

Reading Remediation: State of the Art

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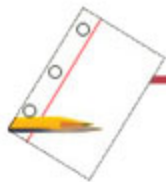
Florida State University

What is the Issue?



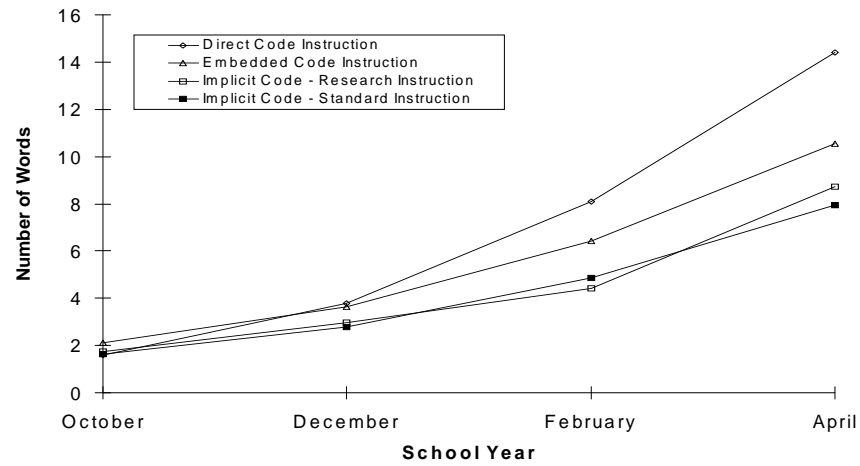
- 36% perform below basic on 4th grade NAEP; 17.5% of students nationally are RD
- NCLB requires that students at-risk for reading disability receive intervention
- The state of the art in reading remediation is prevention and early intervention
- IDEA 2004 allows up to 15% of special education funds to be used to provide intervention to struggling readers before they fail to meet grade-level achievement standards.

Landmark Studies

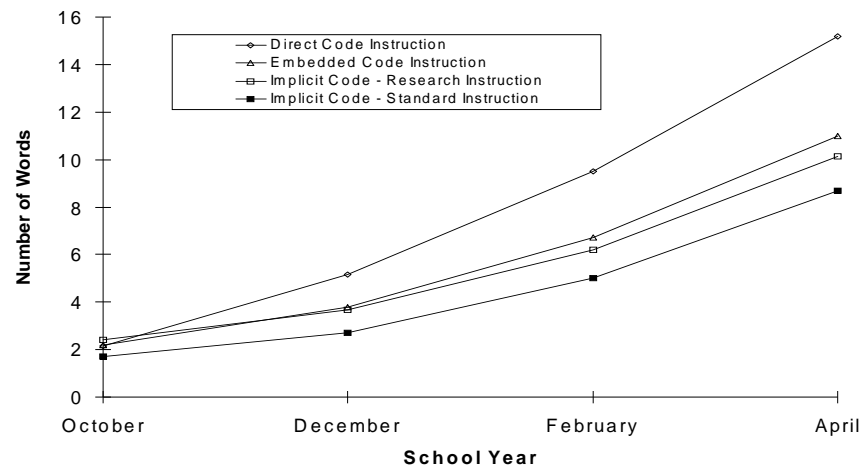


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- Classroom prevention (Foorman et al., 1998, 2006; Connor et al., 2007)
 - Early intervention (Vellutino et al., 1996; 2003)
 - Intensive intervention (Torgesen et al., 2001)

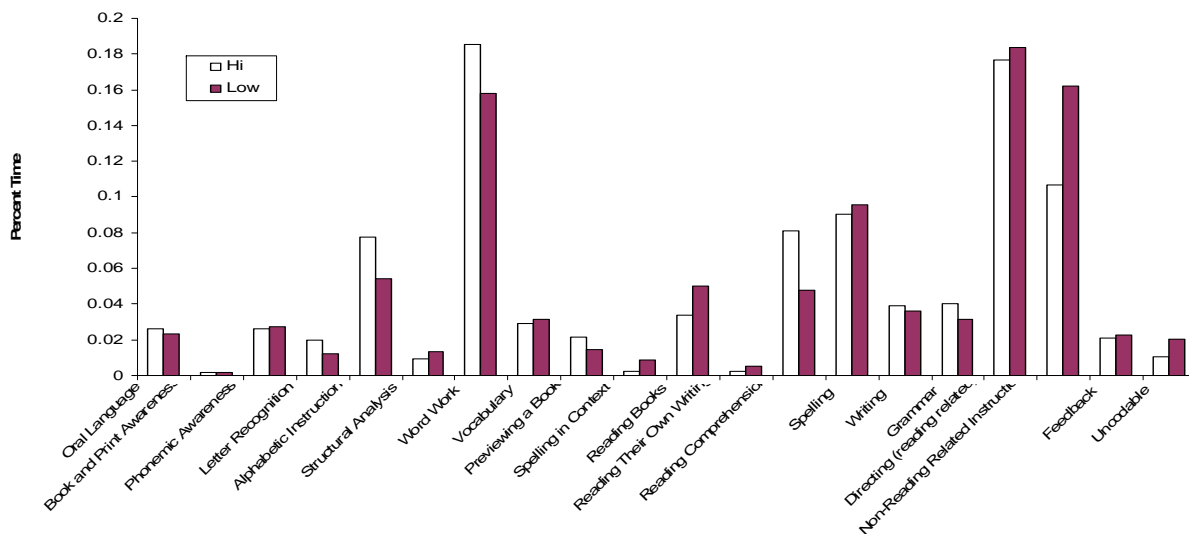
A Growth In Word Reading Raw Scores By Curriculum



