Na (Vietnamese), Kim (Chinese), Arif (Arabic), and Esperanza (Spanish). The interviews were conducted in the following order: Duc, Kim, Francine, Na, Arif, and Esperanza. However, the narratives from the interviews are presented in the order that they emerged in my writing. This personal perspective helps discover themes from the narratives, showing my interpretation as I weave the stories through my observations.

Researcher's Role

Before looking at the various narratives, I must understand the impact of my own subjectivity. As a researcher, I have a predisposition to search for evidence for my questions. That I cannot help. One main quality as a researcher is that I am the interviewer. Therefore, I have the ability to bring up topics, emphasizing some or discouraging others. If one reads my questions in all the interviews, one can see that a lot of the questions are related to the relationship between words and pictures. Another quality as an interviewer is that I have the ability to shift the direction of the conversation. For example, I may ask a student to elaborate on their word guessing or direct their attention to a specific clue in the text. On the other hand, as an observer of a phenomenon, I also have the ethical commitment to show not only what I see, from my standpoint, but also what the artifact that I'm looking at could represent to a reader from a different angle. My willingness to let go of my searching attitude and take the role of an active listener, not someone who's looking for specific answers, is paramount to the interpretation process. The interviews have examples of both qualities, which I discuss along with the analysis of each narrative.

I interviewed six out of forty participants during the qualitative portion of the research. I asked them to elaborate on their word-learning experience from reading *The Lotus Seed*. I analyzed the transcript for mini-narratives that could help explain or demystify the quantitative findings. I will discuss the narratives in order of relevance and allow overlaps between them if applicable.

Interview Opening

I begin the interviews thanking the students for their participation, and I explain what they are going to do. I tell them that I would like to learn about their experience reading *The*

Lotus Seed and that we are going to discuss a few words in the story. When they look at the words, they should tell me what helped or didn't help them to figure out the meanings and what kind of difficulties they had with those words, if any. The opening of my interview with Duc, a Vietnamese student, was recorded.

Example 1
> **Leo** Thank you so much for helping me with my research.
> **Duc** You're welcome.
> **Leo** I would like you to read the story, and you're going to see some words. The words are in sticky notes like this [showing EMPEROR].
> **Duc** Yeah.
> **Leo** So when you read, tell me about the word. What does it mean? What helped you to understand this word? If you did not understand the word, did you try to understand? What ways or strategies did you use to understand that word?

The same kind of instruction was given to the other participants, although this part was not always recorded because that initial moment was crucial for establishing rapport with the students. In addition to my instructions, there was some negotiation as to whether to read aloud or silently, or whether to read the whole paragraph or only portions of it. Because I told students to focus on the selected words, which I put on post-it notes, there was no need to read the passages fully if they already knew the word. However, some preferred to read the passages first to have a chance to guess the word. Others only read a passage if they needed to refresh their memory or make a better guess. I tried to allow room for different learning strategies, adapting the instructions slightly as I moved from one interview to the next. The purpose of the interview was not to teach word meanings, but to learn about their experience learning words from an illustrated book. For instance, when students asked me to supply the meaning of a word, or give them a hint, I told them I would prefer the story to tell. This way I shifted their attention back to the text. Even so, there were moments of teaching, especially at the end of the interview, when I asked them to guess what they saw in the picture of a lotus pod. Most were able to guess, but I

also didn't mind telling those who didn't. I was confident that the students wouldn't have the opportunity to tell the other interviewees about the meaning of the word, and if they did, that would not make a difference.

Narratives

Influenced by readings in ethnography, especially Lawrence-Lightfoot and Davis (1997), I look at the narratives as articrafts. As an object of contemplation, a narrative has physical as well as subjective attributes. Physically, the stories that we weaved through dialog feature the following:

Things that repeat or are similar. Things that are unique.

Things that resonate with other narratives. Things that resonate with the literature.

Things that fade away. Things that become salient.

Things that are disguised or masked.

Things that are silenced. Things that are voiced.

Things that are searched. Things that emerge.

Things that are prompted. Things that are spontaneous.

Subjectively, the stories also feature my personal angles because my interpretation of the narratives is influenced by my role as a researcher.

Francine (French)

Unlike most of the students, who are in their twenties or thirties, she is mature. Elegantly dressed, she came to my office with a frustrated look since she had been looking for the place for a long time. I apologized and thanked her for making an effort to help with the research. In our interview, I couldn't help noticing the repetition of the phrase, *I can imagine*, which sounds like *I think* or *I believe*, but also suggests an attitude toward imagination or visualization.

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Example 2

    Leo OK. Now you have *to scramble*.

    Francine Uh I don't know. It's a verb. I can imagine it's a verb with an action because you can say *into a crowded boat,* and I can imagine that these people tempted to escape from their country, so they... I can imagine they jumped into the boat or something like that. Yeah.

    Leo Now, you're saying you can imagine, what helps you to imagine what it means.

    Francine Uh, probably the context because I can imagine these people wanted to escape from their country, and they had no time and took a few things and so they were hurried to escape, so they jumped into the boat. So, it's probably the context.

    Leo When you say the context, what exactly do you mean?

    Francine The context in the story because I can say that when the soldiers clamored door to door she took the time to grab the seed but she probably took a few things and she ran to take the boat, so the story I can imagine that with the story.

    Leo You read the story with the pictures, right?

Prompted to elaborate on what she can imagine, she describes her reading experience in detail, going deep into her learning process. I was surprised to hear the word *context*, which I hadn't used before in any of my documents to the students. Therefore, I found her spontaneous use of the word worth learning more about. She goes on to define what she means by *context* and distinguishes story versus picture context.

Example 3

    Francine Right.

    Leo When you say context, are you considering the story?

    Francine Or the pictures?

    Leo Or the pictures? What do you consider as context?

    Francine Uh, probably more the story than the pictures.

    Leo Really? How so?

    Francine For this one, probably more the story than the pictures because you know...

    Leo For *to scramble*?

    Francine Yeah, because when you see the picture, the people are already in the boat, and they have to become confronted to a storm, so *scramble* for me is before. I can imagine with the story, not with the pictures.

    Leo So, you're saying, on this passage, the story helps you to understand the word better than the picture does.

    Francine Yeah, yeah.

    Leo If you paid attention to the picture and not the story, what would you say *scramble* means?

    Francine I don't know... uh.

She looks at the relationship between words and illustrations in detail, pointing out that in the case of *scramble* the story, more than the picture, helps her to figure out the meaning. I found her explanation that the action takes place before the picture insightful. I had not considered that possibility before.

Example 4

> **Leo** I think you have a very powerful strategy because you don't get tricked by the pictures, right?
> **Francine** No, no. Yeah, yeah. Because when I see the picture, I say OK, they are all set out of a stormy sea, so they are confronted to a very very strong storm, but *to scramble into...* there they *are*, so it's not an action, so for me it's before. So, the picture doesn't help me to understand *scramble*. Because I think that *scramble* is before this picture. Do you understand? I don't know how to explain it, but.

Below, I try to elicit situations in which pictures may be helpful. By rephrasing the question, I get Francine to tell me more than just "the story." She describes the whole scenery and brings up the idea that she could understand all the passage without the picture.

Example 5

> **Leo** You said the picture doesn't help you to understand *scramble*.
> **Francine** Yeah.
> **Leo** What does it help you with?
> **Francine** The story, the story. In this case, the story.
> **Leo** No, I mean, what does the picture help you with?
> **Francine** Uh.
> **Leo** You said it doesn't help you with *scramble*? Does it help you with something else?
> **Francine** In this part, no, just maybe to understand that there is a stormy sea and she watched the mountains because we can see the mountains and the coast, something like that. But I can understand without the picture.

Francine's insights into the role of illustrations are noteworthy. I wonder whether illustrations are needed at all, but she makes it clear each passage has a different type of word-picture connection. However, as she explains why she can guess *altar*, it becomes evident that the picture does prompt the concept, but she can get it not only because of the picture but also because of her background knowledge.

Example 6

    Leo You can understand without the pictures?
    Francine Yeah, yeah.
    Leo Does it mean you don't need the pictures? What do you think?
    Francine For this part, yeah, I don't need the picture, I think.
    Leo And do you need the pictures for another part?
    Francine Um, yes, for example, for this one probably for the lotus *pod*, for the *altar*, because I can probably guess that the altar is this furniture, and I can explain what is its function, what is this picture. This one, not, because it's before.

Referring to my codes, I see a BK (background knowledge) and IL (illustrations) next to *altar,*

confirming the interplay between those elements:

Example 7

    Francine Uh, I can imagine it's a kind of furniture, a little table, something like that because <u>I can see it on the picture</u>. Some... [IL]
    Leo And what is it used for?
    Francine Uh. Maybe to pray, pray gods, or to be devoted to God. You put some, for example, some food, some vegetables, and you light a candle for the gods. I can imagine something like that.
    Leo A place where you pray and you offer food?
    Francine Yeah, yeah. In particular, in your house or <u>you can see something like that in some Chinese restaurants</u>, for example. [BK]
    Leo Really?

Because of my Brazilian background, in which the word *altar* is spelled exactly as in English

and reminds me of Catholic churches, I wonder if there is also a cognate in French and if it

helped her figure out the meaning the same way as in *emperor*. Francine says there is *altier*, but

it is not related to *altar*. Thus, I discharge any influence of the French language for that

particular word.

Example 8

    Leo So, when you saw the word *emperor*, your French helped you to understand.
    Francine Yeah**.**
    Leo And did your French help you with the word *altar*?
    Francine No, no. Uh, no, no. It's not connected with that. With the same meaning, no it's not connected with that.
    Leo Which word are you thinking about?
    Francine I think about uh the French word is *altier,* and *altier* when you're a noble, it's the way you stand when you are very straight, you feel, how can I say, you have... *altier* [unclear] you... but it's not related to that.

> **Leo** Not related to that.
> **Francine** No, no, no.

As per my request, she comments on an observation she had made during the classroom reading

assessment. After the students had finished the activities, and I was preparing to leave, she came

to me and asked if I was going to develop a teaching method using picture books, or if that

activity was just for my research. I told her it was for my study, but maybe in the future I could

develop a teaching method. I also kept her in mind because I wanted to learn more about her

experience with the illustrations. Therefore, I couldn't forget to ask.

Example 9
> **Leo** One last comment, I would like you to elaborate on the comment you made in class
> if you remember. Can you make one last comment about that, what you said and what
> you meant?
> **Francine** I said to you that when I read the text, I understood the words I didn't know
> before. But after when I had the last document, I couldn't remember the meaning of the
> words because I... I think that the last part of your test, you need to memorize the words.
> I don't know why because when I read the text, I understood. But after, I couldn't
> memorize the words, and I think that when you have a new word, you can understand the
> context, but to keep in mind the new word, you have probably to make some sentences,
> to see the word in other texts, to memorize the word and to memorize the meaning. I'm
> not sure if I'm clear but, you know, for the reading, I understood, for example, I don't
> know.

When I look back at her comment, I wonder whether a single-reading exposure would have been

enough. What Francine says, her need to see and use the word in other contexts, resonates with

the literature reviewed in chapter two, which emphasizes both the context and the use of various

vocabulary learning strategies to make the new word stick in the memory. Her use of the words

remember, *memorize*, and *visual memories* makes a point to the different types of learning styles.

Differences in learning styles could be associated with the extent to which students paid attention

to illustrations during reading.

Example 10
  Leo Let's take this, for example.
  Francine [Reading] That's probably *patch*, *altar*... But when I needed to fill the last
  document, probably I saw too many new words, and I couldn't memorize, so...
  Leo So, you said that you needed to see the words in order to remember?
  Francine In this case, yeah. For new words, probably I need to see and to read the
  word, and I can give you the meaning. But if I see the word only one time, and after you
  close the book, you ask me to give the meaning without the story, the context, or the
  picture, I'm not sure because probably I didn't have memorized the word**.** And to
  memorize, I think that you have to make some sentences, to read again, and to write, so...
  It depends on your memory because some people are... some visual memories and
  intelligence, and some sounding. It depends on your...
  Leo On your style.
  Francine On your style, yeah.
  Leo This is very interesting. Oh, thank you so much. You've been so helpful.
  Francine You're welcome.

As I move to the next narrative, I would like to remind the reader that the interview with

Francine had an impact on my perception of the role of illustrations on vocabulary. I understand

the danger of overgeneralizing Francine's experience to the other interviewees. Thus, I will be

careful to look not so much for "things that resonate" but "things that are unique."

   Duc (Vietnamese)

   Duc was the first person I interviewed. I have taught many Vietnamese before, and I

have Vietnamese friends. With many positive experiences with the Vietnamese community, I

am fascinated by the small bits of knowledge that I have acquired over the years. When Duc

came to my office, he expressed some concern with the content of the interview. He said that he

couldn't talk about Vietnam, the government, or politics. Careful not to misinterpret his

concerns, but aware that he might not feel comfortable discussing political issues, I assured him

that the purpose of the interview was just to learn about his reading experience. I thanked him

for his help and made him feel at ease.

   As we started the interview, it didn't take long for me to learn that he enjoyed sharing his

culture. He seems to understand the uniqueness of his experience as a Vietnamese reader and

the strengths of his background knowledge. When I asked him about the meaning of *emperor*,

he quickly mentioned the picture.

Example 11
> **Duc** See that in paragraph I can understand this word because I see the picture, and I
> think this here's the king of Vietnam. So uh um how can I say?
> **Leo** The first time when you read the story
> **Duc** Uh-huh.
> **Leo** you did not have pictures.
> **Duc** Yeah.
> **Leo** Could you understand the word from the story?
> **Duc** When I read the first time, just this amount, I cannot understand this word because...
> When I continued to read in another page and have some words in that, so I can guess a
> little different.
> **Leo** Do you remember what page?
> **Duc** I'm not sure because I take a lot pages. I just remember I find the meaning of the
> words. Sometimes I don't know that word, the sentence, the meaning of that word, but I
> can understand that because, for example, I look other words around that word so I can
> guess.
> **Leo** So you look around, at words around that word to try to understand?
> **Duc** Yeah.
> **Leo** Oh. That's a good strategy.

An example of Duc's use of prior knowledge to comprehend the story is *altar*. Even though he

doesn't know the word, he understands what is in the picture. I couldn't understand the recording

at first, so I asked him the next day to clarify it for me. He listened to the selected part of the

recording and explained what he had said. He went on to describe the Vietnamese tradition of

family worship and the function of the altar as a way to both honor and remember the ancestors.

I had also asked him what *altar* meant in Vietnamese during the interview.

Example 12
> **Leo** What's the word in Vietnamese? How do you say ALTAR in Vietnamese?
> **Duc** I don't know this word. Oh! This is right? [pointing to altar in the picture]
> **Leo** Yeah.
> **Duc** This is *ban tah*, *ban tah*.
> **Leo** Oh *ban tah*. OK. [I had met a Vietnamese elderly man at a Thanksgiving dinner. I
> told him about my research, and he was eager to share his thoughts about the Vietnamese
> culture. He also translated three words for me (*emperor, altar,* and *flower*), which he
> wrote on a napkin. So, I was happy to remember that word.]

My interaction with the Vietnamese culture, as shown in my memo, proved useful in getting a

better picture of what Duc was describing. Duc's understanding of the story due to his

background knowledge seems to facilitate word learning. His guessing strategy, which involves

waiting for more clues on next pages or scrutinizing the words around the unfamiliar word,

appears to be successful, especially with *silk*, and *scramble*. Although he didn't have exposure to

the pictures before, he could figure out the meaning of *silk* because he could associate it with *ao*

dai, a traditional garment for women.

Example 13
> **Duc** And SILK, this is from *ao dai...* you can make *ao dai* from silk.
> **Leo** Oh, is it? For *ao dai*? OK.
> **Duc** Yeah, this is silk.
> **Leo** Uh. OK. Do you know the Vietnamese word for silk?
> **Duc** Silk uh *loa.*
> **Leo** *Loa.*
> **Duc** In paragraph... In paragraph [interrupted by researcher]
> **Leo** Is he wearing silk [pointing to emperor]?
> **Duc** Yeah. So you can make a lot of... because *ao dai* is something like that.
> **Leo** Is this silk [pointing to my own t-shirt]?
> **Duc** No, it's not silk. It's *pun*. Silk... it's not silk, but maybe it's also silk because I don't know what it's made from.
> **Leo** OK.
> **Duc** You know *ao dai* in Vietnam? Some people use... this is silk.
> **Leo** Yes, I've seen pictures [I actually saw a presentation on Vietnamese culture on campus. They showed Powerpoint slides with pictures and explained a few customs, including eating and dressing, respect for the elderly, and family life.]

Here one can see an example of "things that are silenced" when I interrupted him. I was so

excited about the *silk/ao dai* connection that I missed what could have been a further description

of his strategies for guessing unfamiliar words in paragraphs.   However, the emphasis on

background knowledge emerged.

He says *scramble* means "to climb into the boat." He gets that clue from the story: "I

remember I can guess the meaning of this word because **into a crowded boat**.*"* When I asked

him whether or not the pictures were helpful, such as in *towering*, he puts it into a percentage:

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"The pictures help me about 50%. I can guess the meaning." He goes on to give credit to his

background knowledge.

Example 14
>**Duc** Not only the picture because I'm Vietnamese people, so I understand about history
>of Vietnamese. But when you ask another person, he is not Vietnamese people, so when
>they look at the picture, they don't know. So, when I look at this picture [people on the
>boat], I know this here when people ran out of my country in 1950, 1975, something like
>that.

In addition to the interplay between background knowledge, written context and the illustrations

in Duc's guessing strategy, he also comments on the difficulty for guessing unfamiliar words in a

text. That occurred with *unfurl* and *dormant*.

Example 15
>**Leo** What about TO UNFURL? You have here *unfurl*.
>**Duc** I didn't guess, I can't guess.
>**Leo** You cannot? OK. Why are they difficult?
>**Duc** Because when I read the sentence, I understand the meaning of this sentence. This,
>"beautiful pink lotus." I understand that's the lotus flower, that's very beautiful and has a
>pink color. And this one [unfurling], I don't know this. I don't understand so I can't
>guess because...
>**Leo** So when you don't understand, what do you do?
>**Duc** When I read the paragraph, I just try to understand the sentence and not understand
>any words.
>**Leo** I see.
>**Duc** But I understand the sentence so... some of the words I don't understand so I pass.
>**Leo** So did you use the same strategy when you were reading the story?
>**Duc** Yes. So, if you ask me about the meaning of this paragraph, I can talk about the
>paragraph.
>**Leo** You can talk about the paragraph.
>**Duc** But if you ask me what this means, I cannot.
>**Leo** OK. And that word is *petals*. Do you want understand *petals*?
>**Duc** *Petals*? No. I just... for example, this paragraph, how correct, I don't know how to
>say it. [Unclear] When I see this, look around the "beautiful pink lotus" very beautiful.
>**Leo** So you understand the part of the story.
>**Duc** Yeah. Any words I don't understand.

For Duc, guessing a word was not possible if there were too many words in the paragraph that he

didn't know and these words were too close to the unfamiliar word. While he understood the

meaning (sic) of the sentence or paragraph, he was unable to figure out the meaning of the word.

He believes it is the same reason why he couldn't determine the meaning of *dormant*.

