A Comparison of the Effects of Two Phonetically Regular Text Types on Young English Learners' Literacy

Elfrieda H. Hiebert
TextProject & University of California, Santa Cruz

Charles W. Fisher
University of Michigan, Ann Arbor

TextProject

textproject.org

A Comparison of the Effects of Two Phonetically Regular Text Types on Young English Learners' Literacy

Elfrieda H. Hiebert
TextProject & University of California, Santa Cruz

Charles W. Fisher
University of Michigan, Ann Arbor

Abstract

This study compared the effects of two types of phonetically regular texts on first-grade English Language Learners' literacy learning. In one text type, phonetically regular rimes (PRR) were emphasized. The second text type—labeled the phonetically regular phoneme (PRP) condition—focused on consistency in the individual phoneme-grapheme correspondences of the words in texts. A total of 81 students participated in the study with nine students from each of nine first-grade classes. Two groups of three students from each class received instruction from the same teacher for 40 lessons over a 12-week period, while a third group remained in the classroom and served as the control. The lesson content for the two groups was similar, emphasizing writing, word play, and text reading. However, the two intervention groups read different texts for ten minutes during each lesson. One group of students read the PRR texts and the other group read the PRP texts. Students who read from PRP texts gained 2.4 words correct per minute on an informal reading inventory for every week of instruction. The group who read PRR texts made even greater progress, gaining 2.8 words per week. Control group students from the same classrooms gained 2.0 words per week..

Contents

A Comparison of the Effects of Two Phonetically Regular Text Types on Young English Learners' Literacy

Long after Chall (1967/1983) described the choice of reading pedagogy for beginning reading as "the great debate," the topic of the kinds of texts that best support beginning readers continues to generate controversy (Allington, 1997; Beck, 1997). Rhetoric has far outstripped both theory and research on the question of what kinds of texts support beginning reading. The present study addresses this gap by comparing beginning reading development in interventions that kept the amount and kind of all aspects of instruction except for the kinds of texts that students read for a 10-minute portion of the lesson. The first set of texts were those that have been identified by policy-makers and professional associations ((see, e.g., Business Roundtable, McGraw Hill Education, & National Association of Elementary School Principals, not dated) as setting the gold standard for beginning reading programs—decodables where the phoneme/grapheme relationships are systematically introduced in text and accompanying lessons (Adams, Bereiter, McKeough, Case, Roit, Hirschberg, Pressley, Carruthers & Treadway, 2003). The second set of texts also provided consistent information about sound-letter correspondences but the unit of these correspondences differed from that of the decodables. Two additional types of words were also prominent in the design of this set of texts—high-imagery words that represent concrete objects and highly-frequent words. These texts will be described as phonetically regular texts in that a large percentage of the words had consistent and common phonics patterns that are typically in the first-grade curriculum.

In that the effectiveness of these texts was examined with English Language Learners in their first full year of English reading instruction, this study also adds to the literature by describing the reading development of a group of students who often struggle in their reading development but who have not been studied extensively.

Scholarship on Text Features and Beginning Readers

Decodable texts have been prominent in policy and practice over the last decade. Currently, reading textbook programs must follow a mandated level of 80% decodable text if they are to be purchased with state funds in Texas (Texas Education Agency, 1997) and 90% to be purchased with state funds in California (California English/Language Arts Committee, 2000). In that English is an alphabetic language, teaching beginning readers about the relationships between letters and sounds is essential. The unit of letter-sound relationships that should be the focus of this instruction, however, is another matter. There is substantial evidence that a consciousness of individual phonemes precedes the ability to associate sounds with clusters of letters (National Reading Panel, 2000; Snow, Burns, & Griffin, 1998). However, those students who progress well in beginning reading increasingly attend to units of letters, especially those that occur commonly and consistently in written English (Snow et al., 1998).

Within the mandates for reading textbook programs of the two largest American states (California English/Language Arts Committee, 2000; Texas Education Agency, 1997), the individual phoneme has been the unit used to create beginning reading materials. The underlying perspective has been that, once the letter-sound correspondence associated with a phoneme has been taught, children should be able to use that information in reading a word. A book is judged to be decodable if the phonemes represented in words in a book have been taught in lessons in the teachers' guide. According to this perspective, lessons on the correspondences between these six phonemes and graphemes n and /n/, m and /m/, c and /k/, t and /t/, s and /s/, and a and /a/ would mean that that the following words are regarded as decodable in texts: *Nan, man, can, tan, Nat, mat, cat, sat, Sam, Cam, tam, scat.* If in these lessons, the word *a* has been taught as a high-frequency word, it, too, is regarded as decodable. Thus, the following text would be regarded as decodable:

Sam sat.
Sam the cat sat.
Scat, cat, scat.

