

## Effective Programs for Struggling Readers: A Best Evidence Synthesis July 7, 2009

Which elementary reading approaches have been proven to help struggling readers to succeed? To find out, this review summarizes evidence on six types of programs designed to improve the reading achievement of children having difficulty in learning to read:

- **One-to-One Tutoring by Teachers (TT)** such as *Reading Recovery*, *Auditory Discrimination in Depth*, *Early Steps/Howard Street Tutoring*, and *Targeted Reading Intervention*.
- **One-to-One Tutoring by Paraprofessionals and Volunteers (T-Para/Volunteers)** such as *Sound Partners*, *SMART*, and *Book Buddies*.
- **Small Group Tutorials (SGT)** such as *Corrective Reading*, *Quick Reads*, *Voyager Passport*, and *PHAST Reading*.
- **Classroom Instructional Process Approaches (CIP):** Effects for low achievers were reported for programs such as *Cooperative Integrated Reading and Composition*, *PALS*, *Direct Instruction*, and *Project Read*.
- **Classroom Instructional Process Programs with Tutoring (CIP+TT):** Effects for low achievers were reported for *Success for All*.
- **Instructional Technology (IT):** Effects for low achievers were reported for programs such as *Jostens/Compass Learning*, *Fast ForWord*, and *Lexia*.

### General Findings

Overall, 96 experimental-control comparisons met the inclusion criteria, of which 39 used random assignment to treatments, and five used randomized quasi-experiments. Effect sizes (experimental-control differences as a proportion of a standard deviation) were averaged across studies, weighting by sample size.

**One-to-One Tutoring by Teachers:** ES=+0.38 in 19 studies

- Reading Recovery: ES=+0.23 in 8 studies
- Other programs: ES=+0.60 in 11 studies

**One-to-One Tutoring by Paraprofessionals and Volunteers:** ES=+0.24 in 18 studies

- Paraprofessionals: ES=+0.38 in 11 studies
- Volunteers: ES=+0.16 in 7 studies

**Small Group Tutorials:** ES=+0.31 in 20 studies

**Classroom Instructional Process Approaches** (low achievers): ES=+0.56 in 16 studies

- Cooperative Learning: ES=+0.58 in 8 studies

**Classroom Instructional Process Programs with Tutoring** (Success for All, low achievers): ES=+0.55 in 9 studies

**Instructional Technology** (low achievers): ES=+0.09 in 14 studies

## Conclusions

1. One-to-one tutoring works. Teachers are more effective as tutors than paraprofessionals or volunteers, and an emphasis on phonics greatly improves tutoring outcomes.
2. Although one-to-one phonetic tutoring for first graders is highly effective, effects last into the upper elementary grades only if classroom interventions continue past first grade.
3. Small group tutorials can be effective, but are not as effective as one-to-one instruction by teachers or paraprofessionals.
4. Classroom instructional process approaches, especially cooperative learning and structured phonetic models, have strong effects for low achievers (as well as other students).
5. Traditional computer-assisted instruction programs have little impact on reading.

These findings support the idea, central to current response-to-intervention models, that the best approach for struggling readers is to provide high-quality instruction in the first place, followed up with intensive instruction to the hopefully small number of students who continue to have difficulties despite high-quality classroom instruction. However, the findings point to a particular focus on Tier 1 (regular classroom teaching), and on the use of one-to-one rather than small group instruction for students with the most serious difficulties. The findings support the idea that high quality intervention over many years is needed for lasting impacts, in contrast to the expectation that brief, intensive tutoring will put struggling readers permanently on track. Finally, the findings are consistent with those of reviews of classroom instructional programs for elementary reading, which found more positive effects of programs that provide extensive professional development to teachers in proven models than they did for programs that provide



technology, alternative curricula, or other interventions that do not change daily teaching practices.

There are many proven and promising approaches for struggling readers. It is no longer responsible to do less than what we know how to do to be able to greatly reduce the numbers of children who fail to learn to read adequately. We have both effective and cost-effective tools at hand. While more research is always needed, we already know enough to make a substantial difference in the reading performance of at-risk children.

