

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 *Empower 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=+0.52 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+ 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: www.successforall.org E-mail: sfainfo@successforall.org
	Direct Instruction/ Corrective Reading	CIP, 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: www.nifdi.org E-mail: info@nifdi.org

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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: kc.vanderbilt.edu/pals E-mail: pals@vanderbilt.edu
	Reading Recovery	TT	Provides the lowest achieving readers (lowest 20%) in first grade with supplemental tutoring in addition to their regular reading classes.	Website: www.readingrecovery.org E-mail: jwolf@readingrecovery.org
	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: lynnevf@email.unc.edu
	Quick Reads	SGT	A supplementary program designed to increase fluency, build vocabulary and background knowledge, and improve comprehension.	Website: www.quickreads.org E-mail: quickreads@textproject.org

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

* 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: www.successforall.org E-mail: sfainfo@successforall.org

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: www.compasslearning.com





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: 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: http://hmlt.hmco.com/Contact.php
	Empower Reading	SGT	Designed to teach children word identification skills and decoding strategies and to promote their effective use of these strategies.	E-mail: ldrp@sickkids.ca

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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: www.lexialearning.com E-mail: info@lexialearning.com
	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: www.lindamoodbell.com/programs/lips.html
	Precision Teaching	CIP	A precision teaching approach designed to help disadvantaged children with mental retardation learn to read.	No contact information currently available.
	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: www.texasreading.org/utcr/la/research/scale_up_proactive.asp E-mail: tkurz@mail.utexas.edu

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Rating	Program	Type	Description	Contact / Website
	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: www.projectread.com E-mail: languagecircle@projectread.com
	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

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Rating	Program	Type	Description	Contact / Website
	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: www.readnaturally.com E-mail: info@readnaturally.com
	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: www.talkingfingers.com E-mail: contact@talkingfingers.com
	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: www.nrsi.com E-mail: readingstyle@nrsi.com

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Rating	Program	Type	Description	Contact / Website
	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: pmathes@smu.edu
	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: Hilde.Vankeer@ugent.be
	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: www.searchandteach.com E-mail: info@searchandteach.com
	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: www.voyagerlearning.com/passport
	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