

SpellRead[®]

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An Effective Reading Intervention: Research Evidence of *SpellRead* Results

Results from a number of experimental studies of PCI's *SpellRead*®, formerly known as *SpellRead P.A.T.* and Kaplan K12's *SpellRead*, yield gold standard evidence that the *SpellRead* program reliably improves word-reading skills, fluency, and comprehension across diverse populations, including special education students, English-language learners, and students more than two years below grade level. Regardless of the level at which the student begins, *SpellRead* effectively ensures solid reading skill development and automaticity for every student, leading to increased student confidence, higher attendance rates, decreased grade retention, stronger subject area performance, and a lifelong love of reading and learning.

What is *SpellRead*?

SpellRead is an explicit, intensive, and comprehensive science-based reading intervention that integrates the five essential elements of reading instruction: phonemic awareness (*sound processing*), phonics (*sound-letter relationships*), fluency, vocabulary, and comprehension.

The *SpellRead* Instructional Cycle

Linguistic Foundations

INSTRUCTION begins with 35 minutes of Linguistic Foundations, a set of four phonics and phonemic awareness activities that are fast paced and kinesthetic approaches for the learner, keeping them constantly engaged in the learning process. The activities include building, listening, analyzing, blending, synthesizing, spelling, visualizing, speed reading, and games.

Active Reading

READING includes 19 minutes of instruction, in which students apply the skills they are learning in Linguistic Foundations and become engaged with a leveled trade book that has been carefully sequenced to match the students' independent reading abilities. With a conversational approach, the teacher guides the use of strategies such as retelling, summarizing, and determining the meaning of new vocabulary.

Writing Connections

WRITING completes each class by providing students with six minutes to write about what they have read that day. The writing experience includes getting thoughts on paper, responding critically and creatively to text, writing new story endings, and other writing strategies.

Each *SpellRead* session weaves the essential elements of reading instruction into a mastery program that enables student success from the first lesson. The program is divided into three phases. Each session, conducted with an approximate student-to-teacher ratio of 5:1, includes phonemic and phonetic activities, language-based reading, and writing.

- Phase A teaches each of the 44 sounds of the English language, beginning with those that are easiest to hear and manipulate.
- Phase B teaches the secondary vowels and consonant blends, and takes students to the two-syllable level.
- Phase C teaches the clusters, verb endings and syllabication to a polysyllabic level.

Each class also includes authentic, language-rich reading from leveled readers and popular trade books, as well as discussion and writing to ensure students learn to use this newly developed sound processing reflex in combination with their oral language when reading and writing.

What is the Research Evidence for *SpellRead*'s Effectiveness?

A number of rigorous studies have examined the implementation of *SpellRead* instruction in a variety of settings and locations, with elementary, secondary, and adult students. Findings of these studies are summarized below.

Evaluation of *SpellRead* by the Florida Center for Reading Research (Wahl, 2006):

As part of its overall reading research agenda, the Florida Center for Reading Research (FCRR) evaluated the *SpellRead* program. The FCRR identified *SpellRead* as a scientifically based reading intervention program that delivers explicit instruction and practice in phonemic awareness, phonemic decoding, spelling, reading fluency, reading comprehension, and writing.

Results

The following eight strengths of the *SpellRead* program were identified:

1. Multiple and varied phonemic awareness and phonics activities, often in an instructional game format, are a motivating and integral part of the program.
2. The explicit, highly structured, step-by-step format, with frequent repetition and immediate feedback can be helpful for struggling readers.
3. A priority of the program is the intense focus on fluency, contributing to eventual mastery of skills.
4. Review begins each phase to ensure a firm foundation of the previous level's skills.
5. The teacher's manual is clear and easy to follow.
6. The type of consistent questioning during Share Reading can be effective in guiding students' focus to the gist of the story.
7. Written responses to writing clarify whether students understand what they have read.
8. Research studies for this program have demonstrated substantial gains across grade levels and among students with differing ability levels.