## Program Ratings

Listed below are currently available programs, grouped by strength of evidence of effectiveness. The type for each program corresponds to the categories above (e.g., CIP = Classroom Instructional Process Approaches).





### Strong Evidence of Effectiveness

| Rating  | Program                                   | Type        | Description   | Contact / Website   |
|---|---|-------------|---|---|
|   | Success for All                           | CIP+<br>TT  | Provides extensive school staff training and materials focused on cooperative learning, phonics, and a rapid pace of instruction. Also provides tutoring to struggling children, mostly first graders.                                  | Website: <a href="http://www.successforall.org">www.successforall.org</a><br>E-mail: <a href="mailto:sfainfo@successforall.org">sfainfo@successforall.org</a> |
|  | Direct Instruction/<br>Corrective Reading | CIP,<br>SGT | A highly structured, phonetic approach to reading instruction that emphasizes phonics, a step-by-step instructional approach, and direct teaching of comprehension skills, as well as extensive professional development and follow-up. | Website: <a href="http://www.nifdi.org">www.nifdi.org</a><br>E-mail: <a href="mailto:info@nifdi.org">info@nifdi.org</a>                                       |

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| Rating  | Program                                  | Type | Description   | Contact / Website   |
|---|--|------|---|---|
|    | Peer Assisted Learning Strategies (PALS) | CIP  | A technique in which children work in pairs, taking turns as teacher and learner, to learn a structured sequence of literacy skills, such as phonemic awareness, phonics, sound blending, passage reading, and story retelling.   | Website: <a href="http://kc.vanderbilt.edu/pals">kc.vanderbilt.edu/pals</a><br>E-mail: <a href="mailto:pals@vanderbilt.edu">pals@vanderbilt.edu</a>               |
|    | Reading Recovery                         | TT   | Provides the lowest achieving readers (lowest 20%) in first grade with supplemental tutoring in addition to their regular reading classes.  | Website: <a href="http://www.readingrecovery.org">www.readingrecovery.org</a><br>E-mail: <a href="mailto:jwolf@readingrecovery.org">jwolf@readingrecovery.org</a> |
|  | Targeted Reading Intervention            | TT   | A one-to-one tutoring model in which classroom teachers work individually with struggling readers in kindergarten or first grade for 15 minutes a day. The 1-1 sessions focus on re-reading for fluency (2 min.), word work (6 min.), and guided oral reading (7 min.). | E-mail: <a href="mailto:lynnevf@email.unc.edu">lynnevf@email.unc.edu</a>  |
|  | Quick Reads                              | SGT  | A supplementary program designed to increase fluency, build vocabulary and background knowledge, and improve comprehension.   | Website: <a href="http://www.quickreads.org">www.quickreads.org</a><br>E-mail: <a href="mailto:quickreads@textproject.org">quickreads@textproject.org</a>         |

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| Rating  | Program  | Type             | Description  | Contact / Website   |
|---|--|------------------|--|---|
|  | One-to-One Teacher Tutoring with Phonics Emphasis *                    | TT               | Programs:<br>1) Auditory Discrimination in Depth (TT)<br>2) Early Steps/Howard Street Tutoring (TT)<br>3) Intensive Reading Remediation (TT)<br>4) Reading Rescue (TT)<br>5) Reading with Phonology (TT) | 1) Website: <a href="http://www.lindamoodbell.com/programs/lips.html">www.lindamoodbell.com/programs/lips.html</a><br>2) E-mail: <a href="mailto:morrisrd@appstate.edu">morrisrd@appstate.edu</a><br>3) E-mail: <a href="mailto:blachman@syr.edu">blachman@syr.edu</a><br>4) Website: <a href="http://www.literacytrust.org/rrprogram/index.htm">www.literacytrust.org/rrprogram/index.htm</a><br>5) E-mail: <a href="mailto:crl@psych.york.ac.uk">crl@psych.york.ac.uk</a>   |
|  | One-to-One Paraprofessional/Volunteer Tutoring with Phonics Emphasis * | T-Para/Volunteer | Programs:<br>1) Sound Partners (T-Para)<br>2) The Reading Connection (T-Para)<br>3) SMART (T-Para)<br>4) Reading Rescue (T-Para)<br>5) Howard Street Tutoring (T-Para)<br>6) Book Buddies (T-Volunteer)  | 1) E-mail: <a href="mailto:partners@wri-edu.org">partners@wri-edu.org</a><br>2) Website: <a href="http://www.thereadingconnection.org">www.thereadingconnection.org</a><br>3) Website: <a href="http://www.getsmartoregon.org">www.getsmartoregon.org</a><br>4) Website: <a href="http://www.literacytrust.org/rrprogram/index.htm">www.literacytrust.org/rrprogram/index.htm</a><br>5) E-mail: <a href="mailto:morrisrd@appstate.edu">morrisrd@appstate.edu</a><br>6) E-mail: <a href="mailto:mai@virginia.edu">mai@virginia.edu</a> |

