



# EVALUATION BRIEF

BUREAU OF PROGRAM EVALUATION

Volume 5, Issue 2, March 2011

## *Mid-year Review on the Effectiveness of Corrective Reading toward Improving Reading Skills of Targeted At-Risk Elementary-School Students, 2010–2011*

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The Houston Independent School District (HISD) Reading Department collaborated with the Rodeo Institute for Teacher Excellence (RITE) to implement Corrective Reading (CR) instruction to struggling fourth-grade students at targeted elementary schools during the 2010–2011 academic year. The intervention focused on specialized reading and classroom-management. Thirty-four (34) elementary schools were selected by HISD administration based on the prevalence of students at least one grade level behind, who failed the Texas Assessment of Knowledge and Skills (TAKS) on the first administration, and who had Lexile reading scores of less than 600 on the Stanford Achievement Test. The Houston Livestock Show & Rodeo funded personnel, education consultants, training sites, and instructional materials. Principals and teachers were assigned RITE trainers for follow-up and support. Monitoring of the implementation of the program was conducted by RITE and HISD Elementary Reading Department staff.

### Data and Methods

Qualitative data on factors influencing fidelity of CR implementation and the impact of the program on students and teachers were gathered using the entire population of 34 participating elementary schools. In addition, purposeful sampling was used to select 11 schools among the 34 schools to conduct mid-year quantitative analysis of student performance using baseline to mid-year CR Decoding Placement Test results. This test was also used to screen students for entry in the program and was administered by RITE trainers. The posttest was randomly observed by the HISD Elementary Reading Department staff. The selection of the 11 schools for mid-year student performance analysis was based on self-report of consistent implementation of CR at the campus level (a minimum of 45 minutes, four to five times each week). The intervention was taught through direct instruction.

### What factors influenced student progress in Corrective Reading?

At mid-year, several factors were identified

as influencing student progress in Corrective Reading. **Table 1** shows these factors, which included the instructional model (i.e., pull-out vs.

Table 1: Factors Affecting CR Student Progress in Targeted CR Schools

Factors	N CR Schools (34)	% CR Schools (100.0)
<b>Instructional Model</b>		
Pull out	19	55.9
Mixed model	15	44.1
<b>Alternate Teachers Available</b>		
Yes	12	35.3
No	22	64.7
<b>Ancillary Used for CR Instruction</b>		
Yes	17	50
No	17	50
<b>Consistent Daily Instruction</b>		
Yes	19	55.9
No	15	44.1
<b>Teachers Have Other Positions</b>		
Yes	21	61.8
No	13	38.2
<b>Number of Lessons Completed</b>		
Mid-year		
0-20	16	47.1
21-30	11	32.3
31-40	5	14.7
41-50	2	5.9

Source: RITE Implementation Information Report, Feb. 2011

Table 2: Chi-square Results on Relationship between Number of Lessons Completed at Mid-year and Consistent Daily Instruction, 2010–2011.

	Consistent Daily Instruction†		
	Yes (n=19)	No (n =15)	
<b>Number of Lessons*</b>			
0-25 (n= 22)	36.4	63.6	100.0
26-50 (n=12)	91.7	8.3	100.0

$\chi^2= (1, N =34) = 9.632, p =.003$

\* 65 lessons required to complete both Levels B1 and B2.  
† Source: RITE Implementation Information Report, Feb. 2011

multiple-teacher model); the availability of an alternate teacher, the use of ancillary for CR instruction, consistent daily instruction, teachers having school positions other than CR teacher, and average number of lessons completed since instruction began. Schools using the pull-out model had only one CR teacher. These students were pulled out of their regular classroom setting to participate in CR intervention. On the other hand, schools using the mixed model had multiple teachers providing the CR intervention.

A profile of the factors affecting progress in CR reveals that participating schools were more likely to use the pull out model, with consistent daily instruction, and no alternate teacher. Moreover, nearly 62 percent of the CR teachers had positions at their school other than CR teacher. At the point of data collection (February 10, 2011), a higher percentage of schools reported that CR teachers had completed between 0-20 lessons (47.1 percent), 21-30 lessons (32.3 percent), and more than 30 lessons (20.6 percent) (Table 1). Sixty-five lessons are required to complete both Levels B1 and B2 in the Decoding strand of CR. While completing only 0-25 lessons at mid-year does not appear to demonstrate consistent daily instruction at schools, the start date of CR could have influenced the number of lessons completed at mid-year.

