Investigating Vocabulary and Reading Strategies with Middle Grades English Language Learners: A Research Synthesis

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Abstract

Recent data indicate that many adolescent English language learners (ELLs) comprehend English texts at only a limited literal level. The purpose of this research synthesis was to systematically identify and describe the research related to the English reading comprehension of middle grades ELLs while also making practical connections to instruction. Parameters were established to determine whether the collected research studies met the purpose of the synthesis and the standards for quality research, using the guiding principles for scientific research set forth in the National Research Council's *Scientific Research in Education*. Three themes emerged across the 11 identified studies: (a) the essential role of vocabulary knowledge in ELLs' English reading comprehension, (b) the role of first language and transfer in ELLs' reading comprehension, and (c) Three themes emerged across the 11 identified studies: (a) the essential role of vocabulary knowledge in ELLs' English reading comprehension, (b) the role of first language and transfer in ELLs' reading comprehension, and (c) the role of effective instruction in enhancing ELLs' English reading comprehension. In this paper, we discuss the findings and their implications for classroom instruction and note substantive and methodological concerns that should be addressed in future research.

Introduction

The term *crisis* has been used frequently to describe the state of reading proficiency for America's middle grades students, and in light of this group's underperformance, as evidenced in results from state and national level reading assessments (Center on Education Policy, 2007; National Center for Educational Statistics, 2009), the dramatic situation this term implies, indeed, may be appropriate. The critical state of reading proficiency for middle grades students has increased the focus on the reading, and especially the reading comprehension, of older students (Lesaux & Kieffer, 2010; Pressley, 2004; Snow, Martin, & Berman, 2008). The federally-funded Striving Readers program, for example, reflected a growing awareness of the need to support the reading development of secondary students yet was short-lived and failed to offer meaningful support specific to middle grades students who were learning English as a new language.

For middle grades English language learners (ELLs), the problem is even more acute, as comprehending academic English texts is a key struggle in finding success in content area classes and on high-stakes exams. The number of adolescent ELLs who comprehend English texts at a limited literal level is alarming. Results from the reading component

of the 2009 National Assessment of Educational Progress (NAEP), for example, revealed that the scores of 97% of eighth grade ELLs from all racial and ethnic backgrounds are below the proficient level in English reading, while the scores of approximately 85% of former ELLs are below proficient (NCES, 2009). Students who score below the proficient level are unable to consistently make inferences, draw logical conclusions, and make connections while reading—components that are essential to reading comprehension. Without the ability to comprehend complex and cognitively challenging English texts, ELLs are not likely to be successful in middle school and beyond (Biancarosa & Snow, 2006; Kamil, 2003; Torgensen et al., 2007).

An important piece in addressing the reading comprehension challenges of middle school ELLs is acknowledgment of the complex factors that influence reading comprehension. These factors include the role of language proficiency and culture in reading comprehension; the paucity of information specific to the reading process for middle grades ELLs; and a lack of teacher preparation specific to ELLs, which may lead to inappropriate instruction (Calderón & Minaya-Rowe, 2003). Teachers need a "nuanced understanding of the process of reading comprehension" for linguistically diverse students; isolated one-shot instructional strategies may have limited success in supporting ELLs' reading comprehension efforts (Lesaux & Kieffer, 2010, p. 597). For ELLs whose native language is not Spanish, the research base on reading comprehension is nearly non-existent. In sum, the pervasive low achievement of middle grades ELLs necessitates that they be provided rich, high-quality, research-based instruction that addresses the complexities ELLs encounter in developing the ability to read well and access content area material (Short & Fitzsimmons, 2007). Typically, however, as noted in Roe's (2004) earlier synthesis, attempts to inform instruction with research result in lofty suggestions but limited practical applications to teachers' unique circumstances. Conversely, suggestions specific enough to be implemented in a classroom setting may lack an adequate research base. Thus, in the present research synthesis, we attempt to identify and describe the research related to the English reading comprehension of middle grades ELLs while also making practical connections to instruction. Our end goal, rather than a prescriptive list of strategies, is to provide middle grades educators an accessible research base they can use to make informed decisions in their teaching practices when working to teach reading

comprehension to students and, in particular, to ELLs (International Reading Association & National Middle School Association, 2001; Roe, 2004; Short & Fitzsimmons, 2007).

What Is Reading Comprehension?

In this section, we provide an overview of how reading comprehension has been defined. Later, we will review reading comprehension research related to vocabulary knowledge and cognitive reading strategies with ELLs. The study of reading comprehension and its instruction has been an active, ongoing area of research. An early and major influence on the definition of reading comprehension was a factor analysis conducted by Davis (1944). His findings indicated that reading comprehension consisted of nine basic discrete measurable skills: word meaning knowledge; selecting appropriate word meaning for a word in context; following the organization of a passage; selecting the main idea; answering questions directly answered in the passage; answering questions for which the words in the passage are not a direct answer to the question; making inferences; recognizing literary devices in text; and determining a writer's purpose and point of view.

This view of comprehension as a discrete and static compilation of skills continued until the middle to late 1970s when there was an increase in new frameworks for understanding reading comprehension. Some of these new developments included the introduction of schemata (Anderson, 1977), story grammars (Thorndyke, 1977), and text-analytic schemes (Fredericksen, 1975; Kintsch, 1974). During this period, reading comprehension was defined by cognitive science in terms of how language is processed in the mind. That is, many researchers viewed the construction of a coherent mental representation of the textual information by the reader as an essential component of successful reading comprehension (Kintsch & van Dijk, 1978).

By the 1990s, the definition of reading comprehension was further extended to mean that comprehension was constructed and interrelated to form a coherent, integrated representation of meaning in memory. In this view, successful reading comprehension occurred when readers drew on other circumstances to help themselves understand and learn from new experiences and from reading other texts (Kintsch, 2004).

Gambrell, Block, and Pressley (2002) defined reading comprehension as "acquiring meaning from written

text" (p. 4). Other experts in reading chose to add more specificity to their descriptions of reading comprehension. Sweet and Snow (2003), of the RAND Reading Study Group (RRSG), for example, reported that the RRSG defined reading comprehension as a multidimensional process involving the reader, the text, and the activity during which the reader extracts information from the words read and creates meaning at the same time. Finally, in an analysis of reading research accomplished with native English speakers, the authors noted the importance of vocabulary development and instruction as well as the central role of strategy instruction in studies focusing on reading comprehension (National Institute of Child Health and Human Development [NICHD], 2000).

Beginning with the work of The New London Group (1996), literacy scholars have also begun to explore reading within a multiliteracies framework. No longer is reading comprehension simply about making meaning from the words on a page. Instead, in a multiliteracies framework, readers must negotiate their own cultural and linguistic identities within a social context to comprehend the written text and new communication technologies.

In light of the previous findings and those of the analysis of research that were outlined in the Report of the National Reading Panel (NRP; NICHD, 2000), we used the two key components, vocabulary knowledge and strategy instruction, as a frame for our synthesis, focusing on the reading comprehension of middle school ELLs. While we concede that the work of the NRP is controversial among literacy scholars, we used the findings from the NRP (NICHD, 2003), since they have become the foundation of many school districts' reading programs, and because many publishers have incorporated the Panel's findings into their books and materials (Shanahan, 2003).