No weaknesses were noted.

The Newfoundland Elementary School Study (Rashotte, MacPhee, & Torgesen, 2001):

In St. John's, Newfoundland, all 171 first- through sixth-grade students in a predominantly low socioeconomic elementary school (75% from families on social assistance, 55% from single-parent homes with low levels of adult literacy) were assessed and 116 were found to be impaired readers based on poor phonetic decoding and word-level reading skills. These 116 students were matched and randomly assigned to either the treatment group (Group-1) or the control group (Group-2). One student from Group 2 moved away and did not take any post-tests. The treatment group received *SpellRead* instruction in groups of three to five same-grade students for approximately 50 minutes per day for eight weeks (35 hours total, or about one-third of the complete *SpellRead* program). The control group received only regular classroom reading instruction. All students in the treatment and control groups were pre- and post-tested via a battery of standardized measures that assessed phonological processing abilities (phonological awareness), word-level reading (word, text reading, and phonetic decoding accuracy), fluency, comprehension, spelling, and verbal ability.

Results

Post-test-1 was administered at the end of the first eight-week, 35-hour intervention with impressive results. Data were analyzed by grade-level groupings (grades 1–2, 3–4, and 5–6). Students in the *SpellRead* treatment group performed significantly better than those in the control group on phonological awareness and decoding, reading accuracy, comprehension, and spelling. Effect sizes were strong for most measures across all grades, even after only one-third of the *SpellRead* program had been completed. (Note: Effect size is a generally accepted measure of potency – the pace at which the student skills improve. An effect size of .2 is considered small, .5 medium, and .8 large.)

- Average effect sizes for the three phonological awareness measures were .96 for grades 1–2, 1.35 for grades 3–4, and 1.56 for grades 5–6.
- Average effect sizes for phonetic decoding were 1.67 for grades 1–2, 1.81 for grades 3–4, and 2.20 for grades 5–6.
- Average effect sizes for the comprehension measures were 1.48 in grades 1–2, .73 in grades 3–4, and .54 in grades 5–6.

At the end of the first eight weeks, Group-2 (the original control group) received seven weeks (31 hours) of *SpellRead* intervention. These students showed positive results at Post-test-2 similar to those achieved by Group-1 on Post-test-1. Further, growth was sustained from Post-test-1 to Post-test-2 for Group-1 and improved reading skills were evident in students in both groups and across all grade levels, regardless of level of deficiency prior to instruction.

In summary, results of this study showed that *SpellRead*:

- made a significant impact on the reading skills of deficient readers in grades 1 to 6.
- improved reading skills after only 35 hours of *SpellRead* instruction at all grade levels.
- was effective for both moderately and severely deficient readers when delivered in groups of three to five students.
- enabled newly trained, certified teachers, and paraprofessionals to be equally effective.

The Maryland Middle School Study (Torgesen et al., 2003):

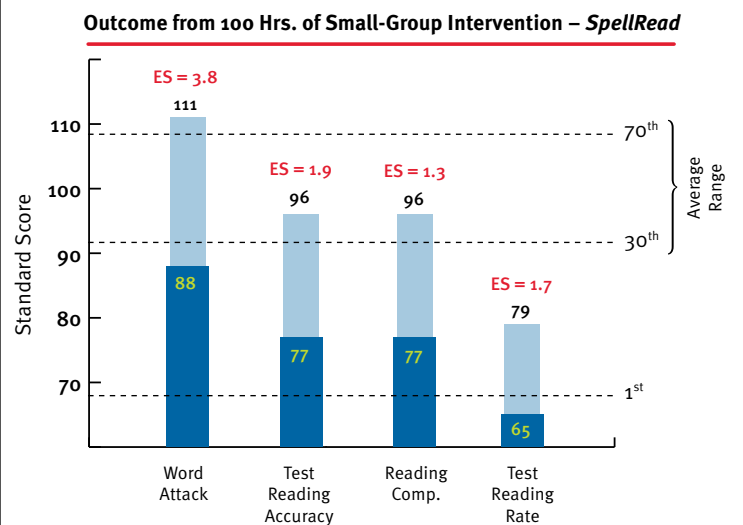
Twenty sixth- and seventh-grade students (mean age: 12 years) received 100 hours of *SpellRead* instruction in daily 70-minute classes provided to groups of four or five students over approximately five months. Predominantly from working class families in suburban Baltimore, 53% of these students were receiving special education services, 60% qualified for free/reduced-price lunch, 45% were Caucasian, 45% were African American, and 10% were of other ethnic backgrounds. Students began the intervention with word-level skills at approximately the 10th percentile and attained scores for phonemic decoding, text reading accuracy, and comprehension that were solidly in the average range, while reading fluency remained an area of relative impairment.