\* These are similar one-to-one tutoring programs. Each has evidence of effectiveness from studies with sample sizes too small to qualify for “strong evidence” on their own.




**Moderate Evidence of Effectiveness**

| Rating  | Program   | Type | Description  | Contact / Website   |
|---|---|------|--|---|
|  | Cooperative Integrated Reading and Composition (CIRC) | CIP  | A cooperative learning program designed to help students develop metacognitive strategies for comprehending narrative and expository text. | Website: <a href="http://www.successforall.org">www.successforall.org</a><br>E-mail: <a href="mailto:sfainfo@successforall.org">sfainfo@successforall.org</a> |

**Limited Evidence of Effectiveness: Strong Evidence of Modest Effects**

| Rating  | Program                   | Type | Description  | Contact / Website  |
|---|---------------------------|------|--|--|
|  | Jostens/ Compass Learning | CAI  | Provides an extensive set of assessments which place students according to their current levels of performance and then gives students exercises designed primarily to fill in gaps in their skills. | Website:<br><a href="http://www.compasslearning.com">www.compasslearning.com</a> |





**Limited Evidence of Effectiveness: Weak Evidence with Notable Effects**

| Rating  | Program                                   | Type   | Description   | Contact / Website  |
|---|---|--------|---|--|
|    | Contextually-Based Vocabulary Instruction | CIP    | A supplementary intervention in which third and fifth graders receive instruction in multiple meanings of vocabulary words. The supplementary instruction takes place twice weekly for 20-30 minutes.   | E-mail: rnelson8@unl.edu   |
|    | Early Intervention in Reading             | SGT    | Focuses on phonemic segmentation and blending, phonics instruction, story reading and re-reading, comprehension, and home reading. In addition to 15-20 minutes of small group teaching, students receive one-to-one or one-to-two tutoring from a paraprofessional 5-10 minutes daily. | Website:<br>www.earlyinterventioninreading.com   |
|  | Edmark                                    | T-Para | A highly-structured one-to-one tutoring program designed to build a 150-word vocabulary in beginning or disabled readers.   | Complete contact form at:<br><a href="http://hmlt.hmco.com/Contact.php">http://hmlt.hmco.com/Contact.php</a> |

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| Rating  | Program                            | Type | Description   | Contact / Website   |
|---|------------------------------------|------|---|---|
|    | Lexia                              | CAI  | Consists of various activities that teach phonetic word-attack strategies to promote automaticity in word recognition. Students typically participate in 2 to 4 20-30-minute sessions a week. | Website: <a href="http://www.lexialearning.com">www.lexialearning.com</a><br>E-mail: <a href="mailto:info@lexialearning.com">info@lexialearning.com</a> |
|    | Lindamood Phoneme Sequence Program | SGT  | A one-to-one tutoring program with a strong phonics focus that teaches children to notice how their mouths make various sounds and relates these to letters and sound blending.               | Website: <a href="http://www.lindamoodbell.com/programs/lips.html">www.lindamoodbell.com/programs/lips.html</a>   |
|  | PHAST Reading                      | SGT  | Designed to teach children word identification skills and decoding strategies and to promote their effective use of these strategies.   | E-mail: <a href="mailto:ldrp@sickkids.ca">ldrp@sickkids.ca</a>  |
|  | Precision Teaching                 | CIP  | A precision teaching approach designed to help disadvantaged children with mental retardation learn to read.  | No contact information currently available.   |

