

EERA

Educational Evaluation Research Associates

**AN EVALUATION OF THE
ST. STANISLAUS KOSTKA SCHOOL
3-TIER RTI READING INITIATIVE**

Executive Summary

October 2009

An External Evaluation Study Commissioned

by

***THE READING INSTITUTE*
Williamstown, Massachusetts**

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ABSTRACT

St. Stanislaus Kostka School (St. Stans) has an enrollment of 144 students in pre-K through grade 8. There is one class for each grade with class sizes ranging from 10 to 20 students. Beginning in the 2008-2009 academic year, St. Stans adopted a scientifically based core reading program that addressed the five core components of literacy as identified by the National Reading Panel. Through the use of leveled and decodable readers as well as weekly leveled selections, students are provided with frequent opportunities to interact with text and learn and practice phonics, fluency, vocabulary, and comprehension skills. In addition to the core reading program, teachers were trained and have available the materials from the Project Read curriculum and are expected to incorporate multisensory strategies and skills into their teaching.

In an effort to assess students' response to both core and supportive reading instruction, a number of assessments were used to ensure that students are achieving to their highest potential. The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) are a set of general outcome measures designed to measure critical literacy skills associated with early reading success. DIBELS benchmark assessment was administered to all student three times during the year. Based on research supported performance standards students were identified and provided with supportive intervention as noted above. The progress of these students was monitored on a weekly basis using alternate form grade appropriate DIBELS measures. In addition to the DIBELS, the Group Reading Assessment of Diagnostic Evaluation (GRADE), a developmentally based group administered assessment of reading, was also administered during the fall and spring of the academic year.

Analysis of the data indicate that the combination of the core and supportive literacy instruction was strongly associated with statistically significant gains across the school year in the areas of phonics, fluency, vocabulary, and comprehension. Notably, significant gains were noted across all grades suggesting that the literacy program was appropriately administered in accordance with the changing developmental needs of the students.

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Data Analysis and Results

Student improvement across the year was examined by comparing scores on the DIBELS and GRADE that were obtained in the fall at the beginning of the year and again in the spring at the end of the year. In addition, the week-to-week improvement for students who were receiving specialized reading intervention in addition to the core reading curriculum were explored.

Kindergarten Performance

In order to see if there was significant growth from the fall of Kindergarten to the spring of Kindergarten statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 1.¹ The final column in Table 1 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the kindergarten year in all areas assessed with the exception of the *Same & Different Words* and *Listening Comprehension* tasks of the GRADE.

Table 1. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
	Fall	Spring			
Letter Naming Fluency (Fall to Winter)	16.62	45.00	-10.05	.01	yes
Letter Naming Fluency (Winter to Spring)	45.00	60.15	-10.46	.01	yes
Initial Sound Fluency (Fall to Winter)	8.62	30.23	-5.52	.01	yes
Phonemic Segmentation Fluency (Winter to Spring)	34.00	55.31	-8.03	.01	yes
Nonsense Word Fluency (Winter to Spring)	35.00	62.69	-4.86	.01	yes
Sound Matching (Fall to Spring)	5.00	10.69	-6.27	.01	yes
Rhyming	10.77	13.54	-5.20	.01	yes

¹ For a description of each subtest please see Appendix A.

<i>(Fall to Spring)</i>					
Phonological Awareness <i>(Fall to Spring)</i>	15.77	24.23	-6.80	.01	yes
Print Awareness <i>(Fall to Spring)</i>	3.00	4.00	-4.42	.01	yes
Letter Recognition <i>(Fall to Spring)</i>	10.00	11.00	-2.14	.05	yes
Same & Different Words <i>(Fall to Spring)</i>	8.69	8.92	-1.15	.27	no
Early Literacy Skills <i>(Fall to Spring)</i>	20.46	23.92	-2.41	.03	yes
Phoneme-Grapheme Correspondence <i>(Fall to Spring)</i>	15.77	24.23	-6.80	.01	yes
Listening Comprehension <i>(Fall to Spring)</i>	19.38	17.77	0.47	.65	no
Total Test <i>(Fall to Spring)</i>	62.62	81.77	-6.84	.01	yes
GRADE Composite <i>(Fall to Spring)</i>	4.46	7.46	-6.62	.01	yes

1st Grade Performance

In order to see if there was significant growth from the fall of 1st grade to the spring of 1st grade statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 2. The final column in Table 2 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the 1st grade year in all areas assessed with the exception of the *Phonemic Segmentation Fluency* task of the DIBELS.