In addition to the *SpellRead* treatment group, a control group of students was randomly assigned to an intervention that emphasized silent reading and larger-group instruction in comprehension strategies, but did not involve explicit instruction in phonemic awareness and decoding.

Results

The control group showed no significant change in their standard scores from pre-test to post-test, while the *SpellRead* treatment group made very substantial gains (at least one standard deviation) in all areas of reading skill, with the exception of fluency in reading isolated words, so that these students essentially “closed the gap” in reading ability with their same-age classmates.

- Average effect size for phonemic decoding was 3.8.
- Average effect size for reading accuracy was 1.9.
- Average effect size for reading comprehension was 1.3.
- Average effect size for reading rate was 1.7.



Effect Size (ES) is a measure of potency where .2 = small, .5 = moderate, 1.0 = large

Source: Dr. Joseph K. Torgesen, Presentation to the World Congress on Dyslexia, August 2002

NOTE: The tests used were Woodcock Reading Mastery Tests (Revised, Form H) and Gray Oral Reading Tests (3rd Edition).

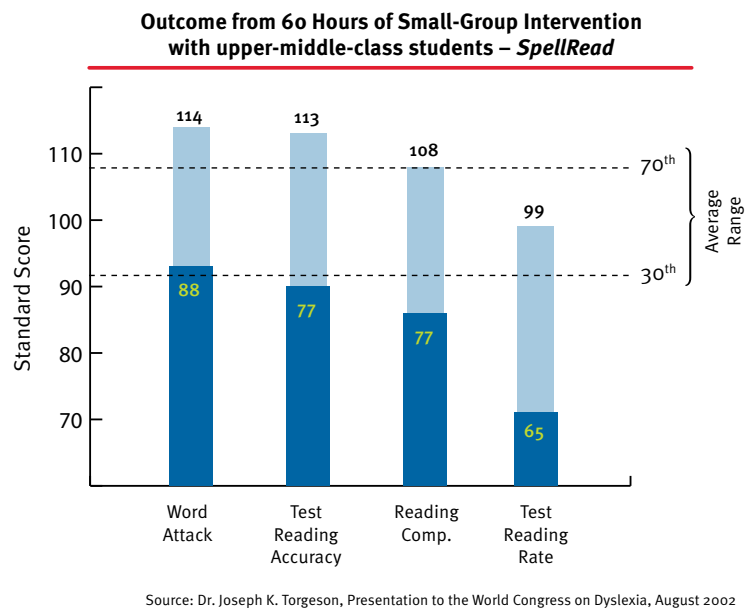
These results provide evidence that older children who are severely reading disabled can experience significant gains in both their reading comprehension (ability to understand what was read) and fluency (ability to read at a reasonable rate, smoothly, and without errors). In addition, students achieved these gains rapidly as evidenced by the robust effect sizes.