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| Rating  | Program                     | Type   | Description   | Contact / Website  |
|---|-----------------------------|--------|---|--|
|    | Proactive Reading           | SGT    | Emphasizes phonemic awareness, letter sounds, reading of decodable text, fluency, and comprehension of connected text. The teaching emphasizes rapid instruction, frequent opportunities to respond, positive feedback, and immediate error correction. | Website:<br><a href="http://www.texasreading.org/utcrcla/research/scale_up_proactive.asp">www.texasreading.org/utcrcla/research/scale_up_proactive.asp</a><br>E-mail: <a href="mailto:tkurz@mail.utexas.edu">tkurz@mail.utexas.edu</a> |
|    | Programmed Tutorial Reading | T-Para | A program in which paraprofessional tutors are given step-by-step procedures for a series of lessons that children proceed through at their own levels and rates. The curriculum focuses on word attack and comprehension skills.                       | No contact information currently available.  |
|  | Project READ                | CIP    | A phonetic approach to beginning reading instruction based on the Orton-Gillingham method, originally designed for tutoring dyslexics.  | Website: <a href="http://www.projectread.com">www.projectread.com</a><br>E-mail: <a href="mailto:languagecircle@projectread.com">languagecircle@projectread.com</a>  |

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| Rating  | Program               | Type | Description   | Contact / Website   |
|---|-----------------------|------|---|---|
|    | RAILS                 | CIP  | Provides children in grades K-2 with a second reading period each day to supplement their 60-90 minute reading, and provides teachers with extensive professional development focusing on explicit instruction in phonemic awareness, phonics, comprehension, and vocabulary. | E-mail: RJS15@PSU.EDU   |
|    | Read Naturally        | SGT  | A small group supplementary program that focuses on building fluency among low achievers. Students start with a “cold read” of a story and then practice with audiotapes until they reach a fluency target.   | Website: <a href="http://www.readnaturally.com">www.readnaturally.com</a><br>E-mail: <a href="mailto:info@readnaturally.com">info@readnaturally.com</a>           |
|  | Read, Write, and Type | SGT  | A computer-assisted instruction program used to create a small group teaching intervention, in which specially trained teachers added to schools’ staffs work with struggling first graders in groups of 3.   | Website: <a href="http://www.talkingfingers.com">www.talkingfingers.com</a><br>E-mail: <a href="mailto:contact@talkingfingers.com">contact@talkingfingers.com</a> |

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| Rating  | Program            | Type | Description  | Contact / Website   |
|---|--------------------|------|--|---|
|    | Reading Styles     | CIP  | An intervention in which children with learning disabilities are assessed on a reading style inventory and then given small group instruction matched to their favored styles.   | Website: <a href="http://www.nrsi.com">www.nrsi.com</a><br>E-mail: <a href="mailto:readingstyle@nrsi.com">readingstyle@nrsi.com</a> |
|    | Responsive Reading | SGT  | A program in which teachers alternate among children to provide intensive scaffolding at each child's level. A daily lesson cycle consists of fluency building, assessment, letters and words, supported reading, and supported writing. | E-mail: <a href="mailto:pmathes@smu.edu">pmathes@smu.edu</a>  |
|  | Same Age Tutoring  | CIP  | A dyadic reading approach in which children reading below grade level are assigned to pairs with normal-progress reading partners.   | E-mail: <a href="mailto:Hilde.Vankeer@ugent.be">Hilde.Vankeer@ugent.be</a>  |
|  | SHIP               | SGT  | A program that provides 30 minutes of daily supplemental instruction to struggling readers in groups of 2-3, over a two-year period.   | No contact information currently available.   |