Example 16
> **Leo** What about DORMANT? Do you understand *dormant*?
> **Duc** No, I don't understand *dormant*.
> **Leo** OK. Do you think it's the same reason why you don't understand this one [TO UNFURL]?
> **Duc** Yeah. I think it's the same reason because have a lot of words I don't know, this one I don't know, this one I don't know, so I can't guess the meaning of the sentence.
> **Leo** Repeat that to me.
> **Duc** This one I don't know. And this one I also don't know.
> **Leo** And they're close.
> **Duc** Yes. It's very close, so I cannot understand.
> **Leo** *"Unfurling its petals"*
> **Duc** For example, it's "beautiful pink lotus." It's here a color. If I don't know this one, also this is beautiful. Um a lot of words I don't know, so I can't guess the sentence.
> **Leo** So are you saying, if there are many words you don't know, it's more difficult.
> **Duc** Yeah. If about... a sentence have five words, I can know two words, so I can guess the meaning of the sentence. But if I don't know or just know only one word, I can't guess...
> **Leo** It becomes more difficult.
> **Duc** Yeah.
> **Leo** So here, are there many words that you don't know?
> **Duc** These two words, and this word, I don't know.

Before drawing any conclusion about Duc's case, I would like to point out that the extent to which the story context or the illustration can trigger the reader's background and turn into successful word guessing remains unclear. Especially puzzling is the case of Na, also Vietnamese, who could use her prior knowledge in understanding the story, but had a curious challenge with the word *emperor*.

Na (Vietnamese)

Na called my attention when I visited the no-picture group, where an assistant administered the assessment. On my visit to the classroom to thank the students for their participation, Na took the opportunity to ask me about the story. She wanted to know if there was a mistake in the sentence "My grandmother saw the emperor when he lost his golden

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dragon throne." She thought the pronoun *he* referred to *grandmother*. I asked if she knew the

word *emperor*, to which she said no. I didn't tell her about the meaning of *emperor,* but simply

said *he* was not related to *grandmother*. I knew I missed a teaching opportunity, but I was

certain that moment was not to teach but understand what was happening. The assistant later

told me that Na would be an interesting case to look at because she took long to complete her

assessment and held on to it as much as possible. A month later, Na encountered the word

emperor again in the interview.

Example 17
> **Leo** What does it mean--*emperor*?
> **Na** *Emperor.* First, I talk about the emperor.
> **Leo** Yes, you can do that.
> **Na** OK. So I read. *My grandmother...* [Starts reading out loud]
> **Leo** Thank you. You don't have to read out loud. Just silently.
> **Na** Oh!
> **Leo** You don't have to read the whole story, too, but just so you can understand.

My interruption here was unfortunate. I may have interfered with her comprehension. However,

overall, the interview had a light tone. There were many laughs, and Na led the conversation

humorously. As she reads on, I'm not sure whether she understands *emperor*, but she goes on to

describe her strategy for dealing with unknown vocabulary in a text.

Example 18
> **Na** When I read this, I don't... When I read... If I want to know this, what does this
> mean, and I don't know but I think about the other. For example, this *grandmother*, a
> person is a mother of mother or father of grandmother.
> **Leo** Hmm.
> **Na** I don't know. Is this right?
> **Leo** Do you understand *grandmother*? Yes. Hm-hmm.
> **Na** When I read, I just guess because I don't know this word. But I guess it in this
> [unclear].
> **Leo** When you read the story, what did you do to guess? What did you do to understand
> words that you didn't understand?
> **Na** When I read the paragraph or the sentence, I don't understand one word, I will
> [unclear] on the... another word in the sentence and understand and to get the point.
> **Leo** In the same paragraph?

Na Yeah, in the same. I can get but then... I don't understand but I can get the main meaning of the word.

She describes her reading strategy in general, focused on the text. I'm not sure whether she is

paying attention to the picture, so I bring her back to my first question.

Example 19
> **Leo** So, do you understand *emperor*?
> **Na** Yeah, I understand but I don't know exactly is it right. [Laughs]
> **Leo** What makes you understand, what helps you understand that word?
> **Na** *He lost his golden dragon throne.*
> **Leo** Who lost the golden dragon throne?
> **Na** Because this is *my grandmother saw,* so is he a person, who cries, is a person who cries when they lost something.
> **Leo** Ah! So the emperor is a person?
> **Na** Hm-hmm.
> **Leo** Did you understand that the first time you read the story?
> **Na** No.
> **Leo** What did you understand the first time?
> **Na** All story, just...
> **Leo** The first time when you saw the word *emperor*, what came to your mind? What was your understanding of that word the first time you saw it?
> **Na** Um when I read this, is this *cries,* just a person in the family because in the family, relatives, for example, member in the family... *my grandmother saw the emperor cry the day...* maybe he lost something. This is a man, maybe the husband of the grandmother, uncle, or something like that.

When she first read the story, without the pictures, she believed the emperor was a member of

the grandmother's family. So, I asked her to compare the first and second time.

Example 20
> **Leo** Oh, OK. That's interesting. Now you're reading the second time. Do you have the same... what's your understanding now?
> **Na** [Reading] I think it's the husband of the grandmother. It's the grandfather. [Laughing]
> **Leo** And what makes you think it's the husband.
> **Na** Because I um I just guessed.
> **Leo** You just guessed?
> **Na** I must say in every... because I think in a family is another child, is another son, so maybe the same husband.
> **Leo** Now you said you just guessed.
> **Na** I just guessed.

I'm trying to understand what she means by *guessing*. Inquiring further, I notice her phrase,

"*environment* of the paragraph," which can be compared to the word *context*.

Example 21
> **Leo** When you guess, what ways or strategies do you use to guess?
> **Na** I base on the uh environment of the paragraph.
> **Leo** Aha.
> **Na** And maybe in the next paragraph must be more clear [laughing],
> **Leo** OK.
> **Na** And I will return back to make clear this.
> **Leo** OK. Let's move on. Maybe we can go back to *emperor*, and you can tell me more about the emperor.

She hopes to get more clues ahead in the text and go back to the unknown word to improve her

comprehension. So, here comes the word *emperor* the second time with pictures, which Na

jokes about. I love her sense of humor.

Example 22
> **Leo** Now the second time you see the word *emperor*.
> **Na** The second time I meet with the emperor [laughing].
> **Leo** You said the emperor was the grandmother's husband. Tell me about your understanding now of *emperor.*
> **Na** [Reading] Until now I think it is grandmother... his brother after grandmother. It's not the husband, though.
> **Leo** The husband. He's the brother?
> **Na** Because in the family they live together they must pray or remember things about young emperor when they were child, they live in family. So, it's not the husband... [unclear, laughing].
> **Leo** So, you think it's the brother?
> **Na** Yeah, brother, maybe the brother, not a young uh just brother.
> **Leo** Now, what makes you think it's the brother?
> **Na** Because they think about a young. If the husband, no mention about a young. Because the husband they grow up and they're adult, they don't have a young. They live together, and they get married. So, this does not a husband. It's just in the family. And in the first part with... it's uh he lost, so it's just brother.
> **Leo** Ah, so you say it's a young brother.
> **Na** Hmm, hmm, young brother.

She now thinks it's not the husband, but the brother. This shows she's using clues in the text to

figure out the meaning of the unknown word. Her next encounter with *emperor* makes her

confused.

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Example 23

    Na Oh, again! This night I will have a dream about it in bed. This is the emperor. The first time and second time, and the third time I will wake up with the emperor. [Both laughing]
    Leo So, tell me more about the emperor.
    Na Emperor, so in this case. [Reading]. I understand three, three kinds of words. But when I read it again...
    Leo *Emperor*?
    Na … it makes me confused.
    Leo Confused?!
    Na Yeah, confused.
    Leo How confused?
    Na Because the last time it was a little boy. This is a little boy for the sister and other *questioned... they never seen* uh this OK... *emperor on a golden dragon throne.*

Na asks me for a hint, but I refuse. Again, I am giving up a teaching moment in exchange for a

better understanding of her confusion.

Example 24

    Leo First, you said it was the husband.
    Na Hmm. And the second is the...
    Leo Then you said it was the brother.
    Na ...brother. And the third when I meet it again, it made me confused about about it. Hmm, can you give me a hint?
    Leo Hmm. No. [Laughing].
    Na Why? [Laughing]
    Leo I want the story to give you a hint.
    Na I know this, this, this, another I don't meet, so this I don't know.
    Leo You were confused. What do you do when you're confused?
    Na I confused, so I need those to read, for example, I understand just um doesn't understand this. You need to read more, and after that I will turn back later. Because I confused, so I can stop it and thinking about it because I just confused, so...
    Leo Do you stop?
    Na No. I mean that if I confused between the three times I read it, I must return the story. And after that I will turn back to read it again, to make sure that, hmm, "is it right?" and guess.
    Leo To make sure.
    Na Mm-hmm. Right, to make sure.

Na still seems confused the next time she sees *emperor*. At this point even I am falling for her

humorous comments on "the emperor." My note captures her enthusiasm with this word-

learning challenge.

Example 25

    Leo Now tell me about the emperor.
    Na The emperor again? In this case I must stay with it [laughing]. I think this is emperor. His or her grandmother talk about to remember the emperor, it's the person who die, who die, who die very...
    Leo Someone in the family?
    Na Someone in the family, and they die uh...
    Leo Like a brother? Young brother.
    Na Brother. Her or his... no, no, her... his uh I uh.
    Leo You said you were confused before.
    Na Yeah, I'm confused.
    Leo Are you still confused?
    Na The first time. The second time, not confused. But the first time, I confused about it, what, what what is this?
    Leo One second.
    [The tape ended, and the participant realized she was late for class. She then hurried to her English class, and I apologized for keeping her too long. The next day I met her, she humorously said that she couldn't help thinking about the emperor and dreamed about him. Then another Vietnamese student, a young man who volunteered earlier, confirmed it was "the king of Vietnam."]

Now one must be careful not jump to the conclusion that Na is reading too closely to the text,

paying little attention to the illustrations or making few connections with her background

knowledge. In fact, her Vietnamese experience comes up powerful in her interpretation of

scramble.

Example 26

    Leo OK. Let's go to the next page. And on this page the word is *to scramble*.
    Na *Scramble,* it's like *scare.*
    Leo Uh, tell me more please.
    Na I just guessed. I don't know it does scramble, what does it mean. But *one terrible day her family scrambled into a crowded boat*. It means that maybe they're very frightened and scared, so this word maybe [didn't like like...]
    Leo Oh, the family was scared?
    Na Hmm. Scared, or they feel um frightened frightened, afraid of, afraid of.
    Leo Why do you think they feel scared?
    Na Because *in a terrible day*. And a lot of things happened. In the first uh the bomb... so they make me scared or worried like that.

Na makes a personal connection with the story. If the story or the illustrations do not help her to

figure out the meaning of *scramble*, they do evoke strong, yet sad, memories.

Example 27

>**Leo** When you read the story, it's a story about your country. What comes to your mind when you look at that page and see these words? What comes to your mind?
>
>**Na** Because when I was a young a child, when I was a child, I usually hear about my uncle, my aunt, talk about the war in the open time. And a lot of happened for them. It's like... it's very similar like this a war happened, the bomb, and soldiers go around. It's very very frightened. I hear in my mind. It makes me sad. Yeah, because...
>
>**Leo** And do you still remember those stories?
>
>**Na** Hmm. Because I hear so many words, I hear um my family mention about it, and talk about it, and recall about it. Yeah.

I want to know whether her Vietnamese experience is stronger than the story itself in making those connections. She points out the pictures not only make her guess faster, but also make her feel scared, even though the war happened a long time ago.

Example 28

>**Leo** When you're trying to understand a story or the words in the story, what is that helps you better to understand it?
>
>**Na** Hmm. Sorry, I can't get your point. What?
>
>**Leo** You know about Vietnam from the stories your family told you.
>
>**Na** Yeah.
>
>**Leo** And you also live there, and now you're reading a story with pictures. The first time you read without pictures. Uh, what is the best way to help you understand the story?
>
>**Na** Oh! Hmm. Uh, I think that when I look, when I look at the pictures, it makes me uh it makes me have, to guess faster because I can read this paragraph without the pictures. It makes me say, OK, this one time um maybe a I can guess this word the first time. And the second time maybe I understand this word. But in this story because there is two or three weeks ago, so I didn't remember the story. Yeah, I'm sure that I didn't remember the story. But when I read it again, I just uh it helps me to guess the words faster because when I read it, I come back to look at the picture, and it makes me read faster than.
>
>**Leo** Now, when you say *scramble* means like *scared,* do you say that based on the picture or based on something else?
>
>**Na** Both. The first is the face on the whole story. In the first time and until then today. And after that it's the... this picture is very clear. A lot of people, it's a terrible, raining, stormy, and maybe they're very afraid. We just take a look, but I am afraid. If I am in this case.
>
>**Leo** So, the picture makes you look, feel afraid?
>
>**Na** Mm-hmm, and that was some years ago [laughing].

From a psycho-linguistics perspective, I recognize the value of learning new words to improve comprehension. In the case of Na, who struggled with *emperor* but connected emotionally with

the story, I have to make some concessions. I wonder whether the unknown word (*scramble*) was at all needed for her comprehension of a historical event that she knows from experience.

Kim (Chinese)

I began as usual explaining the reading activity and trying to establish an environment where students could feel at ease to ask questions. After I explained what we were going to do, Kim wanted to know more about the purpose of the interview.   I found that she had no difficulty striking a conversation. As I explained that I was also a non-native speaker and we could help each other out should we have any communication issues, she even joked that she was the one who needed help, not me. Maybe a little too cautious, I decided not to make that comment in the next interviews because I thought it could be misinterpreted by the students, who don't expect the teacher to act like a peer, but as someone who knows more.

Kim impressed me by her oral communication skills. During the interview, however, I found her responses choppy and straight-forward. At first, I couldn't understand her lack of elaboration. With *emperor*, for instance, she gives me brief traces of her Chinese perspective. Her words ("our king" and "just like in China") make me wonder whether the picture of the emperor triggers her background knowledge in a different way than it does for the Vietnamese students, especially Na. However, I want to avoid any comparisons at this point and just focus on the narrative itself.

Example 29

> **Leo** So we now have the story. You don't have to read it again, but when you look at the words, just think about them. What do you understand about those words? And are they new to you? Things like that.
> **Kim** [Reading]
> **Leo** The first word is EMPEROR.
> **Kim** I don't understand this. It's like our king. I don't understand "garden"... Probably it means garden of his plants, his yard. Probably, a king lives in a place then... probably it is a king's private garden.
> **Leo** Uh. OK. So you understand *emperor*.

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Kim *Emperor* yeah.
Leo What helps to understand that word?
Kim Hmm. Picture.
Leo The picture? In what way does the picture help?
Kim Kind of... this is a king's dress. In China, the same thing.
Leo Really? What is it like in China?
Kim The same thing. Yellow. This kind of hat.
Leo The same kind of hat?
Kim Yeah.
Leo So when you looked at that picture, did you think about an emperor?
Kim Like what?
Leo Does that picture remind you of an emperor? Or could it be another man?
Kim Emperor.
Leo Yes?
Kim Yeah.

I also get glimpses of her background knowledge with *altar*. Although she doesn't know the

meaning of the word, she understands the concept displayed in the picture.

Example 30
> **Kim** [Reading ALTAR]. This word I don't actually know what it means, but I think I
> heard [something of this]. You know, in some Asian families, they have like altar to put
> grandma's, grandfather's pictures, like this, to remember them. To pray for them because
> grandma, grandpa go because they pass away. It's kind of like a table. It's a table.

Her understanding of *altar* is not nearly comparable to *silk*. With no direct clues from the

picture, thus the confusion with *wood*, she has no link to her background knowledge like *ao dai*.

She also ignores the fact that one cannot *wear* "a piece of wood."

Example 31
> **Kim** Umm. *Wrapped in a piece of SILK* [reading out loud]. I don't actually know,
> remember *silk*.
> **Leo** Ok. Don't remember. What do you think it is?
> **Kim** Hmm.
> **Leo** Or guess, if you could guess.
> **Kim** A piece of wood?
> **Leo** A piece of wood?
> **Kim** [Laughing].
> **Leo** Why do you think it's a piece of wood?
> **Kim** Because it's a wood. [Laughing].

Her short answers make me confused. I ask if she is comfortable talking, which she just says no,

a little clueless why I asked. We continue exploring the words in the story. With *patch*, she

confronts herself with another difficult word to guess.

Example 32

> **Kim** Hmm... *stole the seed from the family altar...* Ah! I think *altar* still means a table
> you put old persons' pictures and may put fruit to remember them. It still means that.
> *Patch... onion patch*? *Onion patch?* Oh!
> **Leo** Do you know the word *patch*?
> **Kim** Probably something near to onion?
> **Leo** Hmm.
> **Kim** Next!
> **Leo** Hahah. Do you find that word very difficult?
> **Kim** Hmm. Yeah.
> **Leo** How difficult is it?
> **Kim** It's not too very difficult, but it's difficult, but not very, very difficult.
> **Leo** What makes it difficult?
> **Kim** Those words, I said that before, I can read it that, but I can't... Tell me, explain the
> words very uh I can't, I'll probably make a guess.
> **Leo** And what was your guess again, I'm sorry?
> **Kim** Guess a little words. Like I knew the other words to guess another words.
> **Leo** No, yes. What was your guess for *patch*?
> **Kim** Something or onion plant. Something near to onion.
> **Leo** Something close to onion?
> **Kim** Yeah.

I like her expression, "make a guess." So, I continue questioning to learn more about her

guessing style. However, Kim makes it clear that one cannot guess out of nowhere.

Example 33

> **Leo** What if you could make another guess? What would you do?
> **Kim** Another guess? *Onion patch*. No. I cannot make another guess.
> **Leo** Haha. How do you like guessing?
> **Kim** Hmm?
> **Leo** How do you like guessing when you read?
> **Kim** How do I like guessing? Uh, well, because if the words you don't understand, you
> can get confused, so the only thing you do, you can make a guess, but the guess is you
> need something, you need a reason or something explain for a guess, you can't uh oh I
> guess, this word exact. You need looking for the paragraph then you make a fair guess.
> **Leo** Yes.
> **Kim** Yeah.
> **Leo** You said you look in another paragraph?
> **Kim** Even like this one.

Leo Which one?
Kim This paragraph.
Leo OK. The paragraph with *onion patch.*
Kim Uh so that's I make a guess, I use a paragraph. I can't make a guess without anything. I need something. I need a paragraph, other words then, those together make a guess.
Leo And where is there a guess? You said the paragraph.
Kim Uh-huh.

I notice her focus on the text. I want to know if she cares at all about the pictures. Note that she

is the one who brings up the illustrations. However, I inquire further trying to find out whether

or not the pictures aided her comprehension and word learning.