The Washington, DC-Area Study (Torgesen et al., 2003):

Forty-eight students, whose average age was 11 years, received *SpellRead* instruction after school in groups of two to four in a clinic setting in suburban Washington, DC. These students were from upper-middle-class families, and many had previously completed training using other science-based reading interventions. Seventy-nine percent of the students were Caucasian, and 67% were male. This group of students took less time than average to complete *SpellRead* (averaging 60 hours of instruction) because they entered the program with relatively strong skills in phonemic decoding and reading accuracy (close to the bottom of the average range), although they were very impaired in reading fluency.

Results

As a result of the *SpellRead* instruction, these students rapidly bridged their newly acquired (and automatic) phonological skills with their previously developed high-level vocabulary and language skills.



NOTE: The tests used were Woodcock Reading Mastery Tests (Revised, Form H) and Gray Oral Reading Tests (3rd Edition).

The Florida DIBELS/FCAT Study:

In 27 Reading First schools in Florida, 480 students (94% were third graders) received an average of 106 hours of a planned 140 hours of small-group *SpellRead* instruction in 2004–2005. (Three hurricanes prevented completion of the entire 140 hours of intervention). Most students completed Phase A and were just starting to move into Phase B in which they learn secondary vowel sounds, consonant blends, and begin to work at a two-syllable level. No students reached Phase C in which they would be taught clusters (e.g., “tion”, “sion”, “cian”, and “tian” are all pronounced “shun”), verb endings, and syllabication while primarily working with real words.

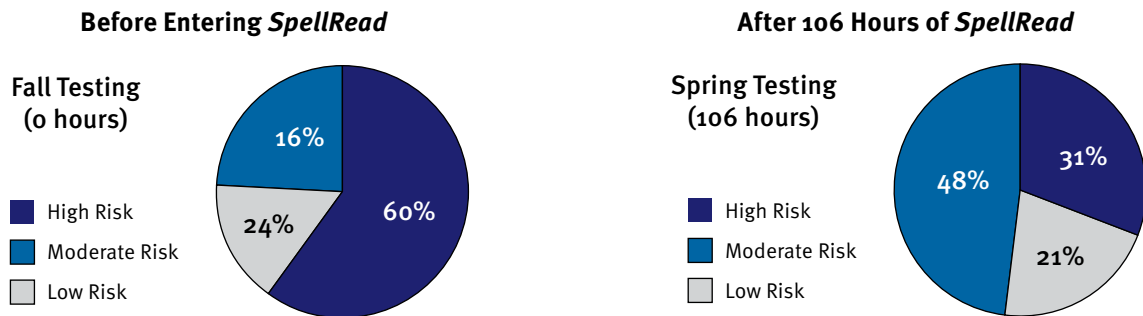
In the fall, prior to *SpellRead* instruction, and again in the spring, after *SpellRead* instruction, these students took the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment, which monitors the development of reading skills and categorizes performance in terms of level of risk for reading failure.

DIBELS Results

Between the fall and spring DIBELS testing, the number of *SpellRead* students identified as “high risk” was cut in half, the number identified as “moderate risk” was doubled, and the number identified as “low risk” increased. The same pattern appeared across all groups of students; Hispanic, African American, and Caucasian, those identified as requiring special education services (ESE), those identified as having limited English proficiency (LEP), and those qualifying for free or reduced-price meals (FARMs).

Distribution According to Reading Risk Level

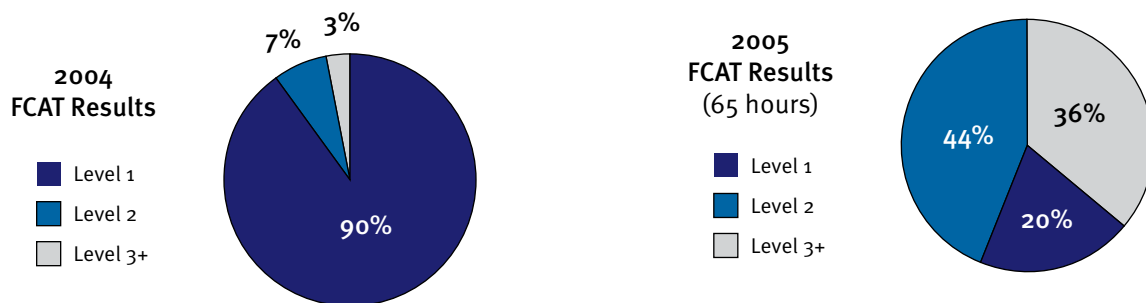
(0 hrs. compared to 106 hrs. for all 480 students)