By conducting a lesson on two high-frequency words, *on* and *the* and the phoneme-grapheme relationship between p and /p/, the following text would be considered decodable:

Cam sat on the mat.
A man sat on the mat.
Nat sat on the mat.
Pam sat on the mat.
Sam sat on the mat.
A tan cat sat on the mat.
Spat!

Despite the prominence of decodable texts in the scientifically based reading research movement, studies on decodable texts have been limited. Indeed, the National Reading Panel (2000) named decodable texts as one of three important neglected research topics. Further, with one or two exceptions, the research on decodable texts overall has been plagued with the interaction of method with texts. When the initial program with decodable text was included in a classroom study, the students who received the decodable texts also participated in activities that have been shown to improve phonics skills such as extensive spelling—activities that students in other groups did not have to the same degree (Foorman Francis, Fletcher, Schatschneider, and Mehta, 1998).

There is empirical evidence that beginning readers benefit from texts where the words are phonetically regular. In the phonetically regular texts that Chall (1967/1983), Bond and Dykstra (1968), Juel and Roper/Schneider (1985), and Menon and Hiebert (2005) included in their comparative studies of beginning reading methods, at least a modicum of the words in texts had consistency in vowel patterns that followed a progression. In the Menon and Hiebert (2005) study, for example, 31% of the words in the mid-year, first-grade texts had simple vowels (i.e., Consonant-Vowel or Consonant-Vowel-Consonant) and another 13% had long vowel patterns (i.e., Consonant-Vowel-Consonant-e or Consonant-Vowel-Vowel-Consonant. By contrast, the comparable text in the basal reading anthology had 15% of the words in the simple vowel category and 11% in the long vowel. Thus, while 46% of the words in the phonetically-regular condition could be figured out with a particular set of phonics generalizations, this knowledge was applicable in 26% of the words in the basal reading anthology condition. As has been the case in the other comparisons (Bond & Dykstra, 1968; Chall, 1967/1983; Juel & Roper/Schneider, 1985), Menon and Hiebert (2005) reported that students in the phonetically-regular condition did substantially better after a 15-week intervention than their counterparts in the basal anthology condition.

To date, however, a comparison has not been conducted of texts based on the "phoneme as the unit of text construction" and the phonetically-regular model. A recent addition to the literature on decodable text, Jenkins, Peyton, Sanders, and Vadasy (2004), have addressed the issue, albeit unintentionally. While they intended to compare decodable and nondecodable texts, according to a curriculum based on the phoneme unit model, both sets of texts during the third portion of first-grade had high percentages of phonetically regular words: 80% for the more decodable treatment and 69% for the less decodable treatment. Further, the percentage of words among the 300 most-frequent words was similar at this point as well: 21 and 24, respectively, for the more and less decodable conditions. As Good and Kaminski's (2002) data on fluency patterns indicate, this final period of the first-grade year is an especially critical one in the development of automatic recognition of words in the reading of text, a proficiency often described as fluency.

In the Jenkins et al. study, differences between students in the repeated reading condition and in the control group were significant on both kinds of text but not for the different text conditions. The average reading rate for the two types of texts across the two treatment conditions was 38 WCPM or the 33rd percentile in spring of grade one (Good et al., 2002), while the control group's mean of 30 WCPM is at the 24th percentile.

The lack of research on beginning texts becomes particularly critical from the vantage point of English Language Learners who are being asked to learn to read in English at the same time that they are becoming facile with oral English. As Lesaux and Siegel (2003) have emphasized after their successful intervention with English Language Learners over the primary grades, careful planning and implementation is most critical if the gap that exists for many English Language Learners upon school entry is not to widen. In particular, one issue that has been overshadowed by the debates on decodability may be especially critical for English Language Learners: the opportunity to see a core group of words repeatedly. There is evidence that researchers, policy-makers, and textbook publishers have not been concerned with the repetition of words in texts for beginning readers over the past two decades. For example, Foorman, Francis, Davidson, Harm, and Griffin (2004) reported percentages of as high as 70 of single-appearing words in the units of current first-grade textbooks. A response to this finding of many single-appearing words in first-grade textbooks is that the word has been replaced by the phoneme as the unit of repetition in first-grade textbooks according to the policies of America's two largest textbook adoption states, California and Texas (Stein, Johnson, & Gutlohn, 1999). The research foundation of the number of repetitions that are required to know a phoneme in *any* word is nonexistent (Hiebert & Martin, 2001). Further, many single-appearing words in textbooks now are multisyllabic words that can be difficult for beginning readers to decode.