Reading Comprehension and Vocabulary Development for ELLs

Many researchers have argued that vocabulary plays a critical role in reading comprehension (August, Carlo, Lively, McLaughlin, & Snow, 2006; Graves, 2000; NICHD, 2000). Both incidental vocabulary development and purposeful vocabulary instruction have been addressed in the research literature. Students can incidentally learn vocabulary through oral language and extensive reading, and students who read extensively tend to have larger vocabularies (Sternberg, 1987). The probability of learning an unknown word in this manner is low, however, especially for less able readers. While the cumulative effects of incidental vocabulary acquisition most certainly contribute to vocabulary development, vocabulary instruction also has a place in encouraging vocabulary development and enabling reading comprehension (Carlo et al., 2004; Graves, 2000; Nagy, 1997; Swanborn & de Glopper, 1999). Research focusing on English monolinguals and explicit vocabulary instruction supports direct and varied age-appropriate vocabulary instruction as an important component of teaching comprehension (Beck, Perfetti, & McKeown, 1982; NICHD, 2000; Pressley, 2001; Stahl & Fairbanks, 1986).

Just as vocabulary is considered an important dimension in English monolingual students' ability to comprehend text (NICHD, 2000), the National Literacy Panel on Language-Minority Children and Youth has noted the critical role of vocabulary in reading comprehension and general literacy development for ELLs (August & Shanahan, 2006). Both incidental and purposeful vocabulary development may be especially important for ELLs who encounter more total unknown words and are less able to use contextual and linguistic clues to decipher unfamiliar vocabulary than monolingual English speakers (Nagy, 1997). However, while the role of vocabulary in reading comprehension for English monolinguals has been widely studied, only a handful of studies have addressed vocabulary and reading comprehension for ELLs. Researchers have approached the issue in two ways. While some studies (García & Nagy, 1993; Nagy, García, Durgunoğlu, & Hancin-Bhatt, 1993) examine the role of Spanish-English cognate identification and strategic use in reading comprehension, other studies (García, 1991; Langer, Bartolomé, Vásquez, & Lucas, 1990; Lesaux & Kieffer, 2010) look more generally at vocabulary knowledge, both in the first and/or second languages. Overall, studies embodying both approaches support vocabulary as an important dimension of reading comprehension.

Reading Comprehension and Strategy Use for ELLs

Along with noting the role of vocabulary in reading comprehension for native English speakers, the NRP highlighted the importance of strategy use and instruction (NICHD, 2000). Afflerbach, Pearson, and Paris (2008) distinguished reading strategies from reading skills by describing reading strategies as "deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand words, and construct meanings of text" (p. 368) while noting that reading skills are automatic actions that result in decoding and comprehension with speed, efficiency, and fluency and usually occur without awareness of the components or control involved.

Reading strategies, purposeful activities or tactics that assist in comprehending text, include practices such as clarifying reading purposes, determining importance, continual monitoring of comprehension, questioning, summarizing, using mental imagery, and making inferences based on text and life experiences (Brown, 1980; Dole, Duffy, Roehler, & Pearson, 1991; Gambrell & Jawitz, 1993; Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989). Research supports that good readers actively and automatically use a repertoire of these comprehension strategies while reading (Duke & Pearson, 2002; Jetton & Alexander, 2004; Pressley & Afflerbach, 1995).

In addition to supporting the role of strategy use in reading comprehension, research also supports the positive influence of reading strategy instruction on reading comprehension outcomes, as measured both by comprehension in authentic reading contexts and by standardized assessments of comprehension (Pressley, 2001). Previous research surrounding strategy instruction first focused on instruction of individual strategies such as identifying story elements, story-mapping, question generation, and imagery (Beck, Omanson, & McKeown, 1982; Gambrell & Bales, 1986; Gambrell & Jawitz, 1993; Idol & Croll, 1987). In these experimental studies, carried out mostly with English-monolingual elementary students, researchers found that various forms of strategy instruction did, indeed, have a positive effect on students' reading comprehension. Later studies demonstrated that through modeling and student-guided and independent practices, instruction that encouraged a "transactional approach" or the simultaneous use of multiple strategies in making sense of text was also effective in improving student comprehension (Palinscar & Brown, 1984; Pressley et al., 1992).

The use of reading strategies is also an important component in the comprehension process for ELLs (August & Shanahan, 2006). The paucity of research examining ELLs and reading strategies is especially pronounced when searching for studies that focus on middle grades ELLs. Studies focused on the issue have addressed reading strategy use, cross-linguistic strategy transfer, response to strategy instruction, and differences in strategy use by reading ability and text genre (García, 2000, 2003; Genesee & Riches, 2006; Short & Fitzsimmons, 2007; Sweet & Snow, 2003). In general, studies conducted with middle grades students suggest that the use of various reading strategies positively influences general reading success and, more specifically, enhances reading comprehension in English (García, 1998; Jiménez, 1997; Jiménez, Garcia, & Pearson, 1995, 1996; Olson & Land, 2007).

Purpose of the Synthesis

Findings from studies focusing on vocabulary knowledge and reading strategies within the context of reading comprehension by middle grades ELLs can provide teachers information on how to effectively instruct ELLs to become successful English readers. Teachers not only need access to research that summarizes and explains the extant research, they also need specific suggestions on how research can inform classroom practice. Research syntheses are a well-suited approach to address this issue by providing educators systematic access to the results of research on reading comprehension and middle grades ELLs while also connecting the research to instruction. In sum, the primary purpose of this work is to assume a role similar to that of cultural synthesizer (Roe, 2004) as we systematically gather and evaluate research relevant to ELLs' reading comprehension, describe the research findings, and offer suggestions for practice that are informed by the research.

Methods Selection Criteria and Search Strategy

Informed by the work of Genesee, Lindholm-Leary, Saunders, and Christian (2006), we established criteria to determine initial inclusion of research studies. Specifically, studies had to be published between 1989 and 2010 and focused on vocabulary knowledge and/ or strategy use and instruction within the context of reading comprehension of ELLs in the United States. A 20-year time period was selected to include both recent work on the topic of reading comprehension with middle grades ELLs as well as research that had been conducted earlier but was still likely influencing classroom instruction. Study samples had to include a majority of students from the fifth, sixth, seventh, and eighth grades, and for studies with linguistically heterogeneous samples, data had to be disaggregated for ELLs. The journals examined in the initial phase of the research synthesis were chosen to represent the top research journals in the field of education as well as journals specifically addressing the specialized areas of ELLs, reading, and middle grades students (see Appendix A for a list of journal titles).

Online bibliographic search tools, such as EBSCO and JSTOR, were used to search within the journals for articles containing keywords *vocabulary*, *strategies*, and *reading comprehension* (as informed by the

Report of the National Reading Panel; NICHD, 2000), combined with the keywords *bilingual, limited English proficient, English language learner, English as a second language, immigrant,* and *at-risk.* Additionally, manual searches through journal article titles and abstracts were conducted to locate articles relevant to vocabulary knowledge, vocabulary instruction, strategy use and instruction, and reading comprehension for middle grades ELLs. This initial search, including electronic and manual searches, produced 12 studies that appeared relevant.

After the initial search was completed, a secondary search through the reference lists of the 12 articles was conducted to obtain additional information on the topic. Every effort was made to obtain relevant technical reports, conference proceedings, dissertation theses, and journal articles that were found during the secondary search. Nine additional articles were found; however, six of those were preliminary technical reports or unpublished theses and were later published as journal articles that had already been included in the synthesis.