The DIBELS data discussed above compare student progress through the course of the school year, from fall (August 2004) to spring (May 2005). Meanwhile, in March 2005, after receiving only a portion of their *SpellRead* instruction (approximately 65 hours), the 480 students in this sample took the Florida Comprehensive Assessment Test (FCAT) in Reading. The FCAT is a challenging state-wide test that is strongly correlated with the National Assessment of Educational Progress (NAEP). Student performance on the FCAT is categorized according to five achievement levels, with Level 1 indicating that the student has demonstrated little success with the challenging content of the Sunshine State Standards and Level 5 indicating that the student has demonstrated success with the most challenging content of the standards.

FCAT Results

Despite having completed less than half of the *SpellRead* program by the time of FCAT testing in March, the 480 students in this sample experienced dramatically improved FCAT success rates, with 44% moving up out of Level 1 and 41% moving up to Level 3 or higher, demonstrating a significant link between *SpellRead* classroom activities and FCAT success.



The Power4Kids Study (Torgesen et al. 2006):

The Power4Kids Study was designed to answer questions about what kinds of reading interventions work for which students. The study evaluated four widely used intensive, small-group intervention programs for elementary-level struggling readers. The four programs, selected by members of the Scientific Advisory Board of the Haan Foundation for Children, were *SpellRead*, *Corrective Reading*, *Failure Free Reading*, and *Wilson Reading*.

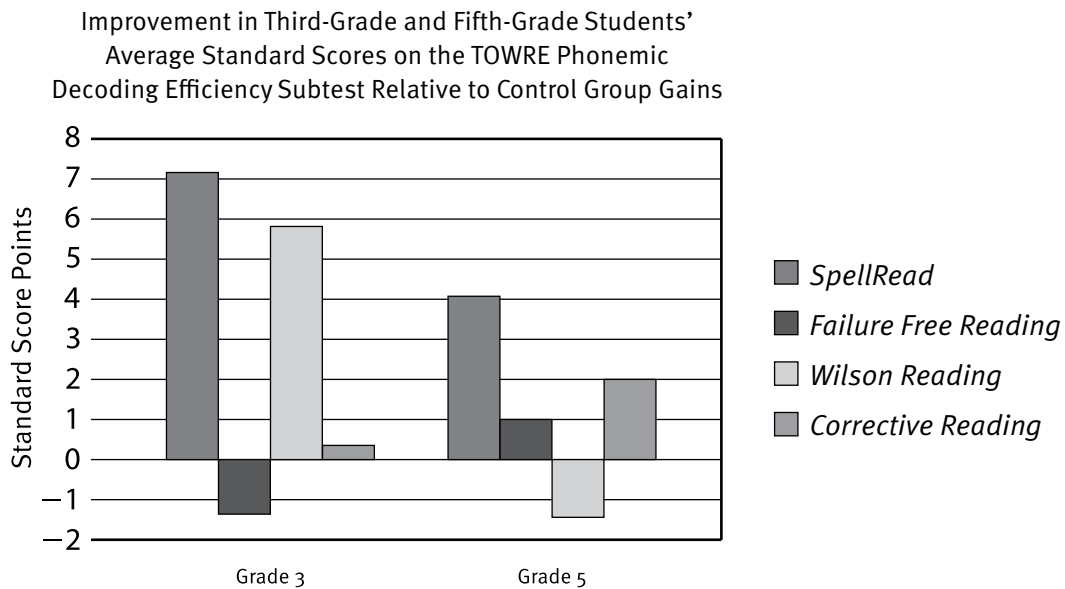
Fifty schools from 27 school districts in Pennsylvania were randomly assigned to one of the four interventions. Within each school, students in grades three and five identified as struggling readers by their teachers, and scoring at or below the 30th percentile on word-level reading and at or above the 5th percentile on a test of verbal ability, were randomly assigned to a treatment or control group.

