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# Teaching English Language Learners At Risk for Reading Disabilities to Read: Putting Research into Practice

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The purpose of this article is to describe features of interventions that are empirically validated for use with first-grade students at risk for reading disabilities who are English language learners (ELLs) and whose home language is Spanish. The empirical evidence supporting these interventions is summarized. Interventions for improving oral language and reading abilities with struggling readers who are ELLs taught in either Spanish or English are described as a means to assist school districts and teachers in defining and implementing effective interventions for ELLs at risk for reading difficulties. The interventions described may be useful to educators seeking information about Response to Intervention as a means of identifying ELLs who require services for learning disabilities.

Special education identification, placement, and instruction decisions for students who are English language learners (ELLs) have been largely based on research and practices used with monolingual students with disabilities (Artiles & Ortiz, 2002). For many ELLs with disabilities, these special education decisions may be problematic because they lack consideration of the linguistic demands and needs of students who are acquiring proficiency in English as well as another language. Educational decisions that are informed by the language backgrounds and needs of special education students who are ELLs are particularly necessary when their primary education needs are in language-demanding areas such as reading. For most students with learning disabilities, as many as 80% (Lyon et al., 2001), the primary educational needs are related to their reading difficulties. Thus, the need to better understand and identify appropriate interventions for ELLs with reading difficulties is high.

While the database on the effectiveness of early interventions for monolingual English-speaking students has grown over the past 10 years (see Denton & Mathes, 2003; Fletcher & Lyon, 1998; Lovett, Barron, & Benson, 2003; Simmons, Kame'enui, Stoolmiller, Coyne, & Harn, 2003 for reviews), these studies have been designed specifically to investigate the effectiveness of interventions with students whose home language is English (e.g., Torgesen et al., 2001). Findings from these early intervention studies with students at high risk for reading difficulties and disabilities have yielded convincing evidence that effective reading interventions are systematic, explicit, and intense (i.e., are provided in small groups or individually). These interventions provide instruction in the critical elements of beginning reading including phonemic awareness, phonics and word study, fluency, writing, and comprehension strategies. Students who initially demonstrate significant risk for reading difficulties have been shown repeatedly to make significant gains in reading; most no longer are at risk for reading problems (see Mathes & Denton, 2002). The most powerful interventions are typically provided during daily sessions of 30 minutes or more for several months. However, even though our knowledge base about effective interventions for monolingual English readers is solid (e.g., Foorman & Torgesen, 2001; National Reading Panel Report, 2000), there is a paucity of evidence on effective interventions for students with reading difficulties who are ELLs.

Currently, our assumptions about effective interventions for ELLs are based on what is known about intervening with monolingual English speakers. However, generalizing from monolingual English at-risk readers to bilingual at-risk readers is difficult. Thus, making decisions with confidence about the extent to which interventions that have been effective with monolingual at-risk students should be similar or different for ELLs is also difficult.

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There is a clear need for well-conducted studies examining the effectiveness of interventions for ELLs with reading difficulties.

## RESPONSE TO INTERVENTION AS A MEANS FOR IDENTIFYING ELLs WITH READING DISABILITIES

Related to the need for appropriate interventions is the recent interest in response to intervention as a means of identifying students with learning disabilities. Using a response to intervention model, children would be identified as needing special education services only after demonstrating inadequate response to interventions that have been shown to be effective with most students. Of course, before such a model can be implemented, it is necessary to have validated interventions. Thus, at the current time, it is very difficult to actually implement this model with ELLs because efficacy of various interventions has not been tested with this population.

Much of the impetus fueling the support for response to intervention as a practice for identifying students as learning disabled is related to three issues: (a) the lack of support for IQ-achievement discrepancy as an appropriate criteria for identification for learning disabilities (Fletcher et al., 1994; President's Commission on Excellence in Special Education, 2002); (b) the value of early intervention for students with reading difficulties (Snow, Burns, & Griffin, 1998); and (c) concern over the use of IQ tests as a conventional practice in identifying students for special education—particularly with minority students (National Research Council, 2002). The rationale and related history of traditional practices for identifying students with learning disabilities have been debated for decades, literally since the category learning disabilities was included within special education (Hallahan & Mock, 2003). Response to intervention is not without pitfalls, including concerns about who is going to monitor students' progress and provide appropriate interventions to determine whether students qualify for special education (see Bradley, Danielson, & Hallahan, 2002; Fuchs, 2003; Fuchs, Mock, Morgan, & Young, 2003; Vaughn & Fuchs, 2003 for reviews).

Despite challenges, response to intervention appears to hold promise as a practice for providing early intervention, appropriate identification, and reduced use of IQ tests for students with disabilities. This practice is very much aligned with the recommendations of the Committee on Minority Representation in Special Education (Donovan & Cross, 2002). However, for response to intervention to be an appropriate procedure for students who are ELLs with reading difficulties, appropriate interventions associated with improved outcomes need to be developed and empirically tested (Vaughn & Fuchs, 2003).