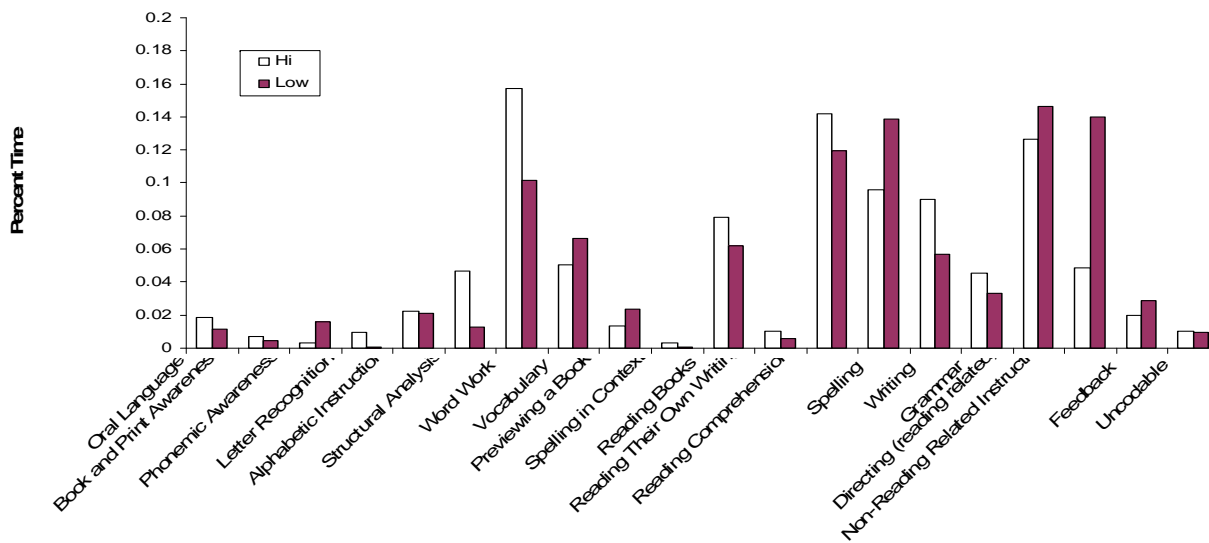
B Predicted Growth In Word Reading Scores By Curriculum



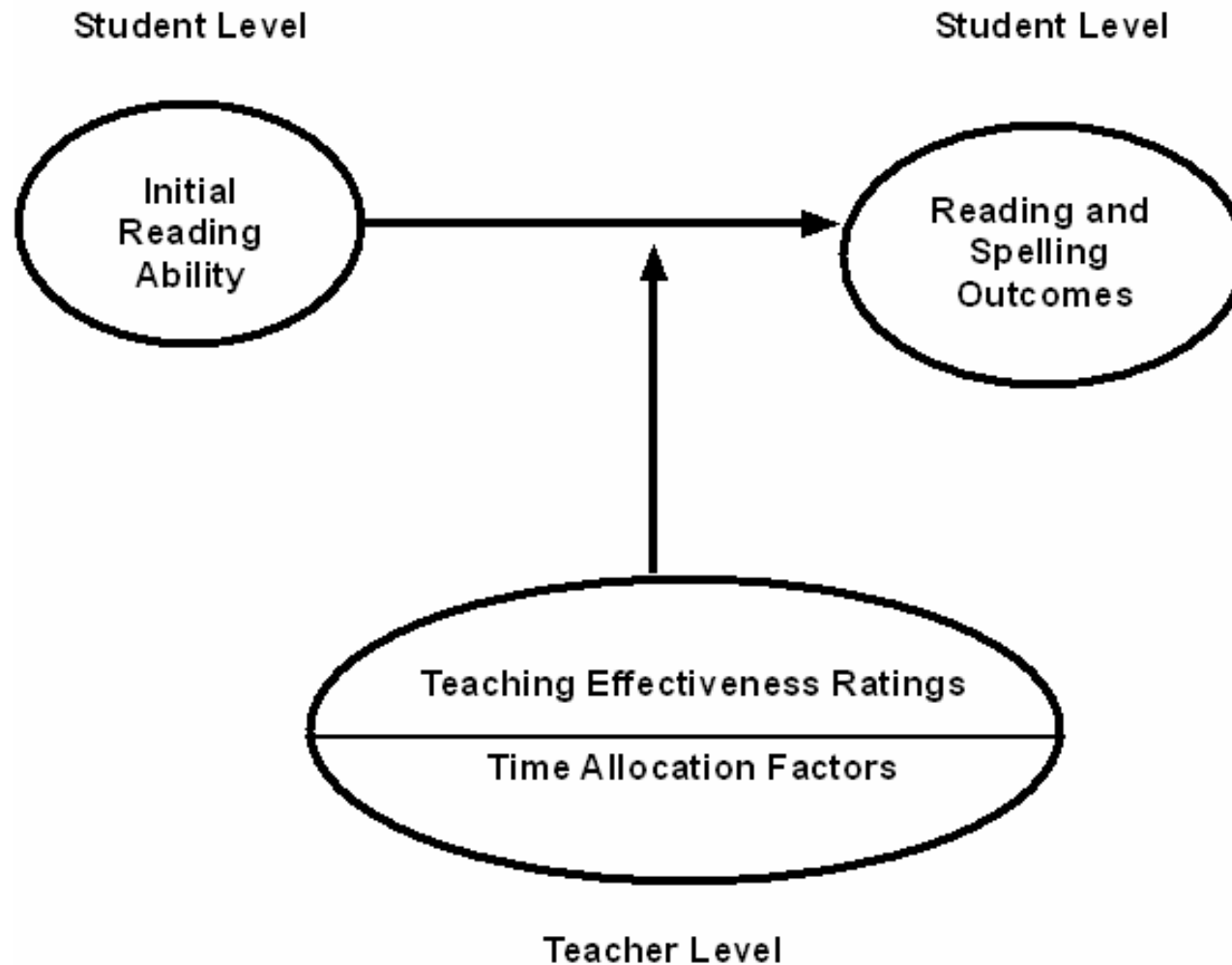
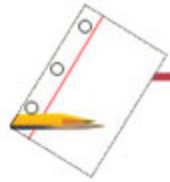
Time spent in Reading/LA Activities in 1st grade by Hi vs. Low Rated Implementers



