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# IMPROVEMENTS IN TEACHERS' READING COMPREHENSION INSTRUCTION AND BILINGUAL STUDENTS' READING TEST PERFORMANCE IN HIGH-POVERTY SCHOOLS

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## ABSTRACT

A mixed-design study investigated how teachers and second/third- and fourth-grade bilingual students in three high-poverty schools responded to dialogic cognitive strategy instruction or dialogic responsive engagement (RE) instruction compared with a treated control (vocabulary). The second graders were taught in Spanish, and the fourth graders were taught in English. Qualitative analysis showed that it took time and additional support for the experimental teachers to move from whole-class instruction to small-group instruction. Although none of the second-grade teachers fully implemented the experimental treatments, the cognitive strategy second graders made significantly higher gains on a Spanish standardized reading test than those in RE. At the fourth-grade level, only one cognitive strategies teacher and one RE teacher fully implemented the experimental instruction. However, the cognitive strategy students performed significantly higher on a curriculum-embedded assessment and had a significantly higher gain on an English standardized reading test than students in the control group.

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**H**ISTORICALLY, US fourth graders from high-poverty schools scored low on English reading comprehension tests (National Center for Education Statistics [NCES], 2020). According to NCES, schools are high poverty when 76%–100% of the students qualify for free or reduced-price lunch. Analysis of fourth graders' average test performance on the National Assessment of Educational Progress (NAEP) in Reading (a national reading comprehension assessment) in 2019 showed that students from high-poverty schools performed significantly lower (206) than students from other schools (i.e., 240 for low-poverty schools; NCES, 2020).

Although the 2019 NAEP Reading assessment included fourth-grade emergent bilingual students (English learners, or students who know one language at home and who learn English at school, henceforth called bilingual students in this article), their test performance at high-poverty schools was not reported (NCES, 2020). However, demographics indicated that this student population merits attention. For example, the average fourth-grade NAEP Reading test score of bilingual students in 2019 was significantly lower (191) than that of nonbilingual students (224; NCES, 2020). In 2015, more than 75% of bilingual students were Latinx (de Brey et al., 2018). The average fourth-grade performance of Latinx students on NAEP Reading in 2019 was significantly lower (209) than that of non-Hispanic White (Anglo) fourth graders (230; NCES, 2020). In 2016, Latinx students represented the highest percentage of ethnic/racial groups that attended high-poverty schools (McFarland et al., 2019).

A question that still is debated is how to improve the reading comprehension performance of students in high-poverty schools. Between 2002 and 2008, the federal government funded Reading First, which aimed to improve the reading instruction and performance of low-performing K–3 students in high-poverty schools, including students in bilingual education (BE; Gamse et al., 2008). Schools in Reading First had to increase their daily instruction on the reading components that the National Reading Panel (National Institute of Child Health and Development, 2000) deemed important for effective reading: phonemic awareness (the ability to hear and play with sounds in oral speech), phonics (explicit instruction on the sounds that letters represent), fluency (effortless decoding or oral reading of text), vocabulary (knowledge of words), and comprehension (understanding the meaning of what is read).

The federal evaluation of Reading First concluded that the program significantly affected student decoding but did not affect students' reading comprehension in grades 1, 2, or 3 (Gamse et al., 2008). Critics of Reading First complained that too much instructional time had been spent on phonemic awareness, phonics, and fluency and not enough time on comprehension (Cummins, 2007; Donaldson, 2011; Teale et al., 2007). Spanish reading experts warned that the emphasis on Spanish phonemic awareness might have been misplaced because Spanish has a transparent orthography—a consistent match between letters and sounds—whereas English does not, and Spanish-speaking students might not need phonemic awareness instruction to read in Spanish (Goldenberg et al., 2014). Goldenberg and his colleagues conducted a comparative study of Spanish-speaking students in Mexico and the United States, which revealed that the Mexican students had low Spanish phonemic awareness scores in first and second grade but performed the same or better in

Spanish reading compared with their US Spanish-speaking peers who demonstrated high Spanish phonemic awareness scores. Whether bilingual Spanish-speaking students in grade 2 in the United States can benefit from Spanish reading comprehension instruction merits investigation.

Another question that needs to be addressed is the type of reading comprehension instruction effective for elementary-age bilingual students in high-poverty schools. Cummins (2007, p. 564) claimed that the implementation of Reading First meant that low-income students in general had “less opportunity to read extensively and . . . to engage in inquiry-oriented learning” than higher-income students unaffected by Reading First. He cited reading researchers who reported that when students’ independent reading, thinking, and problem-solving were promoted, high levels of student engagement and academic performance occurred. Authors of two federal What Works Clearinghouse publications on reading (Baker et al., 2014; Shanahan et al., 2010) recommended that teachers spend more time on small-group reading instruction than on whole-group instruction and encourage students to self-regulate or monitor their reading progress. Baker et al. advised teachers to employ small groups that were heterogeneous (i.e., group students with different levels of performance) rather than homogeneous (i.e., group students with the same levels of performance) so that students could learn from more advanced students. In contrast, much of the reading instruction provided to elementary students in high-poverty schools has been whole-class and teacher-directed, with limited student opportunities to read and think for themselves (Donaldson, 2011; Taylor et al., 2000).

Little is known about the current type of reading instruction provided to bilingual students in schools of poverty. In the 1990s, several researchers reported that it was not unusual for bilingual students to receive whole-class, teacher-directed reading instruction with little emphasis on higher-order thinking skills (Moss & Puma, 1995; Padrón, 1994). In a review of quantitative instructional studies that focused on improving the reading performance of bilingual students, Shanahan and Beck (2006, p. 447) reported that “sizeable positive reading comprehension outcomes were relatively rare,” with improvements in “preliteracy skills and decoding” much more frequent.

This study addressed the questions and issues raised above. First, it focused on the reading comprehension instruction and performance of bilingual students in high-poverty schools. Second, it explored how to facilitate a shift in reading instruction by teachers of bilingual students in high-poverty schools from whole-group, teacher-directed instruction to small-group instruction that emphasized students’ discussion of what they were reading. Third, it identified a reading comprehension instructional intervention implemented by teachers that led to improvements in the reading comprehension performance of bilingual students at a high-poverty school.

## **Purpose of the Research and Research Questions**

The study in this article was part of a larger quasi-experiment that tested whether elementary teachers’ implementation of two reading comprehension interventions compared with a treated control (TC) in high-poverty schools resulted in significant improvements in the students’ reading comprehension test scores (García

et al., 2011). The interventions, TC, professional staff development (PSD), and curriculum-embedded (CE) assessments in this article were from the quasi-experiment.

The focus of this article was on the urban bilingual site, which included grades 2–3 and grade 4 bilingual students and their teachers at three high-poverty schools in the same school district. Three research questions guided the inquiry in this article:

1. What characterized the experimental teachers' movement from whole-class, teacher-directed reading instruction to student-led, small-group reading instruction?
2. How well did the experimental teachers implement their assigned instruction?
3. Did teacher implementation of the two experimental treatments, compared with a TC, result in improved bilingual student performance on CE comprehension and standardized reading comprehension tests in grades 2–3 and 4?