Responding to this need, we have conducted two randomized, controlled trials with ELLs at risk for reading difficulties (Vaughn et al., 2004; Vaughn et al., in press). In each of these studies, we examined interventions designed to meet the needs of ELLs, building on what we know about teaching monolingual English speakers who experience reading difficulties. Currently, we are in the process of replicating the findings with a new cohort of at-risk first-graders and following students' performance into second and third grades. For this research, we targeted the largest group of ELLs in the United States—students whose home language is Spanish. The purpose of these studies was to: (a) develop two interventions—one in English and one in Spanish specifically designed for ELLs at risk for reading problems; (b) identify ELLs (Spanish/English) with significant reading problems whose core first-grade reading instruction was in English, and identify ELLs (Spanish/English) with significant reading problems whose core first-grade reading instruction was in Spanish; and (c) match the language of the intervention to the language of their core reading program.

Our goals in constructing these studies were twofold. First, we sought to design effective curricula for teaching reading to struggling ELLs (Spanish/English), based on the research base with monolingual English students and our assumptions about its generalizability to ELLs (specifically those who are English/Spanish). Second, we tested the effectiveness of delivering instruction using these new curricula against treatment as usual for at-risk ELLs in randomized controlled trials. Through this activity, we sought to begin to build a research base to guide decision making about placement and instruction for these students. If response to intervention is to be implemented with young students at risk for reading problems, identifying interventions that have demonstrated effectiveness with ELLs is necessary to assist in documenting their response to effective interventions so that outcomes can be validated for use in identification for learning disabilities.

Because the findings from these studies are reported in articles that are currently in press or review (Vaughn et al., 2004; Vaughn et al., in press) or being reviewed for publication, we will provide only a brief summary of the findings in this article. However, because both interventions demonstrated effective outcomes in a controlled, experimental setting for the target students, we will describe the features of the intervention curriculum and make suggestions for educational practice for teachers of students with reading difficulties who are ELLs. We believe that understanding the fundamental design and elements of the intervention are exceedingly important to the myriad of educators who are searching for effective interventions for bilingual students with reading difficulties.

## DESIGN OF THE ENGLISH INTERVENTION AND THE SPANISH INTERVENTION FOR ELLs AT RISK FOR READING PROBLEMS

There were four major phases to the development of the interventions. Phase I was the development of an English intervention (Mathes, Torgesen, Wahl, Menchetti, & Grek, 1999). This curriculum had been designed for previous intervention studies and validated with monolingual English struggling readers (Mathes et al., in press). This curriculum was used as our core intervention curriculum for ELLs who were learning to read in English. In Phase II we designed a set of language support activities to modify the English intervention so that it would be appropriate for ELLs. These support activities ensured that appropriate practices related to effective English as a second language were included throughout the instructional sequence. Phase III involved the development of a Spanish intervention for students who were ELLs initially learning to

read in Spanish. This required the complete development of an 8-month daily intervention curriculum based on the developmental sequence of Spanish literacy skills. In Phase IV we designed an oracy intervention in English and Spanish to include with the interventions. Each of these phases and their respective instructional curricula will be described.

## Phase I: English Intervention for Students At Risk for Reading Difficulties

In our research, we adopted Proactive Reading (Mathes et al., 1999), a previously validated early reading intervention (Mathes et al., in press) to provide instruction to students who received instruction in English. Proactive Reading was designed to be a comprehensive, integrated intervention curriculum that detailed for teachers how to deliver explicit phonemic awareness and phonics instruction, ensure application of this knowledge to words and text, and engage children in making meaning from what they have read. Daily instruction was delivered to small homogeneous groups of 3–5 struggling readers by highly trained tutors, hired by the research team. Each lesson required approximately 40 minutes to complete. In all, there were approximately 120 lessons delivered across an academic year.

Building on the instructional design principles of the model of Direct Instruction (Carnine, Silbert, & Kameenui, 1997), the tasks associated with fluent, meaningful reading were analyzed and elements sequenced into a carefully integrated scope and sequence. A primary objective in arranging this scope and sequence was to reduce the occurrence of errors children were likely to make and to facilitate their ownership and integration of skills and strategies that build cumulatively to effective reading. Elements that may be potentially confusing to some children were separated in terms of presentation. For example, initial instruction in /b/ and /d/, or /r/ and /er/ were presented several weeks apart. Similarly, elements that promoted faster movements into word building and text reading were presented earlier (e.g., higher frequency letter-sound correspondences, high-frequency sight words, closed syllable words), with elements with lower utility being presented later.