Finally, the 15 total retrieved studies were evaluated for quality of the research methods. The evaluation of study quality was an essential step, because in a research synthesis, the investigator does not have access to the original data but must rely on the results presented by study investigators. The criteria for study quality were based on the guiding principles for scientific research in education set forth in the National Research Council's Scientific Research in Education (Shavelson & Towne, 2001). Specifically, studies were included in the final synthesis if the research was empirical and was connected to a relevant theoretical framework or conceptual model, used an appropriate research design to investigate the study's research questions, included clear and detailed descriptions of the research, and presented logical conclusions based on the data found. The studies did not necessarily have to include an experimental design, and studies conducted in naturalistic settings that could be replicated through similar qualitative methods were also included. After evaluating each study for quality, 11 of the 15 original research studies remained in the final synthesis.

Coding and Analysis

The 11 studies included in the research synthesis represented a variety of research paradigms, including quasi-experimental interventions, case studies, interviews, and think-alouds, and, thus, the analysis of the studies needed to address both quantitative and qualitative data. Appendix B includes a table outlining

specific information on each study. We had originally planned to synthesize results by tallying study findings according to the a priori categories that we had used to locate articles, namely vocabulary knowledge, vocabulary instruction, reading strategy use, and reading strategy instruction.However, we found that this coding system oversimplified the complexities of reading comprehension of ELLs and did not reflect some of the most compelling findings in the study, which suggested that vocabulary and reading strategies are intricately connected for ELLs. The findings of one study, for example, suggested that knowledge of Spanish-English cognates (ex: dinosaur/*dinosaurio*), or words that are similar in both form and meaning, contribute to Spanish-speaking ELLs' English reading comprehension (Nagy et al., 1993). Using our a priori categories, this study would have fallen under vocabulary knowledge, yet categorizing this study as strictly related to vocabulary knowledge would have ignored the finding of another study that proposed cognates to be a type of reading strategy used by Spanish-speaking ELLs (Jiménez et al., 1996). Additionally, the use of the a priori categories resulted in a document akin to a comparison and contrast narrative literature review and inhibited critical analysis and synthesis of the studies.

Our second attempt to synthesize the findings of the 11 studies was more reflective of the constant-comparative method frequently used in qualitative research (Glaser, 1978). To become intimately familiar with the research, we began by reading and reviewing each study multiple times. Each time we read through a study, we noted salient information for each study, such as participants and research questions and design, and we recorded key words related to the findings. Next, we identifed themes that emerged across the studies and looked for words or phrases to tentatively identify those themes (e.g., vocabulary knowledge, first language (L1) issues, instruction). We then returned to the findings of the studies and sorted the findings into the identified themes. During this process, we looked for disconfirming instances within the studies' findings to establish the validity of the themes. Finally, we critically appraised and summarized the findings within each theme, always with the intention of providing relevant information for middle grades classroom practitioners.

Research Synthesis Findings

In this section, we summarize the findings from the studies identified in the research synthesis and address the practical implications of the findings. Three themes relevant to middle grades classroom practice emerged from the findings of the studies: (a)

the essential role of vocabulary knowledge in English reading comprehension for ELLs, (b) the role of first language and transfer in reading comprehension for ELLs, and (c) the role of approaches to instruction to enhance English reading comprehension. While the first two themes focus on the resources students bring to English reading comprehension, the third theme focuses on what educators can do to support ELLs' English reading comprehension efforts. In the following sections, we summarize the research under each of these three themes and discuss how the research might inform classroom practice with ELLs.

Essential Role of Vocabulary Knowledge in English Reading Comprehension

Research has suggested that limited vocabulary contributes to the comprehension problems experienced by struggling readers (NICHD, 2000). The studies in this synthesis extend this understanding by documenting the key role of vocabulary in English reading comprehension for ELLs. The findings relevant to this theme were extracted from two different comprehension contexts: reading comprehension as measured by reading achievement tests and reading comprehension accessed through interactions with authentic texts. This distinction is important because the type of comprehension necessary to be successful on reading achievement tests may be different from the type of comprehension necessary to read for meaning in more authentic settings. Nonetheless, these two distinct settings produced overlapping findings suggesting that vocabulary knowledge is a key component in ELLs' ability to comprehend English texts.

In studies using reading achievement tests as the context for measuring reading comprehension, English vocabulary knowledge was found to be an essential determinant in students' level of English reading comprehension (García, 1991; Nagy et al., 1993). García (1991) sought to understand the factors influencing Spanish-speaking Hispanic students' English reading test performance. Results revealed the influence of limited vocabulary knowledge on ELLs' answers on the reading test, particularly on textually implicit questions, or those items that asked students to gather information from various parts of the reading test passage. Through interviews, García found that many of the Spanish-speaking ELLs comprehended the test passages but missed test questions due to unknown or misinterpreted vocabulary in the test items. In one reading test passage, for example, the words "freedom" and "free state" were used to describe an animal's habitat. In contrast, the test

question used the clue phrase "native environment." Due to misinterpretation of the vocabulary in the paraphrase, students did not believe the question was answered in the passage, and incorrectly guessed the answer or attempted to create their own erroneous interpretations of the question. When the paraphrase "native environment" was defined in Spanish, however, students were able to demonstrate understanding of the passage by answering the question correctly. Therefore, data supported that unknown English vocabulary, not inability to answer inferential questions or comprehend text, was a major factor impeding ELLs' reading test performance.

In an effort to understand the specific reading difficulties that contribute to reading comprehension struggles, Lesaux and Kieffer (2010) used standardized measurements of literacy and language with 201 sixth grade ELLs and 61 sixth grade native English speakers. The data from the battery of measurements revealed three distinct skill profiles that characterize struggling readers: *slow word callers* (above-average word reading accuracy, low vocabulary and fluency skills), automatic word callers (above-average word reading accuracy, low vocabulary skills, average fluency), and *globally impaired* (below-average performance on all measures save decoding accuracy). Common to the three profiles, regardless of language background, was low vocabulary knowledge. Language minority status, however, did not predict the skill profile into which each student would fall, thus suggesting that vocabulary difficulties are prevalent across the population of struggling middle grades readers and, perhaps, are not necessarily unique to ELLs.

Findings from studies in more authentic reading settings similarly suggested vocabulary as a key factor in English reading comprehension. Jiménez and associates (1995, 1996) found that, in contrast to the proficient English monolingual reader who rarely needed to focus on vocabulary to aid comprehension, all the bilingual readers, both proficient and less proficient, held a word-driven approach to comprehension in that vocabulary was the focus of much of the students' comprehension efforts. The processes and strategies enacted to resolve unknown vocabulary, however, distinguished the proficient bilingual readers from the less proficient bilingual readers. The proficient bilingual readers effectively used multiple reading strategies, such as using context, monitoring, prior knowledge, restating, and making inferences, in the service of understanding unknown vocabulary to extract meaning from the text. In contrast to this strategic approach to

unknown vocabulary adopted by proficient bilingual readers, the less proficient bilingual readers' efforts to decipher unknown vocabulary primarily consisted of decoding and forced conclusions, both of which ultimately detracted from their ability to comprehend texts as a whole.

To summarize, the studies synthesized in this theme document the important role of vocabulary knowledge across types of reading comprehension tasks (i.e., reading tests and more authentic texts). In addition, results from these studies also indicate that regardless of students' language background, struggling readers exhibit low vocabulary knowledge. In addition, similar to findings from previous studies (Padrón, 2009), proficient bilingual readers used more strategies to understand unknown vocabulary when compared to less proficient bilingual readers who had a limited number of strategies to help them understand vocabulary. The findings described corroborate previous work suggesting the importance of vocabulary for ELLs' understanding of English text (Huckin, Haynes, & Coady, 1995; Laufer, 1997) and suggest the need for including vocabulary development as an essential feature of reading comprehension instruction with ELLs.