### **Theoretical Perspectives**

Vygotsky's sociocultural view of learning (Moll, 1990; Wertsch, 1985) informed our work with the teachers and how we asked the teachers to implement the experimental treatments with their students. Vygotsky theorized that enhanced understanding and learning occurred when participants socially interacted and collaborated with each other. Accordingly, we did not employ a transmission or scripted approach in which the expert distributes the knowledge and learners passively follow the expert's instructions. Instead, we emphasized a socio-constructivist approach for teacher educators and teachers, in which learners engage in an inquiry process as they interact with each other and with others with more expertise.

We employed socio-constructivist PSD across an academic year to introduce the assigned instruction and to support the teachers in their instructional implementation. Rueda (1998, pp. 1–2) explained that sociocultural PSD emphasizes social interaction and participant collaboration to identify and problem-solve issues through "interactive, responsive conversation." We rejected highly scripted lessons or isolated workshops. Consistent with the literature on effective PSD (Garet et al., 2001; Killion, 2002; Wenglinski, 2002), we provided sustained and intensive PSD tied to daily school life as well as feedback. We also emphasized higher-order thinking by the teachers and their students. We encouraged peer collaboration among the teachers to plan their instruction and peer collaboration among the students in heterogeneous small groups to implement the experimental instruction. Similarly, we collaborated among ourselves and with the teachers to understand why and how the assigned instruction was implemented. The latter findings are important to identify if effective instructional change efforts are to occur in other high-poverty schools.

### **The Reading Comprehension Instruction of Bilingual Students**

The number of quasi-experimental or experimental research studies on improving the reading instruction and performance of bilingual students in grades 2–5 in the United States has been limited (Baker et al., 2014; Goldenberg, 2011). Two types of reading comprehension instruction tested with bilingual students in grades 3–5

are strategy reading instruction and high-level student discussions and engagement with texts. Each of these can be implemented to promote dialogic reading instruction. Wilkinson and Son (2011, p. 361) defined dialogic reading instruction as teachers and students' "co-construction of knowledge and understanding through dialogue," giving "students voice or agency," and promoting "collaborative inquiry among teachers and students." However, if teachers in high-poverty schools are not accustomed to providing their students with opportunities to collaborate and think for themselves, it may be difficult for them to facilitate dialogic reading instruction. Below we review the research findings for strategy reading instruction and high-level discussions and engagement with texts. We also describe the experimental treatments and TC employed in this article.

### Strategy Reading Instruction

Strategy reading instruction refers to the explicit teaching of cognitive strategies (CS; e.g., prediction, questioning, clarifying, summarizing, using context, and visualization) to help students monitor and facilitate their comprehension of texts (Wilkinson & Son, 2011). In a review of strategy reading studies, Wilkinson and Son acknowledged that when students were taught to flexibly implement a limited number of comprehension strategies, their reading comprehension improved. Flexible strategy instruction involves teacher and student selection and use of strategies according to the demands of the text and needs of the reader. However, Wilkinson and Son warned that flexible strategy instruction often was difficult for teachers to implement because they tended to teach strategies in a lockstep fashion and did not turn over the identification and use of strategies to their students. Johnston (2004) explained that teachers could teach strategies so that students knew them but that it was difficult to teach them so that students strategically employed them. Wilkinson and Son pointed out that when teachers implemented strategy instruction by promoting students' active discussion and interpretation of texts, what they referred to as "dialogic reading instruction," then the students' reading comprehension improved.

Strategy findings for elementary-age bilingual students were mixed. In a study with English monolingual and Spanish-English bilingual students enrolled in the same grade 3–5 classrooms, Silverman et al. (2013, p. 46) found that there was "greater positive change in comprehension for bilingual (but not for monolingual) students," when the teachers' reading instruction focused on comprehension strategies. However, in a digital reading environment, Dalton et al. (2011) reported that all the fifth graders (English monolingual, bilingual Latinx, and bilingual non-Spanish speakers) assigned to the combined strategy and vocabulary treatment outperformed those assigned to the CS or vocabulary treatment on English narrative comprehension and vocabulary measures. They wondered if their results would have been different if the strategy instruction had been more dialogic.

Padrón (1992) compared the pre- and postperformance of third-, fourth-, and fifth-grade bilingual Latinx students on a reading strategy questionnaire. She found that those students who participated in reciprocal teaching (Palinscar & Brown, 1984) reported using self-generated questions and summarization significantly more often than the students who participated in question-answer relationship (Raphael,

1986). In reciprocal teaching, a teacher first models the use of four strategies (summarizing, self-questioning, clarifying, and predicting) while reading a text, and then scaffolds students' participation in small groups to discuss the text as students take turns enacting the role of the teacher. In question-answer relationship, students are taught how to answer questions by determining the sources of the answers: in the texts, their heads, or a combination.

### **High-Level Student Discussions and Engagement with Texts**

In a study of effective high-poverty schools, Taylor et al. (2000) reported that they did not observe any strategy instruction; rather, the effective teachers employed questions and assignments that facilitated students' higher-order thinking. They proposed that the students' reading comprehension had improved because they were processing texts at a deeper level. Allington and Johnson (2002) noted that exemplary teachers did not teach strategies but improved their students' text engagement when they asked open-ended questions and had the students make connections between their own lives and what they read.

Saunders and Goldenberg (1999) tested how well teacher implementation of three instructional components (instructional conversations, literature logs, and instructional conversations with literature logs) improved the English story comprehension of Latinx fourth and fifth graders of varied English proficiency compared with those in a control group. Instructional conversations emphasized student discussion around a teacher-selected theme and aimed to "promote analysis, reflection, and critical thinking" (Goldenberg, 1992–1993, p. 317). In the literature logs, students made personal connections and wrote about their reactions to what they had read and the topics/issues that emerged from the discussions.

Saunders and Goldenberg (1999) reported that those students who participated in the literature logs and instructional conversation group scored significantly higher on factual comprehension than those in the control group or literature log group. When interpretive comprehension was tested, the instructional conversation group as well as the literature logs and instructional conversation group significantly outperformed the control group.

### **Experimental Treatments and Treated Control**

#### **Cognitive Strategy Instruction**

To design CS instruction, we drew from reciprocal teaching (Palinscar & Brown, 1984), transactional strategies instruction (Pressley et al., 1992), and Wilkinson and Son's (2011) definition of dialogic reading instruction. Transactional strategies instruction involved the four strategies in reciprocal teaching plus six additional strategies related to comprehension monitoring, resolution, and response to text. We asked the teachers to initially employ reciprocal teaching to instruct the students on how to employ five cognitive strategies (summarization, prediction, clarification, questioning, and visualization). Later, we encouraged the teachers to let their students identify and flexibly use appropriate strategies as they read and discussed their

reading in student-led small groups. The Appendix shows the instructional principles that guided the teachers' respective instruction in the two experimental treatments and in the TC.

### Responsive Engagement Instruction

For RE instruction, we drew from the study by Taylor et al. (2000), instructional conversations (Saunders & Goldenberg, 1999), and Wilkinson and Son's (2011) definition of dialogic reading instruction. We wanted the students to engage with rich texts that had important themes and issues; to ask and discuss big, open-ended questions related to the themes/major issues; to complete literature logs about their responses to the texts; and to personally connect with the texts. We also wanted the end point to be student-led, small-group discussions of text. See the Appendix for more information.