Neither the degree to which individual nor groups of phonemes has been addressed from the perspective of English Language Learners. By contrast, a robust literature exists on the nature and size of vocabulary for adult learners of English as a Foreign Language (EFL). According to Nation (1990), learners of EFL require a productive vocabulary of around 2,000 high-frequency words plus the strategies to deal with low-frequency words. Nation estimates that an additional 1,000 high-frequency words are needed by EFL learners to be successful in English university programs. The repetition of a core group of words characterizes the interventions where the fluency levels of students have changed (Hiebert & Fisher, in press).

The present study addressed the gaps in previous research by differentiating the treatment only in the text that was read during a 10-minute portion of each of 40 small-group lessons. During the remainder of a half-hour session, students received the same instruction on letter-sound relationships and were involved in the same activities. During the 10-minute reading of text, one group of students read from texts that were written according to the Phonetic

Regularity with Phonemes (PRP) (Adams, Bereiter, McKeough, Case, Roit, Hirschberg, Pressley, Carruthers & Treadway, 2000).

The second group of students read texts that have been developed according to the Phonetic Regularity with Rimes (PRR; Pacific Resources for Education and Learning, 2003). The rime is the vowel and the consonant(s) that follow it. The typical progression in American reading instruction has been to begin with short vowels, then to long vowels, and finally to complex vowels such as r-controlled and vowel diphthongs. Since, as Adams (1990) has argued, emphasizing the most consistent and common letter-sound correspondences is likely to develop skill at using phonics with unknown words, phonics elements that are consistent in and common to many words were the focus. The model also recognized the need to present the most-frequent words, particularly the 38 that account for 37% of all words in school texts (Zeno, Ivens, Millard, & Duvvuri, 1995), even though a high percentage (61%) of these words are not "soundable" (Adams, 1990). The repetition of words within texts and the distribution of known to unknown words were also addressed in the model.

The texts in the PRP condition have been identified by both Texas and California as complying with their mandates for decodability (California English/Language Arts Committee, 2000; Texas Education Agency, 1997). Further, professional organizations such as the National Association of Elementary School Principals have been part of documents citing the scientifically based reading research underlying this program (Business Roundtable, McGraw Hill, & National Association of Elementary School Principals, not dated). Because of the role of this set of texts in setting the standard in beginning reading education, the interest of the current study was whether the performances of students reading phonetically regular texts from an alternative model fell into the same range as those in reading the PRP texts.

Method

Sample

The study was implemented with grade 1 English language learners in a school district in California. The presence of the school district in California is a critical component of the study in that the study was conducted after the adoption of a PRP philosophy for beginning reading texts by the state's board of education (California English/Language Arts Framework, 2000). Both of the reading textbook programs approved for use of state funds in the textbook cycle that was initiated in the fall of 2002 were chosen because of their compliance with the PRP philosophy. The district in which this study was conducted chose the *Houghton Mifflin Reading* program (Cooper et al., 2003) rather than the Open Court program (Adams et al., 2003). The district had no history of using Open Court materials and no Open Court materials were identified in any of the following contexts in the two participating schools: classrooms, reading resource rooms, or materials storage. Further, since the two

schools in which the study was conducted fell below acceptable performance levels established by the state, teachers were required to follow the teaching progression in their state-approved reading program (i.e. , Cooper et al., 2003). Teachers had covered the first five sets of the ten levels of decodable texts offered in the Houghton Mifflin program, which will be labeled as the PRP-C program at the time the study was initiated. In the approximate three-month period during which the study occurred, four additional levels were covered. Thus, all of the students in the study, whether in one of the two intervention groups or the control group, had received exposure to all of the phonemes associated with consonants and had been introduced to phonemes associated with short vowels.