Example 34
Leo Is the paragraph enough for your guess? What other ways do you try to improve?
Kim It can be both.
Leo Both what?
Kim Enough or other ways to guess.
Leo What other ways?
Kim Picture.
Leo How helpful was the picture?
Kim Um. OK. Just like this I think probably he stole the seed and he go out. That's it.
Leo How were the pictures helpful in helping you understand the story?
Kim Yeah. Yes.
Leo How helpful?
Kim Um. How helpful? The paragraphs. Both go together. The paragraphs and the pictures.
Leo OK. When you say that the paragraphs and the pictures go together, what exactly do you mean?
Kim Better to make a guess. Those words, those vocabularies.
Kim gives me little details about what she means by the paragraphs and the pictures going together. So, I try to elicit more information from an example.
Leo Let's look at this paragraph, for example. Right?
Kim Hm-hmm.
Leo You have the pictures and you have the paragraph. And you said they go together. What do you mean?
Kim Like the picture explains why the paragraph happens like that, crying, she cried because she lost her seed, she cries. At night she is crying, that's very like middle night she didn't sleep.
Leo Ah!
Kim Yeah.

The conversation gets to a different level as she starts providing longer comments. Talking

about books and ideas appears to interest her more than the previous language-focused

conversation.

Example 35

      Leo That's an interesting way to look at the paragraph and the picture. Is this something
you do all the time?

      Kim Hm-hmm. Because I'm an adult. I don't actually read a lot, but I still read
something. Like a storybook, but I that's very hard for me to understand. I can't make a
guess because a lot of vocabularies I didn't meet before. But I still read that. Even if you
don't understand...

      [Tape ends]

      Kim Because you have pictures, and those words is not like some stories or novels very
hard or difficult to understand. So, this is helpful for them because... but I'm an adult. I
can't find children's... I don't want to find children's books to read [laughing].

As she brings up the fact that she's an adult, I take the opportunity to ask how she feels about

children's books. I had been avoiding that question, and didn't even mention to the students that

they were going to read a children's story. I didn't want to discourage them from exploring an

illustrated book written for younger audiences.

Example 36

      Leo As an adult, how do you feel about children's books?

      Kim Hmm. Well, I guess, childrendish, but sometimes it's interesting. For American
books, I read my niece's books. She's nine years old, and I read her books. Was talk
about a boy in the elementary school, and she wants to get, move, make a allocation
because he wants to be president. That's easy to understand in the children's book.

      Leo What did you learn from that book?

      Kim Well, I just know... A boy with the parents. They have... they both go to the
allocations [elections], and the boy's way was thought his friend's got to be one, one,
gotta be one. I'm sorry. I said about... His friend is a girl. He thought his friend will win
in the allocation.

      Leo In the what? In the location

      Kim Allocation.

      Leo Allocation.

      Kim Yeah. They work hard, something like that. Finally the boy won, but he wants his
friend to be the first lady.

      Leo I see.

The way she pronounced *election* made me confused. I didn't quite understand what she was

talking about, but I noticed her enthusiasm, so I let her continue. She tells me about the type of

books she enjoys reading, and I try to find out if she likes illustrated ones.

Example 37
      Kim Do you know the story?
      Leo You seem to really get involved with the story.
      Kim Yeah [laughing]. I don't really actually read a children's book. I always read in a book. Like in the bookstore, I don't buy like something that talk about science, chemistry because that's uh some words I never meet like uh in the English because that's what it is for, the subject.
      Leo Right.
      Kim So I try to find a story or novel to read.
      Leo Oh you prefer stories.
      Kim Yeah, yeah. I read like that. That kind is really hard to understand.
      Leo And do you prefer stories with pictures or without pictures?
      Kim Uh?
      Leo Do you prefer stories with pictures or without pictures?
      Kim Without pictures.
      Leo And why?
      Kim Because the books don't have pictures.
      Leo They don't have pictures.
      Kim No. There's words *whehhew* paragraphs, words, sentences, *whehhew* like that.

Kim doesn't appear to be interested in discussing illustrations at this point as they are not found

in the novels that she reads. She steers away from my picture-oriented questions, and goes into

describing her reading experience. Her comments move from quick answers to more detailed

and informative ones. I particularly liked her reference to *The House on Mango Street* (Cisneros,

1991), a book that I came across in one of my reading education courses.

Example 38
      Leo Do you find it better to read a book without pictures?
      Kim I think it's some easy stories to read for teenagers. I think like for [unclear] or middle school because uh... Have you ever heard of the story *The House on Mango Street*?
      Leo No. Uh. I may have. Yes, yes, yes.
      Kim That's very easy for understand, I think, for I think that's elementary school between the middle, teenagers. That's very easy to understand, I think, in the story. Because I understand. They use easy words because the author was not from America.

The author, English is not her native language. So, I think she uses a way for people who do not speak English well, to... wrote that, so that's very easy for understanding.

Her insight into the type of books that can target English learners is noteworthy. Her comment resonates with the idea of providing comprehensible materials to facilitate language learning.

Arif (Arabic)

The idea of an *emperor* as a king or a family member seen above does not occur in Arif's interpretation. His analytical style of looking at the story should be noted here. First, he believes there's a character called *emperor*.

Example 39
Leo So, here's the story.
Arif Mm-hmm.
Leo You can browse it.
Arif OK.
Leo All right. So, here's the first word *emperor*.
Arif Emperor. So, I read the story now?
Leo Tell me about that word.
Arif This word? I don't know the meaning of this word, *emperor*.
Leo You can read.
Arif OK. *My grandmother saw the emperor cry the day he lost his golden dragon throne.* OK. I think it's a character or something called emperor.
Leo A what?
Arif A character or uh a kind of people they called emperor. This is what I understand.
Leo Is it one person or more than one?
Arif No, it's one person.
Leo Ah.
Arif One person.

As the discussion continues, Arif explains his thoughts by referring to details in the story. He notices it's a human character, not animal, because the character lost something. I wonder whether he's thinking about those stories with animal characters, which are predominant in children's literature. He also points out to the picture as an additional clue. His strategy of looking at both the text and the picture confirms that the character in the picture is indeed the emperor.

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Example 40
> **Leo** And you said you didn't understand it first.
> **Arif** Yeah.
> **Leo** How's your understanding now?
> **Arif** I understand it first of all by the meaning of the reading, when I read it. *My mother saw the emperor cry.* That means someone cry. Uh *the day he lost his golden dragon throne*. That means he's human,   he's not animal, because he lost something. Also, I see the picture here. This is another thing.
> **Leo** What do you see in the picture?
> **Arif** I see someone cry, and there's also a woman in the tree. She looks to this guy. So, when I read it, I look to the picture, I understand this is the character which called emperor.
> **Leo** Aha. Let's move to the next one. You're going to see *emperor* later.
> **Arif** Aha.
> **Leo** And you may have a different idea, or you may not. So, just tell me if you have a different idea or not.
> **Arif** OK.

When he sees the word a second time, he comes to the understanding that the emperor is a

member of the military rather than a king. He describes him as a type of warrior or a marine.

Example 41
> **Leo** OK. Now, you see the word *emperor* once again. What understanding do you have now?
> **Arif** Yeah, the same thing. The same guy who was crying, emperor. He's uh the same person. His name is... that we, when we first reading, we first read in the page who's crying. His name's *emperor*. It's not his name, but maybe a kind of tribe or person who work in base or something.
> **Leo** A person who works...
> **Arif** Who works in, for example, army or something. So, they call him emperor.
> **Leo** Do you think it's uh...
> **Arif** Like, for example, when someone work...
> **Leo** What kind of person is it?
> **Arif** He's a warrior.
> **Leo** A warrior?
> **Arif** Like marines.
> **Leo** Aha.
> **Arif** The same thing. This guy is from marines, so...
> **Leo** Somebody like a warrior.
> **Arif** Yeah, I think so.

His view didn't change after seeing the word two more times. I should have asked him more

about the picture. Although he attended to the illustration, he couldn't associate the image of the

emperor with that of a royal person. The kind of background knowledge that picture evokes in

him may be of a different source from those with a closer connection with the concept. An

interesting observation from the translator is that the word *emperor* has a cognate in Arabic, but

the concept may be unknown to many students since it's not part of their culture.

Arif's comments are instructional. He breaks the sentences down into small chunks and analyzes

them bit by bit.

Example 42

> **Arif** To clamor, I don't know what to clamor means. So, I try to read. One day bomb fall all around. Soldiers clamored door to door. She took the time to grab the seed but left her mother-of-pearl hair comb just lying on the floor. Uh clamor, I think is to go inside the houses by forces, I think, by force or something. This is what I think if I go to... For example, soldiers when they go to the city, they're searching for someone or something, they go to the houses by force, and they open the door searching for.
> **Leo** And how did you arrive at that meaning, and what helps you to reach that conclusion?
> **Arif** When I saw soldiers clamored door to door, when he said, door to door, they go to every door. Door to door is the word which helped me to figure out the meaning of clamor.

He's attentive to phrases and words that could help him figure out the meaning of *clamor*. Here I

try to learn about his perception of the picture clues.

Example 43

> **Leo** I see that you're looking at this portion of the text.
> **Arif** Uh-huh.
> **Leo** In the other page, when you saw *altar*, you also looked at the picture.
> **Arif** Yeah.
> **Leo** Can you tell me, tell me something about...
> **Arif** Yeah, also the picture helped me. That there's a war and bomb, a lot of things, but here I think everything is easy for me because *one day bomb fall all around*. Even if there's no picture, I understand.
> **Leo** Even without the picture.
> **Arif** Even without pictures because one *day bomb, bombs, fall all around and soldiers clamored door to door*. OK. That means uh the bomb go to the city or village, and they soldiers go inside the houses, I think, searching for someone or.

The picture in that passage helps him to understand the story, but it's not mandatory for his

comprehension. I wonder if those words are easy enough to guess.

Example 44
>   **Leo** So, are you saying that the words are not very difficult in that passage?
>   **Arif** Uh a little bit, yeah. It's not very difficult, but some some...
>   **Leo** How much do you understand in that passage?
>   **Arif** Uh.
>   **Leo** How many words?
>   **Arif** There are three words which I don't understand.
>   **Leo** Which ones?
>   **Arif** The first one is *clamored*, which I figure out maybe like this. The thing, *seed*, I
>   don't know what's seed. And *pearl,* I don't know what's pearl means.
>   **Leo** Do you see it as one word or as part of a word?
>   **Arif** Uh you mean uh part of a word? No, I didn't understand one word. I tried to
>   understand the whole thing, what's means. I don't focus in one word. I don't understand,
>   it's OK.
>   **Leo** OK, you move on.
>   **Arif** I move on, yeah.

He misinterpreted my question, when I referred to *mother-of-pearl*. However, his comment

reveals another strategy for dealing with unknown vocabulary, which is try to understand the

main idea and not get caught up with small details. When we move on to the next word,

scramble, I observe his analytical style of breaking the passage into small chunks once again.

Example 45
>   **Leo** Let's move on then [laughing]. So, here the word is *to scramble*.
>   **Arif** First of all, I see this picture. I understand that everyone escaped from the war, go
>   to the ship, and they go to the sea. OK. I see this *to scramble*. I don't know what means.
>   So, I try to read. *One terrible day her family scrambled into a crowded boat and set out
>   on a stormy sea.* That means, *one terrible day* as in the picture I see it's very bad. *Her
>   family scrambled*—they escaped or they go because they are afraid of something from the
>   war.
>   **Leo** They go where?
>   **Arif** They go to the boat, this boat. Uh, *and set out on a stormy sea*—they stayed in the
>   boat, and the storm, tropical storms uh hit the boat. That's what I understand.

I asked him further whether the picture helps him to figure out the meaning of *scramble*. Arif

puts it into a percentage. He even jokes about the word, possibly thinking about a typical

meaning of the word as in *scrambled eggs*.

Example 46
>   **Leo** How much does the picture tell you about *to scramble*?
>   **Arif** 90%.

Leo 90%?
Arif Yeah.
Leo Why do you say that?
Arif Yeah, because uh the situation is scrambled. [Both laugh]
Leo When you see this word *scramble*, what comes to your mind?
Arif *Scramble*? If I don't see the picture or anything?
Leo Uh-huh.
Arif Uh difficult. Maybe kind of food or something. I don't know. [Both laugh]
Leo Kind of food?
Arif I don't know. Maybe delicious food.
Leo And if you look at the picture and *scramble,* you know, what comes to your mind?
Arif But when I read now, I understand. Maybe 90% I understand.
Leo So, it's not about food there, is it?
Arif No, it's not about food, unfortunately.

His observations shed light onto the process of learning new words while trying to comprehend a passage.

Esperanza (Spanish)

Esperanza didn't show up for her appointment, so I didn't know whether or not she wanted to do the interview. To my surprise, she came to the office ready to share her experience. She explained that she had missed the appointment because she was sick. We then started the interview. She told me she was going back to her country, so I was glad that we had a chance to talk.

Based on my background in Romance languages, I believed that cognates would be easier to a Spanish speaker. Esperanza's case supports the view that the native language facilitates unlocking word meanings in English. Cognate support occurs with both target words such as *emperor* and non-target ones such as *throne*.

Example 47
Leo So, the first word *emperor*. Tell me about *emperor*.
Esperanza Ah, no, it's very similar.
Leo Very similar?
Esperanza In Spanish, yes.
Leo So, you had no trouble?

Esperanza No, maybe the only word here is like *throne.* But it's like *trono.* It's similar to me, but the *h*. Without the *h* is more similar in Spanish. But with the *h* is a little bit difficult but [unclear] so...
Leo Uhuh. So, when you saw the emperor the first time, what came to your mind?
Esperanza A very important person in his country like the king, like the king of his country.
Leo So, did you think about the word in Spanish?
Esperanza *Emperador*. Very similar.
Leo Yeah, you think, your thought about that?
Esperanza Yes.

Both word and concept seem to be part of her knowledge. I could have asked more about the

concept, maybe thinking of how much I know about emperors coming from a country where

there were two Portuguese emperors during the colonial period. But my question doesn't elicit

much. So, the conversation turns to the picture.

Example 48
Leo And how much does the picture help you with that word?
Esperanza Huh, when? I didn't see the picture very much, so...
Leo You didn't pay attention to the picture?
Esperanza No, not so much.
Leo Can you tell me why?
Esperanza Because I always... I'm always very... I make everything very... like I don't know how to say it. I'm like very... all the time very anxious, so *tchoo-tchoo-tchoo,* I do it very fast, and later and saw. Sometimes I have that problem because I forget to see very carefully. I don't spend very much time making things.
Leo So, are you saying you paid more attention to the story and read quickly?
Esperanza Yes, yes. Yes, maybe. Yes, I'm not very visual actually.
Leo Not very visual?
Esperanza Yes, I am not. I forget. Not forget, I don't pay attention enough. For example... I know that about me because, for example, someone knows uh how the clothes of someone. But I don't know because I never look at and so I just concentrate in some things that maybe are more important for me. And the visual is not so important for me.
Leo OK. Maybe we can talk more about that in the upcoming pages.
Esperanza Uh-huh.

Esperanza acknowledges that she didn't pay much attention to the pictures. She points out that

she favors a less visual learning style. I tell her that I want to learn more about that. One image

that stuck with me was her onomatopoeia, *tchoo-tchoo-tchoo,* which suggests a way of getting

things done fast without much care for detail. As the conversation continues, we have the

opportunity to explore other aspects of her learning style, especially with *towering* and *bloom*.

Example 49
> **Leo** Do you understand *towering*?
> **Esperanza** Because *tower* is like a building, very tall, right?
> **Leo** Yes.
> **Esperanza** So, I don't know. Uh and the picture is in the height. So, they must be in the top of one of those buildings looking around. So, the Empire States. I don't know.
> **Leo** So, what does *towering* mean? Do you know?
> **Esperanza** Hmm, no. I know it's about buildings, but I don't know exactly. About tall buildings.
> **Leo** Mm-hmm.
> **Esperanza** But I don't know exactly. Ah, OK. Yes, because they could um no. High building, but I don't know.
> **Leo** High buildings?
> **Esperanza** Yes, maybe.
> **Leo** Now, when you say high buildings, what is telling you it's probably high buildings, not something else?
> **Esperanza** What is "probably?"
> **Leo** What is telling it is high buildings, not something else?
> **Esperanza** Ah, because they're talking about... Anyway, they talk about building, right? And later that they *scrape the sky*. Like so they have to go to the sky. Well, it's uh like a metaphor, but it's new for them because they came from an old and small cities. So, they don't know that kind of thing. They're very surprised, and so the buildings are surprising them because they're too big. And so they think that they are to the sky, they go to the sky.

Esperanza uses a word she knows, *tower*, to figure out the meaning of *towering*. When she

mentions the metaphor, I began thinking about a possible connection between mental images and

the illustration.

Example 50
> **Leo** So, in this part here, you're saying... when you're saying *towering buildings*, you're saying it's probably high buildings, right?
> **Esperanza** Yes.
> **Leo** Are you still focused on the story?
> **Esperanza** Hmm. Why?
> **Leo** Remember that you're said that you're not very visual?
> **Esperanza** Ah, yes. That if I am looking at this, would they both things because I am describing the sky, so I am trying to imagine. But I think the picture is very helpful uh very helpful, very helpful. Yes, because they are in a high place. I mean, about the

position that there is the picture. I think they are in a high, in a high floor. They are not uh in the in the floor.

By both imagining what is happening in the story and acknowledging that the illustration is

helpful, Esperanza suggests a link between her imagination of what might have happened and

her exploration of the actual picture. I wonder if there is a difference in these processes.

Example 51
> **Leo** So, which picture is telling you the most? The picture you see here or the picture in your head?
> **Esperanza** Maybe this one, yes, maybe this one, yes.
> **Leo** Do you understand when I say the picture in your head like how you imagine the situation?
> **Esperanza** Yes, but I think, I think it's very similar that I'm thinking about in that this picture. I think they're very similar.
> **Leo** Very similar.
> **Esperanza** Yes.

Our discussion of *bloom* and *patch* provides more food for thought regarding the relationship

between visualization and word learning.

Example 52
> **Leo** So, let's move on the next page. OK. We don't have any words there, but what's happening?
> **Esperanza** Ah, OK. That she worked very hard for her family, and so they were a big family now.
> **Leo** Big family. We can go to the next page. This way we can understand that passage. Now here we have two new words, which are *bloom* and *patch*. And two other words repeat.
> **Esperanza** Mm-hmm.
> **Leo** Tell me about *bloom*.
> **Esperanza** Without to read or?
> **Leo** Oh, you can read. Yeah, you can read.
> **Esperanza** [Reading] Hmm, OK. I think that *bloom* maybe the flower, I don't know, maybe like the flower. And maybe *patch* is like a crop.
> **Leo** A what?
> **Esperanza** A crop? I don't remember the word. When you have uh when you put something in the earth, so you have a lot of that.
> **Leo** You put something in the earth?
> **Esperanza** Yes, and they grow.
> **Leo** You plant something?
> **Esperanza** Yes, and they grow. So, it's like uh I don't remember the word.
> **Leo** What's the word in Spanish?

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Esperanza *Cultivo.*
Leo Cultivo. Like a little plantation or...
Esperanza Yes, something like that. I think that maybe that is *patch*. I don't know.

I misunderstood the word *crop*. Whether it was her pronunciation or my listening, I first thought

she said another word. Fortunately, she explained the concept well and gave me a cognate in

Spanish, which is the same as in Portuguese. Below, she had a hint that *bloom* meant "flower"

based on her prior knowledge. She also seems to require an illustration in order to understand

the concept.