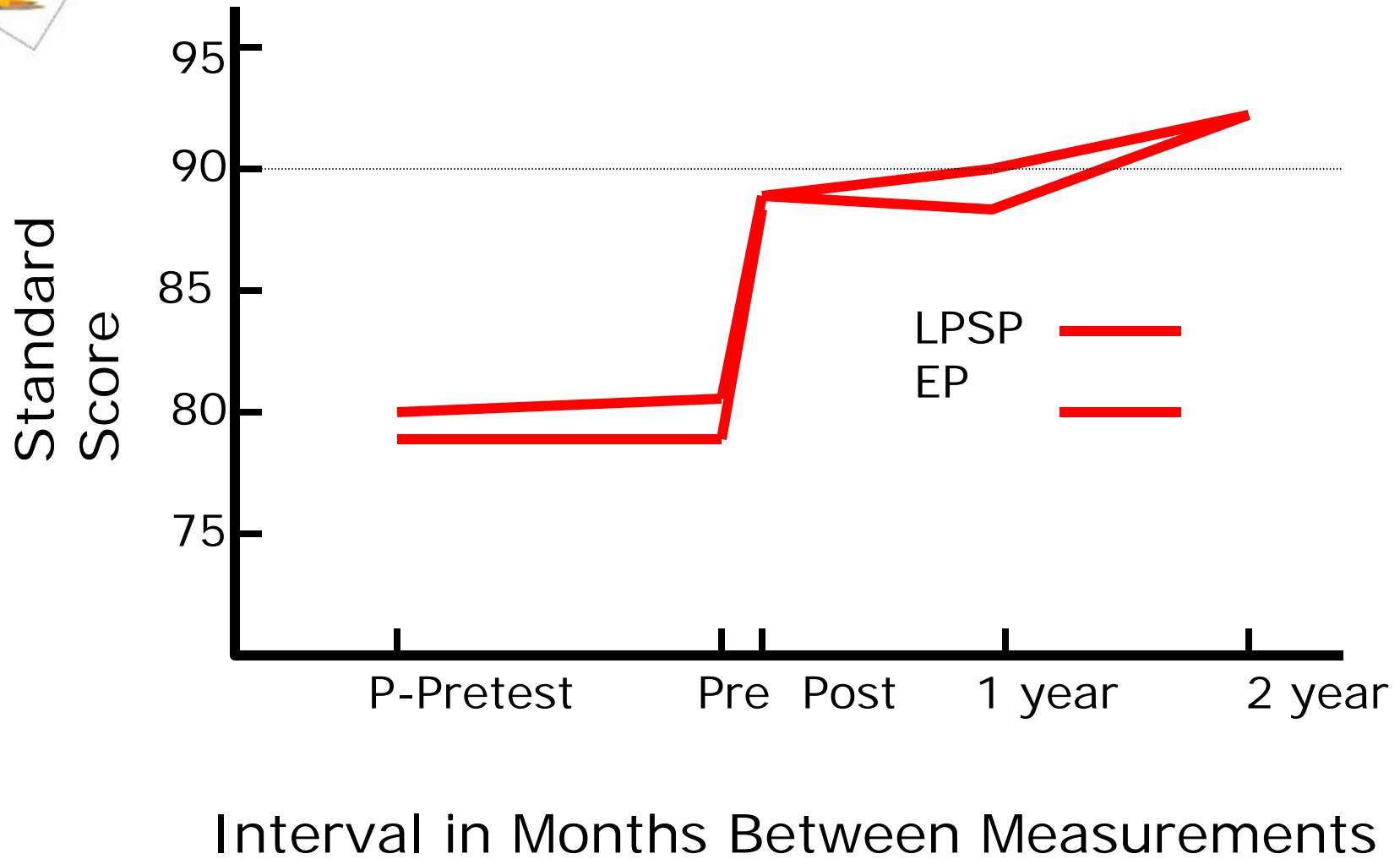
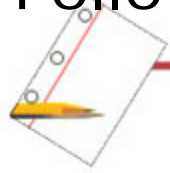
Time spent in Reading/LA Activities in 2nd Grade by Hi vs. Low Rated Implementers