Table 2. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
	Fall	Spring			
Phonemic Segmentation Fluency <i>(Fall to Winter)</i>	33.29	49.65	-6.42	.01	yes
Phonemic Segmentation	49.65	47.06	1.02	.32	no

Fluency <i>(Winter to Spring)</i>					
Nonsense Word Fluency <i>(Fall to Winter)</i>	31.76	56.65	-6.38	.01	yes
Nonsense Word Fluency <i>(Winter to Spring)</i>	56.65	83.76	-6.50	.01	yes
Oral Reading Fluency <i>(Winter to Spring)</i>	36.71	72.18	-11.06	.01	yes
Word Reading <i>(Fall to Spring)</i>	11.59	18.24	-7.96	.01	yes
Word Meaning <i>(Fall to Spring)</i>	18.29	26.24	-6.66	.01	yes
Vocabulary Comprehension <i>(Fall to Spring)</i>	29.88	44.47	-8.67	.01	yes
Sentence Comprehension <i>(Fall to Spring)</i>	5.65	15.18	-5.52	.01	yes
Passage Comprehension <i>(Fall to Spring)</i>	6.24	17.29	-7.67	.01	yes
Comprehension Composite <i>(Fall to Spring)</i>	11.88	32.47	-6.71	.01	yes
Listening Comprehension <i>(Fall to Spring)</i>	14.29	16.06	-4.78	.01	yes
Total Test <i>(Fall to Spring)</i>	41.18	76.94	-8.83	.01	yes
GRADE Composite <i>(Fall to Spring)</i>	4.12	7.00	-6.15	.01	yes

2nd Grade Performance

In order to see if there was significant growth from the fall of 1st grade to the spring of 1st grade statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 3. The final column in Table 3 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the 2nd grade year in all areas assessed with the exception of the *Listening Comprehension* task of the GRADE.

Table 3. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
Oral Reading Fluency (Fall to Winter)	66.73	100.18	-.644	.01	yes
Oral Reading Fluency (Winter to Spring)	100.18	123.73	-6.24	.01	yes
Word Reading (Fall to Spring)	25.18	27.18	-2.12	.05	yes
Word Meaning (Fall to Spring)	24.09	26.64	-2.00	.05	yes
Vocabulary Comprehension (Fall to Spring)	49.27	53.82	-2.09	.05	yes
Sentence Comprehension (Fall to Spring)	14.91	17.64	-2.32	.04	yes
Passage Comprehension (Fall to Spring)	19.09	23.64	-4.24	.01	yes
Comprehension Composite (Fall to Spring)	34.00	41.27	-3.43	.01	yes
Listening Comprehension (Fall to Spring)	16.00	15.91	0.25	.81	no
Total Test (Fall to Spring)	83.27	95.09	-2.84	.02	yes
GRADE Composite (Fall to Spring)	6.16	7.09	-2.09	.05	yes

3rd Grade Performance

In order to see if there was significant growth from the fall of 1st grade to the spring of 1st grade statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 4. The final column in Table 4 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the 3rd grade year in all areas assessed with the exception of the *Word Reading*,

Sentence Comprehension, and Listening Comprehension tasks of the GRADE, as well as the GRADE Composite.

Table 4. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
Oral Reading Fluency (Fall to Winter)	92.31	113.00	-8.96	.01	yes
Oral Reading Fluency (Winter to Spring)	113.00	124.77	-5.04	.01	yes
Word Reading (Fall to Spring)	28.23	29.23	-1.45	.17	no
Vocabulary (Fall to Spring)	24.23	26.78	-2.04	.05	yes
Vocabulary Comprehension (Fall to Spring)	52.46	55.62	-1.97	.05	yes
Sentence Comprehension (Fall to Spring)	16.77	17.77	-1.08	.30	no
Passage Comprehension (Fall to Spring)	18.92	22.38	-3.16	.01	yes
Comprehension Composite (Fall to Spring)	35.69	40.15	-2.87	.01	yes
Listening Comprehension (Fall to Spring)	14.92	15.15	-0.54	.60	no
Total Test (Fall to Spring)	88.15	95.77	-2.63	.02	yes
GRADE Composite (Fall to Spring)	6.38	6.92	-1.40	.19	no

4th Grade Performance

In order to see if there was significant growth from the fall of 1st grade to the spring of 1st grade statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 5. The final column in Table 5 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the 4th grade year in all areas assessed with the exception of the *Listening Comprehension* task of the GRADE.