| Rating  | Program             | Type   | Description  | Contact / Website   |
|---|---------------------|--------|--|---|
|    | TEACH               | TT     | A one-to-one tutoring program that focuses on identifying perceptual deficits (such as delayed acquisition of spatial and temporal orientation) using an instrument called SEARCH and then provides one-to-one tutoring focused not on reading instruction but on neurological skills. | Website: <a href="http://www.searchandteach.com">www.searchandteach.com</a><br>E-mail: <a href="mailto:info@searchandteach.com">info@searchandteach.com</a> |
|    | Voyager Passport    | SGT    | A commercial small-group program for struggling readers that emphasizes phonics, phonemic awareness, comprehension, vocabulary, and fluency in daily 30-40 minute sessions.  | Website:<br><a href="http://www.voyagerlearning.com/passport">www.voyagerlearning.com/passport</a>  |
|  | Wallach and Wallach | T-Para | An early phonetic approach for struggling first graders. Paraprofessionals use the program a half hour each day throughout first grade.  | No contact information currently available.   |

 **Insufficient Evidence of Effectiveness**

Academy of Reading  
 Destination Reading  
 Experience Corps  
 Failure-Free Reading  
 Fast ForWord

Gottshall Small Group Phonics  
Headsprout  
HOSTS  
New Heights  
Knowledge Box  
LeapTrack  
Plan Focus  
Read 180  
Spell Read  
Targeted Intervention  
Waterford  
Wilson Reading

### **N No Qualifying Studies**

100 Book Challenge  
A Comprehensive Curriculum for Early Student Success (ACCESS)  
Academic Associates Learning Centers  
Accelerated Reader  
ALEKS®  
ALPHabiTunes  
Alpha-Phonics  
Balanced Early Literacy Initiative  
Barton Reading and Spelling System  
Benchmark  
BookMARK  
Bradley Reading and Language Arts  
Breakthrough to Literacy  
Bridge  
Bridge to Reading  
Bring the Classics to Life  
CIERA School Change Framework  
Comprehensive Early Literacy Learning  
Classwide Peer Tutoring©  
Compensatory Language Experiences and Reading Program (CLEAR)  
Core Knowledge  
Cornerstone Literacy Initiative  
Curious George Reading and Phonics  
DaisyQuest  
Davis Learning Strategies™

Discover Intensive Phonics for Yourself  
Discovery World  
Dominie  
Dr. Cupp Readers® & Journal Writers  
Early Success  
Early to Read  
Earobics®  
Emerging Readers  
Essential Skills  
Evidence Based Literacy Instruction  
Exemplary Center for Reading Instruction (ECRI)  
Fast Track Action  
Felipe's Sound Search  
First grade Literacy Intervention Program (FLIP)  
First Steps  
Flippen Reading Connections™  
Fluency Formula  
FOCUS: A Reading and Language Program  
Four Block Framework  
Frontline Phonics  
Foundations  
Funnix  
GOcabulary Program for Elementary Students  
Goldman-Lynch Language Stimulation Program  
Goldman-Lynch Sounds-in-Symbols  
Great Leaps  
Guided Discovery LOGO  
Guided Reading  
Harcourt Accelerated Reading Instruction  
Higher Order Thinking Skills (HOTS)  
Hooked on Phonics®  
Huntington Phonics  
IntelliTools Reading  
Insights: Reading as Thinking  
Invitations to Literacy  
Irlen method  
Jigsaw Classroom  
Johnny Can Spell  
Jolly Phonics  
Kaleidoscope

KidCentered learning  
Knowledge Box  
Ladders to Literacy  
Language for Learning  
Language for Thinking  
Leap into Phonics  
Letter People  
Letterland  
LinguiSystems  
Literacy Collaborative  
Literacy First  
Little Books  
Little Readers  
LocuTour  
Matchword  
Merit Reading Software Program  
Multicultural Reading and Thinking Program (McRAT)  
My Reading Coach  
New Century Integrated Instructional System  
Next Steps  
Onward to Excellence  
Pacemaker  
Pacific Literacy  
Pause, Prompt, & Praise©  
Peabody Language Development Kits  
Performance Learning Systems  
Phonemic Awareness in Young Children  
Phonics for Reading  
Phonics Q  
Phono-Graphix  
PM Plus Readers  
Primary Phonics  
Programmed Tutorial Reading  
Project Child  
Project FAST  
Project LISTEN  
Project PLUS  
Rainbow Reading  
Read Well  
Reading Bridge