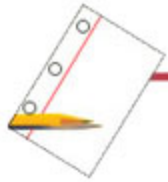
A Hypothetical Model of How Teacher Variables Moderate the Impact of Student's Initial Reading Ability on Reading and Spelling Outcomes



Growth in Total Reading Skill Before, During, and Following Intensive Intervention (Torgesen et al., 2001)

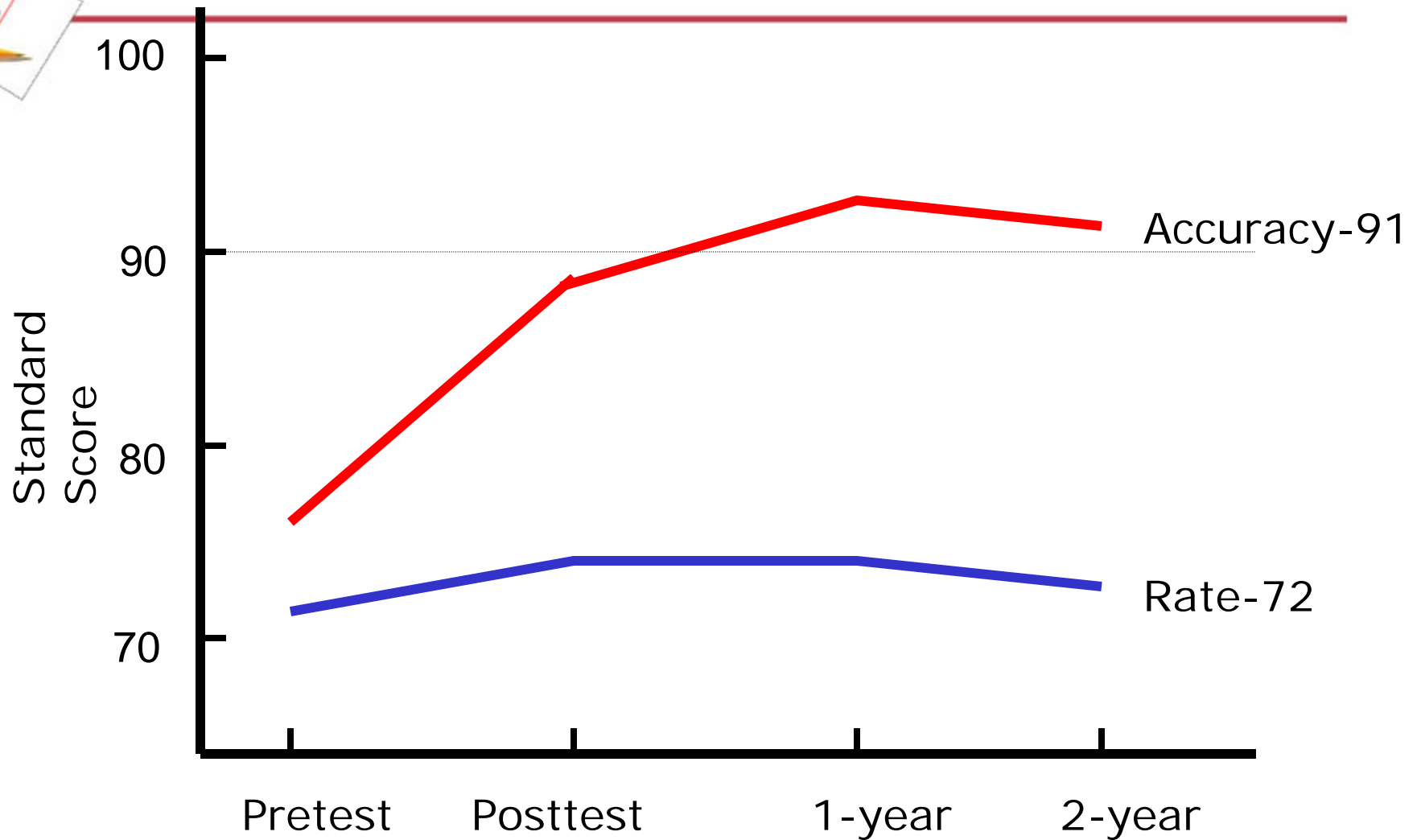
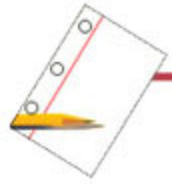


Time x Activity Analyses for the Two Intervention Approaches

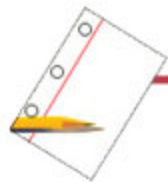


	<u>LIPS</u>	<u>EP</u>
Phonemic Awareness and Phonemic Decoding	85%	20%
Sight Word Instruction	10%	30%
Reading or writing connected text	5%	50%

Reading rate remained quite impaired



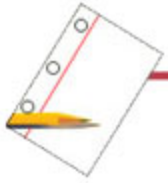
Remediation is not a solution!



Reading rate is limited because the proportion of words in grade level passages that children can read “by sight” is less than for average readers.

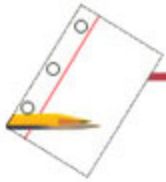
How do you close the gap when the student is already 3- 5 years behind?