Table 5. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
	Fall	Spring			
Oral Reading Fluency (Fall to Winter)	88.95	115.40	-9.22	.01	yes
Oral Reading Fluency (Winter to Spring)	115.40	133.20	-5.48	.01	yes
Vocabulary (Fall to Spring)	20.25	25.65	-5.54	.01	yes
Sentence Comprehension (Fall to Spring)	11.80	16.50	-4.71	.01	yes
Passage Comprehension (Fall to Spring)	16.65	20.30	-5.15	.01	yes
Comprehension Composite (Fall to Spring)	28.45	36.80	-6.21	.01	yes
Listening Comprehension (Fall to Spring)	14.50	14.50	0.00	1.00	no
Total Test (Fall to Spring)	48.70	62.45	-6.66	.01	yes
GRADE Composite (Fall to Spring)	5.00	6.35	-5.81	.01	yes

5th Grade Performance

In order to see if there was significant growth from the fall of 1st grade to the spring of 1st grade statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 6. The final column in Table 6 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the 5th grade year in all areas assessed with the exception of the *Listening Comprehension* task of the GRADE.

Table 6. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
	Fall	Spring			
Oral Reading Fluency (Fall to Winter)	114.58	125.75	-2.98	.01	yes
Oral Reading Fluency (Winter to Spring)	125.75	143.50	-5.69	.01	yes
Vocabulary (Fall to Spring)	19.17	24.17	-3.80	.01	yes
Sentence Comprehension (Fall to Spring)	13.25	16.17	-2.45	.01	yes
Passage Comprehension (Fall to Spring)	18.50	23.25	-3.81	.01	yes
Comprehension Composite (Fall to Spring)	31.75	39.42	-3.78	.01	yes
Listening Comprehension (Fall to Spring)	15.67	14.25	4.92	.01	no
Total Test (Fall to Spring)	50.92	63.58	-4.56	.01	yes
GRADE Composite (Fall to Spring)	5.83	6.67	-2.59	.02	yes

6th Grade Performance

In order to see if there was significant growth from the fall of 1st grade to the spring of 1st grade statistical tests were applied to both the DIBELS and GRADE.

Results of these analyses can be found in Table 7. The final column in Table 7 indicates whether students' improvement from the fall to the spring was statistically different. Here, statistically different means that the change in students' scores was likely attributable to the combination of reading interventions and not due to chance. As can be seen, statistically significant growth was observed across the 6th grade year in all areas assessed.

Table 7. Assessment	Average Number of Items Answered Correctly		t	Alpha	Significant?
	Fall	Spring			
Oral Reading Fluency (Fall to Winter)	117.17	125.17	-2.60	.03	yes
Oral Reading Fluency (Winter to Spring)	125.17	141.02	-5.68	.01	yes
Vocabulary (Fall to Spring)	18.33	24.67	-6.18	.01	yes
Sentence Comprehension (Fall to Spring)	14.58	16.50	-4.24	.04	yes
Passage Comprehension (Fall to Spring)	22.42	26.58	-5.91	.01	yes
Comprehension Composite (Fall to Spring)	37.00	43.08	-7.58	.01	yes
Listening Comprehension (Fall to Spring)	13.83	15.25	-3.40	.01	yes
Total Test (Fall to Spring)	52.00	67.75	-6.70	.01	yes
GRADE Composite (Fall to Spring)	5.42	7.08	-5.86	.01	yes

Week to Week Performance

Lastly, in order to assess the growth and improvement of students who were receiving supportive intervention with strategic (i.e., frequent) progress monitoring, individual weekly DIBELS data were analyzed using ordinary least squares regression. The result indicated on average how much each student improved from one week to the next on the various early literacy and literacy measures. Table 8 provides these growth estimates aggregated by grade and literacy measure. As can be seen, students receiving supportive intervention responded quite nicely to these efforts growing at greater than average rates.