Students were chosen for participation in the intervention in the following manner. First, first-grade teachers in two schools, each with high percentages of (94% and 97%) of native Spanish speakers, identified at least 10 students in their classrooms who were not grade-level readers. These students were screened for word recognition and fluency.

Students from a particular class who had adequate but not proficient levels of fluency (as defined by less than 50 correct words per minute) were randomly assigned to the PRP Text Intervention group, a PRR Text Intervention group or the control group within class groups. That is, at least 9 students from a class were needed to ensure that three students could be randomly assigned to each of the three groups. Across all classes in the study, this procedure yielded 81 students; 27 students in each of the three study groups.

Instruction

To keep instruction similar in the classroom-based intervention groups, the study provided a specially trained teacher to work with each of the intervention groups within a particular classroom. Among the specially trained teachers, all had had previous experience teaching reading. The special teachers were not informed of the hypotheses of the experiment. The lesson plans for each treatment were differentiated in colorful and attractive ways and labels, with yellow the trademark color for the California treatment (PRP) and blue for the Hawaii treatment (PRR). Trainers and observers described both treatments in equivalent terms—as texts supporting children's reading development.

Following administration of pre-tests, intervention students met in groups of three with a project teacher for 40 half-hour sessions over a 14-week period from February through April of the school year. The instruction administered by the project teachers was the same for the two groups, with the exception of the texts. Project teachers were provided with lesson plans, developed by the investigators. Each lesson plan was specific to a particular text. Time allocations were provided for each of four activities.

Each half-hour session followed the same sequence. It began with the introduction of two words for which each student was given individual word cards. The words were chosen to highlight particular phonemes. The rationale for the phoneme selection will be developed under the description of texts.

Students used the word cards to find the target words in the lesson's book or books and talked about similarities and differences among these words. The second step in the instructional cycle was for students to read a book. During each session, a book was read at least three times: (a) a teacher led read-aloud with a retelling of the story by students, (b) paired reading, and (c) choral reading. The third activity engaged children in writing words on individual chalkboards. Initially, the "writing words" activity focused on consonants (e.g., changing *rock* to *sock*) but, over the 40 lessons, the focus progressively included vowel changes as well. The final activity involved either the reading of an additional book or rereading of books from previous lessons.

Texts The texts that were used in the PRP condition were the decodable books of the Open Court program (Adams et al., 2000) and those in PRR condition were the little books of the NEARStar program (Pacific Resources for Education and Learning, 2003). The PRP program provides 75 decodables in its first-grade program, while the PRR program provides 60 texts in the three levels of its beginning reading program. With the 40th text of each program removed from the instructional sequence to use for assessment, the total number of words in the two programs was: PRP—8,339 and MC—3,709. Since the total number of words to which students are exposed has been proposed as a factor in children's reading acquisition (Allington, 1984), choices needed to be made in selecting particular texts within the PRP decodables. Texts were chosen to emphasize a sequence of vowel pattern instruction that was emphasized in the PRP and PRR programs. Each intervention had the same number of lessons for each vowel pattern, the sequence of which is provided in Table 1.

The choice to emphasize phonemes associated with vowels rather than consonants was based on the instructional program that students were experiencing in their classrooms prior to and during the intervention period. Information on the PRP-C texts is included in Table 2 where the features of the texts in both the PRP and PRR programs are summarized. A portion of a PRP-C text is also excerpted in Table 3, along with the 30th texts in each of the two intervention programs.

TABLE 1

Vowel Patterns Covered in Decodable and Phonetically Regular Intervention Groups

Vowel Patterns	Number of Lessons
Short a	6
Short i	5
Short o	4
Short e	3
Short u	2
Silent e	6
Vowel digraphs (oa, ee, ea, ai,)	5
r-controlled	6
diphthongs	3

TABLE 2

Percentages of Vowel Patterns: Within Texts From Three Phonetically Regular Programs

	Total/ Unique	Simple vowel patterns			Long vowel patterns			R-controlled + Variant Vowel Patterns			Multi-syllabic			Single-Appearing Words
Decodable	3693/708	9.4	32.5	41.9	4.0	13.0	17.0	8.5	12.4	20.9	3.7	16.5	20.2	39.8
Phonetically Regular	3709/265	17.3	27.5	44.8	5.0	8.0	13.0	21.0	12.5	33.5	5.0	3.8	8.8	9.8
Decodable: Classroom (1st half of year)	1507/362	15.0	56.9	71.9	3.0	8.2	11.2	8.8	3.0	11.8	4.4	.03	4.7	39.2
Decodable: Classroom (2nd half of year)	3700/795	10	25.7	35.9	3.9	16.5	20.5	7.4	12.8	20.2	4	19.2	23.2	39.6