From this scope and sequence, daily lesson plans were developed comprising 6–10 short activities representing five content strands: phonemic awareness, letter knowledge, word recognition, connected text fluency, comprehension strategies. Daily lessons were constructed so that various content strands were carefully woven together. Lessons were fully specified and provided exact wording to ensure teacher language was clear and kept to a minimum. Across lessons, activities were repeated with items of gradually increasing difficulty, allowing children to learn specific routines and to internalize teacher language and thus focus on the actual content to be learned.

In a typical lesson, students played word games designed to promote phonemic awareness, practiced letter-sound correspondences for previously taught letters or letter combinations, practiced writing these letters, and learned the sound of a new letter or letter combination. Students also practiced sounding-out and reading words composed of previously taught letter–sound correspondences and various syllable types, spelled words from dictation based on their sound–symbol correspondences, practiced automatic recognition of words that do not conform to alphabetic rules, read and reread decodable connected text, and applied comprehension strategies to this text.

### *Phonemic Awareness Strand*

The phonemic awareness strand included two types of activities: phoneme discrimination, and phoneme segmentation and blending. Early activities required children to isolate initial sounds in words or to tell if a word started with a particular sound. Later, activities moved to isolating final and medial sounds. Sound discrimination activities were also used to ensure that children were sensitive to the differences in the various vowel sounds. Likewise, children were taught how to segment one-syllable words into individual phonemes, as well as to recognize words from individually spoken phonemes. Oral blending was facilitated though the use of a puppet, whom the children were told could only say words sound by sound and that they were to help the puppet say the word at normal speed. The concept of segmentation was explained as "stretching words." Children were taught to say a word by stretching out each sound and holding up one finger for each sound as they said it. Once children were able to segment and blend words containing consonant blends, this strand ended. However, the concept of stretching words was used to facilitate both sounding-out printed words and spelling words as part of the word recognition strand.

### *Letter Knowledge*

Letter–sound correspondences were introduced from the first day of instruction and continued throughout the 120 lessons, with a new letter–sound or letter-combination–sound correspondence introduced every 2–3 days. Prior to presenting the symbol representing a particular phoneme, that phoneme was manipulated orally during segmenting and blending activities. The primary objective of the letter-knowledge strand was to develop automatic recognition of the most common sound represented by the symbol. Thus, once a letter–sound correspondence was introduced, it was included in daily cumulative review of subsequent letter–sound correspondences. Students were asked to both say the phoneme represented by each letter or letter units and to write letters as the teacher dictated phonemes. In cases where children had learned multiple ways to represent a particular phoneme, the teacher would ask the child to "write the sound one way they knew, and then to write it another way." For example, in later lessons children would be expected to write /s/ as s, ce, and ci. Letter combinations, including diphthongs and vowel teams, were treated in the same manner as single letter–sound correspondences, and complex terminology such a diphthong was *not* used with the children.

### *Word Recognition Strand*

The word recognition strand included both phonetically regular and irregular/high-frequency words. The actual teaching of words recognition strategies was accomplished using lists

of words that were presented either by the teacher, or located in the students' activity book. In terms of decoding phonetically regular words, children were initially taught to sound out. This process began with simple CVC words (i.e., closed syllable). Initially children were given very simple words and extended time to blend the sounds represented by the letters to form words. However, the amount of time allowed to sound out the words was gradually decreased, while the complexity of the words was gradually increased. Further, as the time for figuring out words decreased, there was increased emphasis on "reading words fast" on the first reading. In order to accomplish this, children were initially asked to sound-out words silently. Across time, the amount of time allowed to sound out silently was also decreased. As children moved toward decoding unknown words quickly and efficiently, they were also learning to read words representing the six different syllable types, although terminology about syllable types was not included. As children demonstrated success reading one syllable type, that syllable type was included in reading multisyllabic words. Initially children read simple cvc/cvc words such as *rabbit*. Initially children applied the sounding-out strategy to each syllable, read each syllable "fast," then read the whole word. The sounding-out step was quickly removed so that children read each syllable part, then read the whole word. By the end of the program, they were reading two- and three-syllable words comprising any combination of the six syllable types.

Another important aspect to the word recognition strand was teaching children to be what we called "flexible decoders." Children were taught that "sometimes parts of words did not sound out quite right," but that sounding-out usually produced a pronunciation that was close enough to figure out what the word really was. In this way, children were not burdened with being responsible for knowing which words could and could not be sounded-out. Instead they were taught that they could sound out any word they did not know automatically, but if the resulting word was not a "real word," they had to be flexible.

High-frequency words that were irregular were presented as "tricky words that do not sound-out right." Even so, children were asked to sound them out, followed by analysis of the parts that "worked right" and the parts that had to be memorized. Frequent cumulative practice of irregular high-frequency words was another component of most lessons.