### Treated Control

Per the larger quasi-experiment, the TC was vocabulary instruction. We provided the same amount of PSD to the TC teachers as we provided to the experimental teachers. However, we did not work with the TC teachers on how to implement dialogic and small-group instruction.

We gave the TC teachers vocabulary principles to follow (see the Appendix), which were informed by two books on vocabulary instruction (Beck et al., 2002; Blachowicz & Fisher, 2002) and an article on vocabulary instruction for bilingual students (Pucci & Ulanoff, 1998). We helped the teachers identify small sets of Tier 2 vocabulary words—high-frequency words that grade-level readers know and employ—for their weekly instruction (see Beck et al., 2002). We also modeled and provided guided practice on vocabulary activities that they could employ with their students (e.g., how to figure out an unfamiliar word's meaning from the context of the text). In later sessions, the teachers shared and discussed video clips of their vocabulary instruction, just as the experimental teachers did for their assigned instruction.

## Method

In this study, we employed a mixed-methods design to collect and analyze our data because we wanted (*a*) to understand and address any concerns that the experimental teachers had about implementing their assigned instruction and (*b*) to test the effectiveness of the two experimental treatments compared with a TC on bilingual students' reading comprehension test performance. We utilized qualitative methods and discourse analysis (Gee, 2011) to identify the experimental teachers' concerns; to portray the experimental teachers' movement from whole-class, teacher-directed instruction to small-group, dialogic reading comprehension instruction; and to describe the experimental teachers' implementation of their assigned instruction. We used quantitative methods to test the effectiveness of the two experimental treatments as compared with the TC on the bilingual students' reading comprehension test performance. We randomly assigned the three schools to one of three conditions:

cognitive strategies (CS), responsive engagement (RE), or treated control (TC). We used pseudonyms for the school district, schools, and participants.

## Research Context

We collected data across an academic year from 11 second-, third-, and fourth-grade classrooms at three high-poverty K–8 schools in an urban school district. Each school had approximately 1,300 students enrolled. The percentage of low-income students at the three schools was 96%–98%. Class size was large, averaging 28 students in the second- and third-grade classrooms and 30 students in the fourth-grade classrooms.

There was an early-exit transitional BE program for bilingual Latinx students in grades K–3 at each school. The bilingual students were taught literacy in Spanish as they acquired oral English and transitioned into English literacy by the end of third grade. Consistent with the district’s BE policy, we asked the second- and third-grade teachers to implement their assigned instruction in Spanish and the fourth-grade teachers to implement their assigned instruction in English. The school district assigned fourth graders to three types of classrooms: “bilingual transitional,” in which a bilingual teacher provided English instruction but spoke Spanish when necessary; an English as a second language (ESL) classroom in which an ESL teacher employed second-language techniques to provide ESL instruction; and a monolingual (all-English) classroom, in which the teacher only taught in English. At each of the experimental schools, a transitional BE fourth-grade classroom and a monolingual English fourth-grade classroom participated in the study. At the control school, an ESL fourth-grade classroom and a monolingual English fourth-grade classroom participated in the study.

## Participants

At each school we requested two second-grade BE classrooms and two fourth-grade classrooms with bilingual Latinx students. At the last minute, one of the second-grade BE teachers at the CS school was placed in a nonbilingual classroom, leaving us with one second-grade teacher at the CS school. At the control school, only one second-grade BE teacher agreed to participate in the study, so the principal asked a third-grade BE teacher to participate.

## Teachers

Eleven teachers participated in the study. Three of the teachers were Anglo, and eight of them were Latinx. Table 1 shows demographic information about the teachers. Eight of the 11 teachers were certified in elementary and bilingual/ESL education. Due to a nationwide shortage of certified bilingual/ESL teachers, three of the teachers were emergency credentialed—the third-grade teacher at the TC site and two of the fourth-grade teachers (one at each of the experimental schools). They held emergency credentials because they were not certified in elementary education and



Table 1. Demographic Information about the Teachers

Teacher's Name and Grade Level	Treatment	Language of Instruction	Gender	Ethnicity	Certifications			
					Bilingual Education	ESL	Elementary Education	Emergency
Irene (2nd)	CS	Spanish English and	Female	Latina	X	X	X	
Tania (4th)	CS	Spanish	Female	Latina				X
Marge (4th)	CS	English	Female	Anglo			X	
Aricela (2nd)	RE	Spanish	Female	Latina	X	X	X	
Salvador (2nd)	RE	Spanish	Male	Latino		X	X	
Maria (4th)	RE	English	Female	Latina		X	X	
Gabriela (4th)	RE	English	Female	Latina				X
Diana (2nd)	TC	Spanish	Female	Latina	X		X	
Mina (3rd)	TC	Spanish	Female	Latina				X
Al (4th)	TC	English	Male	Anglo		X	X	
Ed (4th)	TC	English	Male	Anglo	X		X	

Note.—ESL = English as a second language; CS = cognitive strategy; RE = responsive engagement; TC = treated control (vocabulary).

bilingual/ESL education but were fluent in Spanish and English. They could teach while they were pursuing the required certifications.

### Students

A total of 306 students participated: 125 second/third graders and 181 fourth graders. All the second/third graders were bilingual Latinx students. Ninety-seven percent of the fourth graders (175) were bilingual Latinx students. At our request, the teachers selected nine students (three low readers, three average readers, and three high readers) in each of the second/third-grade classrooms to participate in the CE assessments. Because we only had one CS second-grade classroom, we doubled the number of students selected from this classroom (six low readers, six average readers, and six high readers).

### Researchers

Georgia, the first author, was in charge of the bilingual urban site. She collaborated with Barbara, the second author, and David, the third author, to construct the overall design of the larger quasi-experiment, to determine the PSD for each treatment, and to decide on the type of implementation and assessment data to collect and the type of feedback to provide to the teachers. She analyzed the qualitative data and, along with Barbara, analyzed the quantitative data for the bilingual urban site. Georgia is Anglo, fluent in Spanish and English, and an expert in BE and reading. She shared PSD responsibilities with Teresa, a Latina who is an expert in BE and reading, and Joan, who is Anglo and an expert in reading.

## Data Collection Procedures

### Treatment Implementation

We asked the experimental and control teachers to teach their treatment three times per week for at least 30 minutes each time as part of their literacy instruction.

At the bilingual urban site, we also asked the teachers to employ bilingual/ESL strategies, such as sheltering or scaffolding their instruction when using English, using preview/review in Spanish when reading/discussing English text, and letting students use all their linguistic resources (i.e., both Spanish and English) to discuss texts.

### PSD Sessions

At each of the three schools, the participating teachers attended a 3-hour PSD session at the beginning of the school year and eight monthly 90-minute sessions throughout the academic year. The PSD sessions were documented through audio recordings (later transcribed), and field notes. In a 90-minute session, teachers reflected on and discussed their instruction, discussed a reading, participated in lesson planning or an activity related to their instruction, or shared a video clip of their teaching. We provided the teachers with principles for their assigned treatments (see the Appendix), video clips of other classroom settings using the treatments, and relevant readings. We modeled specific instructional features and had the teachers participate in guided practice. We did not provide scripted lessons; instead, we encouraged the teachers at each school from the respective grade levels to plan their lessons together and to reflect on and discuss how well their instruction was working. Later, during the academic year, we asked each teacher to present short video clips of her or his instruction for reflection and discussion in the PSD sessions.