TABLE 3

Excerpts from Four Exemplars of First-Grade Texts

Program	Excerpt
Intervention: Decodable	Patch Gets the Ball Lil, Midge, and Chuck met at Chestnut Ridge Ball Park. Midge pitched the ball, and Lil hit it. Midge ran after the ball and tossed it to Chuck. "Let's switch, "said Chuck. Chuck was pitcher, Midge was hitter, and Lil was catcher. Midge hit the pitched ball.
Intervention: Phonetically Regular	What is red? What is red? I will make a red book. Look at my red book. What is red? I will make a little red flag. Look at my little red flag. What is red? I will make a red backpack. Look at my red backpack. What is red?

Decodable: Classroom (2nd half of year)	The Fleet Street Club
	The Fleet Street kids wanted a new clubhouse. So the kids listed after-school jobs.
	  1. Bake cookies and cakes and sell them.
	  2. Wash cars.
	  3. Walk dogs and puppies.
	  4. Unload shopping bags.
	  5. Unpack boxes.
	  6. Trim shrubs.
	Then the Fleet Street kids made an ad.

The data for the first term of the PRP-C (Cooper et al., 2003) are provided for both the term prior to the intervention (CI) and for exposure during the intervention (CII). It should be noted that all of the students had had exposure to all of the phonics content represented in the TRPI first passage. Even so, exposure to all of these phoneme-grapheme relationships in lessons and in exemplars in the texts of the PRP-C program had not resulted in facile or fluent reading. Hence, it was decided that, rather than reemphasize the phoneme-grapheme relationships of consonants, the emphasis in the study would be on phoneme-grapheme relationships within, first, the short vowels and then follow the curriculum of vowel pattern exposure that was used in both the PRP and PRR programs—long vowels followed by complex vowel patterns. In that the consonants in the PRP and PRP-C programs use short vowels for introducing phoneme-grapheme relationships, the choice of short vowels as the unit of emphasis was appropriate. The intervention curriculum followed the shift in the PRP books to long vowel and then to complex vowel patterns.

While the vowel pattern content was similar across the PRP and PRR programs, they differed in the number and repetition of words with this content. As the summary of text features in Table 2 illustrates, the PRP and PRR programs differed substantially in the number of unique words in the sample of text that provided the focus of the intervention. The PRR program had approximately 37% of the number of unique words present in the sample amount of PRP text. The average repetition of words in the PRP texts was 5 relative to 14 in the PRR texts. Further, as is evident in the final column of Table 2, the percentages of words that appeared a single time were high in the PRP texts. Approximately two of every five unique words appeared a single time in the PRP texts. Within the phoneme as unit of text, however, such appearances are not of concern if the phonemes of a word have been presented in a prior lesson. Once lessons have been conducted on the short vowel *I* as well as on lessons associated with *ch* and *ff* as well as single consonants, single appearances of words such as *switch, stiff,* and *spit* are acceptable.

In terms of the critical content coverage for the intervention—exposure to words with simple- and long-vowel patterns—the percentages of words with these two phoneme patterns as a function of the distribution of words were comparable: 59% of the unique words in the PRP texts and 58% in the PRR texts.

With regard to the vowel patterns that were emphasized in the latter third of the program—complex vowel patterns—the two programs differed in the distribution of unique words with these patterns: 21% for the PRP texts and 34% for the PRR texts. Approximately one-third more of the unique words in the PRR program had complex vowels than in the PRP program. However, because of the substantially greater number of unique words in the PRP texts than in the PRR texts, students in the PRP intervention groups saw more examples of words with complex vowel patterns than students in the PRR intervention groups.

The greater number of unique words in the PRP texts combined with the higher percentage of multisyllabic words in that program meant the students in the PRP intervention saw many more instances of multisyllabic words: 143 in the PRP intervention groups and 26 in the PRR intervention groups.