Yet, there are some impressive results



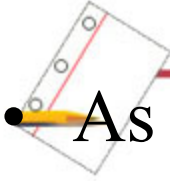
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- Berninger et al., 2003; Blachman et al., 2004; Olson & Wise, 2006
 - Lovett et al. (2000): PHAB/DI + WIST → PHAST Track Reading Program
 - Wolf, Miller, & Donnelly's (2002) RAVE-O

Effective Early Interventions

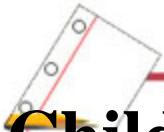


- Reading Recovery: Schwartz's (2005) RCT concludes that 5% of RR graduates don't read on grade level.
- Peer Assisted Learning Strategies (PALS): Studies show that 5-6% of 1st graders read above 30th %ile.
- Mathes et al. (RRQ; 2005)

Peer Assisted Learning Strategies

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- As a supplement to core reading, PALS has helped K-6 graders improve their phonological awareness, phonics, fluency, and comprehension (e.g., Fuchs et al., 1997; Mathes et al., 1994; Mathes et al., 1998; Simmons et al., 1994).
 - Teachers pair their students, creating dyads with one high and one low performing reader, and then train students to follow standard PALS procedures.
 - Increases students' practice time and opportunities to respond.
 - Offers structured and reciprocal practice on phonological awareness, phonics, fluency, and comprehension

Mathes et al. (2005)



Children – sampled across 2 years

- 300 At-Risk Readers identified with the Texas Primary Reading Inventory - assigned randomly to intervention.
- 100 Typically Developing Readers

Teachers

- 6 Intervention (3 Proactive & 3 Responsive)
- 30 General Education 1st-grade Teachers

Schools

- 6 non- Title 1 elementary schools in a large urban school district with an aggressive, long- term reading initiative

The Interventions



Enhanced Classroom Instruction

- **All children identified as at-risk by principal, teachers, and parents**
- **Progress monitored with feedback to principal, teachers, and parents (oral reading probes every 3 weeks)**
- **Professional development of classroom teachers in strategies for accommodating academic diversity and linking assessment to instructional planning for struggling readers**


Comparison of Two Interventions

Proactive and Responsive

- 40 minutes, 5 days per week, all school year (30 weeks)
- 1:3 teacher-student ratio
- Taught by certified teachers who are school employees, but trained and supervised by researchers
- Provided in addition to enhanced classroom instruction



Proactive Intervention

-  Explicit instruction in synthetic phonics, with emphasis on fluency.
- Integrates decoding, fluency, and comprehension strategies.
- 100% decodable text.
- Carefully constructed scope and sequence designed to prevent possible confusions.
- Every activity taught to 100% mastery everyday.



Responsive Intervention

- Explicit instruction in synthetic phonics and in analogy phonics.
- Teaches decoding, using the alphabetic principle, fluency, and comprehension strategies in the context of reading and writing.
- No pre-determined scope and sequence.
- Teachers respond to student needs as they are observed.
- Leveled text not phonetically decodable.