### Classroom Observations and Teacher Lesson Plans

Each teacher's literacy instruction was documented through field notes for 90 minutes at the beginning and end of the school year. A professional staff developer familiar with the school observed each teacher's implementation of the assigned instruction seven times for at least 30 minutes each time across the school year and later provided feedback to the teacher about the instruction. A total of nine classroom observations per teacher occurred, which were documented through field notes.

The teachers kept daily lesson plans for the 3 days of instruction each week. After the second PSD session, we asked them to complete a written reflection sheet to accompany the 3-day lesson plans, in which they answered three questions: What went well? What did not go well? What would you like to work on? The teachers turned in their lesson plans with the written reflections at the subsequent PSD sessions.

### Teacher Interviews

Ten of the 11 teachers participated in two open-ended, semistructured interviews (45 minutes each) with a professional staff developer familiar with the school at the beginning and end of the school year. Due to a serious illness, one of the fourth-grade CS teachers missed the last interview. The interviews focused on the teachers' teaching backgrounds, reading or vocabulary instruction prior to participating in the study, reading or vocabulary instruction during the study, and how they thought they and their students were implementing the assigned instruction. Each interview was audio-recorded and later transcribed.

## Student Assessments

### CE Assessments

We gave the teachers the texts that were used in the CE assessments. In the CE assessments, teachers across the schools at the same grade levels (second/third or fourth grade) taught their treatment by using the same texts. Students' comprehension of the texts later was assessed through short constructed-response questions in which they answered 12 questions that tapped into the treatments (4 questions for CS, 4 questions for RE, and 4 questions for the TC).

Due to the second graders' beginning reading status, for the first CE assessment the second/third-grade teachers read aloud *El león perezoso* (*Lazy Lion*, Hadithi & Kennaway, 1990) and interacted with their students and the text according to their instructional treatment. For the second CE assessment, the teachers chorally read with their students the text *El pingüino Tacky* (*Tacky the Penguin*, Lester, 2001) and interacted with their students and the text according to their instructional treatment. The respective text was read again to/with the students on the day of the CE assessment. To offset any writing problems, staff members individually read the CE questions to the students, audio-recorded their answers, wrote down their individual answers, and later transcribed the audio-recordings. Questions from the second CE assessment for the second/third graders included the following (translated from Spanish): For CS, "Please summarize the Taky story in a few sentences by telling me what happened at the beginning, middle, and end of the story." For RE, "What lesson do you think the author wants you to learn from the story?" For TC, "In the story, it says that 'Taky era un pájaro extravagante.' (Taky was an extravagant bird.) What other words can you use to explain what Taky was like?"

The fourth graders independently read *The Big Orange Splot* (Pinkwater & Pinkwater, 1993) for the first CE assessment. For the second CE assessment, the students independently read *Baseball Saved Us* (Mochizuki, 1993). Before both assessments, the teachers interacted with their students and the respective texts according to their instructional treatment. On the day of the assessments, the students read the text again. They were given copies of the respective CE assessment, with the questions written in both languages, and told that they could answer in English, Spanish, or use both languages. The research staff orally read the questions to the class in English as the students read the assessment and wrote their answers on their individual assessments. For the first CE assessment, a CS question was, "What is a good summary for this story?" An RE question was, "What is the big idea that the author wants us to learn from this story?" A TC question was, "How is a 'splot' different from a square?"

### Standardized Reading Comprehension Tests

All the second/third graders took a standardized reading comprehension test in Spanish (*Logramos*) at the beginning (October) and end of the school year (May). Because there was only one form for each grade level, they were given the same form twice. The fourth graders took two forms of a standardized reading comprehension test in English (*Gates MacGinitie*) in October (Form S) and in May (Form T).

## Data Sources and Analyses

Data sources for the first and second research questions included the PSD data (field notes, transcribed audiotapes), teacher data (transcribed interview data, observational field notes, lesson plans, written reflections, video clips shared during the PSD sessions), and the district's literacy instructional guide. These data were analyzed qualitatively. We used Glaser and Strauss's (1967) constant-comparative method to guide our qualitative coding of the teacher data, triangulate the data across the different sources, and arrive at the following themes for research question 1: instructional emphases prior to the study, experimental teachers' concerns about small-group instruction, PSD adjustments to support the experimental teachers' small-group instruction, and improved use of small groups when experimental teachers saw the students benefit. We arrived at the following themes for research question 2: incomplete implementation of CS instruction and incomplete implementation of RE instruction.

Data sources for the third research question included the students' performance on the CE assessments and on the standardized tests. We used ANCOVA to control for differences in students' initial standardized reading test performance to compare student performance by treatment on the two CE assessments, followed by post hoc analyses. We employed ANOVA to compare the gains that students made by treatment between the fall and spring administration of the standardized tests, followed by post hoc analyses.

## Findings

We begin by addressing research question 1: What characterized the experimental teachers' movement from whole-class, teacher-directed reading instruction to student-led, small-group reading instruction? Next, we address research question 2 by examining the extent to which the experimental teachers implemented their assigned instruction. Last, we present the quantitative findings, which indicate the groups of students by treatment who outperformed the other students on the CE measures of reading comprehension and who improved the most on the standardized reading comprehension measures.

### Research Question 1: Experimental Teachers' Movement from Whole-Class, Teacher-Directed Instruction to Student-Led, Small-Group Reading Instruction

#### Instructional Emphases Prior to the Study

At the beginning of the school year, the teachers' reading instruction predominantly was whole class and teacher-directed. According to the district curriculum guidelines, teachers in grades 2–5 were supposed to follow a basal reading series, which included guided reading books for second/third-grade instruction and chapter books for fourth-grade instruction. Although reading instruction in small groups was supposed to occur in grades 2–4, how these groups were operationalized was quite different from the student-centered small-group work in the two experimental

treatments. Our observations indicated that the majority of student time in small groups was devoted to independent reading (“softly or silently”), with teachers observing, coaching, prompting, and evaluating students’ reading performance. There were no small-group discussions in which students led or conducted the small groups. Aricela (one of the second-grade RE teachers) confirmed our impression when she stated, “We discuss, but everything has always been whole group pretty much. . . .”

### Experimental Teachers’ Concerns about Small-Group Instruction

At the beginning of the study, all seven of the experimental teachers explained that they were relatively new to small-group instruction and were worried that their students would not implement this type of instruction effectively. Tania, one of the fourth-grade teachers at the CS site, commented, “They need for someone to guide them, so taking leadership might be hard for them.” The two fourth-grade RE teachers (Gabriela and Marisa) did not think their students would be able to work independently. They explained that their students always asked them what they were supposed to do even after receiving the instructions.

The experimental teachers said that they did not use small groups because they were concerned that their students would not accomplish anything. Aricela, the second-grade RE teacher, raised questions about what the students would be doing in other small groups while she was working with one group: “What are these kids going to be doing while I’m meeting with them, and how [am I] going to know they’re getting it done? . . . How are they going to stay on task?” Marge, the fourth-grade CS teacher, did not think all her students would be able to implement the assigned instruction without her help: “But the thing is, some of the kids don’t want to predict. . . . I think . . . they don’t want to be wrong.”