Data on the familiarity of words appear in Table 2 as well as percentages of words within the 300 most-frequent words in written language (Zeno et al., 1995). Even for English Language Learners, there are few words within the 300 most-frequent that represent the complex, unknown concepts that Kamil and Hiebert (2005) have identified as falling outside the experiential worlds of young children. When the data for words within the 300 most-frequent across the four phonics and syllable categories are combined, the total percentages for the two types of texts are: PRP—25.6 and PRR—48.3. These data indicate that the likelihood that a word is familiar to students within the PRR treatment was approximately twice as high as in the PRP treatment . These figures also

indicate the likelihood that students will see words in other text experiences they have, including the PRP-C texts.

Assessments

Project staff administered 2 sets of assessments to individual students before and after the intervention. The first set consisted of groups of individual words, one group of decodable (short-vowel) words and a second group of high-frequency words. Individual words from each group were presented via computer at 1-second intervals. The Test of Word Recognition Efficiency (TOWRE) (Torgesen, Wagner, & Rashotte, 1999) was also administered as part of the first set of assessments. The TOWRE yields two subscales: Site word efficiency and phonetic decoding efficiency. In the second set of assessments, students read a series of passages including the first-grade passage from the Texas Primary Reading Inventory (TPRI) (Texas Education Agency, 2002) and the 40th texts of the PRP and the PRR programs. Using individual reading inventory procedures, measures of reading fluency in terms of words read correctly per minute were obtained.

Analysis

The sample included 81 students; 27 students in each of the PRP and PRR intervention groups and the control group. Pre and post-test scores were available for each student on ten measures. There were four measures of word recognition (one for high-frequency words and one for phonetically regular words obtained via computer presentation of word lists and the sight word efficiency and phonetic decoding efficiency measures from the TOWRE). There were four measures of fluency obtained from four separate passages. Two of the passages were taken from the 40th books in the PRP and PRR programs respectively. The remaining two passages were stories 1 and 3 from the Texas Primary Reading Inventory (TPRI). In addition to fluency measures, the TPRI passages also yield measures of comprehension. In summary, 10 measures (pre and post) were available for analysis (2 measures of sight word recognition, 2 measures of phonetic decoding, 4 measures of fluency and 2 measures of comprehension). These data were analyzed in a three group pre-post design. Univariate analyses of covariance were run for each of the measures using the corresponding premeasure as covariate. The order of analyses and some additional analyses are described in the results section.

Results

There were no significant differences among the three groups on any of the pretest measures. Since the model underlying the study suggested that the interventions were most likely to effect fluency, these measures were analyzed first.

Two types of analyses were run initially on all of the outcome variables. Since there were several different instructors working with the intervention groups, dummy variables were created to extract any variance that could be attributed to differences among instructors. This was done even though instructors were balanced with intervention groups. These analyses was entirely consistent with simpler covariance analyses. In addition, several MANCOVA's were run and these analyses were consistent with the covariance analyses. Since the three types of analyses yielded very similar results, only the simplest ANCOVA's are presented in this report.

Analysis of covariance was run on the post fluency measure for each of the four assessment texts. In each case, the corresponding pre measure of fluency was used as a covariate. Table 4 presents the results for these analyses.

TABLE 4

Analysis of covariance for fluency measures on 4 texts.

Group	TPRI (1st Text)		Phonetically Regular Program (Final Text)		TPRI (3rd Text)		Decodable Program (Final Text)	
	Pre	Post	Pre	Post**	Pre	Post	Pre	Post
Decodable (n=27)	33.6	65.9	18.7	45.6	11.1	30.3	7.7	20.3
Phonetically Regular (n=27)	31.0	68.0	18.7	54.8	10.7	34.0	8.3	20.4
Classroom Decodable (n=27)	33.1	59.3	21.6	40.4	11.7	30.5	9.6	19.8

Entries in table are group means.
** p < .001

The PRR program group ranks first on all four texts. The effect reaches significance for the final text in the PRR program, approaches significance for the 1st TPRI text, and does not reach significance for the final two texts. For the passage, where student performances were significantly different, the mean gains in words correct per minute were 26.9, 36.1, and 18.8 for the Single-Criterion, Multiple-Criterion, and Control groups respectively. The first two texts (final text in the PRR program and the 1st TPRI text) were considerably easier than the final two. The control group had consistently lower levels of performance compared to the intervention groups.

While the model underlying the study does not explicitly suggest that word recognition or comprehension will be enhanced by the interventions, it is important to check that no unintended deleterious effects occur. The word recognition and comprehension measures were analyzed by similar covariance techniques. Results for word recognition and comprehension are presented in Tables 5 and 6 respectively.