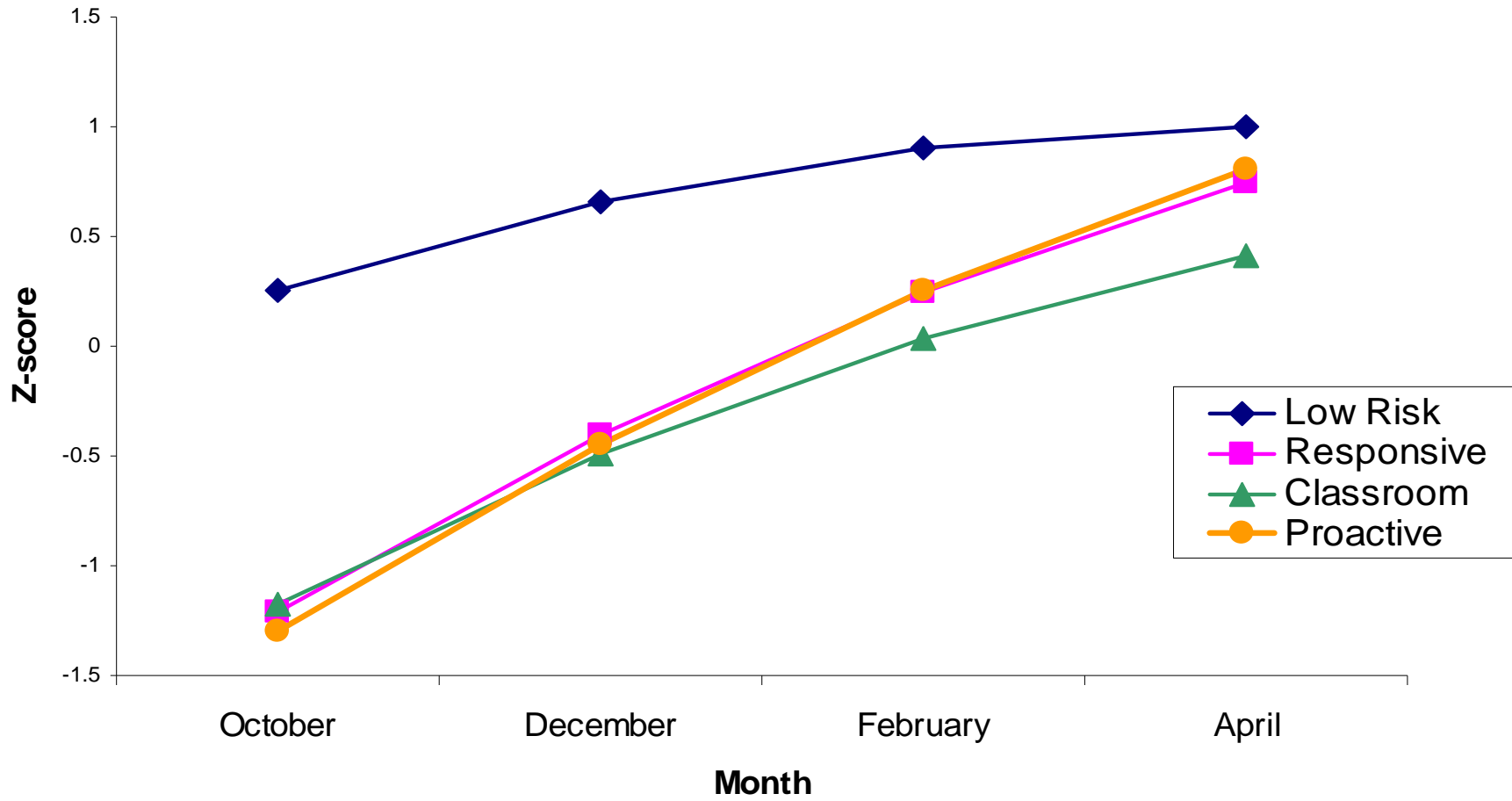


The Responsive Intervention

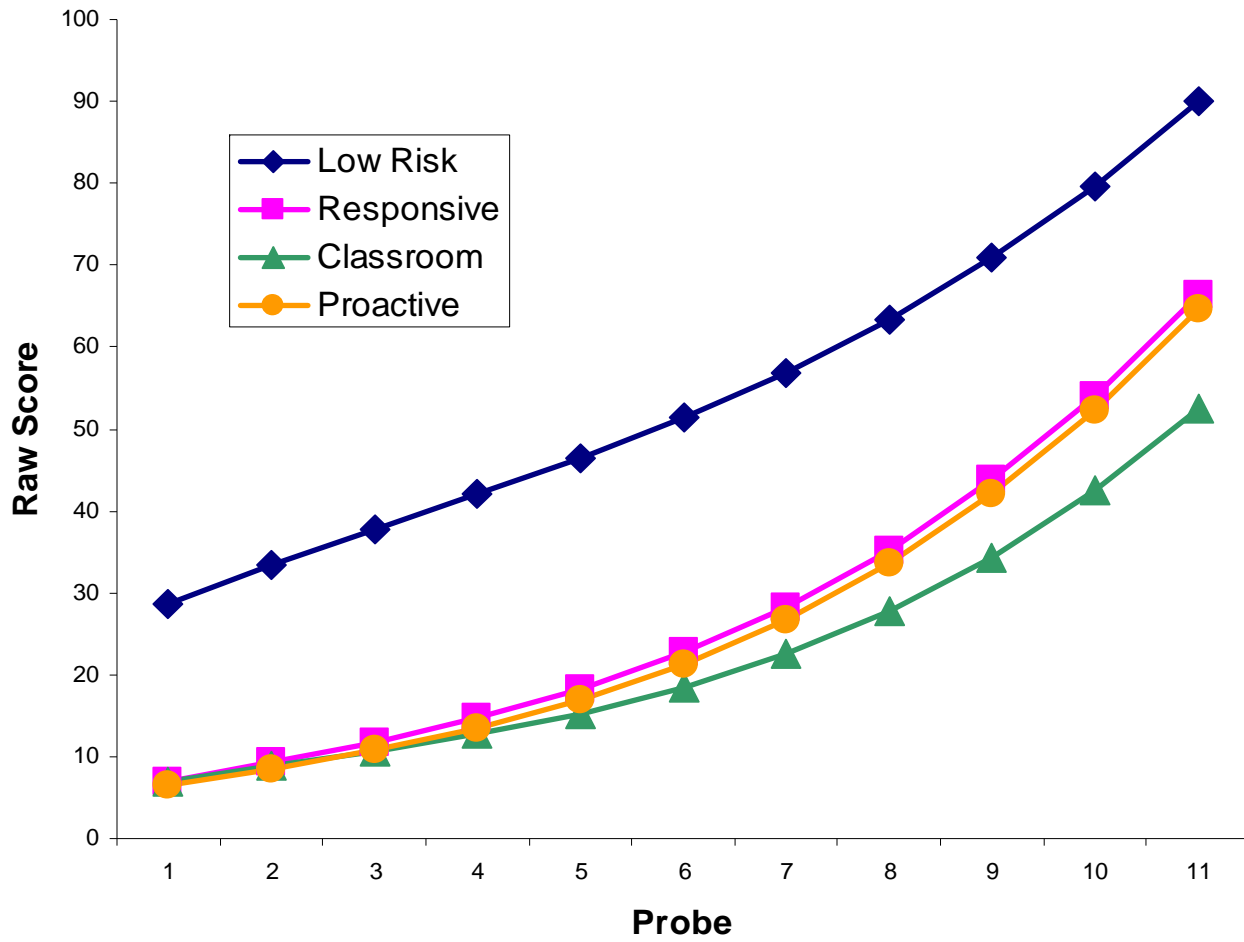
- Fluency Work (Repeated Reading) and Assessment: 8-10 minutes
- Word Work: 10-12 Minutes
- Supported Reading:
10-12 Minutes
- Supported Writing:
8-10 Minutes