Example 53
> **Leo** We'll figure it out. Uh we'll figure it out. Now, tell me. You said *bloom* was
> flower. Why do you say that?
> **Esperanza** Because uh she got... at first she got a lotus. Well, I don't know if... I don't
> know what happens the lotus die. I don't know if just... Some flowers you can have it for
> a long time even if they die because you can dry it, the flower. And it's like strong, it's
> like, I mean it's like... Well, I don't know if it's like that because actually I didn't see the
> picture. I don't know if they have.
> **Leo** Uh-huh. They may. We'll see in the end. [Laughing]
> **Esperanza** Ah, OK. So, I don't know how is now the flower because, of course, it's very
> old. Because she got it before to get married and now she's a grandmother, so it must be
> very old.

My surprise gives away a hint, and Esperanza's guessing takes another route. I ask her about this

sudden change.

Example 54
> **Leo** Did she take the flower?!
> **Esperanza** Ah, a seed. Just a seed. Ah, OK. I'm sorry. Just a seed. Ah, OK. We don't
> miss no other flower, just a seed. It's just the seed, yes.
> **Leo** So, you think *bloom* is the seed?
> **Esperanza** It may be, yes.
> **Leo** And tell me why.
> **Esperanza** Because, yes, if she didn't take the flower, just the seed, and she didn't plant
> it because she was in another place, it was never a flower. Actually, it was never a flower.
> It was just all the time the seed. So, it must be continuing the seed.

Our conversation, intentionally or unintentionally, helps her to figure out details in the story that

she hadn't realized before. We have a chance to discuss *bloom* in other passages.

Example 55

    Leo The opening... Now, there's another word here, which is *bloom*. Did you... You saw this word before.
    Esperanza Yes.
    Leo Does your... Does the meaning change? Does your understanding of that word imp- become better or?
    Esperanza I don't know because now I think *bloom* is flower. It's not like the seed. I think it's more like the flower. So, I'm confused.

Her new encounter with *bloom* creates a confusion in her mind. New details are compared to old

ones. I further ask her to elaborate on this change of mind, not sure I'm making her even more

confused.

Example 56

    Leo So, why do you think it's now the flower, not the seed? What made you change your mind this time?
    Esperanza Because the sentence *the bloom will be beautiful.* I don't know. Maybe, it's the seed. I don't know. I'm not very sure about that.
    Leo Now, you said *the sentence.*
    Esperanza Yes, *the bloom will be very beautiful.*
    Leo Does it mean [you're paying] attention to this sentence?
    Esperanza Yes. Yes, I don't know. I'm not sure about that.

I notice that she attends to the words in the story. I want to elicit more about her reading

strategy, trying to understand the extent to which she pays attention to the story versus the

illustrations. Unfortunately, I got it wrong at first, but she corrected me.

Example 57

    Leo OK. Before you said that you were very visual, remember?
    Esperanza Mm-hmm.
    Leo Are you still being visual right?
    Esperanza No, I'm not visual at all. I'm not visual.
    Leo No, I'm sorry. You were NOT visual. You were not visual. Are you still being... focusing on the story, on the sentences on this page?
    Esperanza Ah, yes. I mean, I'm not visual about external things, but I'm very... when I read something, I imagine in my mind because I am visual about the letters. But I'm not visual about clothes, or colors, or that kind of things. I'm not visual about that kind of things. But I am visual about the words. Yes, I can imagine.

Esperanza reveals a preference for the written words in the text, but I also want to know more

about the impact of the illustrations. Therefore, I keep on asking her to about them.

Example 58

    Leo Uh-huh. So, what do you think about the picture on that page? Does it help you in anything?

    Esperanza Yes, it's a pretty, a pretty flower.

    Leo How much do you need that picture?

    Esperanza Hmm....

    Leo How much is it necessary for you to understand the story and the words?

    Esperanza I think maybe not so much, maybe. Because anyway I think the quotes try to emphatisize the idea, so maybe I am looking at but when I see this, like something happened, something new happened, so if I don't have the picture, I will read this, is this flower very happy? Because I think she's very happy now. She was... in the last picture she was crying, and she must be very happy to see this.

    Leo So, you *were* paying attention to the picture.

    Esperanza Yes, at the end. I did it later to read this. I knew she was crying, but later I saw the picture.

    Leo Ah.

    Esperanza And I knew [unclear, laughing].

The transition between a crying grandmother to a pretty, happy-looking flower reveals in Esperanza's observation an attempt to combine pictures and words in making sense of the story. Her statement that she also attended to the picture must be interpreted with care, though. True, I brought up the discussion around illustrations, but I also let her explore her own perceptions. What I take from our conversation is that she appears to focus more on the text. However, the idea that the illustrations facilitated her comprehension of the story is also viable for further discussion.

Examples

While reading the book *The Lotus Seed,* the participants provided inferences for the selected target words. All the students had read the story before, but some of them had no prior access to the illustrations. During the interview, all of them used the actual book. Therefore, they all viewed the illustrations.   Table 12 shows a few examples from their lexical inferences.

Table 12: Examples of lexical inferences

participant	language	condition	level	*emperor*	*altar*	*towering*	*scramble*
Francine	French	TP	5	king	table to pray	very high	get into
Duc	Vietnamese	TO	3	king	place to remember	very high	climb into
Na	Vietnamese	TO	4	husband, brother*	place to remember	big, big	scared*
Kim	Chinese	TP	3	king	place to remember	very tall	jump into
Arif	Arabic	TO	6	warrior*	room, table*	very big	go to
Esperanza	Spanish	TP	6	king	"altar"	very tall	take

Note. TP = Text Plus Picture; TO = Text Only. * Unacceptable inference.

Na and Arif, who had not viewed the illustrations during the classroom assessment, produced inferences that were not acceptable according to the story. These examples suggest that viewing the illustrations a second time may have been an advantage for those in the TP condition. However, the analysis of the narratives shows that, overall, students appeared to have benefited from the illustrations. An example is their inference for *towering*, whose picture of skyscrapers easily conveys the concept of "very tall." When I asked each student how they determined the meaning, they indicated a number of factors, including but not limited to the role of the illustrations and story context. These examples will be explored in more detail in my analysis of their narratives.

Interpreting Narratives

To summarize the students' experience, I wrote the following story with words or ideas from the interviews or my notes. This kind of display highlights the perspective of the learners, helping minimize the influence of my own interpretations. This approach is required because my understanding of the narratives from a Portuguese-speaking background might overpower the unique or similar experiences of the students.

A Vietnamese Story in My Reading Class

One day in my English class, we had a different reading activity. We were split into two classrooms. In one classroom, there was a scholarly-looking man who came with a box full of books and a packet with papers in different colors. In the other classroom, there was a woman with a beautiful smile and soothing voice, carrying a stack of blue folders. Of course, we didn't know what the people in the other classroom were going to read, nor what kind of handouts they had. All we knew was that we were going to read a story in English and do a few activities related to the story. We also knew that some students would participate in an interview where they would talk about the story. Later on, we found out that it was a story about a family who immigrated to the United States and that we were going to have vocabulary and comprehension activities. We learned that we could use our language to answer the vocabulary questions and write one word or more in the translations. If we didn't know the word, or weren't sure, we should just leave it blank. We even practiced translating two words from English into our languages. One word was *island,* and we easily provided the meaning in our languages. The other word we practiced was *to admire*. This one was more difficult to translate. I guess, some words are easier to translate than others. Some people left it blank because they didn't know. We were told that it was OK if we didn't know.

Students in one classroom read an illustrated storybook about Vietnam. Of course, nobody knew until then it was a children's story, and they didn't seem to care. Students in the other classroom read the same story, but had no pictures. I wonder if they enjoyed the story the same way as others did. The ones without pictures took about twenty minutes longer to finish their activities. I don't know why. Maybe they were a bigger group, or there were more students in the lower levels. Maybe they found it more difficult to read the story without pictures and without a dictionary.

A month later, some of us were invited for the interview. Gee! I don't know why it took so long. I even forgot all the story, let alone the words. So, we read the whole book again, cover and all, even those people who hadn't even seen the book the first time. Also, this time the book had a beautiful jacket. I wonder why they didn't have a jacket before. Anyway, during my first and second reading, there were many words I couldn't understand, so I tried to guess them from the story context or the environment of the paragraph. Sometimes I just skipped a word if I didn't know the meaning, or wasn't sure, and waited until I could get more information from the next pages. Other times I tried to figure out the meaning by looking at the other words around the word I didn't know. The pictures helped me understand the story better, and sometimes they helped me to make sense of the words. Unfortunately, the pictures didn't help me so much with new words, maybe because I'm not very visual. I usually read quickly and don't pay much attention to the illustrations.

The fact that I come from my country and speak my language made it easier to get the gist of the story because I could relate the book to many stories I heard in my country or to what I know about the topic. Also, some words were like in my language, very similar, so I had no problem with them. However, I had difficulty with words that I had never met before, especially if there were many new words in a paragraph. The classroom reading activities made me realize that I didn't know a lot of words. When I read the story, I was able to understand most of it. The pictures even helped me guess

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faster. I was able to make a fair guess if I could understand most of the words in the paragraph. However, I generally found it difficult to translate the words without the story. I believe that reading a story just once and then trying to remember the meanings of new words is not the best way to learn vocabulary. I also need to see the word again in other contexts and write sentences with it. Maybe some people have a better visual memory.

When I first read the story, I found it curious that it was about Vietnamese immigrants to America. I kept wondering why this story, not another, was chosen. Also, I wish all tests were like that. I found it easier to answer the questions in my language, but I don't know if other people felt the same way. In sum, we had quite a different experience in our reading class. I don't usually get to read books with pictures, so exploring *The Lotus Seed* was unique. We'll never forget it.

The narrative display, built from documents, notes, and transcripts, helps us visualize what could have been a genuine representation of the students' experience learning vocabulary from *The Lotus Seed*. The display represents the patterns that I discovered in my analysis and elucidates the process of learning words from an illustrated story, helping explain some of the questions left answered in the quantitative design.

So far, I have presented excerpts from the interviews, attempting to describe the context of the conversations in enough detail and keeping my discussion to a minimum in order to show more than tell what's happening. Now, I will look for links between the narratives. A link is a place where a narrative meets another. Going back to the notion of contemplating narratives as artifacts, I can think of hubs connecting roads, or as knots connecting threads. For example, one thing linking the experiences of the six students I interviewed is, they are all English learners, come from a different country, and speak a different language. However, the uniqueness of their experiences occurs in tandem with language and cultural differences. These observations were interpreted according to patterns within the narratives.

Patterns

After exploring the students' narratives from different angles, I began identifying patterns and combining them into potential themes. I tried to make a link between what I observed and

what it means. Notice a difference between what students say, such as "I cannot guess" or "I don't understand," and my interpretation of their meanings. Such expressions can be understood in various ways, including these:

The word is new to me.

The picture is not clear.

I don't know other words in the passage.

I haven't seen this word before.

When I asked students to elaborate on their meanings, either they said what they thought I expected to hear, or they tried to provide a genuine account of their experience. Again, more interpretation was needed because their perceptions could have been influenced by prior classroom interactions or prior language learning experiences, experiences beyond the scope of this study. In order to understand these patterns in the interviews, I displayed the transcript without my questions on a 15 x 6 spreadsheet organized by words versus participant. In addition, I underlined and annotated the hard-copy version of the transcript whenever a quote called my attention. Discovering themes is a long, time-consuming process because one can get easily misguided by the content of the conversations. However, the interviews had fewer deviations, most of which helped add a different angle to the research, such as when Kim talked about her reading preferences. In general, we stayed focused on the words and their relationship with the story and the illustrations. Thus, it was possible to draw comparisons and contrasts between the students' word guessing and their explanations by analyzing within and across cases.

Table 13: Excerpt from interviews

Duc	Kim	Francine	Na	Arif	Esperanza
I can understand this word because I see the picture, and I think this here's the king of Vietnam. [illustration]	It's like our king. This is a king's dress. In China, the same thing. Yellow. This kind of hat. Emperor means king, it means king. [background knowledge]	I know its meaning um it's a king... Chinese emperor. [background knowledge] probably because of the drawing and because in French it's the same. [illustration, cognates]	Oh, again! This night I will have a dream about it in bed. This is the emperor. The first time and second time, and the third time I will wake up with the emperor. [unable to guess]	I see someone cry, and there's also a woman in the tree. She looks to this guy. So, when I read it, I look to the picture, I understand this is the character which called emperor. The same guy who was crying, emperor. He's a warrior. Like marines. [context clues, illustration]	A very important person in his country like the king, like the king of his country. *Emperador*. Very similar. [cognates] Huh, when? I didn't see the picture very much [illustration]

Note, in table 13, that the students give hints about what they mean. However, for a better understanding, I need to consider other responses as well. For instance, Duc doesn't talk about his background knowledge with *emperor,* but he brings it up with *silk*. We can make a point that he does use his background knowledge in the interpretation of *emperor,* even though he may not be aware of this strategy. In addition, Esperanza appears oblivious to the illustrations, but it is not possible to generalize that experience throughout the other pages. Also, Francine seems to use three knowledge sources to unlock the word meaning, her knowledge about Chinese emperors, her French, and the illustration. Still, I cannot draw a conclusion from her experience with that word alone, without double-checking with other responses.

As a strategy to reduce and make sense of the data, I take a step further, combining patterns into themes. A difference between the patterns and themes is that while the former focus on observations linked to the raw data such as the repetitive phrase "I can imagine" or the flower- opening gesture, or even type of interview questions, the latter lean toward more generalized, abstractive observations. This process of discovery seeks understanding of deeper relationships between cases. One point to consider, however, is that these generalizations come from the data, not from preconceived notions about the learning process. Even though I speculate about learning words from storybook illustrations before analyzing the data, only after I examined the interviews thoroughly, I could determine the contribution of each narrative to my understanding of the process of learning words from storybook illustrations.

Themes

During the interviews, I asked the participants what helped them to figure out the meanings. Then I asked what difficulties hindered their guessing. Or if there were no difficulties, what facilitated the guessing. Their responses were coded, analyzed, and finally categorized leading to the discovery of themes.

Cultural Schemata

When I look at the picture of the emperor, I don't connect with the concept right away. From my cultural standpoint and background in Brazilian-Portuguese storytelling, I am more used to kings and emperors from Europe, who used a different kind of crowns and royal outfits from that of the emperor portrayed in *The Lotus Seed*. However, the story also contains words that help contextualize the concept such as *palace* and *throne,* and the picture portraying a brave young emperor dressed-up in silk costume appears royal to me. Therefore, I can use my cultural background or schemata to understand the story and infer word meanings.

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Similarly, the participants used their cultural schemata to comprehend the story and infer the meanings of new words. The first, and perhaps most interesting example, is *emperor*. Duc and Kim were able to guess the word by using the illustration and the story. Duc explains, "I can understand this word because I see the picture, and I think this here's the king of Vietnam." Kim also uses the picture linking it with her prior knowledge: It's like our king." She goes on, "this is a king's dress. In China, the same thing. The same thing. Yellow. This kind of hat." Francine relies on the picture as well as her French background and prior knowledge: "it's a king... Chinese emperor." She figures the word out "probably because of the drawing and because in French it's the same." Like Francine, Esperanza also used language clues, but she didn't attend to the picture. She says the emperor is "a very important person in his country like the king, like the king of his country" and the word is "very similar" to Spanish *emperador*. When I asked about the picture, she appeared oblivious, "Huh, when? I didn't see the picture very much." Arif does pay attention to the picture, and he sees the emperor as someone who works in the army. He explains, "I see someone cry, and there's also a woman in the tree. She looks to this guy. So, when I read it, I look to the picture, I understand this is the character which called emperor." When he sees the word again, he confirms his interpretation: "The same guy who was crying, emperor. He's a warrior. Like marines." It's not clear whether he thought of the emperor as a low- or high-rank person. Na, with her Vietnamese background, was unable to infer the meaning. Her exploration of the story led to unacceptable inferences of the emperor as a husband or brother of the grandmother. Recognizing her unsuccessful attempt to infer the meaning of *emperor*, Na points out she would need to re-read the story for clarification.

Another interesting interpretation is *silk*. Duc and Na rely on their Vietnamese background to unlock its meaning. They associate it with the Vietnamese word *ao dai*, a typical

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long dress in Vietnam. Na explains the word *dai* means "long." She says, "silk is one of the materials we make clothes." She goes on, "it's very famous in Vietnam." Both Francine and Arif associate the meaning of *silk* with a type of fabric. Francine says, "when I buy some pieces of clothes, I can see *silk*. Arif is less assertive, though he has a good hint. He states, "in my country we use silk and we use in some traditional clothes." He further points out, "but I don't know is it right or not." Kim and Esperanza, though not certain about their guess, define *silk* as "a piece of wood" or "a box of wood," respectively. By assigning a meaning in connection with *wood*, both miss the clue that was available to the Vietnamese but could be derived from the story. Even though the non-Vietnamese didn't know what *ao dai* meant, they could see the verb *wore* (wear), thus linking the word with the right concept. However, because the clues require a great amount of imagination, it is possible that the learners may have found it difficult to associate the target word with the clues.

Altar is another example worth sharing because of its cultural significance. Even though the concept was known to most of the six students, especially the Vietnamese ones, some didn't know that the word could be linked to elements in the picture. When Duc asked me if the word *altar* was right after explaining what he sees in the picture in detail, it became evident that he understood the concept from an insider's perspective but was unable to associate it with an English word. Na relates to the same difficulty expressing the concept in English: "I can't explain because in America they didn't use that, so I don't know how to explain because it's just in Vietnam they used to..." She goes on to describe the *altar*: "In the Vietnamese we usually have uh we have a traditional... When a person dies, we don't want to forget him or her, so I put the picture, and I for example I must to... we can put the food or something to invite him or something to come to eat it." Although from a different Asian country, Kim also knew well

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about the concept when she says, "in some Asian families, they have like *altar* to put grandma's, grandfather's pictures, like this, to remember them." Francine, though from a European background, could connect with the concept by scrutinizing the picture and relating it to her prior knowledge. As she points out, "I can imagine it's a kind of furniture, a little table, something like that because I can see it on the picture." She explains its function from an outsider's perspective: "Maybe to pray, pray gods, or to be devoted to God. You put some, for example, some food, some vegetables, and you light a candle for the gods. I can imagine something like that." She also refers to her prior knowledge when she says, "In particular, in your house or you can see something like that in some Chinese restaurants, for example." Esperanza relies on her Spanish background, in which the word is spelled just like in English. Here our shared knowledge of the word became an impediment since I failed to ask about her perceptions of the altar from the Vietnamese culture. Finally, Arif doesn't seem to understand the concept at first, but he explores the story and illustrations for potential clues, arriving close at the meaning. "I think it's a room or something," he tries a first clue. Then, as he sees the word one more time, he changes his mind, "No, I don't think so. Maybe uh maybe it's a table or something." He explains he figured out the meaning by looking at the picture and goes on to explore the details, "Ah that's... this table, altar, that the family go together and maybe drink coffee or eat something there. So, she looked under the altar, under the family altar, so in the picture she looked under the table." His comments do not allow an interpretation of the altar as a special or holy place.