In the middle of January, we realized that all the experimental teachers were experiencing difficulties moving to student-led, small-group instruction. For example, in January at the CS site, Irene (second grade) admitted, “I still don’t have them in small groups.” At the RE site, Salvador (second grade) confided, “It’s [small-group work] kind of hard. . . . I can’t do it yet. I just don’t feel confident.” One of the fourth-grade RE teachers (Gabriela) described her instruction as “still more like whole group.”

### PSD Adjustments to Support the Experimental Teachers’ Small-Group Instruction

When we designed the experimental treatments, we had assumed that the teachers already would be familiar with small-group work. Of the 18 principles listed for CS instruction, only two specifically dealt with small-group discussion (see the Appendix). Given the nature of RE instruction, more of its principles (7 of 22) dealt with student-centered, small-group discussion, but the teachers assigned to RE voiced the same concerns as the CS teachers about conducting student-led small groups, as did the experimental teachers at the other sites in the larger quasi-experiment. We decided that we needed to work with the experimental teachers on how to structure and implement small-group, student-led discussions.

In early February, we had the experimental teachers work with their students to develop guidelines for student discussion in small groups. We asked them to implement their assigned instruction in heterogeneous small groups at least once each month during the remaining 4 months of the study. We gave them frames for student discussion (I agree with . . . because. . . I disagree with . . . because. . .). For the last 3 months, we asked two teachers at each experimental school to videotape a small-group discussion to share at the next month's PSD session. Before the March PSD session, we asked them all to do a fishbowl, in which students observed and constructively critiqued the small-group work of other students in their own classroom. We also gave them an evaluation form that they could use or adapt for students to evaluate their own discussions and asked them to work with their students to evaluate the effectiveness of the discussions in April and May.

### Improved Use of Small Groups When Experimental Teachers Saw the Students Benefit

Once we got the teachers to implement, video-record, and share the videos of their student-led small groups, they began to support the use of small groups as they saw their students benefit. For example, Tania, a fourth-grade CS teacher, remarked that there was improved student participation: "I was excited about the kids who never participate; they participate." Tania shared that one of her students had never orally read or talked in class. However, when Tania assigned her to a discussion group held behind a screen, she began to talk and read. She later reported, "She's talking in reading group. . . . She reads to the whole group. . . . I attribute that to . . . small groups and reading and working together."

Two of the CS teachers began to see the benefits of letting their students be in charge of their own discussions. Irene (the second-grade CS teacher) explained, "I asked them to summarize, and one little girl asked, 'Can't we just finish it?' I said, 'Finish it?' She said, 'Yeah, what happened in the hole?' So they took ownership."

Marge, a fourth-grade CS teacher, thought that if she pulled back more, her kids would do more: "I think if I didn't guide them as much; if I told them they have to be in charge of the reasoning, they would do a little more." She mentioned that when she tried to interrupt a group to get them to make predictions, a boy politely told her, "This is not a good time for you to interrupt."

The success of the teachers at the RE site with the small groups was mixed. Although we did not observe any small-group instruction in Salvador's class (a second-grade RE teacher), he thought his small-group instruction was going well: "All I have to say is get in your groups, and I'm confident that they're doing their work." Aricela, the other second-grade RE teacher, confided that she was still having some difficulty managing the small groups: "At first, I tried to give too much control, and then, I think I gave too much freedom." Although Gabriela (one of the fourth-grade RE teachers) commented that her "kids [were] getting more into the discussion now . . .," she still had her students respond in homogeneous small groups to the big, open-ended questions that she generated.

In March, Marisa, the other fourth-grade RE teacher, had moved to heterogeneous small-group discussions framed by her students' open-ended questions. She reported that her students "have a lot more to say [in small groups] rather than in whole

group.” Marisa also thought that her students liked the small-group discussions because they sometimes continued the discussion later: “They seemed to like it . . . because it even continued after reading. . . . Like during lunch, they came up to me, and said, ‘Well, I disagree with this person.’”

## **Research Question 2: Experimental Teachers’ Implementation of the Assigned Instruction**

### **Incomplete Implementation of Cognitive Strategy Instruction**

By January, all three of the strategy teachers had explicitly introduced four of the five strategies (summarization, prediction, clarification, questioning) one at a time, providing students with individual, paired, and small-group guided practice. However, they had forgotten to focus on visualization, and they had to add this strategy to the students’ repertoire of strategy use. Although we had modeled and discussed how to implement reciprocal teaching in heterogeneous, small groups, by midyear none of the teachers were using reciprocal teaching to support student-led discussions of strategies as the students read the texts.

A problem that the second-grade CS teacher, Irene, faced was finding Spanish texts appropriate for CS instruction. She reported that it was difficult to find texts in Spanish that her students could decode and that were complex enough to warrant the use of strategies. In the fall semester, per our recommendation, Irene had used whole-class teacher read-alouds of children’s literature in Spanish for her CS instruction. After she introduced a strategy or reviewed the strategies she already had presented, she had her students individually write down the strategy(ies), and then discuss it/them in whole group or in pairs. In January, Irene thought that her students’ reading and the complexity of the guided reading texts that were part of her curriculum were developed to the point that she could use them for her CS instruction. However, she explained that she rarely focused on visualization because the guided reading texts did not lend themselves to this strategy.

Because Irene’s second graders were reading at different instructional levels, she assigned them different guided reading texts and put them in homogeneous small groups according to their reading levels. To guide the discussions, she appointed captains for each group, who were strong leaders and at higher reading levels: “To me the groups are doing very good. I picked captains and I think they are doing their job.” Irene reported that when she asked her students to write their predictions, summaries, questions, or points of clarification prior to the discussion, then the groups functioned better.

In March, Irene’s students were implementing dialogic strategy discussions in student-led homogeneous groups, except for the captains. At the end of March, in a reflection she wrote, “The groups are doing well, especially 2 groups. . . . One group has not really worked. . . . They get caught up in what the other student is not doing instead of working together.”

The fourth-grade CS teachers did not have any difficulty finding texts for CS instruction because they used the English chapter books that were part of their curriculum. However, neither of the fourth-grade CS teachers made consistent use of reciprocal teaching to support student-led discussions about strategy use during reading.

They also conducted small-group discussions much less frequently than the second-grade strategy teacher. The emergency-credentialed teacher, Tania, sometimes used homogeneous small-group discussions to prepare for whole-group discussions. She reported, “My goal is that they have read [and discussed] it in small groups and then discuss it in large group. . . . I did a big-group discussion [without the small group preceding it], and it backfired.” Marge (the other fourth-grade CS teacher) had her students participate in heterogeneous small groups by identifying and discussing relevant strategies but didn’t hold the small-group strategy discussions as often as we had requested.

Nonetheless, by the end of March, the second- and fourth-grade CS teachers were implementing student-led, dialogic strategy discussion groups. Their students flexibly identified and discussed the strategies relevant to the specific texts they were reading.

### Incomplete Implementation of Responsive Engagement Instruction

By January, three of the four RE teachers had employed explicit instruction to work with their students on the discussion of themes or big issues and the use of big open-ended questions and literature logs to frame their discussions. However, almost all of their RE instruction and discussions were teacher-directed and whole class. None of the teachers had gotten their students to identify their own themes or big ideas in the texts and to use student questions to frame their discussions. Although we had provided guided practice on implementing RE instruction in small discussion groups, none of the teachers had done this yet.