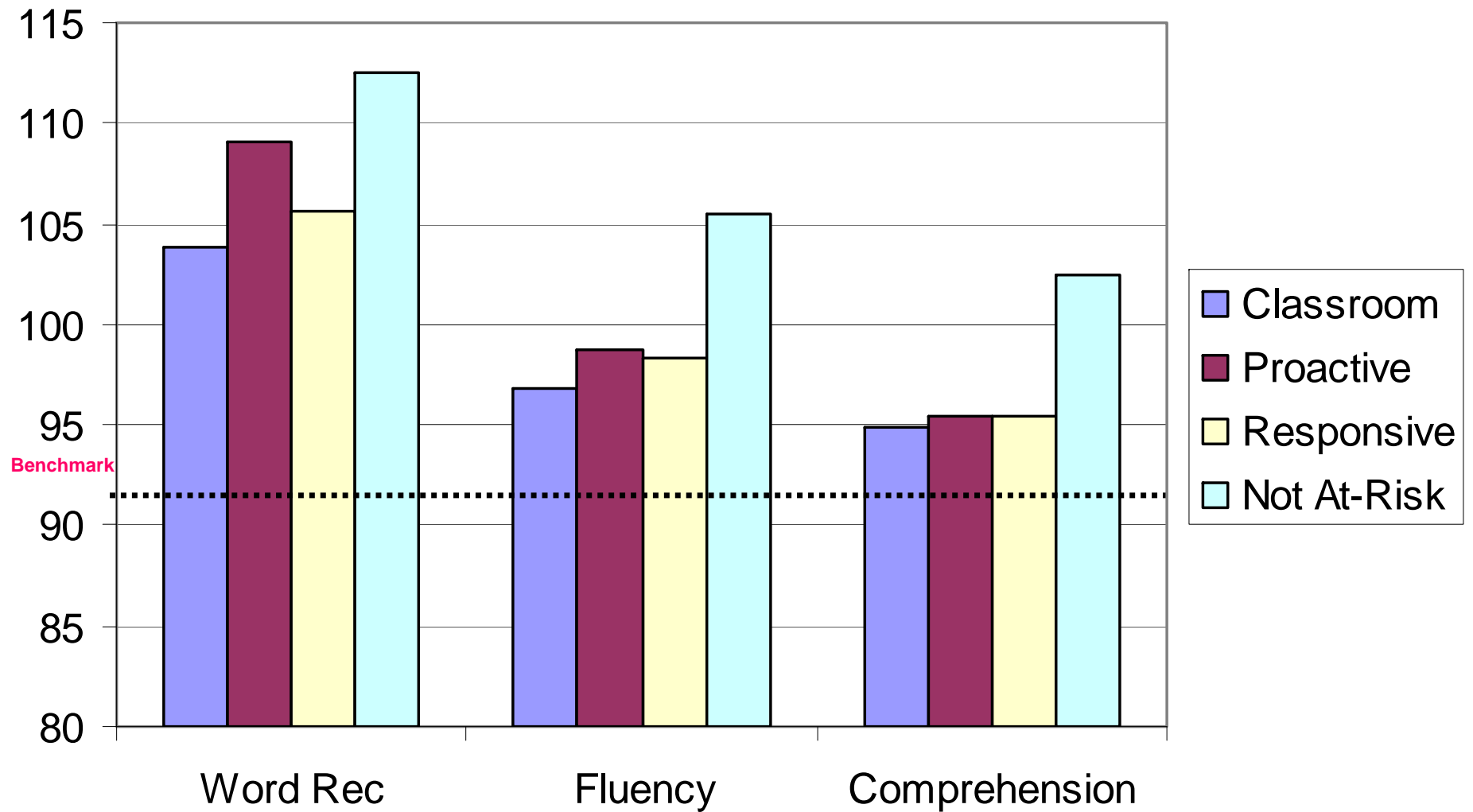
Predicted Growth in Word Reading by Group - Year 1 & 2



Predicted growth in CMERS by group



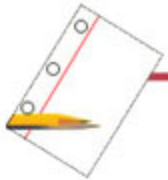
Reading Outcomes Across Critical Domains