### *Connected Text Fluency Strand*

Application of word recognition strategies was practiced through the reading of decodable connected text. Beginning on the seventh day of instruction, students read connected text daily. This text was fully decodable, meaning that all phonetic elements and all irregular sight words appearing in the text had been taught previously and students had already demonstrated mastery of those elements and words. As students acquired greater mastery of more and more elements, as well as the ability to decode more difficult words, the text became more and more challenging.

To promote fluency, children were asked to read stories two to three times, with a goal to increase rate and accuracy with each reading. Typically children read a story in unison on the first reading. On the second reading, children usually read a page or two individually. The third reading was typically carried out in pairs, with the teacher pairing up with one child and timing that child's reading rate. Each story had a predetermined fluency criterion. Across time, the criterion became increasingly faster, even as the text difficulty became increasingly more complex. The objective was that children were reading end-of-first-grade-level text at 50 words correct per minute.

### *Comprehension Strand*

Beyond decoding and fluency, a major objective for Proactive Reading was to ensure that children were making meaning as they read. Thus, prior to reading a story each day, the teacher engaged in "browsing the story" during which they asked children to look at the pictures in the story and to predict what they thought the story would be about. Teachers then set a purpose for reading, which usually was stated as finding out if the students' predictions were true or not. When the story was expository, teachers activated prior knowledge by asking students to tell what they already knew about the topic. The purpose was then set as reading to find out if they learned anything new. After reading the story, students engaged in a number of activities depending on the students' competence and the text structure. Initially, children were only asked to tell about what they read. Information in any order was accepted. Over time, children were asked to sequence information, until they were able to sequence the most important information. As children became more advanced, they were taught to identify story grammar elements. When text was expository, children were asked to identify new information they had learned.

## Phase II: Language Support for the English Intervention for Students Who Were ELLs

To ensure the ELLs in the English intervention would understand and benefit from the curriculum, we created short language support activities that were interspersed throughout each Proactive lesson. The number of language support activities for each lesson varied from three to eight and took approximately 5 minutes of instructional time. Teachers did not choose the language activities, the number and type of language activities varied based on the instructional focus of the lesson. Activities were provided in two supplemental manuals. One provided the scripts for each activity and the second contained pictures for selected activities. Each day, students had opportunities to explore the vocabulary, language, and literacy concepts presented in the literacy lessons. Periodic reviews were also included.

The following instructional behaviors that have been found to be effective when working with students who are ELLs were embedded in the lessons: use of visuals, gestures, and facial expressions in teaching vocabulary and clarifying meaning of content, provision of explicit instruction in English language use, and opportunities to give elaborate responses.

In particular, we targeted three types of words. Words in the directions were defined to ensure that students understood the task, words used in phonemic awareness and phonics lessons were defined to provide context, and vocabulary words in connected text used for fluency building and comprehension were defined. To explore the meaning of words, intervention teachers provided the word and asked if any students knew the meaning. If students were unable to provide a definition, the teacher used the word in a sentence and asked for a definition again. If students were not able to give a definition or gave an incomplete definition, the teacher provided the definition. All definitions of words were accepted, but the teacher told the students how the word would be used in the context of the lesson. Students were then asked to give the definition or use the word in a sentence. In addition to providing a definition orally, pictures, gestures, or role-play were used to enhance the students' understanding of the word.

To ensure that students understood the tasks they were asked to perform, we defined words they may not have known prior to beginning the task. The use of consistent and explicit language throughout the curriculum helped students learn the words and focus on the task. Words such as *stretching* and *tracing* were defined prior to asking students to perform a task. Before each lesson in which teachers used word lists to complete tasks or in which students would read connected text, words that may have been unknown to the students were also defined. Students were told that the words would be used in the task or would appear in the story. If students had previously learned a specific meaning of a word, teachers reminded students of the meaning they had learned, told students they would learn a new meaning, and provided a sentence as a prompt. This process was used if the target word had been previously learned as a particular part of speech. For example, *mop* was first learned as a noun when it was part of a word list and later as a verb when it appeared in a story.

## Phase III: Development of the Spanish Intervention for At-Risk Readers Who Are ELLs

In designing the supplemental reading intervention in Spanish *Lectura Proactiva* (Mathes, Linan-Thompson, Pollard-Duradola, Hagan, & Vaughn, 2003), we applied research on the sequence and development of Spanish literacy acquisition to the same instructional design principles used to create Proactive Reading. The result was a curriculum that was different in terms of the sequence and focus of instructional content, but similar in terms of instructional design and delivery. Thus, teachers delivered explicit instruction designed to assist students in the integrated and fluent use of alphabetic knowledge and comprehension strategies.