Difficulty Guessing Words

One common experience shared by the students was their inability to guess unfamiliar words. That occurred especially with *unfurl*, *moat*, *bloom*, and *pod*. Duc, Kim, and Na attributed the difficulty of figuring out word meanings to the fact that there were too many words

they didn't know. Because neither *unfurling* nor *petals* were familiar, the phrase *unfurling its petals* "makes no sense," as Na pointed out. However, the same difficulty was not observed with Francine and Esperanza, who knew the meaning of *petals* and attended to the *-ing* part of the verb, linking the word with the flower's process of blooming. Arif didn't know the phrase either, but he was able to figure out the meaning by associating the word with the picture of an open lotus.

Uncertainty about Word Meanings

Students also expressed uncertainty when asked to elaborate on their guessing. Phrases such as "I don't know," "I'm not sure," and "maybe" were abundant. Especially illustrative is Arif's case. Even when he felt comfortable about an answer such as with the meaning of *refugees*, he preferred a non-assertive response. In addition, students used body language and onomatopoeia to get their meaning across. Body language was noticed when they opened their hands to represent the lotus' blooming or the action of *unfurling* (Kim, Francine, Arif, and Esperanza). Onomatopoeia was observed with Esperanza and Kim in their attempt to describe their reading strategies as moving quickly throughout the text. This raises the question that there could have been instances in which they understood the concept, but could not explain it in English.

Using Different Types of Clues

Students utilize different types of clues to guess words. These include background knowledge, context clues, illustrations, and cognates. The way in which the students attempted to figure out the meaning varied according to the word. With *emperor,* for example, there is a lot of variation. While some used their cultural background knowledge and the illustrations, others relied on information from the written context or prior linguistic knowledge. For instance, Duc

uses both the picture and background knowledge. Esperanza, who figured out *emperor* because of her Spanish background, didn't attend to the picture. The case of Esperanza shows that differences in learning styles may be related to how much attention students allocate to visual input. She explains that although she focuses on the written context, she ignores illustrations. Francine used both cultural and language knowledge. Na got caught up with story details and failed to make a connection with her background knowledge. Arif, in the lack of background knowledge, used the information in the text to his advantage. Kim could easily associate it with her cultural background and the picture. Francine and Esperanza both relied on first-language hints (*empereur, emperador*) while Duc and Kim relied on their Asian background and the illustration. However, illustrations and background knowledge may have also been activated for Francine and Esperanza. Similarly, Duc and Kim could also have used language clues, in this case their knowledge of related words such as *imperial* and *empire*. It's possible that a certain type of clue is activated depending on the student's interaction with the word. There may also be a clue hierarchy, or hierarchical reading and lexical-inferencing processes. Because they were not trained to use pictures for deriving word meanings, some students may not have well-developed strategies for dealing with illustrations, or their reading preferences favored a less visual approach.

Using Background Knowledge

Background knowledge may be associated with successful comprehension and word guessing. In *silk*, Duc perceived a link between the target word and his background knowledge. He didn't mention the illustration for that particular word; however, it does not rule out a connection between background knowledge and the illustration. Although he was able to determine the meaning without the illustration during the classroom assessment, having seen a

picture of the emperor would have been more helpful in retrieving his cultural background knowledge. By associating *ao dai* with *silk* and then by visualizing the emperor's clothes, which is also made from silk, he could have drawn the conclusion that the two words were related. In that example, Duc successfully used context clues to access his prior knowledge. However, context clues alone do not lead to successful guessing if prior knowledge is not activated. For example, Arif compared the emperor with a military figure. He not only explores context clues to guess the word, but also attends to the picture. One may question whether the illustration doesn't trigger his background knowledge, or if a different kind of concept is activated. One could argue that this is a case where there is comprehension but insufficient communication. That is, he knows the concept but doesn't know the label. However, insufficient comprehension appears to be the case. He doesn't know the concept, thus cannot find the right label. If the illustration supports the comprehension of the target word, then there should have been no difference between those with similar background knowledge such as Duc and Na. However, Na may have ignored the picture just like Esperanza did. While Esperanza could get meaning from Spanish, Na got confused trying to figure it out from the written context. On the other hand, Arif used both written context and the illustration, but he didn't perceive the link between the emperor and other words in the passage such as *throne*, which Esperanza also knew. If he had understood *throne*, he would also understand *emperor* as a king, not as a military person. Perhaps his reading was influenced by the story context in general, which describes the Vietnam war and features words such as *soldiers* and *bomb*, which he could understand well. This suggests that the presence of unfamiliar words in a passage is a leading cause of confusion. Even after scrutinizing the sentences or picture, the reader is unable to determine the word meaning if he or she does not reach the schema supporting the meaning.

Using Illustrations

Although the students experienced difficulty guessing word meanings, they also shared many instances in which they could understand the story regardless of unfamiliar words and benefited from illustrations. Illustrations did not support vocabulary in a one-to-one relationship, though. When asked to elaborate on their use of illustrations, students pointed out that the pictures were helpful in improving comprehension, but not so helpful with guessing new words. Facilitation was observed, for instance, with *towering* and *scramble,* and to some extent *emperor*, *altar*, and *silk*. However, in the case of *silk*, the picture led to a miscued association with *wood* because of *altar*. The degree in which illustrations helped with word meanings varied. In some cases, as with *clamor* and *towering*, the illustration improved comprehension, but the word could be understood without the picture. Arif had a similar experience with *clamor*. He says that he could understand the passage, even though there were three new words. He was able to guess *clamor* because the phrase "door to door" clarified the meaning of that word. It seems that when the relationship between the concept and picture is more transparent, it becomes easier to guess. In Duc's interpretation of *towering*, it became evident that the picture and his background knowledge both played a role in facilitating word guessing. Kim understands *towering* not only as *very tall* but also *bewildering*. She talks about meaning in depth, trying to find expression for her ideas. For Francine, the picture helps her understand the meaning of a partially known word. She knows *tower* and *skyscrapers*, thus makes an inference from "buildings that scraped the sky." Although Na can get a lot of clues from the written context by associating the adjectives with their corresponding nouns (e.g. speeding cars), she also uses the picture. As she points out, the picture makes her guess stronger. She understands the word because the picture makes the concept clear, or by association with "speeding cars" and

"blinking lights." By inference, buildings can be tall, thus *towering* means *tall*, and the picture supports the idea that the buildings are very tall as opposed to historic. For Arif, the picture doesn't seem to add much to word guessing, although it does with comprehension. Esperanza, who is reminded of the Empire States building, sees the passage and illustration as a metaphor. The picture appears to be more helpful to her than others. Probably some refer to the picture as being helpful in relation to the story, not the word. Thus, the difference is that some found it very helpful, others as much as fifty percent. With respect to *emperor*, Na seems to pay little attention to the picture, or maybe she cannot benefit from it because of difficulties with the language. On the other hand, Esperanza didn't notice the picture about the emperor because it's a redundant feature and had no impact on meaning, which was provided by the Spanish cognate *emperador*. Although the connection between words and pictures may be irrelevant when another type of clue such as background knowledge and cognate appears to provide enough information, attacking words from a multiple perspective helps create successful links. In particular, the picture-word link could be enriched through collaboration. In general, pictures appear to help with comprehension, but not so much with lexical inferences, yet there seems to be a connection between comprehension and lexical guessing, as illustrated in Duc's phrase, "meaning of the paragraph."

Using Context Clues

In addition to illustrations, students benefit from context clues while grasping meaning from the story and individual words. With *scramble*, the inference process happens in conjunction with the illustrations. Duc notices the meaning by looking at the picture and the phrase "into a crowded boat," so he sees a connection between the people in the boat, seemingly a crowd, and what happened before. Both the illustration and the written context help his

inference. Kim also emphasizes the picture, and the fact that people are in the boat helps her draw the conclusion that they got into the boat. It seems like the new word is not necessary for her comprehension. Francine also looks at the grammatical property of the verb, pointing out an action such as *jumping* into the boat in an attempt to escape from the war. Na focuses more on the emotional aspect of the picture than the action of getting into the boat. Although it seems she doesn't understand the word, she enhances her comprehension of the story by relating to stories she heard from her family. Arif believes the picture helps him understand ninety percent, but it's not clear whether he refers to the passage or the target word. Esperanza's interpretation implies both an action ("use the boat to escape") and a quality ("take a boat very crowded"). She also looks at the picture critically, arguing that it's not crowded.   The combination of picture with context clues works for this word. While the picture supports comprehension, it seems that word guessing would have been successful just from written context alone.

Using Cognates

Cognates may be linked to success in comprehension and word guessing. With *clamor*, Duc focuses on the action *run*, perhaps influenced by the picture. Kim understands the word as both *knock* and *go everywhere*, which she expresses with a gesture. For Francine, the French cognate doesn't seem very informative for her guessing. She appears to use the story context and the picture more. For Na, the context of the story is strongly related to her background knowledge. She seems to put a lot into the interpretation, and she's the only one who mentions the Viet Cong. She also uses a phrase ("door to door") to figure out the meaning. Arif sees that both the picture and the phrase "door to door" helped him to find the meaning. He also believes the story context is enough for him to understand the word without the picture. For Esperanza, cognates, context clues, and illustrations seem to help. This word shows that a combination of

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clues can help the reader to attack unfamiliar words. Combining cognates with sentence details and the illustrations, readers were able to guess the meaning.

However, with *dormant*, differences in cognate knowledge outweigh the ability to use multiple clues. Duc notes that he's unable to understand the sentence because of the number of new words. He puts into a ratio such as knowing two out of five words in a sentence versus knowing no words or only one. He points out that if he understands twenty percent or less of words in a sentence, he cannot understand its meaning. He generalizes the notion of meaning from words to sentences to paragraphs, making no difference between words and texts when it comes to comprehension. Kim believes the word *dormant* is part of the flower. It becomes evident she doesn't know it's an adjective. Arif also believes *dormant* is a noun, something below the flower, probably the stem. Here, it seems not knowing the part of speech becomes an impediment for his comprehension. Na's interpretation doesn't make much sense to me. I don't understand her inferences. She's probably trying to guess based on mud, or maybe she's looking into the meaning of the proverb in Vietnamese. The association between *ill*, or something *dirty* or *scary* makes sense considering the challenges that the refugees faced escaping from Vietnam. However, this appears to be an attempt to express something she understands but doesn't know the words. For Francine and Esperanza, cognates make it easy to guess the word. The ending -*ant* (or -*ent*) also occurs in many words across Romance languages such as French and Spanish. In addition, as evidenced with Esperanza, knowing that *dormant* does not refer to any part of the flower but the inactive state of the seed makes a difference in their comprehension. From these examples, *clamor* and *dormant*, we can conclude that cognate knowledge helps readers make successful inferences. Also, the ability to recognize parts of speech and use word parts to derive

meaning, which could be related to prior linguistic knowledge, may affect the inferencing

process.

Context Must Be Comprehensible

For successful guessing to occur, the context must be comprehensible. The case of *unfurl*

elucidates that it is more difficult to guess when there is more than one unknown word in the

same sentence or paragraph. If there's not a one-to-one relationship, the story can be used in

conjunction with the picture. In Duc's interpretation, background knowledge and illustrations

seem to affect the degree of guessing. Duc is unable to guess because there are many new words

in the passage. He points out that too many unknown words make guessing difficult. He

compares "unfurling its petals" with "beautiful pink lotus" and explains that when there is only

one new word in the paragraph, he can guess it. But if there are two or more words that he

doesn't understand, then guessing becomes problematic.   Duc further explains that he

understands the "meaning of the paragraph," but not of the word. It's possible that the picture

helps him with main idea comprehension, regardless of unfamiliar words. Likewise, Kim is

unable to guess because she can't understand the phrase "unfurling its petals." Na faces the same

issue. She cannot understand the phrase, and she thinks *unfurling* is an adjective meaning

unbelievable. She is probably using the picture to draw meaning from the passage. She has a

good guess for petals as the "outside of the flower"; however, her uncertainty becomes an issue.

Because she cannot confirm her guess, her comprehension gets in trouble. Unlike Na, Arif

experiences a successful guess by exploring the picture and context clues. Similarly, Francine

uses multiple strategies to attack the word, and she benefits from knowing the word *petals*,

which is a cognate, and knowing that *unfurling* refers to an action. Esperanza takes a similar

approach as Francine, using her cognate and linguistic knowledge in combination with the

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picture, which shows a beautiful pink lotus. Esperanza also knows the word *petals*, and she knows that *unfurling* is related to an action. These differences among the learners in inferring word meanings show that the presence of unfamiliar vocabulary next to target word makes guessing more difficult. However, the exploration of multiple clues, including cognate support, helps attack word meanings. In addition, the ability to access part of speech seems to affect the inferential process.

Learner Must Notice Clue

While the availability of comprehensible context facilitates inferences, the learner must also notice a link between the new word and the clue to establish a connection between word meanings and one's prior knowledge. With Duc, that link was possible because the word *ao dai* activated his understanding of *silk*. However, without a powerful clue such as *ao dai*, it is not possible to match the picture and a corresponding label. In Duc's interpretation of *altar*, the link between the target word and the picture is not clear-cut. Even though he understands the concept in depth, he cannot see a connection between the word and the picture. Although his background knowledge is activated by the illustration, for he was able to explain the concept of family worship in the Vietnamese culture, his prior knowledge does not lead to immediate identification of word meanings. Although Duc might be able to confirm his inference on his own if he had more time with the story, a short-cut is created through conversation with the researcher, in which the latter confirms the meaning of the *altar*. Thus, collaboration in the form of interaction with the researcher functions as way to highlight the clues, drawing the student's attention either to word meanings or features in the text or illustrations. While clues require that students know what to look at, collaboration improves their perception.

Learner Benefits from Exposure and Collaboration

The notion that exposure to the illustrations alone might not be enough for inferring word meanings successfully became evident especially in our discussion of *pod*. After exploring the pictures and a few passages, some students were unable to guess the meaning of *pod*. When they were shown a picture of a lotus pod, some were able to guess. Although Duc's not sure what *pod* means, he knows about the lotus flower. As he points out, "in my country you have the flower and this is inside. I don't know what this is called." He explains that the pod can be eaten, and the food is very famous in Vietnam. It seems that the pictures are clear enough for him to understand the details. He appears to know the concept, but he doesn't know its equivalent label. Our conversation and further reading helped him understand the word, although I didn't tell him what *pod* meant. In the same discussion, I used the flower-opening gesture to explain the meaning of "unfurling its petals." Duc said it was beautiful. He also commented that the song in the back of the book was about the beauty of the lotus flower. Clearly, he appears to understand the lotus flower well, due perhaps to his Vietnamese background. However, the story context and the illustration were not enough for him to infer the meaning of the *pod*. Like me, Kim uses the flower-opening gesture to explain the meaning of *pod*, which reminds me of *bloom*. Other students used a similar gesture describing that word. Kim understands *pod* as a part of the flower when she says, "this is a flower, and I think this is in front of the flower." It's interesting that we used a similar gesture. I don't believe I used the gesture with her. Also, she points out that she learned about the lotus flower from TV, which shows a different type of background knowledge from Duc. Unlike Duc, she was able to guess the word after our discussion in which I showed the pictures of the pod. Like Kim, Francine understands the lotus flower's cycle of life, and she has a special meaning for *bloom*. Maybe she's thinking about a bud. First, she figures out the

meaning of pod, "And I suppose it contains the seeds of the lotus. The seeds of the lotus are contained in the pod, right? Probably it's inside the pod. I understand now with this picture." Na knows that a pod is one of the pieces of the lotus flower. No other student had guessed so well. I wonder if she talked to Duc about that. I saw them together after my interview with him, and that's when she volunteered to participate. At first, I wasn't sure I needed two Vietnamese speakers, but then I asked Duc to tell her to contact me. So, during the interview, I asked if she had talked to anyone about the story or looked up words in the dictionary. She laughed as if pulling my leg, but assured that she only mentioned to someone that she had read a story about her country in class. It's also possible that Na's knowledge of the lotus flower differs from that of Duc, although both are from Vietnam. I didn't tell Arif the meaning of *pod*, and he was not able to figure out even after looking at the pictures. He inferred it was "the small thing that grandmother gave to the children" and "maybe this is the seed." Similar to Arif, Esperanza believed the *pod* was the seed. The picture doesn't seem to help Esperanza much, perhaps because she has never seen a lotus closely, or as she points out, "I haven't seen a lotus carefully." She is unable to guess because either because her background knowledge is insufficient or the illustration does not help. She goes on, "it could be the flower but I don't know if it's dead because their color is like very dark." In general, students were unable to guess the meaning of *pod* without collaboration. After discussing the word and looking at various pictures, only Kim, Francine, and Na were able to determine the meaning. That shows more exposure may lead to improved comprehension and more accurate lexical inferences. However, collaboration helps create a shortcut between pictures and words. Without collaboration or some other form of drawing students' attention to word meanings, exposure alone may not succeed if there aren't enough clues, or if the clues are not very helpful.

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These themes represent a first step toward making generalizations about learning words incidentally from *The Lotus Seed*. The interpretations carried out thus far also help us understand aspects of the quantitative results.

Revisiting Test Responses

Comparing the short responses in the vocabulary tests with the elaborated ones of the interviews, I found that there may be hidden meanings behind the test responses on which the interviews can help to shed light. This observation occurs with *sneak* and *altar*.

The *sneak/snake* pair appears to be a case where spelling comes in the way of comprehension. When I first noticed this difference, I remembered Hayes-Harb's (2006) study in which Arabic learners appear to focus more on consonants than vowels, thus failing to see distinctions such as *heat*, *hot*, *hat*, and *hate.* However, this spelling confusion also occurs with Spanish, a language using the same alphabet as in English and placing sufficient emphasis on vowels. Therefore, the spelling miscue could be semantically motivated. Francine called my attention to this interpretation when she talked about *sneak*.

Example 59
> I don't know this one, but you know I can read the silent palace and to sneak I think about a snake.
> So um with the silence I can imagine that she walks very very slowly and all in the palace to go outside. I can imagine something like that.
> Yeah, to sneak like a snake. I can imagine...
> Go slowly, go very furtively.
> ...
> Not slow in fact but yeah. No, not slow. Probably, furtively, very quickly with the silence.
> The snake can be very quick, but with silence it's how can I say. I don't know how to say, like, when on the ice and skate, so to skate. I don't know.

Here I deleted my questions deliberately to emphasize her words. Our interaction helped her to realize that a snake can move very quickly, though silently and furtively. I like her word*, furtively*, because it reminds me of the idea of going someplace carefully so as not to be seen by

anyone, just like the girl does when she goes down to the imperial garden to pick up the seed.

Francine surrounds me with her imagination, and I must warn readers not to fall prey to her

metaphors. However, one must not disregard the power of imagination even when there appears

to be a mere spelling confusion. Rodari (1996) argues for poetic relationship among words. He

compares a word with a stone thrown into the swamp. The stone breaks the silence, wakes up

the little critters, messes around with the muddy waters, going deep and deep touching

everything that comes on its way. He suggests that words can relate to one another on various

layers, including phonetic, orthographic, and semantic associations. From this perspective, the

sneak/*snake* linkage could help explain other connections between words.