More in-depth analysis was conducted to determine whether schools with consistent daily instruction were more likely to have a higher number of lessons completed since instruction began. The ‘number of lessons’ variable was recoded to ensure an adequate sample size for analysis, resulting in ‘0-25 lessons completed’ recoded as ‘1’ and ‘26-50 lessons completed’ recoded as ‘2.’ The data shown in **Table 2** reveal that among the 34 schools, 91.7 percent of schools completing 26-50 lessons reported ‘consistent daily instruction.’ At the same time, 36.4 percent of schools completing 0-25 lessons, reported ‘consistent daily instruction.’ Chi-

square test results revealed that schools that reported completing between 26-50 lessons were more likely to have consistent daily instruction compared to schools completing 0-25 lessons. The results were statistically significant ( $\chi^2= (1, N=34) = 9.632, p=.003$ ). The phi coefficient indicated that the strength of the relationship between the two variables was large (phi=.532).

### **What were the performance trends of schools participating in the RITE program?**

The Corrective Reading Placement Test assesses students’ skills and measures their appropriate level of reading instruction. Specifically, the test measures students’ abilities to learn word-attack basics and decoding strategies. CR has two strands, Decoding and Comprehension, each with four levels. Only the Decoding strand was implemented with participating students. Specific measures for Decoding include Level A which exposes students to sound-spelling relationships through regularly spelled words, irregular words, sentence- and story-reading activities applied through newly-learned strategies in real contexts (SRA- McGraw-Hill, Corrective Reading Series; Englemann, Hanner, and Johnson, 2008). In Decoding Levels B1 and B2, students’ word-attack skills are refined and applied to more sound-spelling patterns and difficult words. Students are introduced to phonemic relationships, long and short vowel sounds, new sound combinations, and new word endings. Students must apply discrimination skills by reading stories of increasing length and complex syntax and answer comprehension questions both orally and in writing.

#### *Pre and Posttest Results*

Performance was analyzed based on the Corrective Reading Placement Test results at baseline and at mid-year. A total of 270 students in the study sample had both baseline and mid-year results. Baseline results determined student’s placement in the intervention; whereas, mid-year testing assessed the program’s impact

Table 3: Related Samples Test Results Based on Baseline and Mid-year Number of Decoding Errors on CR Placement Test, 2010–2011

	N of Students	Mean # of Errors	Std. Devia.	p-value
<b>Baseline</b>	270	10.02	4.804	.000*
<b>Mid-year</b>	270	2.54	2.920	

Significant at \*p<.001

on student's reading performance. Baseline testing was conducted in the fall 2010 and mid-year performance was measured in March 2011.

**Table 3** shows the mean number of decoding errors at baseline was 10.02 compared to 2.54 at mid-year. There was more variability in the data at baseline compared to mid-year. The findings revealed a statistically significant improvement in students' performance from baseline to mid-year testing for the student sample ( $p < .05$ ).

Additional analysis was conducted to determine the influence of the model on progress made by students to move to the next level (from Level 1 to Levels 2, 3, or 4). **Table 4** shows that 267 students progressed to the next level in the CR program. Further analysis revealed that, among the 267 students that made progress, 32.6 percent were instructed using the pull-out model and 67.4 percent were instructed using the multiple teacher model. However, 100 percent of the students instructed using the pull-out teacher model made progress from baseline to mid-year to move to the next level, and 98.4 percent of the students instructed using the multiple teacher model progressed to the next level. The z test for two independent samples indicated no statistically significant difference between the groups in performance ( $z = 1.20$ ,  $p = .228$ ).

### **What factors influenced implementation of CR with fidelity?**

The total population of 85 CR fourth-grade teachers was provided a link to an electronic

Table 4: Progress Results on CR Placement Test Based on Intervention Model, Mid-year 2011

n = 267	Progress		No Progress	
	n	%	n	%
<b>Pull-out Teacher</b>	87	100.0	0	0.0
<b>Multiple Teacher</b>	180	98.4	3	1.7

$z = 1.20$ ,  $p = .2298$

survey to gather their perceptions relative to a list of factors considered to influence the implementation of CR with fidelity. The list was developed in collaboration with staff of the HISD Research and Accountability Department, RITE, and HISD Elementary Reading Department. The overall response rate was 56.5 percent, with 48 teachers responding to survey items. The results are presented in **Table 5**.

Teachers participating in the survey characterized themselves as pull-out teachers (50.0 percent), teacher of record (43.8 percent), and hourly teachers (6.3 percent). About 79 percent of teachers had more than five years of teaching experience in HISD, and 62.5 percent had more than five years of experience teaching reading. The majority of teachers responded that they had taught CR more than five months during this academic year. In 2010–2011, 56.8 percent of teachers reported having less than 12 hours of district wide CR training, 91.7 percent had less than 12 hours of follow-up CR training presented by RITE, and 59.4 percent had less than 12 hours of personal development (e.g., practice at home on CR). In addition, the highest percentage of teachers had between 12–24 hours (31.5 percent) and 24–48 hours (26.3 percent) of support directly provided to them in their

Table 5. Survey Results of CR Teachers Regarding Factors that Influenced the Implementation of CR Intervention with Fidelity, Mid-year 2011