What does this mean for instruction? It is commonly assumed that a word-level (as opposed to text-level), or logocentric, approach to reading comprehension is unsophisticated and ineffective. For ELLs, however, vocabulary is an important aspect of learning to read, and we need to support them in their logocentric approach to reading, while encouraging them to do so strategically. While honoring that ELLs may decipher each word individually, for example, we can teach students to be purposeful about also looking at context. We can provide students with specific instruction on strategic approaches for deciphering a single word instead of a whole text, as would typically be done in a middle school classroom.

Semantic mapping, for example, is a strategy that can help ELLs see the relationships between words and more fully understand unfamiliar vocabulary. Semantic mapping can help students make connections to their prior knowledge and understand unknown academic vocabulary. This activity is also beneficial for native English speakers, since they also need assistance in developing academic language. To capitalize on the propensity for social interaction that middle grades students demonstrate, teachers can include time for students to talk about vocabulary. For ELLs, peer-to-peer conversation about vocabulary can

contextualize unknown words, clarify misconceptions about homonyms or polysemous words, and provide English language modeling. When conducted in the ELLs' home language, vocabulary conversations also serve to make connections to known words and to highlight cognates. In addition to specific instructional strategies that pre-teach unknown vocabulary, teachers can show middle grades ELLs how to use the "clues" in unknown vocabulary. When an ELL understands, for example, that the prefix *bio-* means life or living, the student can apply that knowledge to decipher a range of academic vocabulary such as biodiversity, biohazard, and biography that, in turn, will support reading comprehension. This type of word study gives middle grades ELLs relevant tools to use in a logocentric approach to reading while also modeling that successful readers do not simply guess but are strategic in their comprehension efforts.

The Additive Nature of the First Language in Reading Comprehension
Proponents of bilingual education have long communicated the importance of using the first language to learn subsequent languages and have highlighted theory that proposes a common underlying proficiency that allows language, content, and competencies to transfer from one language to another (Cummins, 1980). The findings from the studies included in the synthesis corroborate this claim, suggesting that ELLs' first language (L1) serves as a valuable resource in English reading comprehension. In addition, the studies under this theme also included strategies unique to bilingual learners.

Use of the first language. The studies described a general reliance on the L1 during English comprehension efforts. Langer and colleagues (1990), for example, found that Hispanic ELLs, regardless of oral English proficiency, relied on Spanish, their L1, to support comprehension when encountering comprehension difficulties in English; however, the converse, using English to support Spanish comprehension, occurred much less frequently. Jiménez (1997) reported similar results but, specifically, with bilingual students considered to have limited literacy skills. Results from the studies conducted by Jiménez and associates (1995, 1996) and described under the first theme further supported this use of the L1 for English reading comprehension and documented reading strategies unique to proficient readers who have access to more than one language.

Uniquely bilingual strategies. The use of transfer, translation, and cognates were all reading strategies

that the proficient bilingual readers used to assist in reading comprehension (Jiménez et al., 1996). Neither the proficient English monolingual readers (as might be expected) nor the less proficient bilingual readers used these strategies regularly.

The use of transfer in reading comprehension signifies that students understand that a strategy or reading process learned in one language can be applied to reading in another language. The researchers found that, while proficient bilingual readers understood that the processes undertaken to comprehend texts transferred from Spanish to English and vice versa, the less proficient bilingual readers considered their bilingualism an impediment to reading, especially in English. Multiple proficient bilingual readers noted that both word-level strategies, such as sounding out unknown vocabulary, and text-level strategies, such as making connections, function across languages.

Translation, another strategy documented in the study by Jiménez and colleagues (1996), was most often demonstrated when the proficient bilingual students, reading in Spanish, came across unknown vocabulary. One student, for example, used translation of the words *agujero negro* (black hole) to English to understand a Spanish expository text. The significance of the term *agujero negro* was not immediately known by the student; however, once translated, she understood the term, likely because she had received English instruction on the concept. As with the transfer strategy, translation strategy suggests that proficient bilingual readers understand that using both languages during reading contributes to comprehension.

A third strategy identified as unique to proficient bilingual readers is the use of cognates (Jiménez et al., 1996). While the studies included in this synthesis only examined Spanish-English cognates, the findings apply to other languages that share an alphabet system with English. Jiménez found that Spanish-English cognates, words similar in spelling and meaning, helped students extract meaning from texts when encountering an unknown vocabulary. Other research findings further explicated the use of cognates in reading comprehension. In a study focusing on L1 vocabulary knowledge, researchers investigated the role of cognates in the relationship between L1 vocabulary knowledge and English reading comprehension (Nagy et al., 1993). They found a positive relationship between Spanish vocabulary knowledge and English multiple-choice test performance for students who were able to identify

Spanish-English cognates. In contrast, for students who were not adept at Spanish-English cognate identification, there was a strong negative relationship between Spanish vocabulary knowledge and English multiple-choice knowledge. This study highlighted that Spanish seems to help students' English reading comprehension most if students know how to strategically access their L1 via cognates.

A follow-up study (Garcia & Nagy, 1993) further analyzed the students' conceptualizations of cognates as well as the relationship of students' understanding of cognates with English reading comprehension. In addition to finding wide variation in the number of cognates students correctly identified, they found that even students who knew both the English and Spanish meaning of a word (as measured by the vocabulary tests) did not always circle the cognate. However, some students were able to effectively rely on orthographic clues (based on a word's spelling) or semantic clues (based on a word's meaning), such as with the cognates *temperature* and *temperatura*, and use similarities between English and Spanish sentence word order to identify cognates. This reliance on English word order, or syntax, in cognate recognition suggests not only that cognate use can enhance English reading ability but that the inverse holds true: English reading ability can support cognate identification and use.

In summary, the research findings within this theme documented the use of the L1 for reading comprehension and the related understanding that content, processes, and strategies transfer across languages when reading (Langer et al., 1990; Jiménez, 1997; Jiménez, et al., 1995). Additionally, comparison of readers by native language and reading proficiency revealed reading strategies that use the first language and are observed primarily in the reading comprehension processes of proficient bilingual readers (Jiménez et al., 1996).

What does this mean for instruction? The studies included in this theme point to the importance of the students' native language in helping them understand text. One useful strategy for helping students understand difficult academic and content-specific concepts is to provide instruction in their native language. By frontloading or explaining unknown words or concepts in a language they understand, students can develop a deep understanding of the concepts while they are still learning the English words. In situations in which students share the same language background, they may also be able to explain

concepts and terms to each other while also fulfilling middle grades students' desire to interact socially with peers (Gumperz, Cook-Gumperz, & Szymanski, 1999).

In circumstances in which the teacher cannot provide instruction in students' native language, an environment can be created in which the use of the first language is valued as a strategic approach to English reading comprehension. Middle grades ELLs can be encouraged, for example, to paraphrase in their native language text that is read in English or to switch between the first language and English if it aids English reading comprehension. Cognates are another avenue for encouraging students to use the resource of their first language; when possible, teachers should explicitly highlight cognates and give students opportunities to practice identifying, using, and discussing cognates when reading English text. Other options for clarifying or explaining information in the native language include the use of bilingual dictionaries (commercially produced or student made), glossaries, or websites (Lindholm-Leary, 2006; August & Shanahan, 2006).