Another word that came to my attention is *altar*. Some responses suggested that the word

means *table* or a piece of furniture. Although an *altar* represents more than a piece of furniture

from my cultural standpoint, here one can make a case for the role of background knowledge in

reading comprehension and word guessing. The symbolic function of the altar depicted in the

story can be illustrated in Turkish. Before reading the story, a student translated *altar* as *imge*

(image), which the translator interpreted as a more abstract, metaphorical, imaginary, or

emotional image. After reading the story, the student changed it into *simge*. The translator

pointed out it represents a more physical, yet symbolic, representation such as *icon* and *artwork*.

The translation of *altar* into either *furniture* or *image* may not be enough to express on a surface

level the meanings associated with the target word. However, the qualitative analysis revealed a

deeper connection between comprehension and word learning.

Typical Responses

The scoring system was straight-forward. However, there is plenty of variation in the

responses. Most students left target words blank, showing that they either didn't know them or

weren't sure about the meaning. Some answered with one word. Others wrote a definition. For some the definition is vague or incomplete. For instance, a student defined *altar* as "a thing in the top." For others, the definition is precise. Another student defined *refugee* as a "person who exits his or her country because of problem or violence against him or her." For an overview of the most typical responses, I compared tests by word and by language.

Emperor (n): Responses vary from a close equivalent to *emperor,* which includes *king*, to other words within the same semantic area such as *empire, imperial*, *imperialism*, and *rule* (v). Unrelated meanings include *members* and *a lot*.

Sneak (v): A common response was *snake* or related terms such as *bite*. Another spelling variation is *snack*. Two responses *wicked* and *outsmart* appear to refer to *sneak* on a metaphorical level. Unrelated items include *catch* and *snooze*. Most responses seem to have a spelling influence.

pod (n): Some students translated it into *pot*, *flower*, or *purse*. The first word has a spelling as well semantic influence. *Purse* (or *pocket*, *envelope*) can be related to *pod* metaphorically since a pod is a vessel that contains the seeds. Another word is *piece*, which could be associated with a part of the flower.

altar (n): A few students translated it into *change* (v), probably in association with *alter*. Some connected with the concept of an object to honor or remember someone such as in *memorial* and *nativity scene*. Others interpreted the word as a piece of furniture as in *chest of drawers*, *table*, and *box*. There were also translations that could define *altar* as a place where a religious leader gives a *speech* or conveys a *message*. However, a great deal of imagination would be required to understand responses such as *little* and *become a family.*

silk (n): A typical response was *fabric,* which extends to *wire*, *something to connect,* and *cotton*. The variations seem to occur within the same, or a related, semantic area.

clamor (v): A typical response was *hail* and *break into*. These responses are more closely connected with the story than *to calm* and *past*.

scramble (v): Many students refer to *mixed* as in "scrambled eggs." Within the same semantic area, there is *make a mess* and *shatter*. Some variations include search, organize, and unscramble. Other variations include actions such as *catch*, *slither*, *run into,* and *bury. Bury* can be associated with a different passage in the story, in reference to planting the seed. Another translation is *scared* or *shake* like on a bumpy road or stormy sea. Some responses are related to the story. However, the notion of getting into a a crowded boat was confused with the idea of mixing things up or untangling them.

towering (adj): Typical responses include *tall* and *tower-like*. Within the same semantics, there is *building*, *urbanized*, and *skyscraper*. Per spelling equivalence, there's also *towel*. Unrelated responses include *warning*, *use*, and *storm*.

bloom (n): Some students associated it with the flower as in *flower*, *bud*, *bloom* (v), *blooming*, and *seed*. Others refer to blooming metaphorically as in *shine*. Unrelated responses include *dark* (maybe in association with *gloom*), *immigrate,* and *remind*. Spelling associations include *bomb*, perhaps in association with *boom*.

patch (n): Spelling associations include *peach* and *beach.* Semantic associations with *path* include *path* and *aisle*. Other semantic associations with *patch* (as in patchwork) include *square*. Many responses occur within the field of farming referring to either a backyard garden or a larger area of cultivated land. On a metaphorical level, the squares in patchwork can be associated with patches on a farming field.

unfurl (v): Responses include *unnatural*, *uniform*, *plant* (v), and *be hopeless.* *Uniform* can be connected with *silk* as in *ao dai*. *Be hopeless* suggests an association with *scared,* a response provided for *scramble*. The other words are associated with nature.

dormant (adj): Many translated it into *inactive*, sleeping, or a place to sleep such as *dormitory* and *bedroom*. These seem to occur in association to a known word, *dorm*. Other responses include *small hidden place* (by association with *hiding*), *dominated* (by association with *dominant*), and *stool* (another kind of furniture as in *altar*).

moat (n): Variations include *fields* and *patch*. These words seem related to the natural environment represented in the story.

turmoil (n): Closer associations are *chaos* and to some extent *movement*. Unrelated responses include *(whale) oil* and *tired*. The first obviously as result of the confusions with the letters *-oil* in *turmoil*.

refugee (n): Within the same semantic field, there are equivalents to *refugee* and *refuge,* by association *immigrant*. Unrelated items include *fill*, *freezer*, and *soldier*.

Regardless of language, there are many similarities in the type of responses that students provided. Some languages such as Arabic appear to be more sensitive to spelling such as in the confusion *snake* vs. *sneak*. However, spelling influences also occurred with Spanish and Urdu. In providing translations similar to the meanings found in the text, although unrelated to the target words, students appear to guess from not only what they already know about the words, but also what they remember from the story. Although most students were instructed to leave the answers blank if they weren't sure, many attempted a correct response anyway. Some responses were clearly influenced by the story, even though the appropriate meaning was not provided. For instance, while *bury* is an inappropriate translation for *scramble*, it can be linked

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with the idea of planting the seed. Thus, although many responses are unrelated to the target

word in question, they may be related to the meanings in the story on a metaphorical level.

Rather than just mark answers on a numeric scale for this quantitative component, it seemed

more realistic to take a step further and discover other meanings within the responses. Possible

connections between the short answers of the written assessment and the more detailed verbal

responses in the interviews could shed some light on this issue.

Interpreting Written Responses

The interpretation of written responses from different languages is a challenging task. To

minimize the possibility of error, due to researcher bias, I included in the interpretation an

analysis of my subjective position as a language expert. I also commented on my interaction

with the translators and tried to describe their views as genuinely as possible. No language

expert is exempt from bias in this case. The researcher's stance, when elucidated through

reflection, benefits more than it harms the overall quality of the analysis. While my

interpretation cannot be quantified, it sheds light on how the numeric values were created. In

sum, the analytical process from written responses to raw scores demonstrates an overlap

between the quantitative and qualitative components in this mixed-method design.

Summary

The quantitative component fails to reject null in the hypothesis, which indicates that

storybook illustrations might not influence incidental vocabulary acquisition. However, the

qualitative component elucidated aspects in the students' responses that shed light on the role of

illustrations on vocabulary acquisition. The qualitative analysis reveals themes that evolved

from my interpretation of test responses as well as interviews. Although the analysis is

predominantly inductive, the themes may be related to notions discussed in the literature review.

These generalizations could be interpreted in light of the quantitative findings and the literature. In Chapter 5, I discuss the findings in relationship with a key debate in vocabulary research regarding the role of context versus instruction in learning word meanings.

Chapter 5

Discussion

The present mixed-method study was designed to explore the potential influences of storybook illustrations on learning word meanings. The main question was, "Do storybook illustrations influence learning word meanings from context?" The quantitative question was, "Is there a significant difference between experimental Text Plus Picture (TP) and control Text Only (TO) conditions?" The qualitative question was, "How are illustrations helpful to individual students in promoting incidental word learning?" In chapter one, I introduced the research problem and defined the research question with a graphical display of the conceptual framework (Fig. 1 in Chapter 1) and a hypothetical description of the process of learning words from storybook illustrations. In chapter two, I reviewed the literature on vocabulary and highlighted a key debate between learning words incidentally from context and the role of vocabulary instruction. I also emphasized the notion of using children's books with adults and discussed the benefits of illustrations in comprehension and vocabulary development. In chapter three, I described the quantitative and qualitative methodologies used in this investigation. In chapter four, I presented the quantitative and qualitative findings, showing no significant differences between experimental and control groups for vocabulary, but significant differences for comprehension. In addition, the qualitative analysis revealed themes that elaborate on the quantitative responses.

In the present chapter, I discuss the findings in relation to the selected literature reviewed in chapter two. First, I present a summary of the research findings and procedures. Second, I revisit the *learning words from context* vs. *teaching words directly* debate, discussing the findings in terms of characteristics of the input or the learner, or even the assessment conditions.

Third, I propose a model for learning vocabulary from illustrations based on my analysis.

Finally, I conclude with a few recommendations for vocabulary research and instruction using children's literature with adult English learners.

Research Questions

The research questions are as follows:

1. Do storybook illustrations influence learning word meanings from context? (main research question)

2. Is there a significant difference between experimental Text Plus Picture (TP) and control Text Only (TO) groups in pre- and post-reading tests of vocabulary? (quantitative question)

3. How are illustrations helpful to individual students in promoting incidental word learning? (qualitative question)

Summary of Findings

The study was carried out using a mixed-method design. In the quantitative portion of the study, forty adult English learners participated in a classroom reading assessment using an illustrated storybook, *The Lotus Seed* (Garland, 1993). The students were randomly assigned to experimental and control groups. The experimental group read the story with illustrations. The control group read the same story without illustrations. All students translated thirty words before and after reading the book. There were fifteen words from the story (target words) and fifteen words that are not part of the story (distractors). In addition, they answered ten multiple-choice comprehension questions after reading the story. The comprehension activity was designed to draw their attention to the story, not to individual words. The purpose of the

classroom assessment was to investigate if there were significant differences between the experimental, text-plus-picture group and the control, text-only group.

In the qualitative portion of the study, six students (three from each group) were interviewed about their experiences learning vocabulary from the story. Each student read the story again with pictures and talked about target words attached to the book through post-it notes. The purpose of the interview was to investigate the extent to which illustrations helped the readers to figure out word meanings and to learn more about their process of learning words from storybook illustrations.

If illustrations had a positive effect on incidental word learning, then the experimental group would perform significantly higher than the control group, which didn't receive the treatment (exposure to illustrations). If, however, there were no significant differences between the groups, then the illustrations might not affect word learning at all.

The quantitative results show no significant differences between the experimental and control groups for vocabulary, but significant differences for comprehension. These results could be interpreted that the treatment had no effect on incidental word learning. In addition, the qualitative results confirmed that illustrations played a more important role in story comprehension than word learning. This means that reading illustrated storybooks might not be an effective strategy to learn word meanings, which supports the argument that comprehensible input alone isn't enough for successful second language acquisition. However, the qualitative data also show potential influences of illustrations in connection with other clues in the process of learning words from storybook reading. This suggests that reading illustrated storybooks while focused on the story may be a viable method for acquiring word meanings. Therefore, we cannot rule out the benefits that illustrations might have for incidental word learning. Before I

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discuss these findings, let me first revisit the debate about learning words incidentally from context versus teaching words directly, which served as the background for my research question.

Revisiting the Debate

As the conceptual framework (Fig. 1 in Chapter 1) shows, the present study focuses on the relationship between the input and the learner. The input is composed of a story with words and pictures. Hypothetically, the learner engages in the input through reading, and, thus, learns new words incidentally. According to one side of the debate, for students to benefit from the input, the input must be comprehensible. That means, for students to learn words from reading context, they must be able to understand the story and most of the words and figure out word meanings while focused on the message, not form. The other side of the debate emphasizes that comprehensible input alone isn't enough; students also need noticing. That means, to learn words from reading context, readers must focus on form, not just on the message.

For Krashen (1982), comprehensible input is a fundamental condition for second language acquisition. Within his approach to second language acquisition, also known as the *Natural Approach* (Krashen & Terrell, 1983), Krashen (1993) made a strong argument for the role of reading in vocabulary development citing numerous studies, including those carried by Nagy and his colleagues, that reading for pleasure and in huge amounts positively affects vocabulary growth. For example, Nagy and Anderson (1984) argued that the number of words students learn each year is way beyond the scope of any, even the most audacious, vocabulary programs. Therefore, what can explain the tremendous growth in word knowledge is wide reading and, as a consequence, learning words from reading context. In both Krashen's and Nagy's views of learning vocabulary from context, creating multiple encounters with words

through enjoyable reading is the main road to vocabulary growth. Providing wide access to reading has been the purpose of different programs, and these are usually labeled *wide reading* or *extensive reading*. Krashen (1993) also suggested a simpler version of extensive reading for English learners, called *narrow reading*, in which students read books on the same topic or by the same author, thus increasing the likelihood of encountering similar structures and vocabulary. Evidence for the benefits of narrow reading includes Cho and Krashen (1994), in which four women reportedly became enthusiast readers and acquired words from comprehensible reading context. However, narrow reading was found to be less effective for acquisition and retention of word meanings than reading plus vocabulary instruction (Min, 2008).

Krashen's work has inspired a huge number of book *aficionados* and language teachers in the United States and abroad. To this day, teachers have stressed the importance of providing interesting messages that are slightly above the learners' proficiency levels. Many reading teachers, in particular, recognize the value of accessible texts where students can infer word meanings from context as a way to attack unfamiliar vocabulary. For example, in an online survey that I conducted with twenty-seven ESL/EFL teachers in the United States and Brazil, inferring words from context was the preferred strategy for teaching and learning unfamiliar words encountered in reading (Rocha, unpublished). The participants in the study read five small passages from children's texts and selected from four multiple choices what strategy to help students learn two potentially unknown words from each passage. Learning from context was the most selected word-attack strategy as compared to using a dictionary or marking the word for later study. This survey shows that Krashen's ideas are very much in vogue, regardless of oppositions.

Responses to both Krashen's and Nagy's views of learning words from context have emphasized the role of instruction. With respect to Krashen, his opponents argue that comprehensible input alone cannot lead to success in language learning. In a case study of his acquisition of Brazilian Portuguese, in collaboration with Frota, Schmidt challenged Krashen's argument that comprehensible input leads to successful language acquisition (Schmidt & Frota, 1986). The researchers demonstrated that even though the input contained forms that were thoroughly studied and practiced, the learner only became aware that those forms were available when he *noticed the gap*, that is, the difference between how the learner speaks and how other people, especially native speakers, do. With this kind of "aha moment," Schmidt would say, acquisition can be triggered. Schmidt's hypothesis, which he elaborated in a number of studies, was put forth by the *focus on form* movement, which emphasizes that in-between exposures to meaningful language use in context, which includes reading for pleasure, learners can develop awareness of form (e.g. Ellis, 1994a, 1994b; Laufer, 2006; Williams, 2005). The notion of teaching words in between reading exposures differs from the traditional study of grammatical rules and word definitions to support reading, which did not lead to ultimate success in language acquisition.

Also stressing the role of instruction is the research conducted by Beck and her colleagues, who argue, in response to Nagy's research, that learning words from reading cannot account for the high number of words students need to acquire in order to understand content-area texts, for instance. Evidence for their argument includes McKeown (1985), in which she demonstrates that reading contexts offer vague and limited, if not misleading, resources for word learning. What students need, they argue, is rich vocabulary instruction that includes both definitional and contextual explorations. Their research has demonstrated through a systematic

tiered-vocabulary program that instruction in which students explore word meanings in depth

and manipulate words in diverse environments, produces better and faster results than learning

words from context. Their influence in vocabulary research and instruction, especially in K-12

education in the United States, continues to grow as educational research recognizes the

importance of learning words for both English speakers and English learners. For example,

several studies demonstrate the effects of tiered vocabulary instruction—a pedagogy

emphasizing the selection of words to teach based on three levels of familiarity and usefulness—

in conjunction with linguistic and cultural explorations using children's and young adult

literature. Particularly, research shows that reading books aloud to children coupled with

instruction that includes both definitional and contextual information has more vocabulary gains

than traditional reading aloud focused on story comprehension (e.g. Beck & McKeown, 2007;

Silverman & Crandell, 2010).

The benefits of both approaches (learning words from context and teaching words

directly) have been acknowledged in reviews of vocabulary research. Among the

recommendations are the frameworks proposed by Graves (2006) and Nation (2001, 2005, 2007,

2008). Both emphasized a combination of context-rich and form-focused methods. In addition,

the principle of developing phrasal vocabulary as a foundation for language acquisition,

advocated in the *lexical approach* (Lewis, 1993, 1997a, 1997b; Lewis & Conzett, 2000), is

recognized as a way to move beyond the focus on individual words, expanding the notion of

what it means to know a word (Richards, 1976). Using texts with glosses and highlighted words

and teaching meta-cognitive strategies for both comprehension and vocabulary are among the

guidelines for incorporating these approaches. With respect to learning words from reading

context, this implies not only providing accessible texts with illustrations, but also training

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students how to identify clues in a sentence and use specific clues such as synonyms, definitions, and word parts to unlock word meanings. An example of such a strategy is the acronym CLUE, in which students *circle* the unknown word, *list* its possible meanings, *underline* surrounding details in the sentence, and *explain* how they figured out the meanings (Newton, Padak, & Rasinsky, 2008). This type of activity helps readers develop meta-cognitive skills and what Graves (2006) calls *word consciousness*, a process in which students not only become aware of word meanings but also find pleasure in their learning.

The Present Study

Contrary to the recommendations of reviews of vocabulary research, which emphasize the role of instruction and deliberate attention in word learning, this study focused on learning words from reading context. The study examined the extent to which the input could help the learner to acquire new words. Based on Krashen (1989), my hypothesis is that if the input is comprehensible, then the learner can learn vocabulary without instruction. If the illustrations make the story more accessible, thus facilitating comprehension, then they might also affect word learning. Therefore, readers with access to illustrations may have an advantage over those without access. While illustrations do not purposely support unfamiliar words in authentic texts, they do contribute to overall story understanding. Thus, pictures may indirectly impact vocabulary acquisition.

According to the quantitative results, however, illustrations didn't appear to influence word learning significantly, at least with the particular text selected. A few factors might explain the lack of significant effects for vocabulary. Either the input was not comprehensible, thus the illustrations didn't facilitate lexical inferences, or it was the learner who failed to engage with the input, thus they didn't explore pictures to derive word meanings. If, however, the input was

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comprehensible, thus the illustrations were helpful in supporting lexical inferences, and the learners ably explored pictures but provided inaccurate lexical inferences, then the assessment method might be held accountable. Considering that the clues *were* comprehensible, one can argue that they varied in terms of saliency. According to Douglas (1998), noticing a clue depends on the learner's subjectivity; that is, it depends on external as much as internal context. The external context refers to characteristics of the input such as type of text, words, and illustrations. The internal context refers to characteristics of the learner, such as reading ability, including the ability to use written and pictorial clues and the ability to connect the clues with prior knowledge.

Input Factors

To determine whether or not the story was comprehensible for incidental vocabulary acquisition, we need to evaluate the extent to which the text was accessible, the target words were contextually-decipherable, and the illustrations supported vocabulary.

Was the Text Accessible?

The difficulty learning new words from *The Lotus Seed* reported by students in the qualitative part of the research raises questions about the accessibility of the input. First, an authentic text was used instead of a basal text especially designed to teach vocabulary. Therefore, the text may not have provided enough clues for English learners to learn words incidentally. Based on studies supporting the use of authentic materials in reading (e.g. Krashen, 1989), I hypothesized that high-context cues available through familiar genre, familiar theme, and copious illustrations would facilitate comprehension. Plus, an authentic text may contain more native-like language, which is richer in context clues than simplified texts (Young, 1999). However, whereas the illustrations made the text accessible as far as story comprehension is

concerned, they did not target unfamiliar word meanings, making the text less comprehensible from a word-learning perspective.