N = 270	Strongly Agree		Agree		Disagree		Strongly Disagree		n
	n	%	n	%	n	%	n	%	
Lack of training in implementation	34	91.9	2	5.4	1	2.7	0	0	37
Students with special needs	29	76.3	5	13.2	2	5.3	2	5.3	38
Uninterested students (don't seem to care about learning)	18	48.6	9	24.3	8	21.6	2	5.4	37
Unmotivated students (may feel that they are missing other activities)	18	51.4	8	22.9	4	11.4	5	14.3	35
Disruptive students	16	43.2	13	35.1	3	8.1	5	13.5	37
Students with different academic abilities	22	59.5	8	21.6	5	13.5	2	5.4	37
Timely arrival of materials on campus (manuals, etc.)	16	48.5	12	36.4	2	6.1	3	9.1	33
District/campus testing	8	29.6	6	22.2	9	33.3	4	14.8	27
Instructional time of day that CR is taught	20	58.8	6	17.6	8	23.5	0	0.0	34
Shortage or inadequacy of materials	31	81.6	6	15.8	1	2.6	0	0.0	38
Frequent schedule changes of students	22	62.9	3	8.6	6	17.1	4	11.4	35
Other campus duties	20	60.6	7	21.2	4	12.1	2	6.1	33

Table 6. Survey Results of CR Teachers Relative to the Impact of CR Intervention on Reading for Targeted Students, Mid-year 2011

N = 270	Strongly Agree		Agree		Disagree		Strongly Disagree		n
	n	%	n	%	n	%	n	%	
Raised the level of reading achievement for my students.	20	54.1	12	32.4	2	5.4	0	-	34
Increased the interest of my students in reading.	18	50.0	12	33.3	2	5.6	0	-	32
Improved my skill level to teach reading.	18	48.6	13	35.1	3	8.1	1	2.7	35
Helped to close the achievement gap between low-performing and high-performing students in reading.	14	37.8	11	29.7	4	10.8	1	2.7	30
Provided me with knowledge and proficiencies that I needed to ensure that I am a more qualified CR instructor.	20	54.1	12	32.4	3	8.1	1	2.7	36
Students seemed to enjoy reading.	17	45.9	16	43.2	1	0.7	0	-	34
Was of high quality, as it addressed the readability level of the students.	20	54.1	12	32.4	3	8.1	1	2.7	36
Encouraged the coordination of reading instruction at the campus level	15	40.5	8	21.6	7	18.9	2	5.4	32
I recommend CR to other teachers.	18	48.6	11	29.7	4	10.8	1	2.7	34

classroom on CR by their RITE trainer.

Table 5 shows that teachers were most likely to express ‘strong agreement’ that the ‘lack of training in implementation’ influenced their ability to implement the program to the targeted population (91.9 percent). This may be partly due to the fact that teachers did not have adequate time to practice between training and implementation. This report did not assess teachers’ perceptions of ‘one-on-one coaching’ provided by trainers in their classrooms.

A high percentage of CR teachers also indicated ‘strong agreement’ that a ‘shortage or inadequacy of materials’ influenced their ability to implement the program (81.6 percent). Timelines regarding when to implement the program at campuses impacted when to order and deliver CR materials. Teachers were least likely to indicate ‘strong agreement’ that ‘district/campus testing’ had impact on implementation of the program with fidelity (29.6 percent). In addition, teachers were most likely to ‘strongly disagree’ that ‘unmotivated’ and ‘disruptive’ students affected their ability to implement the program with fidelity (14.3 and 13.2 percent, respectively).

#### **What were teacher perceptions regarding the impact of CR on the reading for fourth-grade students?**

The teacher sample was also asked to rate the CR program relative to its impact on fourth-grade students’ in reading relative to specific areas. It should be noted that this question, specifically, addressed CR as an intervention, rather than the training component. However, it was evident from previous data reported that trainers intervened and provided follow-up

training on how to implement the program. The results are presented in **Table 6**.

A slight majority of teachers ‘strongly agreed’ that CR ‘raised the reading achievement’ of their students, ‘provided them with knowledge and proficiencies needed to ensure that they were a more qualified CR instructor,’ and ‘was of high quality, as it addressed the readability level of the students’ (54.1 percent). In addition, 50.0 percent of teacher respondents expressed ‘strong agreement’ that the program ‘increased the interest of my students in reading.’ The teacher survey respondents were most likely to express ‘strong disagreement’ that the program ‘encouraged the coordination of reading instruction at the campus level’ (5.4 percent).

#### **What were student perceptions regarding the impact of CR on attitude and interest in reading?**

The extent to which the CR intervention impacted the attitude and interest of participating students in reading was measured through the distribution of a paper survey in CR class (**Table 7**). A total of 236 students among the 270 students at the 11 targeted schools completed the survey (87.4 percent). Students participating in the survey were among the students administered the mid-year CR Placement Test.