A problem that the two second-grade RE teachers faced was selecting texts in Spanish with themes and open-ended issues that their second graders could decode. Earlier in the year, they had participated in a grant that had provided them with book titles in English for literature circles, but they were not very knowledgeable about Spanish books. During the fall semester, they read aloud Spanish books that our staff or the fourth-grade RE teachers had given or loaned them. However, in the spring semester, when their students were supposed to read the books independently, they had a difficult time finding multiple copies of Spanish texts that were appropriate for RE instruction and that their second graders could read.

Aricela (one of the second-grade RE teachers) reported that she began to use chapter books from the Spanish basal reading series for her RE instruction: “It’s difficult to find text. That’s the reason I started using chapter books for my texts.” Prior to the whole-group discussions, she had her students write their answers in their logs to the big open-ended questions she raised. By the end of the year, she had progressed from discussing their answers to her questions in the whole-class setting to discussing them with her students in homogeneous small groups held one at a time, while the other students worked independently at their desks.

Salvador (the other second-grade RE teacher) did not seem comfortable teaching in Spanish and did not appear to understand the nature of RE instruction. In the spring semester, he read aloud stories in Spanish and English, and he often asked students questions in English first, followed by a repetition of the questions in Spanish. Also, his questions were not big, open-ended questions. For example, he asked, “Did



you like the story? What was your favorite part?” In one observation, he appeared to be trying to implement RE instruction when he told his students in English to do the following: “Let’s do the reading talk. . . . Do you agree or disagree? Yolanda, do you agree with Julieta?” The one feature of RE that he did implement was having his students write their answers to his questions in their logs prior to any discussion.

In contrast, the fourth-grade RE teachers used explicit instruction with guided practice during the whole group to introduce their students to many of the key features of RE. For example, in January, the two fourth-grade teachers selected appropriate texts with strong themes or open-ended issues, had their students write in response to what they read and to the big open-ended questions that the teachers asked, and engaged them in high-level, whole-group discussions about themes or issues. Marisa, one of the fourth-grade RE teachers, thought that having the students write their responses and questions ahead of the discussion really helped. She commented, “I don’t know if you noticed . . . , but when I asked them a question nobody wanted to answer, but when I said, ‘write it down first,’ it worked better.”

An advantage that the two fourth-grade teachers had was that they collaborated on their selection of texts and lesson planning. In early February, our observations showed that their students were generating their own big open-ended questions and providing textual evidence for their thinking, although the discussions still were whole group and didn’t always focus on the student questions. In March, both teachers had their students discuss the texts in simultaneous student-directed small groups. The emergency credentialed teacher (Gabriela) still had her students respond to her questions in homogeneous small groups, whereas Marisa’s students conducted their own heterogeneous discussion groups based on their own questions.

By the end of the school year, three of the four RE teachers had moved from implementing RE instruction in a whole-class setting to a small-group setting. Two of the teachers (Aricela in second grade and Gabriela in fourth grade) had their students use literature logs and the teachers’ big, open-ended questions to frame student discussions of themes or open-ended issues in homogeneous groups. One of the fourth-grade teachers (Marisa) was implementing RE instruction as we had envisioned. Her students conducted their own discussions in heterogeneous small groups by dialogically discussing the open-ended questions they had generated about themes and big issues.

### **Research Question 3: Student Reading Comprehension Test Performance**

#### **Second-/Third-Grade Performance on the Spanish CE Measures**

After controlling for initial differences in the students’ fall performance on the standardized reading test in Spanish, there were no significant differences between the three treatments on the first or second CE assessments. One of the problems might have been the low participant numbers in the treatments. The parameter estimates for the first CE assessment showed that the RE group’s performance compared with that of the CS group approached significance at  $p = .061$ . Table 2 shows the students’ adjusted means on the first and second CE assessments by treatment.

Table 2. Adjusted Means for Second/Third Graders on Two Curriculum-Embedded (CE) Assessments

Treatment	CE 1 (Listening)	CE 2 (Shared Reading)
Cognitive strategies	$M = 9.11$ $SE = 1.05$ $n = 14$	$M = 12.29$ $SE = .814$ $n = 17$
Responsive engagement	$M = 11.81$ $SE = .923$ $n = 18$	$M = 12.46$ $SE = .758$ $n = 16$
Treated control (vocabulary)	$M = 10.40$ $SE = .952$ $n = 17$	$M = 11.64$ $SE = .76$ $n = 16$

Note.—The  $n$  indicates the number of participants.

### Second-Grade Performance on the Spanish Standardized Reading Test

Repeated-measures analysis of the second/third-grade (fall-spring) standardized reading test data in Spanish revealed a grade effect. Students in the second/third-grade TC group outperformed students in the second-grade RE group on the spring test,  $F(111, 2) = 5.61, p < .01$ . However, within the control group, the third graders significantly outperformed the second graders,  $F(45, 1) = 7.40, p < .01$ .

Given the grade effect, and the fact that only second graders were in the two experimental groups, we deleted the third graders from our analysis and computed a one-way ANOVA on the mean gains for the second graders' fall-spring standardized test performance in Spanish. There was a significant treatment effect,  $F(2, 87) = 4.289, p = .017$ . Bonferroni post hoc tests showed that the mean gain of the CS group (mean gain = 13.94) was 9.19 points significantly higher than the mean gain of the RE group (mean gain = 4.75) at  $p = .036$ . Table 3 shows the second graders' mean gain in performance by treatment on the fall and spring standardized tests.

### Fourth Graders' Performance on the English CE Measures

When initial differences in the students' standardized test performance in English were controlled through ANCOVA, analysis of the fourth graders' performance on

Table 3. Second Graders' Mean Performance on Fall and Spring Standardized Test in Spanish

Treatment	Fall Test Mean (Normal Curve Equivalent)	Spring Test Mean (Normal Curve Equivalent)
Cognitive strategies	$M = 50.81$ $SD = 17.47$ $n = 22$	$M = 65.09$ $SD = 14.14$ $n = 23$
Responsive engagement	$M = 56.41$ $SD = 17.43$ $n = 54$	$M = 59.08$ $SD = 23.19$ $n = 51$
Treated control (vocabulary)	$M = 58.75$ $SD = 19.14$ $n = 24$	$M = 69.73$ $SD = 18.5$ $n = 26$

Note.—The  $n$  indicates the number of participants.

the first CE assessment showed a significant treatment difference,  $F(3, 127) = 4.203$ ,  $p = .017$ . The parameter estimate showed that the CS group significantly outperformed the TC group at  $p = .049$ . When ANCOVA was conducted on the second CE assessment, a significant treatment difference also was found,  $F(3, 131) = 4.093$ ,  $p = .019$ . The parameter estimate indicated that the CS group’s performance compared with that of the TC group was nearly significant,  $p = .066$ . Table 4 shows the adjusted means for the two CE assessments.

#### Fourth Graders’ Performance on the English Standardized Reading Test

When one-way ANOVA was computed on the mean gains for the fourth graders’ fall-spring standardized test performance in English, there was a significant treatment effect,  $F(2, 130) = 3.604$ ,  $p = .03$ . Bonferroni post hoc tests revealed that the CS group had a significantly higher mean gain (9.83) on the standardized reading test than the control group,  $p = .027$ . Table 4 shows the fourth-grade means by treatment for the fall and spring standardized tests.