Second, the themes depicted in the story were only partially familiar to the learners. According to second language schema theorists, topic familiarity and cultural schemata one of the factors that facilitate comprehension (e.g. Carrell et al., 1988; Barnitz, 1986; Carrell and Eisterhold, 1983). When the topic is familiar, students can understand words because they know what the text is about. In *The Lotus Seed*, one of the topics (refugees immigrating to America) is related to the experiences of the learners. As international students, they know what it means to leave their homeland. However, the second main topic (the natural environment in Vietnam) does not appear to be familiar because it focuses on the lotus flower, which most of them don't know enough about. In addition, one can argue that the students' background knowledge was not activated prior to reading. The classroom instructions prepare them for a story about immigration, but not about the flower. At least the story was comprehensible on one topic, but not the other.

Were Words Contextually-Decipherable?

Another factor influencing the comprehensibility of the input is vocabulary. The number of unfamiliar words is one way to determine text difficulty. Two factors may be associated with words in *The Lotus Seed*. First, the story contained a high number of unknown words, thus exceeding the optimal rate for English learners to acquire vocabulary from reading. If only one word in a passage containing an average of twenty-five words is unknown, then the reader knows 96% of the words. That is close to the 98% rate established by Nation (2006) in non-illustrated texts. Considering the extra-support of the illustrations, one could argue that the possibility of inferring meanings is higher. However, as the readers reported in the qualitative portion of the

study, the presence of other unknown words in a passage hindered their ability to guess the meaning of the target word.   In fact, if we divide the total number of running words in the book (774) by the number of target words (15), we get a little over 50 running words per target word. That means, if the target word is the only unfamiliar item in every fifty words, the reader is more likely to understand the context around the word and, consequently, infer the meaning successfully than if more than one word is unknown. However, the likelihood that readers in an intensive English program know 98% of the words is very small, especially for the lower-level students. The rate at which readers can pick-up meanings from context is 15% as demonstrated in a meta-analysis (Swanborn & de Glopper, 1999). Thus, if readers correctly deciphered an average of 1.5 out of the fifteen target words, they would have reached a 10% pick-up rate. Considering that they had an average of fifteen minutes reading the story and completed the vocabulary test without the book, then the results don't appear to contrast with the literature, which shows either non-significant or small effects for context with limited exposure.

Second, target words may not have been contextually-decipherable. The reason might be that words varied in terms of contextual support. A good example is *altar*, which a reader without cognate support has to infer from both written context and illustration. Although the word appears in the same view as the picture, the reader might not determine what part of the illustration represents the *altar* or he might not even be aware that there is a word corresponding to the concept or event represented in the picture. Another word that seemed obvious to some such as *emperor* didn't appeal to others. Either the word itself was not contextually-decipherable because neither the pictures nor the written context clarified its meaning, or students didn't know how or didn't have the time to explore the written context and illustrations. In addition, the target word was not the only unknown word in the passage. In fact, many readers who didn't

know *emperor* might not know *throne* and *palace* either.   In addition, the picture features the emperor crying outside his palace, which may not have appeared royal to many of the readers. So, it's possible that they knew the person in the picture was the emperor, but they didn't know what that word meant. If students had difficulty with *emperor*, a word with a closer picture-word relationship than others, then they would struggle with other words which had no direct picture support or required a combination of several pictures and passages for full comprehension. Another word that may not have been contextually-decipherable to some is *unfurl*, but others were able to guess by using the written context, prior language knowledge, and the illustration. Because the picture shows an open lotus, the reader has to infer that "unfurling its petals" is related to the blooming process. However, not knowing a word within that phrase and ignoring the part of speech in *unfurling* causes inferential difficulties as became evident in the qualitative analysis.

Did Illustrations Support Vocabulary?

Another problem with the accessibility of the input is that the illustrations may not have provided enough detail for incidental word learning. Picture storybooks are not specifically produced to support language learning. Rather, they have varying degrees of relationship with the text, which could be described as dove-tailed or symbiotic but also independent or subversive (Nikolajeva, 2006; Nikolajeva & Scott, 2001). As a result, the relationship between words and pictures is not clear-cut. This characteristic of authentic texts makes it difficult for English learners to learn words from illustrations. Hypothetically, the ideal situation for learning vocabulary from illustrations is when the reader can see a link between the word and the picture. However, to see the link between words and illustrations in *The Lotus Seed* and thus learn new words, readers must engage in active interpretation of context clues and pictures, making

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powerful connections with their background knowledge.   Illustrations can cover only part of the information; therefore, readers must fill in the remaining part of the information with their prior knowledge. With *scramble*, the picture shows people inside the boat, rather than climbing into it. Thus, readers must assume that they got into the boat before. Another illustrator might have depicted the scene differently depending on what he or she wanted to convey.

The input might not be comprehensible enough to affect word learning. That owes to the difficulty of determining what is *i*+1. Krashen (1989) argues that if texts are interesting and slightly above the reader' proficiency level, then learning words from reading and without instruction may occur. He suggests using books by the same author or about the same topic in which words are more likely to repeat. By increasing the amount of exposure, it's possible that words could be inferred from the input. For instance, if readers encountered the same word in a different context, their knowledge of the word would increase, thus contributing to more successful inferences in the future. That aligns with the notion that learning words from context is incremental and long-term (Nagy, 2010). That means, readers pick up word knowledge bit by bit until they develop deeper and wider understanding of word meanings and uses. As they learn new words from context, their current knowledge positively affects the learning of new items. However, this approach might take too long for readers at risk of failing or already failing academically, thus augmenting the *Mathew effect* (Stanovich, 1986) in which readers with deeper and wider knowledge of word meanings continue to learn new words as their knowledge helps them benefit from context while readers with small vocabularies continue to lag behind. Therefore, English learners who are developing overall language ability and who may not have enough time to learn words from context may benefit from intensive approaches to vocabulary (Folse, 2004).

Learner Factors

If the story contains sufficient contextual cues for both text-level and word-level inferences, and yet readers were unable to benefit from the clues in inferring word meanings from context, then students' reading ability may have influenced the inferences. Several factors may explain why readers failed to benefit from the clues. First, readers varied in their ability to understand written English. For example, a contrast in comprehension scores between high- and low-ability learners was found to be significant. Thus, issues with decoding (*sneak/snake/snack*) illustrated in the analysis of test items could be related to the difficulty processing words in English by Arabic speakers, as Hayes-Harbs (2006) demonstrated. In addition, as evidenced in the qualitative analysis, interviewees found that passages with many unknown words caused difficulty guessing the target word. In addition, the ability to analyze word parts and recognize parts of speech as in *dormant* might have affected lexical inferences. Consequently, differences in reading ability might have played a role in how readers explored context to derive word meanings.

One could argue that differences in context use might be related to variations in learning styles and cultural background more so than reading ability. However, the qualitative analysis shows that some readers were unable to integrate different types of clues into successful inferences even though both written and pictorial clues were available and even though they would have been privileged in terms of background knowledge. The case of Na, for instance, the Vietnamese reader who failed to infer *emperor* could be explained in light of her ability to process sentences in English. By not knowing that "he" referred to emperor, not grandmother, she demonstrated a difficulty with sentence-level comprehension. Therefore, her interpretation of *scrambled* as *scared*, in which her background knowledge seems to overpower the use of written

and picture context, aligns with Nassaji's (2007) argument that unskilled readers rely heavily on inferences to compensate for their lack of language ability.

These observations are consistent with vocabulary research from both *learning from context* and *teaching word meanings directly* sides discussed above. First, as Nagy (2010) pointed out, his research team found small ability effects, while McKeown (1985) and subsequent studies (e.g. Sternberg, 1987) found there to be a strong relationship between reading ability and learning from context. Nagy (2010) attributes the differences in their findings to theoretical contrasts between "incidental learning from context" and "deriving word meanings from context". In learning words incidentally, readers might not fully allocate their attention to inferring word meanings whereas in deriving word meanings from context, readers consciously employ inferential strategies to unlock word meanings. These appear to be distinct learning processes, which require appropriate testing conditions. However, as Nagy argues, both lines of research converge so far as demonstrating the incremental nature of vocabulary acquisition. For example, as learning from context depends on number of meaningful incidental encounters so does teaching word meanings in context. In other words, the more exposure and attention, the more the likelihood that words will be learned. Therefore, if the current research didn't provide the conditions necessary for learning from context to occur, considering that the effects of context is incremental, then it's possible that input and learner factors alone cannot explain the results. Assessment factors must also be taken into consideration.

Assessment Factors

If the input was comprehensible and the readers had the ability to use context to infer word meanings, but yet they failed to provide evidence of incidental word learning, then the problem might rest with the assessment. Assessment conditions may have hindered inferences of

word meanings. The point of the study is not to provide high context across the board for inferring word meanings. This is not the reality of most children's stories; thus, choosing a book that facilitated guessing would be misleading. The point is to provide varying degrees of context, some apparently more obvious, others very difficult. In addition, to prevent students from deliberately focusing on individual words, as the study examines *incidental* word learning, the classroom assessment instructions did not make them aware of either written or pictorial clues. Encouraged to focus on the story through the comprehension activity, readers were deflected from deliberately deriving word meanings from context during the written assessment. Therefore, the characteristics of the assessment, including the goal of assessing word knowledge without over-exposing learners to context, might have reduced inferences.

A few problems may be associated with the students' reduced opportunity to infer word meanings. First, the amount of reading exposure may not have been sufficient for incidental word learning. The more access a reader has with a text, the more likely he or she will learn words. A single-reading exposure has been found to have an effect on receptive but not productive vocabulary among L1 pre-schoolers (Sénéchal & Cornell, 1993). Since the present study focuses on receptive word knowledge, words that students can understand but may not be ready to use, a single exposure does not appear to be an impediment for learning. The assessment occurred in the same time as the regular reading class so as not to disrupt learning activities. During the assessment, students spent an average of fifteen minutes reading the story. However, while the amount of reading exposure could be enough for main idea comprehension of illustrated material, one can argue it is insufficient for exploration of detail. Although students were not directed to detail to figure out word meanings because the study focuses on incidental

learning, not focused learning, it became evident in the qualitative analysis that more exposure to the book would be necessary to process novel words and remember their meanings.

Second, written assessment instructions encourage non-guessing rather than guessing. The instructions state that if students don't know the target word, or are not sure, they need not answer. The rationale for this instruction was to make students at ease in supplying information about their vocabulary knowledge rather than attempting to perform well on the assessment. As a result, the great majority of the responses were left blank. Because students were comfortable leaving unknown items blank, some may not have put much effort into inferring word meanings.

Third, assessment instructions confused translations with definitions. The assessment instructions asked them to translate words into their native languages. The rationale for this decision was that by writing in their native languages, rather than in English, students would bypass writing or spelling difficulties. In addition, students were given a choice to write one or more words assuming that one-to-one translations would not be universal. Some interpreted this instruction as defining the word. However, writing a definition is a separate skill. Also, although students were asked to translate into their native languages, some translated into another language that they knew well. Possibly, they didn't know how to write in their native languages, or they assumed that the other language would be easier to translate. Thus, differences between groups could also be influenced by writing ability.

Finally, assessment instructions were not explicit about how to use the story. Students were not told that they were supposed to read the story and the author's note in the end of the book, or that they were also supposed to "read" the illustrations, if these were provided. Since neither illustrations nor the author's note was highlighted, some students may have focused more on the text than the pictures, and some may have ignored the author's note. Even though there

were only three target words in the author's notes, the notes clarified the historical context behind the story and provided more information for deriving word meanings. Two examples illustrate that some students may not have perused the author's notes. One responded that it was a story about a family from Japan, an idea not supported anywhere in the book. In fact, the author's note clarified that it was a Vietnamese story. Another student (Arif) recognized that he had not seen *moat* before, or maybe he skipped it. This word, along with *turmoil* and *refugee*, only occurs in the author's note. These examples show that readers varied in the way they explored the book.

Whether or not the clues were comprehensible remains unclear as one cannot separate the learner from the input. In addition, assessment conditions may have played a role in the inferences. The three factors together might help explain the lack of significant differences between the experimental and control groups in the quantitative portion of the study, which fails to provide evidence that the treatment had any effect on incidental word learning, raising questions about the viability of the strategy (learning words incidentally from storybook illustrations). However, we cannot rule out the argument that reading illustrated storybooks has an impact on word learning. The analysis of the qualitative data elucidated the process of learning words from storybook illustrations, giving us indications about how illustrations might have influenced vocabulary acquisition.

Toward A Model of Learning Words from Storybook Illustrations

What I have discovered in the analysis is comparable to the hypothetical situation described in the introduction about matching words and pictures within the context of a story. Recall, for instance, that some words are similar (*tiger/tigre*) while others are different (*shark/tiburón*) and that matching words and pictures in a story varies greatly from matching

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Figure 4: Model for learning words from illustrations
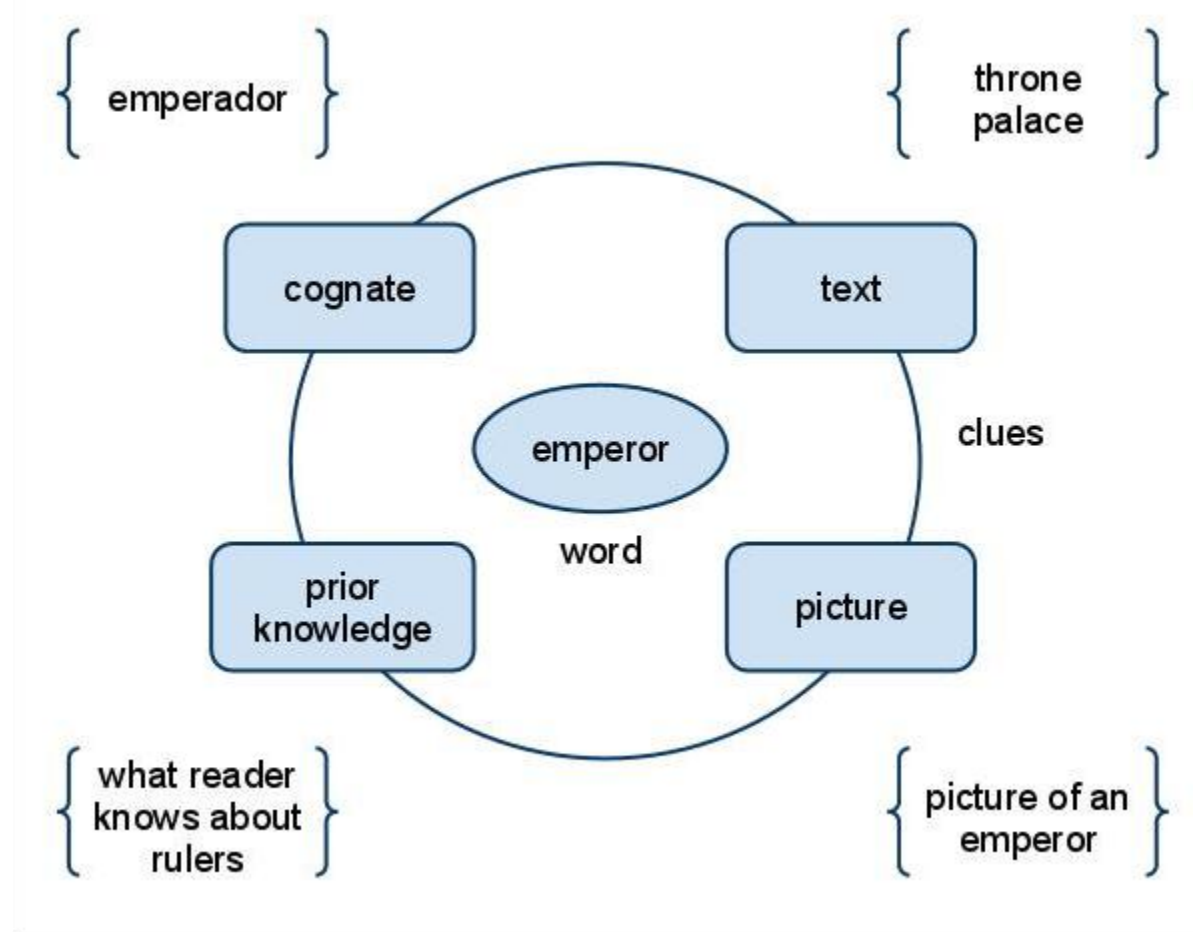
them with a flashcard. A similar, yet more detailed, description of the learning process emerged from the data.

According to Hauptmann's (2000) model, prior knowledge is the primary ease factor in facilitating comprehension, followed by visual support such as diagrams and pictures. The third ease factor is accessibility, which he defines as the extent to which visual input supports comprehension. This is related, for example, with the number of illustrations available in a text. Finally, he suggests that with all things being equal (prior knowledge, illustrations, and accessibility), then language, discourse, and text length become secondary.

In the model proposed from the present analysis (fig. 4, chapter 5), prior knowledge also appears to be the primary clue facilitating comprehension, followed by written context and illustrations. However, with respect to vocabulary, the effectiveness of the model depends on the inter-relationship between prior knowledge and other types of clues. For example, if there's a close cognate available, then it can activate a reader's prior knowledge almost instantly. Another way to trigger the reader's background knowledge is through textual cues such as synonyms and definitions and finally through illustrations.

With respect to vocabulary, the pictures appear to support main ideas more than they do details. While main idea support may have facilitated the inferential processes, especially the initial connection between word and meaning, lack of support for detail may be associated with unsuccessful lexical inferences. For example, with *silk* students who couldn't grasp the meaning from the passage weren't able to infer it from the illustrations because the pictures focus on the main character, who "wrapped the seed in a piece of silk and hid it under the altar." However, the illustrations never show the seed or the piece of silk in close-ups as these details are not important to the main idea. Because the illustrations don't highlight details related to the target words, readers have to make inferences from both the story and the pictures in order to grasp the meaning of the words. Therefore, if one of the clues becomes less salient, or the reader lacks focus or ability to notice the clue, then comprehension and word learning may be compromised.

For illustrations to point readers to word meanings, there must be a noticing mechanism in action. The noticing mechanism could be internal or external. Internally, it might be related to the reader's ability to attend to linguistic or visual detail. Externally, the mechanism could materialize through collaboration with other learners or an instructor in which the interlocutor draws the reader's attention to language features (e.g. meaning). Alternatively, the noticing

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mechanism may be triggered after repeated and meaningful encounters with the input. However, because the likelihood that the reader will notice the clue depends on internal factors, including conscious use of strategies for deriving word meanings, even if the clues are salient, they can only help with part of the learning process. Therefore, a combination of approaches that focus on lengthy exposure to comprehensible input and approaches that optimize the reader's noticing capacity can be beneficial on a long- and short-term basis.