TABLE 5

Analysis of covariance for word recognition measures.

Group	High Frequency Words		Sight Words (TOWRE)		Phonetically Regular Words		Phonetic Decoding (TOWRE)	
	Pre	Post	Pre	Post**	Pre	Post	Pre	Post
Decodable (n=27)	20.4	43.5	14.6	26.8	4.1	18.4	7.4	11.3
Phonetically Regular (n=27)	21.1	47.8	13.7	27.3	3.4	21.6	8.2	11.6
Classroom Decodable (n=27)	21.3	41.2	14.2	25.0	5.3	17.9	6.0	9.9

Entries in table are group means.
* p < .08

TABLE 6

Analysis of covariance for comprehension measures.

Group	TPRI (1st Text)		TPRI (3rd Text)	
	Pre	Post	Pre	Post
Decodable (n=27)	4.3	8.2	0.8	6.2
Phonetically Regular (n=27)	4.9	8.4	0.7	5.4
Classroom Decodable (n=27)	4.1	7.8	0.8	5.7

Entries in table are group means.
** p < .001

On the word recognition measures, the PRR program was consistently ranked first and for two of the measures (High Frequency Words and Phonetic Decoding- TOWRE), the differences approached significance (p=.06 and .08 respectively). Generally, the intervention groups tended to outperform the control group. On the comprehension measures, neither of the analyses approached significance.

Discussion

The intervention groups consistently outperformed the control group on reading fluency and word recognition measures. The intervention group using PRR texts consistently ranked first among the three groups. One of the fluency analyses reached significance and two of the word recognition analyses approached significance. In general, the intervention groups outperformed the control group. While there were consistent differences favoring the PRR group and to a lesser degree, the PRP group on fluency and word recognition, there were no differences on the comprehension measures. This latter finding may not be particularly surprising at this early stage of reading when students

are primarily engaged in learning to read as opposed to reading to learn. In addition the comprehension measures for beginning reading are not especially compelling.

The current study does show an advantage for the intervention groups and a somewhat stronger advantage for the PRR intervention. However 20 hours of intervention in reading is still relatively small when compared with the total reading time spent in typical elementary programs. With 20 hours of instruction, students in the two interventions made gains beyond those of students in the control group. Students in the PRP group gained 2.4 wcpm on the TPRI for every week of instruction, somewhat less than the 3 words per week that Fuchs, Fuchs, Hamlett, Walz, and Germann (1993) have proposed as an ambitious goal for closing the achievement gap. With an average weekly gain of 2.8 wcpm, students in the PRR group approached this ambitious goal. Students in the control group made progress (2.0 wcpm) but they were moving at a rate that left them considerably short of the goal of 50 wcpm that Good and Kaminski (2002) identified as necessary by end of grade one if students were to attain adequate reading levels in subsequent grades.

Do texts for beginning readers that are based on multiple-criteria affect ELLs differently than texts that are written to concentrate on decodable words? A 20-hour intervention is insufficient to answer this question definitively. However, students in the PRP intervention were not at an advantage in reading the 40th text from that program. The students who received the PRR texts performed as well as their PRP counterparts on the PRP assessment, even though a substantial percentage of the words (60%) on that assessment had appeared in previous PRP but not PRR texts.

References

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print.* Cambridge, MA: MIT Press.

Adams, M.J., Bereiter, C., McKeough, A., Case, R., Roit, M., Hirschberg, J, Pressley, M., Carruthers, I., & Treadway, G.H., Jr. (2000). *Open Court Reading.* Columbus, OH: SRA/McGraw Hill.

Allington, R.L. (1997, August/September). Overselling phonics. *Reading Today,* p. 15.

Allington, R. L. (l984). Content coverage and contextual reading in reading groups. *Journal of Reading Behavior,* 16, 85-96.

Beck, I.L. (1997, October/November). Response to "Overselling phonics." *Reading Today,* p. 17.

Bond, G., & Dykstra, R. (1967). The cooperative research program in first-grade reading instruction. *Reading Research Quarterly,* 2, 5-142.

Business Roundtable, McGraw Hill Education, and the National Association of Elementary School Principals (no date). *Results with Open Court Reading.* New York: McGraw Hill Education, Business Roundtable, & the National Association of Elementary School Principals.