The highest percentage of surveyed students acknowledged that reading will help them become more successful in the future (94.7) and learning to read better will help them earn better grades in all of their classes (87.1 percent). In contrast, surveyed students were more likely to express that, following the CR intervention, they do not ‘talk more to their parents or family about

Table 7. Survey Results of Student Sample at 11 Targeted Schools Regarding their Attitudes and Interest in Reading Following CR Intervention, Mid-year 2011

	Yes		Maybe		No	
	n	%	n	%	n	%
N = 270						
I am doing better in my reading class.	236	89.7	27	10.3	0	-
Reading is now easier for me.	217	82.5	44	16.7	2	0.8
My grades have improved in other subjects, like science and math.	193	73.7	61	23.3	8	3.1
I need less help completing my school work because I can read better.	209	79.8	45	17.2	8	3.1
Reading will help me become more successful in the future.	249	94.7	13	4.9	1	0.4
Learning to read better will help me earn better grades in all of my classes.	229	87.1	33	12.5	1	0.4
I have fun reading.	222	84.4	37	14.1	4	1.5
I read more at home.	174	66.2	59	22.4	30	11.4
I talk more to my parents or family about books that I read.	171	65.3	55	21.0	36	13.7
I like to work on reading assignments.	182	69.5	63	24.0	17	6.5
I read more at school.	217	82.8	37	14.1	8	3.1
I enjoy going to the library.	225	85.6	29	11.0	9	3.4
I can read harder books now.	209	79.5	47	17.9	7	2.7
I enjoy my CR class.	225	86.2	32	12.3	4	1.5
I would recommend by CR class to other students.	206	78.9	37	14.2	18	6.9

books’ (13.7 percent) or ‘read more at home’ (11.4 percent). Research supports the students’ responses as fewer books are generally found in low-income communities compared to middle-income neighborhoods (Neuman, and Dickinson, 2006). Nevertheless, over 80 percent of the surveyed students indicated that ‘reading is now easier,’ ‘they have fun reading,’ ‘they read more at school,’ ‘enjoy going to the library,’ ‘enjoy their CR class,’ and are ‘doing better in reading class.’ About 79 percent of the students replied that they would recommend CR class to other students.

## Discussion

Corrective Reading is designed to promote reading accuracy (decoding), fluency, and comprehension skills of students in third grade or higher who are reading below grade level (What Works Clearinghouse, Intervention Report, Corrective Reading, 2007). For the mid-year report, only data from a sample of schools that reported using consistent daily instruction were analyzed to measure student progress in reading as well as student attitudes and interests. Factors that could, ultimately, influence student outcomes were also taken into consideration, thus, measured through CR teachers’ perceptions regarding the fidelity of program implementation. Additional perspectives on reading progress of participating students as well as program impact were gathered from a sample

of students and CR teachers who completed a web-based survey.

As expected, schools that provided consistent daily instruction to targeted students were more likely to have completed a higher number of lessons than schools that did not adhere to consistent daily instruction. Two models were used to instruct students, pull-out and a multiple-teacher model. However, there was no significant difference in the progress of students who were provided instruction using the pull-out model versus the multiple-teacher model.

In addition, there was no evidence that any of the CR students completed the program successfully. This was expected considering the fact that the 45 minute time allotment does not ensure enough time for students to complete one lesson daily. However, if students are to fully benefit from the CR intervention, it is critical that they advance through the program levels as designed. Not doing so could influence implementation of the program with fidelity. Also, issues related to scheduling of students and the instructional time of day may have contributed to students progressively exiting the program.

A strength of the program is that training resources are systematic and explicit, although, teachers may have difficulty adjusting to an intervention with sequenced and scripted lessons. Successful implementation requires training and practice. The vast majority of teachers surveyed for this report expressed that lack of training in

implementation and shortage of materials influenced their ability to implement the program to the targeted population, although student-related factors, such as special needs and different academic abilities were also contributing factors. Therefore, it is critical for trainers and teachers to work closely together to address issues that may arise in order to improve the level of program implementation.

The U.S. Department of Education, Institute of Education Sciences (IES) What Works Clearinghouse reported ‘potentially positive program effects’ of CR on alphabets and fluency and no discernible effects on comprehension. This evidence was based on a 2007 study of 79 third-grade students in Pennsylvania. No studies met evidence standards relative to the impact of CR on reading achievement (IES, 2007). This study detected a decrease in decoding errors of the student sample from baseline to mid-year, which could have direct effects on participating students’ overall reading and comprehension abilities. More extensive analysis is warranted to measure the extent to which the CR program raised the reading achievement of targeted students, although teachers’ and students’ perceptions were in favor of this outcome. The full report will include a comparison of TAKS Lexiles and passing rates of CR students to a comparable group of students reading below grade level.

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