Conclusion

Situated at the heart of the controversy between *learning words from context* and *teaching words directly*, the current study affirms the balanced, integrative direction of reading and vocabulary research. It would be relevant to see to what extent arguments in favor of contextual learning can be supported without direct instruction. Based on the above discussion, we can conclude that illustrations facilitate comprehension, but their impact on vocabulary depends on successful integration of different types of clues and other inferential processes. One side of the debate emphasized that the effects of context on word learning is incremental and long-term (Nagy, 2010). The other side of the debate emphasized the benefits of rich vocabulary instruction to achieving short-term goals such as responding to English learners' large demand for learning new words in a timely-efficient manner (Beck et al., 2008; Folse, 2004). Both views appear to complement rather than oppose one another. In addition to learning words incidentally from reading large numbers of books, including illustrated stories for younger readers, adult English learners can also benefit from learning words in or out of context and developing strategies to derive word meanings from reading context.

Limitations

Considering the difficulty of assessing incidental vocabulary acquisition in experimental conditions (Read, 2000), there are of course limitations to a study using children's literature with adult English learners. With respect to the quantitative methodology, the limitations are as follows: reading exposure, use of an authentic text, and type of illustrations. First, reading the book only once reduces the benefits of context, which appears to increase with time. Second, authentic texts may present clues that are less comprehensible for English learners who are developing reading skills. Third, illustrations in storybooks might be more appropriate for comprehension than vocabulary development.

The qualitative methodology also has a limitation, the lack of a focus group interview. If participants in this study had the opportunity to explore the book together, they could have provided more insight about the role of illustrations. It would be interesting to find out to what extent they agree or disagree on the benefits of the pictures for learning the target words. Unfortunately, there were time constraints preventing the use of focus groups since students started preparing for their exams after the last interview and were no longer available.

Further Research and Practice

This study was conducted using single words and did not include instruction. In addition, the study restricted the reading process within the relationship between the reader and the text. Future research should consider using compound nouns as well as phrases and explore social dimensions of reading, including critical reading and the role of vocabulary instruction in a literature-based environment. Also, the study only used a storybook. Other studies should consider different genres, including non-fiction picture books and non-illustrated materials such as young adult novels. Finally, the study neither trained students to use context nor drew their

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attention to either written or pictorial clues. Future research should consider experiments in which students received instruction on using storybook illustrations and inferred word meanings during reading, not afterwards.

Children's storybooks can be beneficial for pre-college or university English learners to develop vocabulary and comprehension. One way to encourage wide reading of illustrated storybooks is to integrate it with other sources such as magazines, comic books, and novels. Books can be organized into themes such as immigration, the American culture, learning English, American history, and so forth. A small collection containing texts that may interest adults could be created. As students develop an interest in children's literature, they can be referred to larger collections, including those books that may appeal to younger audiences. The successful integration of children's literature with the adult community may help learners benefit from a rich source of reading for their linguistic and cultural development.

Summary

The current study explored the potential influences of storybook illustrations on learning word meanings. A mixed-method design was carried out to determine whether adult English learners who read an illustrated children's storybook differed from those who read a print-only version of the same book. The participants (n=40) took pre- and post-tests for vocabulary and a post-test for comprehension. Then, a qualitative follow-up was conducted through individual interviews with six of the participants. Results from the quantitative design indicate that illustrations influenced comprehension, but no significant effects were found for vocabulary. These findings support research affirming the benefits of visual input to reading comprehension and raise questions about using illustrated reading context as a strategy for acquiring the meaning of new words. The qualitative design helped expand the notion of learning words from

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storybook illustrations, suggesting an inter-relationship between pictures and other types of clues. The findings show that the benefits of illustrations in storybook reading are dependent upon the comprehensibility of the input and readers' ability to integrate textual and visual clues with their prior knowledge. To optimize this connection, instructional approaches supporting readers' *noticing* ability can be an addition to the long-term benefits of learning from context. A powerful instructional tool that provides both lengthy exposure to illustrated, comprehensible input and rich opportunities for meaningful engagement with words is children literature, particular picture storybooks. Supporting the benefits of literature-based instruction for linguistic and cultural development of adult learners through the use of multicultural literature, this study presents evidence that reading children's illustrated storybooks can facilitate the process of independent word learning among adults. Therefore, the literature should be used as an alternative source of reading in college-level English as a second language programs.

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Appendix A

Informed Consent

Informed Consent

Dear student,

My name is Eleomarques Rocha (Leo), and I am a doctoral student at the University of New Orleans. I come from Brazil, and I am also an English teacher. I have taught English both in Brazil and the United States, and I understand the challenges that many of us international students go through to acquire the English language. In my research, I would like to help learners to find new ways to develop their reading ability in English. My study is about the benefits of story reading to English development in academic settings.

As I am doing a study with students in intensive English programs, I invite you to participate in some reading activities. You will take an assessment before and after reading a story in English. Your participation will help me understand an important aspect of second language acquisition.

I would like to inform you that your decision to participate in this research is voluntary and that you have the right to withdraw from the study at any time, with no consequences to your performance in the English program. The activities in this research are not part of your school work and will not affect your grades in any way. Your personal information will be kept confidential and will be destroyed after the conclusion of the study. The research results will be reported anonymously to protect your privacy and identity. No one except the researcher and his supervisor will have access to your personal details.

If you do not understand any portions of this message, please feel free to ask the researcher or your instructor for clarification. Also, if you prefer not to participate in the study, please let your instructor know so he or she can provide other accommodations. For further questions, you can reach me at <my e-mail> or <my phone number>. You may also contact my major professor, who is supervising my study, at the same number.

Please print and sign your name below confirming that you would like to participate. You must be 18 years of age or older to take part in the research.

--*Eleomarques Rocha*

_____
                    Print your name

_____   _____
                    Sign your name   Date

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Personal Details

Please fill out this form and return it with the informed consent.

1. Name: _____

2. Phone Number: _____ E-mail: _____

3. Gender: ☐ male ☐ female

4. Year of birth: _____

5. Native language: _____ Other languages: _____

6. Nationality: _____ Native country: _____

7. Years of English instruction in the United States: _____

8. Years of English instruction in your native country: _____

9. Reading Level: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

10. Oral Proficiency: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

Appendix B

School Consent

School Consent

For my Ph.D. research at the University of New Orleans, I am conducting a study of second language acquisition using children's storybooks with adult English learners. More specifically, my study examines the effects of storybook illustrations on second language vocabulary acquisition.

I have previously contacted <The English Program>, particularly through <academic coordinator>, about the possibility of using <The English Program> students as subjects. My research plan has recently been approved by the UNO Institutional Review Board. Therefore, I would like to formalize our previous communication and set up a schedule for the data collection, if I still have your approval.

About thirty students are needed. They will be assigned to a control or focus group condition. They will read a story in English about immigration and take pre-post tests using specific words from the text. Some readers will not have access to illustrations. In addition, four students will be selected for individual follow-up interviews. Because the study is about incidental learning, participants are not to be informed that the study focuses on words. Instead, they will receive a broad description of the study, stating the benefits of story reading to English development. Therefore, they should not know that the study targets vocabulary because this could interfere with the experimental results.

In compliance with IRB requirements, I would like to emphasize my commitment in protecting the privacy of both students and the Intensive English Language Program. Test results and instructional materials shared with, or collected by, the researcher will be kept confidential.

For further information, you can reach me at <my e-mail> or <my phone number>. You may also contact my major professor, Dr. John Barnitz, who is supervising the study, at the same number. Thank you in advance for your consideration and cooperation.

Please print and sign your name below confirming your approval that your program will participate in Eleomarques Rocha's doctoral research project.

_____
Academic Coordinator (print)

_____   _____
Signature   Date

_____
Program Director (Print)

_____   _____
Signature   Date

Appendix C

Permission to Use Human Subjects

University Committee for the Protection
of Human Subjects in Research
University of New Orleans

Campus Correspondence

Principal Investigator:	John Barnitz
Co-Investigator:	Eleomarques F. Rocha
Date:	July 21, 2010
Protocol Title:	"The Effects of Storybook Illustrations on Adult Second Language Vocabulary Acquisition"
IRB#:	02Jul10

The IRB has deemed that the research and procedures described in this protocol application are exempt from federal regulations under 45 CFR 46.101category 2, due to the fact that any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Exempt protocols do not have an expiration date; however, if there are any changes made to this protocol that may cause it to be no longer exempt from CFR 46, the IRB requires another standard application from the investigator(s) which should provide the same information that is in this application with changes that may have changed the exempt status.

If an adverse, unforeseen event occurs (e.g., physical, social, or emotional harm), you are required to inform the IRB as soon as possible after the event.

Best wishes on your project.
Sincerely,

Robert D. Laird, Ph.D., Chair
UNO Committee for the Protection of Human Subjects in Research

Appendix D

Copyright Permission

Copyright Permission

HOUGHTON
MIFFLIN
HARCOURT

September 8, 2010

Elomarques Rocha
PhD Candidate
University of New Orleans
Dept. of Curriculum and Instruction
2000 Lakeshore Drive
New Orleans, LO 70148

Dear Mr. Rocha:

In response to your letter, we are willing to grant permission for the reprinting of Entire book from THE LOTUS SEED, by Sherry Garland (**Reference No: A 173812**) in your forthcoming dissertation, provided it includes the title page and copyright page of our work (or equivalent information which includes: title, author(s) and/or editor(s), copyright © year and claimant(s), reprinted by permission of the publisher).

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Appendix E

Reading Assessment Guide

Reading Assessment Guide

Good afternoon, everyone. I'm ___, and I'm here to assist you with the reading activities for Leo's research.   How are you doing today?

Good.

Thank you so much for your participation.

Well, first, I am going to read the overall instructions to you. Please read along as you listen.

Next, I am going to give you the handouts for each activity and explain what you need to do. Each activity has a different color. After everyone has completed one activity and returned the handouts, then we are going to start a new one. When you complete yours, please wait until others are done so I can collect all the papers together.

So, let's begin with these handouts.

[Pass on white sheets from left to right]

[After all the students have picked up their handouts, start reading.]

[Read **researcher's note.** Wait to see if students have any questions.]
[Then read **instructions.** Wait to see if they have any questions.]

[For the activities in color paper, only read the beginning. We'll go over them together.]

Appendix F

English Reading Assessment

English Reading Assessment

Dear student,

Thank you for participating in my study. I am investigating the benefits of children's stories to English learners in college. I chose a story about immigrants, and I would like you to read it for pleasure. Please remember that this activity has no connection with your grades in English.

I would also like to remind you that your decision to participate in this research is voluntary and that you have the right to withdraw from the study at any time, with no consequences to your performance in the English program. Your personal information will be kept confidential and will be deleted after the conclusion of the study. The research results will be reported anonymously to protect your privacy and identity. No one except the researcher and his supervisor will have access to your personal details. If you have any questions before taking the assessment, please do not hesitate to ask.

–Eleomarques Rocha

Instructions

This assessment is divided into six parts:
   I.   Background Knowledge
   II. Vocabulary
   III. Reading
   IV. Reading Comprehension
   V.   Vocabulary
   VI. Oral Interview

Today you are going to do the following:
   1. Complete parts I and II. Return assessment sheet.
   2. Read a brief story in part III. Return assessment sheet and story.
   3. Complete part IV. Return assessment sheet.
   4. Complete part V. Return assessment sheet.

Only a small number of the students will complete part VI, which is scheduled for another day. You will be notified by e-mail if you are selected for the oral interview and will be interviewed individually.

Duration
   • The written assessment is expected to last 50 minutes.
   • The interviews are each expected to last approximately 30 minutes.

Rules
   • Please turn off your cell phone.
   • Don't use a dictionary.
   • Answer the questions silently and independently.
   • Remember to turn over the pages.
   • Wait patiently for others to finish their activities.
   • Remember to write your name on every page.

I. Background Knowledge

Think about these questions for a minute. Don't write down your answers.

What happens when people move to another country?

What are their reasons for leaving the homeland?

What kind of hopes and challenges do they have in the new country?

II. Vocabulary

Before reading a story about *immigrants*, people who move to another country, check your vocabulary. Make sure to think about every word.

- If you <u>know</u> the meaning of a word, translate it into your native language. You can use one word or more in the translation.
- If you <u>don't know</u> the meaning of a word, or you're <u>not sure</u>, don't do anything. Just leave it blank.

<u>Let's practice</u>

Word	Translation
island	_____
to admire	_____

<u>On your own</u>

	Word	Translation
1.	refugee	_____
2.	fascinating	_____
3.	altar	_____
4.	interested	_____
5.	fragrant	_____
6.	referee	_____
7.	to unfurl	_____

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	Word	Translation
8.	bloom	_____
9.	stream	_____
10.	senator	_____
11.	patch	_____
12.	moat	_____
13.	cot	_____
14.	to push	_____
15.	ill	_____
16.	ladder	_____
17.	pod	_____
18.	dormant	_____
19.	soap	_____
20.	to scramble	_____
21.	wisdom	_____
22.	balloon	_____
23.	to clamor	_____
24.	turmoil	_____
25.	to undo	_____
26.	emperor	_____
27.	silk	_____
28.	towering	_____
29.	to sneak	_____
30.	jaguar	_____

III. Reading

You are going to read a story about an immigrant family. As you read the story, think about the different people who have come to the United States. What were their reasons for moving? How were their lives before? How are their lives now? Take your time in reading the story and try to understand it. If you have difficulty with some of the words, just continue reading normally. Imagine that you are going to retell the story in your own words.

IV. Reading Comprehension

Circle the best answer according to the story.

1. The writer tells the story of an immigrant family from _____.

    a) Poland

    b) Japan

    c) Somalia

    d) Vietnam

2. The family leaves their home country because _____.

    a) there is a war

    b) they want to attend university

    c) they are looking for freedom of religion

    d) they have no jobs

3. They travel to the United States_____.

    a) by boat

    b) by train

    c) by plane

    d) by car

4. The story focuses on one person, or hero, who is the _____.

    a) brother

    b) mother

    c) grandmother

    d) cousin

5. The hero comes to the United States as _____.

    a) a child

    b) a teenager

    c) an adult

    d) an elderly person

6. Before coming to America, the hero _____.

    a) learns English

b) gets married

c) goes to war

d) goes to another country

7. One thing the hero finds different in America is _____.

    a) the weather

    b) the buildings

    c) the mountains

    d) the food

8. One thing the hero misses from the home country is _____.

    a) the flower

    b) the pet

    c) the friends

    d) the neighbors

9. One thing that helps the hero to remember the home country is _____.

    a) a picture

    b) a seed

    c) a comb

    d) a blanket

10. The hero wants to _____.

    a) travel again

    b) have a garden

    c) be remembered

    d) buy a house

V. Vocabulary

See how many words you learned from the story in addition to any you may already know. Make sure to think about every word.

- If you <u>know</u> the meaning of a word, translate it into your native language. You can use one word or more in the translation.
- If you <u>don't know</u> the meaning of a word, or you're <u>not sure</u>, don't do anything. Just leave it blank.

<u>On your own</u>

	Word	Translation
1.	to unfurl	_____
2.	emperor	_____
3.	ladder	_____
4.	patch	_____
5.	moat	_____
6.	fascinating	_____
7.	dormant	_____
8.	to undo	_____
9.	senator	_____
10.	to sneak	_____
11.	silk	_____
12.	to push	_____
13.	pod	_____
14.	turmoil	_____
15.	altar	_____
16.	soap	_____
17.	refugee	_____
18.	towering	_____
19.	stream	_____

	Word	**Translation**
20.	referee	_____
21.	wisdom	_____
22.	cot	_____
23.	bloom	_____
24.	ill	_____
25.	jaguar	_____
26.	balloon	_____
27.	to scramble	_____
28.	fragrant	_____
29.	interested	_____
30.	to clamor	_____

VI. Oral Interview

Oral Interview Guide

Lead-in

Hi! How are you doing today? Thank you so much for your help with my study. I would like to learn more about your experience reading *The Lotus Seed* and learning new words from the story.
I would also like you to feel comfortable talking in English. If you cannot find the right words to say what you want, don't worry. English is not my native language, either. So, we will help each other if necessary. Also, the tape-recorder is here to help me remember our conversation. Thank you so much for allowing me to use it. I assure you that your name or personal information WILL NOT be shared with anyone. In addition, the tape will be erased after I finish my study. Do you have any questions for me before we start? (pause)

Instructions

Well, here is the same story that you read before. You are going to browse the book while talking to me. You don't need to read the story again. On each page you will find some sticky notes. Tell me about the words you see on the sticky notes. The words on the stickies are also on the story.

The first word is EMPEROR

What does it mean?
How difficulty is this word?
What helped you understand this word?
What helped you figure out the meaning?
What ways or strategies did you use to understand the word?
When did you get the meaning?
How many times did you notice this word in the story?
How important is this word to understand the story?
(I don't mean to ask all these questions. Just what I see fit the circumstance)

Now move from page to page. Look at the words. Tell me about them.

Appendix G

Message to Translators

Message to Translators

I need volunteers to help me with my PhD research. In my study I had students read a brief story in English and complete a vocabulary test. Because their answers were provided in their native languages, I need someone to tell me what they wrote and if the answers are right or wrong. I would like to contact undergrad or graduate students from Russia, Turkey, and Vietnam. They have to be regular university students. The volunteers will do the following:

* Read the story to become familiar with the vocabulary.

* Mark students' answers

* Discuss the answers with me.

 There are only three Vietnamese, three Turkish, and two Russian tests. One volunteer from each country is enough, and the volunteer will be able to mark the tests and discuss the answers in less than an hour.   If anyone is interested, please ask them to contact me.

Appendix H

Invitation to Interviews

Invitation to Interviews

Thank you so much for your participation in the reading activities for my doctoral research. Now I invite you to the oral interview. I am interested in learning more about your experience reading *The Lotus Seed*. During the interview, we will browse the book together and talk about the story.

The interview will be audio-taped so I can remember the details of our conversation. However, the data will be reported anonymously, and the tapes will be erased after the conclusion of the study. Your name or personal details will not be shared with anyone.

The interview will take place in building Y, room X. Please enter your name below confirming your participation and scheduling an appointment. If you prefer to schedule a different time / day, please let me know.

I look forward to your participation.

[table with interview schedule]

Vita

Eleomarques Ferreira Rocha was born in 1974 in Itamaraju, a town in the state of Bahia, Brazil. In 1990, he moved to Bahia state capital city, Salvador, where he finished high school and then attended Federal University of Bahia from 1993 to 1998. At that university he participated in research on Brazilian storytelling and English teaching methods, as part of earning a degree in Portuguese and English. From 1998 to 2000, he taught English as a foreign language at an intensive program at the same university.   In 2000, he attended the University of New Orleans as a foreign exchange student and resumed his graduate studies in 2002. In 2004, Eleomarques earned a Master's Degree from the Department of English specializing in linguistics with a thesis on the English present perfect. During his Master's program, he worked as a writing tutor at the university. In 2004 he taught ESL classes and also tutored writing at Delgado Community College in New Orleans. Then, from 2005 to 2006, he taught English at various language institutes in Brazil. From 2007 to 2011, he returned to the University of New Orleans to undertake his doctoral studies. Throughout the doctoral studies, Eleomarques further developed his research and teaching skills in preparation for a career as a professor. His academic interests include children's literature, second language acquisition, applied linguistics, vocabulary development, and language and literacy education. He is the first person in his family to achieve a doctoral degree, and he believes this is an important milestone not only for his family, but also for his country, Brazil, a nation in demand for educational solutions to support its development. In addition to studying languages, he enjoys computer technology and the game of chess.