### Conclusion, Discussion, and Implications

Our purpose in this mixed-design study was to investigate how teachers and bilingual students at high-poverty schools responded to two types of dialogic reading comprehension instruction (CS instruction or RE instruction) compared with a TC. In terms of research question 1, we discovered that it was difficult for the experimental teachers to move from whole-class, teacher-directed instruction to small-group, student-directed instruction. It wasn’t until April that all the CS teachers and three of the four RE teachers consistently implemented student-led, small-group discussions.

Regarding research question 2, by the end of the school year, all three CS teachers and three of the four RE teachers implemented key features of their assigned treatments. One of the second-grade RE teachers did not consistently implement the

Table 4. Fourth Grader Means on Curriculum-Embedded (CE) Assessments and Fall and Spring Standardized Reading Comprehension Tests in English

Treatment	CE 1 (Adjusted Means)	CE 2 (Adjusted Means)	Fall Standardized Test Mean (Norm Curve Equivalent)	Spring Standardized Test Mean (Norm Curve Equivalent)
Cognitive strategies	$M = 11.65$ $SE = .527$ $n = 37$	$M = 11.85$ $SE = .579$ $n = 41$	$M = 25.71$ $SD = 16.33$ $n = 42$	$M = 30.37$ $SD = 16.49$ $n = 43$
Responsive engagement	$M = 10.21$ $SE = .489$ $n = 42$	$M = 11.11$ $SE = .564$ $n = 42$	$M = 36.35$ $SD = 20.0$ $n = 46$	$M = 36.85$ $SD = 20.37$ $n = 46$
Treated control (vocabulary)	$M = 9.664$ $SE = .438$ $n = 52$	$M = 9.71$ $SE = .51$ $n = 52$	$M = 33.77$ $SD = 16.60$ $n = 56$	$M = 30.05$ $SD = 15.81$ $n = 55$

Note.—The  $n$  indicates the number of participants.

assigned instruction. However, two of the three CS teachers employed homogeneous student groups, and two of the RE teachers framed the students' discussions around their big, open-ended questions, not the students' questions. Only one fourth-grade CS teacher and one fourth-grade RE teacher (both certified teachers) were implementing dialogic, student-led, heterogeneous small-group discussions. Based on the above findings, we concluded that the experimental treatments were more difficult for the second-grade teachers and emergency-credentialed fourth-grade teachers to implement than the certified fourth-grade teachers.

In terms of research question 3, our statistical findings indicated that participating in the CS treatment resulted in improvements in reading comprehension test performance for the second- and fourth-grade bilingual students. The CS second graders, who were taught and assessed in Spanish, made significantly higher gains on a standardized reading comprehension test in Spanish than those in the RE experimental group. The fourth graders in the CS treatment, who were taught and assessed in English, not only made significantly higher gains on a standardized reading comprehension test in English compared with those in the control group, but they also significantly outperformed those in the control group on the first CE assessment and their higher performance on the second CE assessment approached significance.

#### Spanish Reading Comprehension Instruction for Second Graders

In contrast to the negative comprehension findings for second graders in Reading First (Gamse et al., 2008), the bilingual second graders who participated in CS Spanish reading instruction improved their Spanish standardized reading comprehension test performance. It is possible that, similar to the Mexican second graders in the Goldenberg et al. (2014) study, they did not need high levels of Spanish phonemic awareness to improve their Spanish reading comprehension. However, we did not assess the second graders' Spanish phonemic awareness or decoding skills. Therefore, we recommend that other researchers investigate the relationship among bilingual Latinx second graders' Spanish phonemic awareness, decoding skills, and participation in dialogic CS instruction.

#### The Role of Dialogic Small-Group Instruction

Dalton et al.'s (2011) findings regarding the lack of improvement in bilingual students' reading comprehension when the CS instruction was not dialogic and Wilkinson and Son's (2011) warning about the importance of students' active discussion of texts suggest that without some degree of dialogic instruction, the bilingual students might not have benefited from the CS instruction. The extent to which students need to actively participate in dialogic reading instruction before improvements occur in their reading comprehension test performance needs to be investigated further. The bilingual second and fourth graders in the CS treatment seemed to benefit more from CS instruction than the students in the RE treatment even when all the CS teachers did not fully implement dialogic, heterogeneous small-group instruction. It may be that with more time, the RE teachers would have improved their implementation of their assigned dialogic instruction, and the students in the RE treatment would have improved their reading comprehension test performance.

### The Importance of Socio-Constructivist PSD for Moving Teachers to Small-Group Instruction

When we reexamined the principles for the two experimental approaches, we realized that we initially had not given much emphasis to the use of small groups and the dialogic nature of the experimental treatments compared with other CS and RE instructional features. Implementation of socio-constructivist PSD (Rueda, 1998), in which the teachers felt comfortable sharing their concerns, was critical because we needed to understand why the teachers did not want to implement small-group instruction. It wasn't until we explicitly requested that they work with their students on rules for small-group instruction and implement their assigned instruction in small groups during the last 3 months of the study that they conducted small-group discussions. Assigning them to share a video clip of their small-group instruction in the PSD sessions also was a motivating factor. After they started implementing the small groups, they voiced their surprise at their students' participation.

### Dispelling Negative Teacher Attitudes

One reason that Taylor et al. (2000) thought that whole-class, teacher-directed instruction characterized classrooms at high-poverty schools was that the teachers tended to hold limited views of the students' capabilities. The teachers in this study also held these views until they saw how their students performed when they began to use student-led small groups. Therefore, we recommend that teachers at high-poverty schools be given the opportunity to see how students in high-poverty schools perform under different instructional conditions. Once our teachers saw the benefits of employing small-group instruction, they were willing to share instructional control with their students and promote student agency.

### Limited Availability of Books in Spanish

An issue that adversely affected the second-grade teachers in the CS and RE treatments was the limited number of Spanish books available. It especially was difficult for the second-grade RE teachers to find Spanish books with themes and open-ended issues that their second graders could decode. Given the shortage of elementary-level Spanish books in the United States (Lambson, 2010), we doubt that it will be possible to find large numbers of Spanish texts that lend themselves to RE instruction. This is an area that policy makers and publishers need to address if BE is to succeed.

### Limitations

There were two limitations that need to be acknowledged: We did not collect information about the fourth graders' individual English proficiencies, and we did not adjust the interventions to tap into the Latinx teachers and students' shared cultural identities and backgrounds. Because this study was part of a larger quasi-experiment,

the written information provided to the schools did not request permission to collect data on individual students' English language proficiencies or about the specific ethnic/national identities of the Latinx teachers and students, or to adjust the interventions to tap into shared cultural knowledge. However, the presence of fourth graders with different levels of English proficiency was balanced somewhat across the treatments because there was a transitional BE classroom for bilingual students at each of the experimental schools and an ESL classroom for bilingual students at the TC school. This meant that students in these classrooms had not been exited from bilingual or ESL education yet because they scored below the 35th percentile on a standardized academic test in English, the district's exiting criterion. The other fourth-grade classrooms (one at each of the experimental schools and one at the TC school) were monolingual English classrooms, indicating that these students had been exited from the transitional BE program or were never in it.