Table 8	ISF	PSF	NWF	ORF
Kindergarten	1.86	0.82		
1st Grade			4.1	2.72
2nd Grade				2.97
3rd Grade				2.11
4th Grade				2.02
5th Grade				1.89
6th Grade				1.64

Note. Numbers refer to the week-to-week improvement on each measure. For example, 2nd grade students improved their oral reading fluency by nearly 3 words each week; Kindergarten students improved their initial sound fluency by nearly 2 points per week, etc.

Summary

Based on the results presented above it can be concluded that the combination of the core and supportive literacy instruction was strongly associated with statistically significant gains across the school year in the areas of phonics, fluency, vocabulary, and comprehension. Notably, significant gains were noted across all grades suggesting that the literacy program was appropriately administered in accordance with the changing developmental needs of the students.

Appendix A

Description of Subtests

DIBELS

Letter Naming Fluency – Assesses the student's ability to name letters.

Initial Sound Fluency - The examiner presents four pictures to the child, names each picture, and then asks the child to identify (i.e., point to or say) the picture that begins with the sound produced orally by the examiner.

Phoneme Segmentation Fluency - The PSF measure assesses a student's ability to segment three- and four-phoneme words into their individual phonemes fluently. The PSF task is administered by the examiner orally presenting words of three to four phonemes. It requires the student to produce verbally the individual phonemes for each word. For example, the examiner says "sat," and the student says "/s/ /a/ /t/" to receive three possible points for the word.

Nonsense Word Fluency - Assesses a child's knowledge of letter-sound correspondences as well their ability to blend letters together to form unfamiliar "nonsense" (e.g., fik, lig, etc.) words.

Oral Reading Fluency - Assesses a child's skill of orally reading connected text in grade-level material.

GRADE

Sound Matching – For each of the 12 items in this subtest, the student must mark the one picture in a four picture array that has the same beginning (or ending) sound as a stimulus word. Students are told what words the pictures represent.

Rhyming – For each of the 14 items in this subtest, the student must mark the one picture in a four picture array that rhymes with the stimulus word. Students are told what words the pictures represent.

Phonological Awareness – The combination of Sound Matching and Rhyming.

Print Awareness – For each of the four items in this subtest, the student must mark the one picture in a four picture array that has the following print elements: letters, words, sentences, capital letters, and punctuation.

Letter Recognition – For each of the 11 items in this subtest, the student is given a 5-letter array and must mark the capital or lower case letter read by the examiner.

Same & Different Words – For each of the 9 items in this subtest, the student must mark the one word in a four-word array that is either the same as or different from the stimulus word.

Phoneme-Grapheme Correspondence – For each of the 16 items in this subtest, the student must mark the one letter in a four-word array that is the same as the beginning (or ending) sound of the word read by the examiner.

Early Literacy Skills – The combination of Print Awareness, Letter Recognition, Same & Different Words, and Phoneme-Grapheme Correspondence.

Word Reading – The subtest contains 10 to 30 items, depending on the level. For each item in this subtest, the student is given a four-word array and must mark the word read by the examiner.

Word Meaning – For each of the 27 items in this subtest, the student must mark the one picture in a four-picture array that represents a written stimulus word.

Vocabulary Comprehension – This subtest contains 30 to 40 items, depending on the test level. Students are presented a short written phrase or sentence that has one word bolded. The student must mark the one word in a four- or five-word array that has the same meaning as the bolded word.

Sentence Comprehension – For each of the 19 Cloze items in this subtest, the student must choose the one word in a four- or five-word array that best fits in the blank.

Passage Comprehension – The number of reading passages or items for this subtest varies by level. The student must read a passage and answer several multiple-choice questions about the passage. Questions are of four types: questioning, clarifying, summarizing, and predicting.

Listening Comprehension – In this 17 or 18 item subtest, the test administrator reads aloud a sentence. The student must choose which of four pictures represents that was read. Items require students to comprehend basic words, understand grammar structure, make inferences, understand idioms, and comprehend other non-literal statements.

Appendix B

Graphic Presentation of Findings

