Instruction to Enhance Reading Comprehension
The findings synthesized in the first two themes documented the role of vocabulary knowledge and the first language in English reading comprehension for ELLs. Those studies do not, however, purport that an understanding of how to use vocabulary knowledge and the first language for comprehension can be an assumption about the reading abilities of native Spanish-speaking ELLs. Instead, the effective and strategic use of vocabulary and the L1 in reading comprehension likely requires purposeful instruction. The third theme encompasses studies from a variety of perspectives that address vocabulary development and reading strategy use as they relate to comprehension instruction.

Carlo and associates (2004) implemented a vocabulary intervention to explore the extent to which improvements in English vocabulary relate to improvements in reading comprehension. The intervention, designed for ELLs, but also intended for other students, included the following: (a) explicit word instruction; (b) general word-learning strategies such as use of context, morphological clues, and polysemy or words that are used in multiple contexts with nuanced differences in meaning (e.g., the word *milk* such as something that you drink and the verb *milk* such as *he's milking it for all he can get*); and (c) cognates. The intervention activities reflected the assumptions that words should be learned in meaningful contexts; that students should have

access to texts in their L1; and that multiple skills, such as spelling, pronunciation, morphology, and syntax, underlie word knowledge. Results revealed that the intervention group showed greater growth than the control group for target word mastery, word association, polysemy, and reading comprehension (as measured by cloze passages). As the intervention effects were equivalent for ELLs as for English monolinguals, this finding suggests that a vocabulary intervention designed for English language learners that includes some direct vocabulary instruction along with vocabulary strategy instruction is appropriate for linguistically heterogeneous classrooms. While the intervention provided ELLs access to texts in their L1, the intervention did not include instruction in the use of the L1 as a strategy for comprehending English texts. Perhaps including explicit instruction for students in how to strategically use transfer and translation would have further improved reading comprehension outcomes for ELLs.

Another study with an instructional component focused on the use of Reciprocal Teaching (RT) with middle grades Hispanic ELLs with learning disabilities (Klinger & Vaughn, 1996). RT is an instructional activity in which students and the teacher jointly make meaning by summarizing, generating questions, clarifying, and predicting. All students received 15 days of instruction in RT and were then assigned to 12 days of either RT with cross-age tutoring or RT with cooperative grouping. Pre- and post-intervention data were collected through reading comprehension measures, strategy interviews, student and researcher daily logs, and participant focus groups. While both groups showed statistically significant average gains in reading comprehension from pre-test to post-test, there were no statistically significant differences between the two groups, which makes difficult the interpretation of the efficacy of either intervention. Nonetheless, analysis of qualitative data revealed patterns relevant to an understanding of reading comprehension instruction for ELLs. Specifically, the authors found that initial English reading ability and language proficiency were important components in understanding which students benefited most from strategy instruction. Students with low decoding skills and limited English oral language proficiency generally tended to benefit less from strategy instruction, suggesting that perhaps there is a minimum English and/or reading proficiency threshold that students would do well to attain prior to reading comprehension instruction. It should be noted, however, that this suggestion seems to contradict work

previously described (Langer et al., 1990), which noted that ELLs' ability to enact meaning-making reading strategies, such as using hypotheses and knowledge of text genre for comprehension, was a more important determinant of reading comprehension than was English proficiency.

Jiménez (1997) used a formative experiment consisting of strategy lessons focusing on unknown vocabulary, use of prior knowledge, and formulating questions to understand how five "low-literacy" Latino middle grades students responded to cognitive strategy instruction. The students participated in cognitive strategy lessons that used culturally relevant texts, and students were encouraged to use their bilingual language abilities (i.e., cognates and translation) to support comprehension. The results revealed that students were generally receptive to the strategy instruction and attempted to implement the strategies. Students also reacted positively to inclusion of their L1 in instruction and took advantage of opportunities to rely on both languages to comprehend and demonstrate understanding.

Additionally, Jiménez found that the strategy lessons positively influenced students' metacognitive awareness to include a broader understanding of the purpose of reading as well as the ability to specifically name reading strategies used. While this study looked at more global outcomes, the results reflected the findings of previous work with younger students (Padrón, 1992) that suggest the potential benefits of cognitive strategy instruction for ELLs.

The approach of Olson and Land (2007) in supporting ELLs' reading comprehension was distinct from the previously described studies. Instead of focusing on one or two specific strategies, as in Klinger and Vaughn's (1996) study on RT, for example, Olson and Land's work took a unified view of literacy by assuming that reading and writing are inextricably linked. The reading comprehension program introduced in Olson and Land's study integrated reading and writing and introduced students to a comprehensive repertoire of strategies that students could implement in the order and in the contexts in which students perceived needing them. In other words, instead of pre-determining a prescribed set of strategies to use in a certain order, the intervention sought to document how giving students access to a wide variety of strategic approaches to reading and writing would improve literacy outcomes. Additionally, Olson and Land's study included extensive professional development; was larger scale,

with approximately 2,000 participants, most of whom were ELLs; and was sustained over eight years (2007).

The results of the mixed methods study revealed that the purposeful instruction in adopting a strategic approach to reading and writing enhanced students' English literacy development. Quantitative results indicated superior outcomes on a variety of measures, including Stanford 9 reading, for treatment students in comparison to control group students. Findings from student interviews and learning logs suggested increases in students' confidence and interest in reading and writing. One student, for example, noted "I no longer hate reading and writing. I feel like I can read and write anything I want. No book intimidates me anymore" (Olson & Land, 2007, p. 293).

The results synthesized under this theme reinforce previously described research that maintains the importance of vocabulary knowledge and purposeful reading strategy instruction in English reading comprehension. The limited number of studies and their divergent foci, however, make it difficult to extract specific components that should be included in reading comprehension instruction for ELLs. The findings do suggest that ELLs may benefit from instruction in vocabulary knowledge and reading strategies and that instruction focused on using the L1 as a strategic tool for reading comprehension may be particularly useful.

What does this mean for instruction? This section has the most obvious connections to classroom practice; however, many of the studies were conducted in highly structured contexts such as Jimenez's focused tutoring time with only five struggling readers. It is unlikely that middle school teachers would have access to this type of setting. As Roe (2004) noted in her synthesis of literacy research related to the general middle school population, "Unlike researchers, they [teachers] do not have the luxury to exclusively consider one topic or even one category. Instead they must piece together information within and across categories to develop quality programs" (p. 5).

Nonetheless, relevant instructional considerations can be gleaned from the research described in this section. To support students in strategically approaching texts, teachers must model cognitive transparency to middle grades ELLs. In other words, the teacher can reveal the way a teacher (a successful reader) processes text by thinking aloud in front of students while reading. Similarly, English monolingual and ELL peers should

be given the opportunity to model their strategy use by thinking aloud with partners, in small groups or, when appropriate, in front of the class. The use of peer modeling allows ELLs to have a variety of language and thinking models and acknowledges the multiple ways in which comprehension occurs. Furthermore, middle grades students might be more likely to mimic the strategies and thinking of a peer than to mimic those of a teacher.