California English/Language Arts Committee. (2000). *English-Language Arts framework for California public schools (kindergarten through grade twelve).* Sacramento: CA Department of Education.

Chall, J. S. (1967/1983). *Learning to read: The great debate* (3rd ed.). Fort Worth, TX: Harcourt Brace.

Cooper, J.D., Pikulski, J.J., Ackerman, P.A., Au, K.H., Chard, D.J., Garcia, G.G., Goldenberg, C.N., Lipson, M.Y., Page, S.E., Templeton, S., Valencia, S.W., & Vogt, M. (2003). *Houghton Mifflin Reading: California.* Boston: Houghton Mifflin.

Foorman, B. R., Francis, D. J., Davidson, K. C., Harm, M. W., & Griffin, J. (2004). Variability in text features in six grade 1 basal reading programs. *Scientific Studies of Reading,* 8, 167-197.

Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). The role of instruction in learning to read: Preventing reading failure in at-risk children. *Journal of Educational Psychology,* 90, 37–55.

Fuchs, L. S., Fuchs, D., Hamlett, C. L., Walz, L., & Germann, G. (1993). Formative evaluation of academic progress: How much growth can we expect? *School Psychology Review,* 22, 27–48.

Good, R. H., & Kaminski, R. A. (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene: University of Oregon.

Hiebert, E. H, & Martin, L. A. (2001). The texts of beginning reading instruction. In S. Neuman & D. Dickinson (Eds.), *Handbook of Research on Early Literacy* (pp. 361–376). New York: Guilford Press.

Hiebert, E. H., & Fisher, C. W. (in press). Fluency from the first: What works with first graders. In T. Rasinski, C. L. Z. Blachowicz, & K. Lems (Eds.), *Teaching Reading Fluency: Meeting the Needs of All Readers.* New York: Guilford Press.

Jenkins, J.R., Peyton, J.A., Sanders, E.A., & P.F. Vadasy (2004). Effects of reading decodable texts in supplemental first-grade tutoring. *Scientific Studies of Reading,* 8, 53-86.

Juel, C., & Roper/Schneider, D. (1985). The influence of basal readers on first-grade reading. *Reading Research Quarterly, 20*(2), 134–152.

Kamil, M.L., & Hiebert, E.H. (2005). The teaching and learning of vocabulary: Perspectives and persistent issues. In E.H. Hiebert & M. Kamil (Eds.), *The teaching and learning of vocabulary: Bringing scientific research to practice* (pp. 1-23). Mahwah, NJ: Lawrence Erlbaum.

Lesaux, N. K. & Siegel, L. S. (2003). The Development of Reading in Children Who Speak English as a Second Language. *Developmental Psychology,* 39, 1005-1019.

Menon, S., & Hiebert, E.H. (2005). A comparison of first-graders' reading with little books or literature-based basal anthologies. *Reading Research Quarterly, 40,* 12-38.

Nation, I.S.P. (1990). *Teaching and learning vocabulary.* Boston, MA: Heinle & Heinle.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction.* Washington, DC: National Institute of Child Health and Human Development.

Pacific Resources for Education and Learning (2003). *NEARStar* (Levels 1-3). Honolulu, HI: Author.

Snow, C., Burns, M.S., & Griffin, P. (1998). *Preventing reading difficulties of young children.* Washington, DC: National Academy Press.

Stein, M. L., Johnson, B. J. & Gutlohn, L. (1999). Analyzing beginning reading programs: The relationship between decoding instruction and text. *Remedial and Special Education,* 20, 275–287.

Texas Education Agency (2002). *Texas Primary Reading Inventory.* Austin, TX: Author.

Texas Education Agency (1997). P*roclamation of the State Board of Education advertising for bids on textbooks.* Austin, TX: Author.

Torgesen, J.K., Wagner, R.K., & Rashotte, C.A. (1999). *Test of word reading efficiency.* Austin, TX: Pro-Ed.

Zeno, S.M., Ivens, S.H., Millard, R.T., & Duvvuri, R. (1995). *The educator's word frequency guide.* Brewster, NY: TASA.

TextProject, Inc. is a non-profit public benefit corporation. Its aim is to bring beginning and struggling readers (of any age) to high levels of literacy through a variety of strategies and tools, particularly the texts used for reading instruction.

Find out more at **textproject.org**