Lessons were organized so that various content strands (i.e., letter knowledge, phonemic awareness, speeded syllable reading, word recognition, fluency, and comprehension strategies) were carefully woven together. The order for presenting letter–sound correspondences represented those letters used most frequently in Spanish. Elements such /b/ and /v/ were separated because they are very similar in Spanish. A strand on speeded syllable reading was added into the Spanish intervention and less emphasis was placed on phonemic awareness. Most importantly, the speed at which children progressed to more complex word structures and complex text was faster in Spanish than in English because of the transparent nature of Spanish orthography. Care was taken to ensure that strategies and content that would facilitate later transitioning to English were also integrated.

### *Syllable Reading*

Because of the syllabic nature of Spanish, teaching students to read syllables quickly was a focus of instruction. Within the first three lessons, students were reading cv-type syllables composed of previously taught letter-sound correspondences. Initially students sounded-out the syllable then read the syllable as a whole. Within a short time students were asked to read syllables as a unit, rather than phoneme by phoneme. Over time, children were asked to read syllable units at increasingly faster rates. Each syllable unit began with three phoneme syllables including CVC constructions, diphthongs, and syllables with consonant clusters. Speeded syllable reading activities were altered daily so that the placement of vowels varied to ensure students were processing individual phonemes within syllables rather than memorizing a specific pattern.

### *Word Recognition*

The basic strategy taught to decode words was to read syllable by syllable, then to put the syllables together to read the whole word. Initially, students sounded-out syllable parts, then read the syllable, then read the whole word. Over time, the amount of time students were allowed for each step in the process of reading words was reduced until students were decoding unknown words fast and efficiently. At the same time that students were asked to decode more quickly, the complexity of those words gradually increased both in terms of length (i.e., number of syllables) and in the complexity of the syllable type (i.e., vcv, cvc, cvv, ccv).

### *Connected Text Fluency*

Beginning on the seventh day of instruction, students began reading connected text daily. This text consisted of words that represented the sound–symbol relations and the sight words that students had been previously taught. While this text was stilted in the beginning, as students acquired greater mastery of more and more elements, as well as the ability to decode more difficult words, the text became richer in terms of language and story complexity. By the end of the intervention, students were reading grade-level books with complex word and sentence structures. The goal for fluency was to prepare students to read 50 words per minute correctly on end-of-first-grade-level Spanish text by the end of first grade. To achieve this goal, each story was read repeatedly. As in the English intervention, the first reading was read as a group in unison, then was followed by a reading that was timed in which each member of the group read a section of the story. If the group did not meet a specified fluency criterion, the teacher was directed to have the students reread the story in

less time. In later lessons, teachers timed individual students on entire stories while the remaining students read in pairs. What differed from the English intervention was that children were reading text of greater richness and complexity at rates that were faster than their English counterparts.

### *Comprehension*

A second objective of connected text reading was to teach comprehension strategies. From the beginning, students were asked to make predictions or tell what they knew related to the story before reading using a modified KWL procedure (Ogle, 1986). KWL is a strategy used to activate students' background knowledge, to assist students in setting purposes for reading, and to help students construct meaning by connecting what they already know about a topic to what they have learned (K—What do I Know? W—What do I Want to learn? L—What did I Learn?). After reading a story, students were asked to retell and sequence events of the story. Students were then asked to identify story grammar elements and later to identify main ideas. Children were also asked to write the main idea of the story in the later part of the curriculum. Finally, summarization was introduced using either story grammar for narrative text or simple content webs for expository text.

## Phase IV: Oracy Component for English and Spanish Intervention

We anticipated that students who met the criteria for significant risk for reading difficulties and disabilities would also benefit from an intervention that addressed their language and vocabulary development needs. For this reason, we allocated 10 minutes of our intervention time daily to language and vocabulary development. Though seemingly not extensive, over the 7.5 months that this intervention was provided, students received 50 minutes per week of language and vocabulary development in small groups which constituted about 3 hours per month or about 22–25 hours of language and vocabulary intervention for the academic year. For students whose core classroom reading instruction was in English, the language and vocabulary development was in English. For students whose core classroom reading instruction was in Spanish, the language and vocabulary development was in Spanish.

We selected daily read-alouds from children's books as the primary basis for designing the language development and vocabulary enhancement element of our instruction (Hickman, Pollard-Durodola, & Vaughn, 2004). This decision was based on research that suggests that teacher read-alouds are: (a) frequently used by teachers, (b) enjoyed by students, and (c) readily available as an activity to integrate into the teaching routine. However, despite the prevalence of this practice for enhancing vocabulary and comprehension (Coyne, Simmons, & Kame'enui, 2004; McKeown & Beck, 2003), there were few specific guidelines for how teacher read-alouds might be used with ELLs.