In addition to modeling the authentic use of reading strategies, teachers can also explicitly teach reading strategies. When teaching a strategy, such as making predictions, the teacher should tell students what strategy they will be learning and model the strategy. Think-aloud techniques, as previously noted, are a good way to show students the variety of ways the strategy can be used. Finally, teachers should discuss with the students when and why this strategy could be used. This explicit process should help students to use the strategy and to understand why and when the strategy is beneficial. This approach can be helpful by increasing students' awareness of reading strategies.

The utility of a strategy, however, may be specific to a student. While one middle school ELL may find imagery particularly helpful for understanding a poem, another student may find more value in making connections between the contents of the poem and other poetry read previously. Thus, an important consideration in strategy instruction with middle school ELLs is that strategy instruction should be seen as a tool to empower the student, not a prescriptive and structured task mandated by the teacher. In some cases a teacher may be so focused on getting a specific strategy taught that the whole premise of the activity, namely reading comprehension, is lost on the students. Snow (2002) notes, "the power of strategy instruction is the extent to which strategies are taught in the service of interpreting text, not as ends in and of themselves" (p. 46).

Making middle school ELLs aware of reading strategies while they are reading may help them to understand the reading process and subsequently enhance their confidence and ability in reading. Research has indicated that awareness of reading strategies is related to student's reading ability (Padrón, 2009; Sheorey & Mokhtari, 2001), and the studies described in this synthesis suggest that teachers should work to build reading confidence and help middle school ELLs appreciate the resources, such as another language, that they bring to English reading comprehension.

Discussion

In this research synthesis, we systematically reviewed the research literature from 1989 to 2010 to examine vocabulary knowledge and reading strategy use and instruction, as related to reading comprehension for middle grades English language learners in U.S. schools. In general, the findings from the systematic review revealed that both vocabulary development and reading strategy instruction are important in developing middle grades ELLs as successful English readers. In addition, the studies also indicated that the use of the students' native language can assist them in becoming better readers.

The importance of vocabulary is evident in the majority of the studies included. Overall, the studies support that vocabulary is a key factor influencing ELLs' ability to comprehend English text and establish that the transfer of vocabulary knowledge from the L1 to the reading in the second language (L2) can occur for native Spanish-speaking ELLs. While less proficient English readers may perceive the L1 as an impediment to English reading comprehension, the L1 can be used strategically by more proficient readers to discern unknown vocabulary and comprehend text. In terms of Spanish-English cognates, there seems to be a reciprocal relationship, such that cognate identification and use can augment English reading, just as proficiency in English reading can add to students' ability to recognize cognates. The studies also suggest that reading strategies can be transferred across languages, and they document the use of cognates and translation as strategies that proficient native Spanish-speaking bilingual readers use to comprehend texts. Additionally, the body of studies, mirroring work done with younger students (Hardin, 2001), suggests that students' ability to enact reading strategies, rather than their oral English proficiency, more accurately distinguishes proficient from less proficient readers. In terms of instruction, the studies indicate that ELLs can benefit from instruction that focuses on vocabulary and reading strategies and that instruction should include native language support.

Although it is important to focus on the particular reading comprehension issues faced by middle grades ELLs , it should not be assumed that research conducted with other age groups is irrelevant to understanding middle grades ELLs. Similarly, while this synthesis included all related research within the past 20 years in top education journals, other sources may exist that include important information in understanding vocabulary development and reading strategies as

components of reading comprehension for ELLs. Nonetheless, this synthesis does offer a compilation of the research base regarding reading comprehension with middle grades ELLs and, most important, connects the research to classroom practice. This connection can provide teachers with research-based strategies they can implement in their classrooms.

Future Research

Future research on reading comprehension must delve into this complicated world of middle grades ELLs. The studies included in this synthesis focus almost exclusively on ELLs whose native language is Spanish. This trend toward study samples wholly represented by native Spanish-speaking students is likely due, in part, to limited availability of students from other language backgrounds as well as the limited linguistic resources of second language researchers. As Spanish speakers account for the majority of ELLs in our public schools, research focusing on native Spanish-speaking students is important to review. Nonetheless, with immigrant students from varied language backgrounds continuing to enroll in U.S. public schools primarily staffed by monolingual English teachers, understanding the components of English reading comprehension and how best to teach reading comprehension should also be explored with middle grades students from diverse linguistic backgrounds (Roe, 2004). In the first author's local context, for example, schools are experiencing an influx of refugee students from Burma who speak Karen, Karenni, and Chin. While certainly some of the findings with native Spanish-speaking students, such as the importance of transfer, can be applied to these language groups, other findings, such as the use of cognates, are less helpful with students whose native language uses an alphabet system different from English.

Similar to experiences noted with reviews of research focusing on second language learners (Fitzgerald, 1995), the labels used to describe the participants (i.e., Spanish-speaking, bilingual, ELLs, etc.) in the studies and in the measures by which participants were classified into these linguistic labels was problematic in our interpretation of the findings. Few studies described what measures were used to determine the labels connected with participants, and frequently the process consisted of the researchers or school staff making subjective decisions about students' level of bilingualism or proficiency in English. The term bilingual was particularly problematic, as the word bilingual, in the strictest sense, implies fully developed oracy and literacy in two languages. In

practice, however, the term is used more liberally to mean proficiency in two languages that may not be fully developed or may be developed in an unbalanced manner (full English literacy, for example, but only Spanish oral proficiency). Thus, future research studies need to provide a more accurate definition of "bilingual" so that teachers understand the characteristics of ELLs on which instructional suggestions are based. It is important that this definition take into consideration the linguistically diverse nature of the ELL population.

In addition to the lack of clarity regarding what it means to be bilingual, there was also the issue related to comprehension measures. The comprehension measures used by researchers to understand participants' level of reading comprehension should also be noted. Some of the studies, for example, assumed that reading achievement test outcomes could be considered valid proxies for reading comprehension. The widespread use of reading test results to make important educational decisions regarding retention and graduation dictates that the reading comprehension strategies and skills necessary to succeed on reading achievement tests are important. However, reading achievement tests as a measure of reading comprehension are controversial because these tests tend to oversimplify reading comprehension by ignoring the multidimensional process by which the reader interacts with the specific text to construct meaning, the cultural bias present in some tests, and the context in which the tests are administered (Sweet, 2005). Two studies in this synthesis seemed to support this assertion by documenting that reading comprehension tests underestimated ELLs' level of reading comprehension (García, 1991; Langer et al., 1990).

While small-scale studies can continue to refine our understanding of the processes by which ELLs comprehend text, we must also initiate studies that use a variety of methods to investigate the reading comprehension of large numbers of ELLs from diverse linguistic and educational backgrounds. Many of the studies relied, at least in part, on qualitative approaches in which researchers elicited various types of student generated information to document and understand ELLs' reading processes. Think-alouds, for example, have been widely used in comprehension research with English monolingual readers and are a valuable avenue for exploring the cognitive processes students use while reading (Brown, 2001). Adopting this method as the sole approach to data collection, however, may be problematic for use with middle grades ELLs. Beyond the issue that children, whether

ELLs or not, may not be familiar with the language or experience of metacognition, think alouds may not reflect ELLs' full level of text understanding and meta-cognitive abilities due to limited proficiency in both L1 and L2 academic language. Socio-emotional issues, such as motivation, may also play a pivotal role in middle school ELLs' willingness and ability to articulate their own reading processes. This challenge of extracting a full and accurate understanding of ELLs' reading comprehension processes may be further exacerbated by contrived research contexts—the naturalistic classroom setting in which students normally learn is altered by the actions of outside researchers. In other words, while think-alouds conducted by literacy researchers provide rich and valuable information regarding the reading comprehension processes enacted by ELLs, there is a need to expand approaches to data collection to strengthen our findings through triangulation of methods and data sources.