In all, 772 students participated in the study, receiving small-group instruction in one of the four interventions for approximately 50 minutes per day from November 2003 through May 2004. Treatment-group students received an average of 90 hours total of small-group intervention instruction over the course of the study. Control-group students received a similar amount of reading instruction to those in the treatment groups, while the kind of instruction control-group students received was considered similar to what they would ordinarily have received in their schools.

Results

Students in the *SpellRead* program scored significantly better on the TOWRE Phonemic Decoding Efficiency Subtest than their matched control peers and the students in the other interventions.

(TOWRE Phonemic Decoding Efficiency)



Evaluation of *SpellRead* Instruction with Incarcerated Youth (Rashotte, 2001):

Thirteen male youths at a detention center in Whitbourne, Newfoundland, were selected for *SpellRead* instruction based upon low scores on the Woodcock Reading Mastery Test. The mean age of the group was 17.4, with ages ranging from 16.4 to 18.1. Each participant was given a complete pre-test battery of reading tests prior to *SpellRead* instruction, and the same tests were re-administered at the end of his participation in the *SpellRead* program, which usually coincided with his release from the center.

Participants received *SpellRead* instruction in groups of two or three in 90-minute sessions two to three times per week. The average number of hours of instruction completed by the participants was 23, within a range of 10 to 46 hours. Most participants worked only on the first phase of the program, since the length of their incarceration did not allow time for the entire *SpellRead* program.

Results			
Mean Standard Scores (SD) on Reading Measures and after <i>SpellRead</i> Instruction			
Reading Measure	Pre-test	Post-test	Gain
Accuracy			
Word Identification	75.8 (15.5)	81.2 (16.9)	5.4
Word Attack	80.8 (15.7)	84.1(11.0)	3.3
GORT – 3 Accuracy	79.6 (15.5)	87.7 (21.0)	8.1
Fluency			
GORT – 3 Rate	76.2 (17.2)	81.2 (15.6)	5.0
Comprehension			
GORT – 3 Comprehension	78.1 (20.4)	85.4 (22.2)	7.3

The reading measures showed significant improvement following instruction for accuracy, rate (fluency), comprehension, and word identification.

The results of this study indicate that it is possible to significantly increase the reading skills of low achieving incarcerated youths using an intensive, small-group reading program that is phonologically based, yet combines reading for meaning.

The *SpellRead* Study of 19 Adult Students (MacDonald, & Cornwall, 1995):

Independent evaluators, Dr. Wayne MacDonald, an American Board-certified clinical neuropsychologist and head of the Department of Psychology at the IWK Grace Health Centre in Halifax, Nova Scotia, and his colleague, Dr. Anne Cornwall, a psychologist, assessed the effectiveness of *SpellRead* with groups of adult students. In one of these groups, 19 adults, 13 males and 6 females ranging in age from 19 to 56, received an average of 76 sessions of *SpellRead* instruction.

Results			
Mean Grade-Level Equivalent Scores for 19 Adult <i>SpellRead</i> Students			
Reading Measure	Pre-test	Post-test	Gain
Rosner Auditory Analysis Test	Grade 1	Grade 6	5
Woodcock Reading Mastery Test – Word Attack	Grade 2.8	Grade 10.1	7.3
Woodcock Reading Mastery Test – Word Identification	Grade 4.7	Grade 8.3	3.6
Schonell Spelling Test	Grade 4.3	Grade 6.3	2
Gray Oral Reading Test – Reading Comprehension	Grade 4.4	Grade 9.2	4.8

These dramatic statistical results were augmented in Dr. MacDonald’s report by his observation regarding student satisfaction. In his words: “We were also deeply moved by the very profound effects your program has had on the personal lives of your students. They spoke with pride of their recent successes and appeared to have a renewed sense of optimism for the future.”