In response, we organized a teaching routine that included identifying selected books for teachers to read aloud, identifying the vocabulary to teach and discuss prior to reading, asking teachers to read the book for a specified amount of time, and giving students an opportunity to discuss and use the vocabulary as they retold the story they had heard. The teacher scaffolded and supported their language use with questions and extensions. The daily objective of the small group read-aloud was to assist students in building and extending vocabulary and improving their listening comprehension and oral expression. Because we were also interested in improving their background knowledge, we focused almost exclusively on expository texts. Because our goals were to give many exposures to related words and to build knowledge, we organized books based on themes so that vocabulary would be redundant and concepts could be organized, reinforced, and extended.

We selected books based on topics of high interest to young students and with consideration of the fact that their listening vocabulary exceeded their speaking vocabulary. Books were at the second to third grade reading level. We selected eight themes (e.g., bugs) with three or four books that addressed each theme. Books were read in small groups (three to five students) with an experienced teacher who was also their intervention teacher. Books were of a length in which they could be broken into passages of about 200–250 words (the amount read each day by the teacher) and would last approximately 3–5 days. The entire book was read completely from beginning to end the day after the last passage was read.

Two or three new vocabulary words that were used in the passage to be read that day were taught to the students prior to the read-aloud. Students were asked to listen for the "target words" when the story was read. By dividing the text into relatively small units, a few words could be taught each day and then reviewed the following day with more new words added. This procedure also made it possible to read the entire book in 1 day after all the passages had been read on previous days. Limiting the teacher to reading just a few minutes each day also provided adequate time to promote students' story retelling, their use of new words, and their overall listening comprehension skills.

Teachers scaffolded students' responses after the story was read aloud. Each day, the teacher identified one or two target students for retelling the story. This provided every student in the group with at least two times each week when they were able to take the lead on retelling the story. These students were asked to retell what they heard and their language was used to craft the story retell. Teachers used story-boards or chart paper to write the key information the students provided. This information was used as prompts to extend the story retell and to cue students to use new vocabulary.

In summary, we employed seven steps to promote oracy development through story read-alouds: (a) overview of the theme and the selected story; (b) preteaching the two to three identified vocabulary words; (c) read aloud to the students of 200–250 words of text, addressing literal and inferential comprehension; (d) reread the same passage asking students to listen carefully for the new vocabulary words; (e) selecting target students to lead the summarizing of what was read; (f) asking questions and providing a scaffold to process key words and comprehension of text; and (g) connecting key vocabulary words and concepts each day so that students deepened their knowledge and understanding of the theme and related concepts.

## OVERVIEW OF OUR INITIAL STUDIES

### Sites and Participants

The Spanish and English interventions were conducted separately within multiple schools within each of three school districts in diverse geographic sites in Texas. Together these sites and schools are representative of the population areas in Texas where large numbers of bilingual students attend school (border district, large urban district, and middle-sized urban district). Schools were selected provided that they served a large percentage of limited English proficient students in kindergarten (40% or more), and provided that students' performance in reading on the state-level reading test in prior years had indicated that the schools were teaching the majority of their students to read (State of Texas Accountability Rating of at least "acceptable"). Since there were two separate intervention studies, one in English and one in Spanish, schools were selected that provided core reading instruction in one of the target languages.

Four hundred twenty-six first-grade bilingual students learning to read in Spanish were screened for reading difficulties. Students learning to read in Spanish and identified as at-risk for reading problems were randomly assigned to either Spanish intervention or control group (32 in intervention group, 32 in comparison group). Two hundred sixteen bilingual students learning to read in English were screened for reading difficulties and those with reading problems were randomly assigned to an intervention group ($n = 22$) or a comparison group ($n = 19$). Screening for students for the Spanish intervention consisted of two subtests: (a) the Letter-Word identification (LWID) subtest from the Woodcock Language Proficiency Battery (WLPB-R; Woodcock, 1991), and (b) the first five words from an experimental word reading list in Spanish used to assess initial word reading ability. Screening for students for the English intervention included the same screening measures as for Spanish and also those same two measures in English.

### Measures

Measures of language and literacy in both Spanish and English were administered to all four groups of participants: English intervention participants, Spanish intervention participants, and participants in both comparison groups. A comprehensive battery of language/literacy-related measures in English and Spanish was administered prior to the onset of intervention (October) and following its completion (May).

All participants in the Spanish and English interventions, as well as participants in their comparison groups, were administered the following measures.

### Letter Naming and Letter Sound Identification

Participants were asked to identify the 26 letters of the English alphabet and at least one corresponding sound for each letter. They were also asked to identify the 30 letters of the Spanish alphabet and to identify one sound for each letter.