In addition to student think-alouds and interviews, case studies focusing on a handful of students were used in some of the studies. The information gleaned from these in-depth studies has been used to conceptualize the reading comprehension processes of bilingual students and to document the manner in which the L1 and L2 interact in strategic reading. While this type of rich data has been invaluable in guiding the development of the field, it has meant that most of the studies focusing on reading comprehension and ELLs have employed relatively small samples. Although the studies are, indeed, important, this reliance on small-scale studies may limit our understanding of reading comprehension and instruction with diverse students in varied contexts. There is little understanding, for example, of how bilingual students' strategic reading abilities differ as a function of type of language program or teachers' reading comprehension instruction. Additionally, because most studies focused on reading comprehension with ELLs have been executed over short periods of time, changes in students' strategic reading processes over time have not been fully explored. The literature does not provide, for example, clear guidance on how the role of cognates in reading comprehension may change as ELLs develop and move from learning to read at the elementary level to reading to access content, a skill set more commonly needed in the middle grades, and finally to becoming sophisticated readers across content areas.

Conclusion

Beyond these substantive and methodological issues, reading comprehension of middle grades ELLs in the United States has not received the research attention warranted by the burgeoning numbers of ELLs enrolled in our middle grades and their low achievement levels. The fact that two decades of work from top education journals has produced only eleven quality pieces of research focused on the reading comprehension of middle grades ELLs is alarming. Even more disheartening is the fact that this paucity of research stands in stark contrast to the explosion of research focused on the reading comprehension of English monolingual students and students at the elementary levels that has occurred within the past 20 years (Block & Pressley, 2002).

Even though the processes students use to comprehend texts should continue to be an area of focus, the most pressing need is for research that examines and supports teachers of ELLs. Teachers have been identified as an important factor in student learning (e.g., Haycock, 1998), yet little is known about how teachers' comprehension instruction may influence ELLs' ability to comprehend English text. While the extant literature provides a picture of bilingual students' reading abilities, it provides little information on how educational practitioners should provide comprehension instruction to ELLs (Roe, 2004). A line of research focusing on the teacher could provide insight into how educators should be supported to provide effective and appropriate reading comprehension instruction to language learners.

Middle grades students are complex students and research participants. Middle grades students generally receive instruction from multiple teachers who have been trained in varied settings and may provide widely inconsistent instruction across content areas and grade levels. Students entering adolescence must also manage changing emotional states and motivation levels. ELLs in the middle grades present even more complexities for researchers and teachers, as they arrive in middle grades schools with varied educational experiences. While some ELLs have extensive academic preparation in their native language, others have limited native language literacy, and some have never before attended formal schooling. Similarly, middle grades students' English proficiency levels vary greatly, and ELLs' previous language programming in the U.S. can range from

classes delivered only in English to fully bilingual classes. Some middle grades students may even have been enrolled in a mix of programs—an unfortunate result of frequent family moves across states or regions, changing political tides, or inappropriate language testing. Just as teachers address these complexities related to middle grades ELLs every day in the classroom, researchers who understand the complexities of language learning and wish to focus on middle grades language learners must sort out all of these issues in conducting studies on reading comprehension. This type of complex situation presents formidable challenges to researchers and may be part of the reason for the dearth of studies focused on reading comprehension and instruction with middle grades ELLs.

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Appendix A

Journals Included in Synthesis

American Educational Research Journal

American Journal of Education

Bilingual Research Journal

Cognition & Instruction

Education and Urban Society

Educational Researcher

Hispanic Journal of Behavioral Science

Journal of Adolescent and Adult Literacy

Journal of Adolescent Research

Journal of Education for Students Placed At-Risk

Journal of Educational Psychology

Journal of Language and Literacy Education

Journal of Literacy Research

Literacy Research and Instruction

Middle Grades Research Journal

Reading Research Quarterly

Research in Middle Level Education Online

Research in the Teaching of English

TESOL Quarterly

Urban Education

Appendix B

Descriptions of Studies Included in Synthesis

Carlo, M. S., August, D., McLaughlin, B., Snow, C. E., Dressler, C., Lippman, D. N., et al. (2004). Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *Reading Research Quarterly, 39,* 188–215.

Participants: 254 fifth graders (142 ELLs; 112 English monolinguals)

Research Question: To what extent do improvements in vocabulary (both knowledge and strategies) relate to improvements in reading comprehension for ELLs?

Design: This quasi-experimental study randomly assigned classrooms to vocabulary intervention and control groups. Pretest and posttest measures included Peabody Picture Vocabulary Test Revised (PPVT-R), polysemy production, reading comprehension, word knowledge and association, and morphology.

Findings: Intervention group showed greater growth than did the control group for word knowledge, depth of vocabulary knowledge, polysemy, and reading comprehension.

Additionally, the intervention effects were just as large for ELLs as for English monolinguals. However, effect size of .08 for reading comprehension signifies the intervention did not reach practical significance. The intervention did approach practical significance for word mastery, with an effect size of .34.

García, G. E. (1991). Factors influencing the English reading test performance of Spanish-speaking Hispanic children. *Reading Research Quarterly, 26*, 371–392.

Participants: 104 fifth and sixth graders (51 bilingual Hispanic; 53 monolingual English-speaking Anglo) receiving all-English instruction

Research Question: What are the factors that influence Spanish-speaking Hispanic children's English reading test performance?

Design: Comparative study using quantitative measures of reading comprehension, vocabulary, and prior knowledge along with open-ended interviews.

Findings: Anglo students demonstrated statistically significantly higher test-specific vocabulary knowledge, general vocabulary knowledge, and total vocabulary knowledge.

A sub-sample of Hispanic students could not identify many content words in a reading passage and misinterpreted known vocabulary that may have impeded reading test performance.

García, G. E., & Nagy, W. E. (1993). Latino students' concept of cognates. In D. J. Leu & C. K. Kinzer (Eds.), *42nd Yearbook of the National Reading Conference* (pp. 367–374). Chicago, IL: National Reading Conference.

Participants: 81 Spanish-English bilingual students: 32 fourth graders, 36 fifth graders, 13 sixth graders

Research Questions: What is the nature of students' concepts of cognates? What is the nature and extent of variation among students regarding cognate recognition? What is the relationship between students' understanding of cognates and their English text processing?

Design: Non-experimental design using Spanish and English vocabulary tests, questionnaire to access students' experiences with English and Spanish, a target-word multiple-choice test, and a cognate-circling task.

Findings: Student variability in cognate identification related to students' understanding of cognates and motivation for task.

Even when students knew both English and Spanish word meanings, they did not always circle the cognate, suggesting that cognate understanding is not "automatic" for bilinguals.

Students relied heavily on orthographic and semantic clues to identify cognates and did not seem to take morphology into account.

Jiménez, R. T. (1997). The strategic reading abilities and potential of five low-level literacy Latina/o readers in middle school. *Reading Research Quarterly, 32*, 224–243.

Participants: 5 Latino middle school students (3 were bilingual Spanish/English and received instruction primarily in a special education classroom; 2 were bilingual but Spanish dominant and placed in an at-risk classroom)

Research Question: What can teachers do to meet the needs of middle school low literacy ELLs without stigmatizing them?

    a. What do low-literacy middle school Latino students know about reading?

    b. What strengths do they possess that might facilitate literacy learning?

    c. How do they respond to cognitive strategy lessons?