The *SpellRead* Study of 50 Adult Students (Cornwall, 1998):

Dr. Wayne MacDonald and Dr. Anne Cornwall also evaluated the effectiveness of *SpellRead* instruction with another group of 50 adult students. These students ranged in age from 18 to 56, with a mean age of 31.7 years, and received an average of 491 hours of instruction (98 sessions over 19.6 weeks), although actual hours of instruction received ranged from 200 to 800.

Results			
Mean Grade-Level Equivalent Scores for 50 Adult <i>SpellRead</i> Students			
Reading Measure	Pre-test	Post-test	Gain
Woodcock Reading Mastery Test – Word Attack	Grade 2.7	Grade 6.4	3.7
Woodcock Reading Mastery Test – Word Identification	Grade 4.4	Grade 7.6	3.2
Schonell Spelling Test	Grade 3.9	Grade 6.4	2.5
Gray Oral Reading Test – Reading Comprehension	Grade 4.3	Grade 7.0	2.7

This study further validates the effectiveness of the *SpellRead* program in substantially improving the word-level reading, spelling, and reading comprehension skills of adult students.

Conclusion

The findings from these studies, taken together, provide robust evidence that the *SpellRead* program is effective in helping students with a variety of risk factors to become fluent, accomplished readers.

Systematic Instruction for Sustainable Results:

Students in none of these studies completed the entire *SpellRead* program, yet in every case foundational skills of the *SpellRead* students were shown to be emerging in a consistent pattern that demonstrates word-level skill mastery with a degree of automaticity enabling effortless decoding of new vocabulary. When skills are purposefully, intensively, and systematically developed in the following order, the gains will be robust and sustainable because students will be equipped to continue to move on to increasingly complex texts:

1. Phonemic and phonetic skills emerge first and quickly move toward mastery levels.
2. Decoding skills emerge next and move above grade level, with students gaining automaticity as these skills are mastered.
3. Oral reading comprehension develops as working memory is freed from the need to focus on word-level decoding. (NOTE: comprehension measures that use the Cloze method are a far better measure of a student's vocabulary and contextual reasoning skills than those of reading comprehension ability.)
4. Oral vocabulary that students already possess becomes more available and useable as phonemic efficiency grows.
5. Fluency (rate) improves.
6. Spelling improves.

Essential Conditions for Success:

In order to ensure effective implementation of the *SpellRead* program, several elements must be in place:

1. Sufficient intervention time. It is vital that the 60 minutes of daily intensive, systematic, and focused instruction required by the *SpellRead* design be provided consistently, so that all students move through all phases of the program.
2. Sufficient fidelity to the instructional design. *SpellRead* groups should contain no more than three to five students grouped according to diagnostic test results, and should be conducted in a quiet space free from distractions. Each *SpellRead* session should include all three components: explicit phonemic and phonetic exercises, high-interest, language-rich reading, and writing.
3. Sufficient monitoring of student progress. *SpellRead* instructors enter specific formative assessment data into an online system each week, ensuring that students are mastering the intended sequence of skills. These data are used to guide ongoing instruction.
4. Sufficient teacher training and support. *SpellRead* instructors possess strong, efficient auditory processing, phonological, reading, and writing skills. Training, materials, and support should ensure that every teacher understands the *SpellRead* methodology and rationale and is equipped to deliver the highest quality of instruction to students. Building-level knowledge of the program and support from principals, classroom teachers, parents, and support staff are also necessary to guarantee the program's success.

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