### Phonological Processing

The Comprehensive Test of Phonological Processing (CTOPP; Wagner, Torgesen, & Rashotte, 1999) was administered in English. The Spanish Test of Phonological Processing (STOPP; Branum-Martin et al., in review) was developed to align with the English CTOPP in terms of the skills addressed and the linguistic complexity of the items within each of the subtests. Reliability estimates for the STOPP were determined on a sample of approximately 1,500 students; the coefficient alphas were very high, ranging from 0.93 to 0.97. Raw scores comparable to those calculated for the CTOPP were utilized for data analyses; the same branching rules for the CTOPP were also utilized for the STOPP. In addition, a PA composite in Spanish was created, utilizing the analogous subtests and the same rules as the English PA composite.

### Woodcock Language Proficiency Battery—Revised; English and Spanish Forms (Woodcock, 1991)

Subtests utilized for this study were LWID (at screening only), Word Attack, Passage Comprehension, Listening Comprehension, Picture Vocabulary, Verbal Analogies, and Memory for Sentences (at pretest only). LWID requires the student to match a rebus to an actual picture of that object (beginning items), then to read aloud individual letters, and then to read aloud words that increase in length and complexity. Word Attack requires the student to read aloud nonsense or unfamiliar words that are linguistically logical. Passage Comprehension first requires students to point to a picture represented by a phrase in a multiple-choice format, and then to read a sentence or short passage and provide a missing word that is appropriate for the context of the passage. Listening Comprehension is similar to Passage Comprehension in the oral domain, and asks the student to listen to a passage, and supply the missing word at the end using an oral cloze procedure. Picture Vocabulary requires the student to name familiar and unfamiliar pictured objects and is primarily an expressive semantic task. Verbal Analogies require a student to provide verbal answers to questions about logical relationships that increase in difficulty. Finally, Memory for Sentences requires a student to repeat phrases or sentences that increase in length.

Dependent measures were age-based standard scores only, although raw scores were analyzed with similar results. In addition to the individual subtests described above, an Oral Language composite was also calculated at each time point. At pretest, these measures included Memory for Sentences, Listening Comprehension, Picture Vocabulary, and Verbal Analogies; at posttest, these measures included Listening Comprehension, Picture Vocabulary, and Verbal Analogies.

### Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good & Kaminski, 2002)/Indicadores Dinámicos del Exito en la Lectura (Good, Bank, & Watson, 2003)

Students' oral reading fluency was measured by asking students to orally read a passage at a first-grade level. At pretest and posttest, the first-grade beginning-of-year passage was

administered in both Spanish and English. The outcome measure was the number of words correctly read, minus the number of words read incorrectly, during the 1 minute allowed for reading.

### Intervention

All intervention participants remained in their regular core reading program and were provided intervention in addition to this core program. A complete description of the intervention is provided in the previous section (Design of the English Intervention and the Spanish Intervention for ELLs At Risk for Reading Problems). Many of the students in the comparison group were also provided supplemental intervention by the schools as part of their "treatment as usual," but these students did not receive the experimental treatment intervention. Students in the intervention were not provided any additional instruction (other than their core reading program) by the schools. Students in the experimental intervention were taught in groups of three to five daily for 50 minutes each day and were provided systematic and explicit instruction in oral language and reading by intervention teachers who were hired and trained by our research team. The intervention lasted for most of the school year (about 7 months), allowing time for screening, pretesting, and posttesting. All students were provided the reading and oracy intervention in the same language as their core reading instruction.

## FINDINGS

Because both of these intervention studies are either in press or in review (Vaughn et al., 2004; Vaughn et al., in press), and the purpose of this article is to identify the critical elements of effective intervention programs for bilingual students who were provided either an intervention in English or an intervention in Spanish, only a summary of the critical findings from each of the intervention studies is reported here.

### Pretest Differences

Because students in both treatment and comparison groups were randomly assigned, we anticipated that there would be no pretest differences between treatment intervention group in English and the comparison group, and between treatment intervention group in Spanish and the comparison group. As expected, students in the treatment and comparison groups were not statistically significantly different on any reading-related skills at the pretest.

### Spanish Intervention Results

Significantly different findings were not reported for Letter Naming in Spanish. However, the STOPP letter naming fluency test revealed a significant trend in favor of treatment students ($d = +0.46$). For the phonological awareness composite measure, the treatment students outperformed comparison students with large effects ($d = +0.73$). Treatment and comparison students did not differ on a measure of phonological memory.

Treatment students outperformed comparison students on the WLPB-R oral language composite score ($d = +0.35$). Treatment students improved by 10 standard score points whereas comparison students improved by 3.5 standard score points.

On measures of word attack ($d = +0.85$) and passage comprehension ($d = +0.55$) from the WLPB-R, treatment students significantly outperformed the comparison participants. Treatment students also outperformed comparisons on both oral reading fluency passages ($d = +0.75$ and $+0.58$).