Design: Non-experimental study using qualitative data collection methods of classroom observations, student and teacher interviews, think-alouds and a formative experiment consisting of strategy lessons focusing on unknown vocabulary, use of prior knowledge and formulating questions

Findings: Students demonstrated some literacy strengths such as positive reactions to and interest in culturally relevant texts.

Students reacted positively to inclusion of their L1 in instruction and took advantage of opportunities to rely on both languages to demonstrate understanding.

Following the strategy lessons, students showed potential toward metacognition, including a broader understanding of the purpose of reading as well as specifically naming reading strategies used.

Jiménez, R. T., García, G. E., & Pearson, P. D. (1995). Three children, two languages, and strategic reading: Case studies in bilingual/monolingual reading. *American Educational Research Journal, 32*, 31–61.

Participants: 3 sixth grade students (one bilingual reader proficient in English reading, one bilingual reader not proficient in English reading, and one proficient monolingual English reader.)

Research Question: What is the cognitive and metagcognitive knowledge of a proficient bilingual reader?

Design: Case study design including prior knowledge assessment of text topics, interview protocols with questions about reading strategies use, and prompted and unprompted think-alouds

Findings: The successful bilingual reader exhibited

    a. A primarily word-driven approach to reading with a heavy focus on vocabulary as means to comprehension when reading in English that led her use of other strategies.

    b. Positive view of her L1 in relation to her L2 reading abilities, including a reliance on cognates between L1 and L2 that is unique to bilingual readers.

Jiménez, R. T., García, G. E., & Pearson, P. D. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly, 31*, 90–112.

Participants: 14 sixth and seventh grade students: 8 Latino/a students who were successful English readers, 3 Latino/a students who were marginally successful English readers (These 11 had varying degrees of bilingualism, but, overall, most were stronger in English than in Spanish); 3 monolingual Anglo successful English readers

Research Question: How does Spanish/English bilingualism and biliteracy affect, and even enhance, metacognition?

Design: Non-experimental three-group comparison: poor bilingual, strong bilingual, and strong monolingual, with data collected through prior knowledge and vocabulary task, background questionnaire, unprompted think-aloud, text retellings, and interview

Findings: Successful bilingual readers

    a. Have a unitary view of reading in both Spanish and English.

    b. Have knowledge of bilingual reading strategies: use of cognates, transfer translation.

    c. Use a strategic approach to reading that includes a strong focus on resolving unknown vocabulary.

    d. Employ less use of prior knowledge in reading Spanish and more use of monitoring in Spanish (possibly due to less exposure to content materials in Spanish).

Klinger, J. K., & Vaughn, S. (1996). Reciprocal teaching of reading comprehension strategies for students with learning disabilities who use English as a second language. *The Elementary School Journal, 96*, 275–293.

Participants: 26 seventh and eighth grade native Spanish-speaking ESL students with learning disabilities

Research Question: What is the effect of two approaches (reciprocal teaching with cross-age tutoring & reciprocal teaching with cooperative grouping) for providing reading comprehension strategy instruction to seventh and eighth grade ESL students on comprehension of English text?

Design: Experimental design with random assignment to one of two interventions. Pretest and posttest data were collected through two reading comprehension measures, and strategy interviews, while qualitative data was gathered through student and researcher daily logs and focus groups with participants.

Findings: Both groups showed statistically significant average gains (with wide individual variation) in reading comprehension from pretest to posttest. Results demonstrated no statistically significant between-group differences for reading comprehension.

Analysis of qualitative data revealed that initial reading ability and language proficiency were important components in understanding which students benefited most from strategy instruction. Students with low decoding skills and limited English oral language proficiency generally tended to benefit less from strategy instruction.

Langer, J. A., Bartolome, L., Vasquez, O., & Lucas, T. (1990). Meaning construction in school literacy tasks: A study of bilingual students. *American Educational Research Journal, 27*, 427–471.

Participants: 12 fifth grade bilingual students whose L1 is Spanish

Research Questions: What meaning-making strategies did students use in their comprehension process when they read Spanish and English texts and how did those strategies influence their comprehension? How did their vocabulary understanding affect their envisionment buildings? What was the relationship between the students' test scores and their ability to envisionment build?

Design: Non-experimental study, with data collected through student interviews, open-ended during reading questioning, post-reading probing questions, transcripts, field notes, and student writing samples

Findings: Use of good meaning-making strategies influenced how well students comprehended in English and Spanish.

Use of meaning-making strategies, rather than level of English fluency, was more important in differentiating proficient readers from less proficient readers.

Students relied on their Spanish when reading in English; however, the reverse rarely occurred.

Genre affected ability to understand, with reports being more difficult than stories.

The type of questions asked influence students' ability to communicate understanding.

Lesaux, N. K., & Kieffer, M. J. (2010). Exploring sources of reading comprehension difficulties among language minority learners and their classmates in early adolescence. *American Educational Research Journal, 47,* 596–632.

Participants: 201 language minority students and 61 native English speakers from sixth grade English language arts classrooms in a low-income area

Research Questions: What distinct skill profiles characterize young adolescent struggling readers? Are language minority students more likely than native English-speaking peers to demonstrate specific profiles?

Design: Descriptive, comparative study using skill profiles consisting of a battery of standardized language and literacy measures

Findings: Data revealed three distinct skill profiles: 60% of readers were slow word callers (above-average word reading accuracy, low vocabulary and fluency skills), 20% globally impaired (below-average performance on all measures, save decoding accuracy), and 20% automatic word callers (above-average word reading accuracy, low vocabulary skills, but average fluency). Language minority status did not predict the skill profile in which students would fall.

Nagy, W. E., García, G. E., Durgunoğlu, A. Y., & Hancin-Bhatt, B. (1993). Spanish-English bilingual students' use of cognates in English reading. *Journal of Reading Behavior, 25*, 241–259.

Participants: 74 fourth (*n*=29), fifth (*n*=33), and sixth (*n*=12) grade Spanish-English bilingual, biliterate students

Research Question: How do Spanish vocabulary knowledge and ability to identify Spanish-English cognates relate to Hispanic bilingual students' comprehension of English expository text?

Design: Non-experimental design using Spanish and English vocabulary tests, questionnaire to access students' experiences with English and Spanish, a target-word multiple-choice test, and a cognate-circling task

Findings: Students identified a small proportion of the total Spanish-English cognates.

There is a strong positive correlation between Spanish vocabulary knowledge and English multiple-choice test performance for students who are skilled at identifying Spanish-English cognates. In contrast, there is a strong negative relationship between Spanish vocabulary knowledge and English multiple-choice knowledge for students who are not adept at Spanish-English cognate identification.

Olson, C. B., & Land, R. (2007). A cognitive strategies approach to reading and writing instruction for English language learners in secondary school. *Research in the Teaching of English, 41*, 269–301.

Participants: 2000 ELLs and 94 teachers in nine middle and four high schools

Research Question: To what extent will providing ELLs with comprehensive cognitive strategies instruction influence a variety of reading and writing outcomes?

Design: Longitudinal, quasi-experimental design using mixed methods, including pre-post writing and standardized reading measures, teacher and student learning logs, and reflections

Findings: Treatment group students demonstrated statistically significant gains over control group peers on holistic assessment of writing, GPA, standardized reading and language tests, and high-stakes state writing assessment.