Nonetheless, an issue that might have adversely affected the performance of the fourth graders in the RE treatment more than in the CS treatment might have been the students' English proficiency levels. Saunders and Goldenberg (1999) reported that students with low English proficiency significantly benefited from participating in the literature logs and instructional conversations, whereas fluent English-proficient students did not. It is possible that the English texts employed in the RE treatment (with their theme emphasis) were more difficult to comprehend than those in the CS treatment. These are issues that other researchers interested in the use of dialogic reading comprehension instruction with bilingual students should investigate.

Although there were differences in the percentage match between Latinx teachers and students at the three schools, the percentages did not explain why the CS students did better. One hundred percent of the RE teachers were Latinx; 67% of the CS teachers were Latinx; and 50% of the TC teachers were Latinx. We did not have permission to explore the match between the varied ethnic/national identities of the Latinx teachers and students or how the Latinx teachers tapped into their and their students' shared cultural backgrounds to facilitate their instruction or to help their students to overcome unique barriers, such as anti-immigration attitudes. These are important issues that we encourage other researchers to investigate.

## **Appendix: Principles for the Experimental and Control Treatments**

### **Cognitive Strategy Principles**

#### The Role of Strategies

- Strategies are flexible tools that students use selectively and intentionally to improve their understanding of text.
- Strategies should be regarded as a means to an end, not an end unto themselves.
- The purpose of strategy instruction is to improve children's reading comprehension by helping them to become strategic readers, not to master each strategy in isolation.
- Strategies help students solve problems and get through rough spots, but they can also enhance ordinary comprehension.

- Strategy instruction incorporates the four strategies of reciprocal teaching (purposeful prediction, clarification, summarization, question generation) and visualization.
- Good readers possess a repertoire of strategies that they match to different types of texts or text segments and different problems encountered.

### The Role of the Teacher

- Teachers introduce each strategy using an explicit explanation of the strategy, which includes declarative (what it is), procedural (how to use it), and conditional (when and why to use it) knowledge.
- Especially in the early phases of instruction, teachers need to match each strategy to an appropriate text or text segment, taken from authentic stories and informational text, so that it is clear how and why the strategy fits the text.
- Later in the instructional cycle, teachers need to help students match strategies to texts.
- Teachers need to scaffold how each strategy is useful in either “unblocking” roadblocks to comprehension or in enhancing comprehension during ordinary reading.
- Teachers gradually release responsibility to the students for incorporating the strategy in their reading repertoire.
- Teachers help students learn to apply a range of strategies flexibly and appropriately to fit the texts and problems they encounter.

### The Role of the Student

- Reciprocal teaching provides an initial framework to help students enter the world of strategy use.
- Reciprocal teaching supports student-led discussions that require the use of strategies in understanding text.
- Students at all reading levels gradually take on the “teacher” role within small-group discussions, encouraging peers to share the ways in which they apply strategies to the texts they read together.
- Students who have become independent in strategy use can select strategies that fit the needs of the texts or the roadblocks they encounter.
- Students who have become independent can switch strategies as needs change.
- Students should apply strategies when they are reading on their own, not just when the teacher reminds them.

## Responsive Engagement Principles

### The Role of Responsive Engagement

- The purpose of RE is to improve students’ reading comprehension through discussions that get students to think deeply about text.

- Central to RE are student conversations about texts that focus on the big ideas (themes in stories, or issues in expository texts), address the author's decision making about form and function, and connect to students' prior knowledge and life experiences.
- RE involves student participation in challenging but nonthreatening small-group discussions about text, and, over time, moves students toward independence in holding their own deep conversations about text.

### The Role of the Teacher

- Teachers select texts (narrative and informational) with a theme or issue that facilitates engaging discussion.
- Teachers lay the groundwork for student-led conversations by asking, modeling, and scaffolding questions that
  - Originate and are anchored in the text.
  - Open rather than close dialogue (fat, juicy questions, rather than known-answer questions).
  - Connect to the big ideas (themes, superordinate ideas, or issues).
  - Connect to students' prior knowledge and life experiences.
  - Address the author's decision making in form and function.
- Teachers facilitate students' discussion and analysis of texts by having them write their responses in literature response logs prior to discussion.
- Teachers get students to participate in the student-led discussions by modeling and providing scaffolding as necessary so that conversations about texts
  - Move from teacher-initiated questioning to student-initiated questioning, in which students build on each other's comments.
  - Move toward open turn taking, with self-selected turns rather than teacher nominations.
  - Move from parallel turn taking (everyone has a turn) to dynamic turn taking based on authentic student engagement (students initiate questions or spontaneously respond to what is being said as in an authentic conversation).
- Teachers provide ongoing modeling and scaffolding so that student-led conversations
  - Move from the text to making personal connections with the characters' actions or traits, superordinate ideas or issues, and themes.
  - Lead students toward independent identification and discussion of big ideas.
  - Promote complex language and expression.

### The Role of the Student

- Students participate in authentic and respectful conversations about texts within the classroom setting, both with and without teacher guidance.



- Students learn how to independently identify the big ideas (themes, superordinate ideas, or issues in texts), address the author’s decision making about form and function, and connect the texts to their personal knowledge and life experiences.
- Students learn how to ask and answer high-level questions about texts.

## Treated Control (Vocabulary) Principles

### The Role of Vocabulary Instruction

- The purpose of vocabulary instruction is to improve reading comprehension by emphasizing knowledge of word meanings, conceptual relations among words, and a few select strategies for unlocking word meanings during reading.
- These strategies might include, but are not limited to, identifying and applying the meaning of word parts such as affixes, derivatives, and common word roots, using context clues, and consulting dictionaries and glossaries.
- Vocabulary instruction happens before, during, and after reading.

### The Role of the Teacher

- Teachers choose appropriate words to focus on during instruction: words that are neither too difficult nor too familiar but that are useful for children to use reading and writing (Tier 2 words).
- Teachers vary instruction according to the nature of words and their roles in text.
- Teachers provide students with multiple exposures to and active involvement in learning new words, including opportunities to use new words in writing and discussion.
  - Words that are conceptually familiar to students (high-frequency, Tier 1 words, such as “big” or “dog”) require little instructional attention or attention to meaning.
  - Words that have high-frequency synonyms but that are unfamiliar to students (e.g., “enormous” or “mutt”) can be taught at point of contact with little more than a paraphrase (“it means big” or “it is another word for dog”; certain Tier 2 words).
  - Words that are unfamiliar but academically useful words (e.g., “investigate” or “argument”) and important to the text require a combination of strategies (e.g., give a quick prereading explanation, discuss use at point of contact, and revisit with follow-up activities; certain Tier 2 words).
  - Specialized words (Tier 3) that are unique to a content area (e.g., “photosynthesis,” “legislative,” “haiku”) are best taught in a content area lesson.
- Teachers provide students with multiple exposures to and active involvement in learning new words, including opportunities to use new words in writing and discussion.
- Teachers offer vocabulary instruction during prereading activities, at point of contact during shared or guided reading, and in follow-up activities. Teachers go beyond emphasizing definitions to include both contextual (how the word is used) and conceptual (how it relates to other concepts) emphases.

## The Role of the Student

- Students learn and refine meanings for unfamiliar words through active involvement in discussions about word meanings.
- Students use strategies to figure out the meanings of vocabulary in the text (when appropriate). These strategies might include, but are not limited to, identifying word parts, such as affixes, derivatives, and common word roots, using context clues, and effective dictionary use.
- Students develop an appreciation for novel or interesting words.

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