Reading Explorer's Pathfinders Tutoring Kit  
Reading Intervention for Early Success  
Reading Rods  
Reading Step by Step  
Reading Success from the Start  
Reading Upgrade  
Richards Read Systematic Language Program  
Right Start to Reading  
Road to the Code  
ROAR Reading System  
S.P.I.R.E.  
SAIL (Second grade Acceleration to Literacy)  
Saxon Phonics  
Schoolwide Early Language and Literacy (SWELL)  
Sing, Spell, Read, and Write (SSRW)  
SkillsTutor  
Soar to Success  
Soliloquy  
Sunday System  
Sound Reading  
Sounds and Symbols Early Reading Program  
Spalding Writing Road to Reading  
Starfall  
Start Up Kit  
Stepping Stones to Literacy  
STEPS (Sequential teaching of Explicit Phonics and Spelling)  
Stories and More  
Story Comprehension to Go  
Storyteller Guided Reading  
Strategies the Work  
Student Team Achievement Divisions (STAD)  
Successmaker®  
Sullivan Program  
Super QAR  
Teacher Vision®  
Ticket to Read  
Touchphonics  
Tribes learning Communities®  
Verticy Learning  
Voices Reading

VoWac (Vowel Oriented Word Attack Course)  
WiggleWorks  
Wright Skills  
Writing to Read

## Review Methods

An exhaustive search considered hundreds of published and unpublished articles. It included those that met the following criteria.

- Schools or classrooms using each program had to be compared to randomly assigned or well-matched control groups.
- Study duration had to be at least 12 weeks.
- Outcome measures had to be assessment of the reading content being taught in all classes. Almost all are standardized tests or state assessments.
- The review placed particular emphasis on studies in which schools, teachers, or students were assigned at random to experimental or control groups.

### *Program Ratings Basis*

Programs were rated according to the overall strength of the evidence support in their effects on reading achievement. “Effect size” (ES) is the proportion of a standard deviation by which a treatment exceeds a control group. Average effect sizes were weighted by sample sizes in computing means. The categories are as follows:

- 🟡 **Strong Evidence of Effectiveness:** At least two studies, one of which is a randomized or randomized quasi-experimental study, or multiple smaller studies, with a sample size-weighted effect size of at least +0.20, and a collective sample size across all studies of at least 250 students. To qualify for this category, effect sizes from the randomized studies must have a weighted mean effect size of at least +0.20.
- 🟢 **Moderate Evidence of Effectiveness:** At least two matched prospective studies, with a collective sample size of 250 students, and a weighted mean effect size of at least +0.20.

- 🟡 Limited Evidence of Effectiveness: Strong Evidence of Modest Effects: Studies meet the criteria for “moderate evidence of effectiveness” except that the weighted mean effect size is +0.10 to +0.19.
  - 🟡 Limited Evidence of Effectiveness: Weak Evidence with Notable Effects: A weighted mean effect size of at least +0.20 based on one or more qualifying studies of any qualifying design insufficient in number or sample size to meet the criteria for “Moderate Evidence of Effectiveness.”
  - 🟡 Insufficient Evidence of Effectiveness: Qualifying studies do not meet the criteria for “limited evidence of effectiveness.”
- N No Qualifying studies: No studies meet inclusion standards.

## Full Report

Slavin, R.E., Lake, C., Davis, S., & Madden, N. *Effective programs for struggling readers: A best evidence synthesis*. Baltimore, MD: Johns Hopkins University, Center for Data-Driven Reform in Education. [http://www.bestevidence.org/reading/strug/strug\\_read.htm](http://www.bestevidence.org/reading/strug/strug_read.htm)