Across Spanish outcome measures, there were consistently significant and meaningfully significant findings in favor of the intervention group. These differences were not found on the English measures for the students in the Spanish intervention.

### English Intervention Results

For naming English letters, intervention and comparison students did not differ significantly, although practical differences favored the treatment intervention students ($d = +0.59$). However, for the CTOPP Rapid Letter Naming subtest, intervention students performance was statistically significantly greater than comparison students ($d = +0.88$).

The English phonological processing composite score indicated that the intervention students outperformed comparison students ($d = 1.24$). Results were also in favor of intervention students on Letter Sound Identification ($d = 1.01$). However, for nonword repetition, intervention and comparison students did not differ.

On the WLPB-R oral language composite score in English, analyses revealed that intervention and comparison students did not differ significantly; however, there was a modest effect size difference in favor of treatment students ($d = 0.43$). Both groups improved approximately 10 standard score points, though their overall English language composite score was still more than two standard deviations below the average.

Word attack scores on the WLPB-R favored the intervention students ($d = 1.09$). Reading comprehension subtest scores also favored the intervention participants ($d = 1.08$). The strong effects in favor of the intervention students were maintained for the WLPB-R dictation task ($d = 0.76$). Perhaps of most importance the performance of the intervention students was within the average range on these three subtests at posttest. However, this performance in favor of the intervention students was not maintained for the DIBELS fluency measures; these yielded no significant differences between groups. In general, whereas the posttest performances of the intervention students across English outcome measures were consistently, significantly, and meaningfully greater than those of comparison students; fewer differences on Spanish outcome measures were observed between intervention and comparison students.

## IMPLICATIONS FOR READING INSTRUCTION FOR ELLS WITH READING DIFFICULTIES

We believe that there are several implications from this work. Specifically, the content of the interventions as well as the

focus on supplementing certain features and including specific instructional techniques for use with ELLs combined to provide improved reading outcomes for the students in our study. In terms of the content of our interventions, many of the elements of instruction associated with improved outcomes for at-risk monolingual readers also yielded effective outcomes for ELLs. Though the order of the sounds taught and the speed at which students in Spanish could read words (due to the highly regular aspects of Spanish orthography) differed in the English and Spanish language interventions, word study and phonics instruction were important parts of both interventions. From the beginning lessons, we focused on word reading and reading connected texts. In addition, we designed the intervention to address listening comprehension directly by using many of the comprehension strategies later needed for reading comprehension and then transitioning to reading comprehension when students were able to read passages. The interventions in both languages focused on fluent reading and reading repeated text for speed, accuracy, and prosody.

In addition, several instructional features focused specifically on the needs of at-risk ELLs. We supported vocabulary and concept development in each language through a carefully constructed story retelling and vocabulary development component that was provided daily. We also used language support activities to assist children in grasping new vocabulary and concepts and to facilitate their ability to maintain their academic engagement. Finally, we incorporated many features associated with best practices of ESL. Teachers used repetitive language and routines, all new information was modeled, rather than just explained, and children were provided many opportunities to dialogue with the teacher, as well as practice every skill.

In summary, it is important to consider more than just the content of instruction when considering the effectiveness of the interventions used in these studies. The interventions described represent critical content for beginning at-risk readers, with special attention devoted to features associated with language development, and the implementation of best ESL practices during instructional delivery. Thus, it would appear that as a result of these studies we have improved knowledge about how to intervene with ELLs who are experiencing reading difficulty, at least in terms of assisting these students to make significant progress in the beginning stage of reading.

## FUTURE RESEARCH

We are currently conducting three studies related to the work reported here. The first study is a follow-up of both of the English and Spanish intervention students who participated in the first-grade intervention. These students are in second grade and we intend to follow their progress in reading and oral language development through third grade to determine the relative value of early and intensive intervention. We will also document their progress in both Spanish and English literacy and oracy. One important question is the extent to which these students will be referred for special education and when and how their referrals differ from those of the control students. Of interest to us is the extent to which this early boost in reading for our intervention first-grade students prepares them for further success in school and reduces the likelihood that they will be referred and provided special education in later grades. These studies will provide valuable information about response to intervention with bilingual students and guidelines about the design of instructional interventions for bilingual students with reading difficulties.

The second and third studies are replications of the English intervention and the Spanish intervention. Since little research with ELLs exists, we are interested in conducting replication studies in each language. Further, we are also interested in increasing the sample size of students we follow through the later grades so that we can adequately determine the effectiveness of the intervention over time.

There is considerably more research needed with ELLs to determine the effectiveness of interventions and the most appropriate time to begin English reading instruction for students with different profiles of language and literacy skills. This initial work is designed to take us a few steps further in addressing this important need.

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