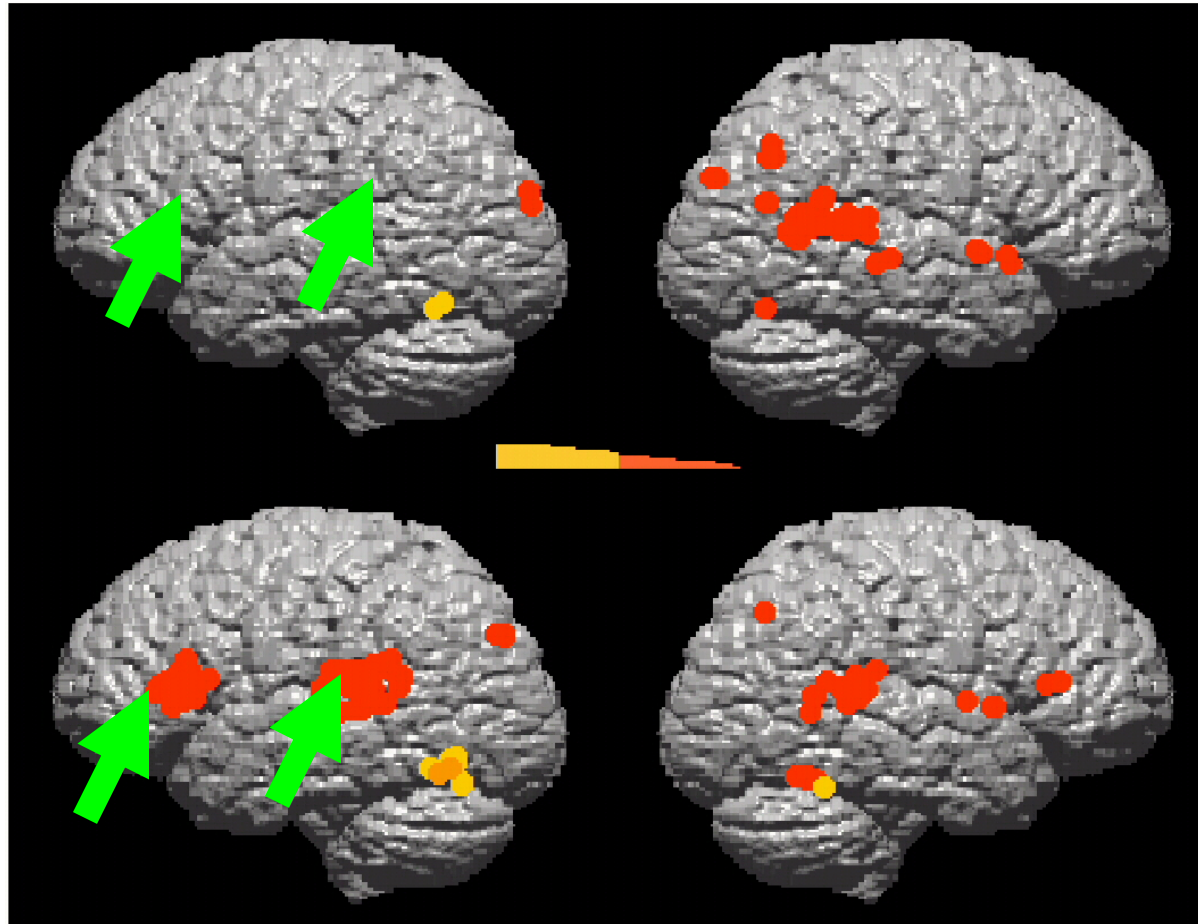
At Risk Reader

Left

Right



Kindergarten



First Grade

Simos et al., 2006



What percent of children don't respond adequately to quality intervention?

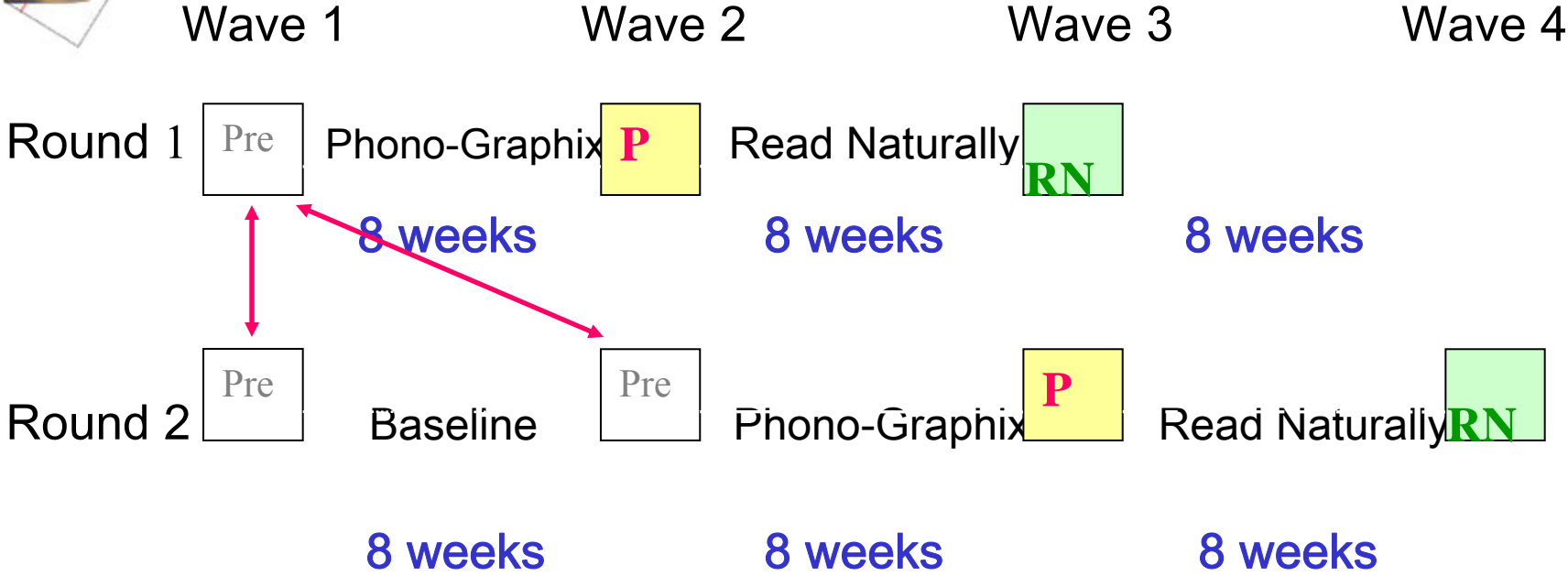
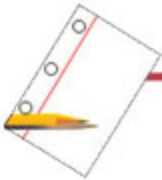
Primary only: $15/92 = 16\%$ (3% of school population)

Primary + Secondary:

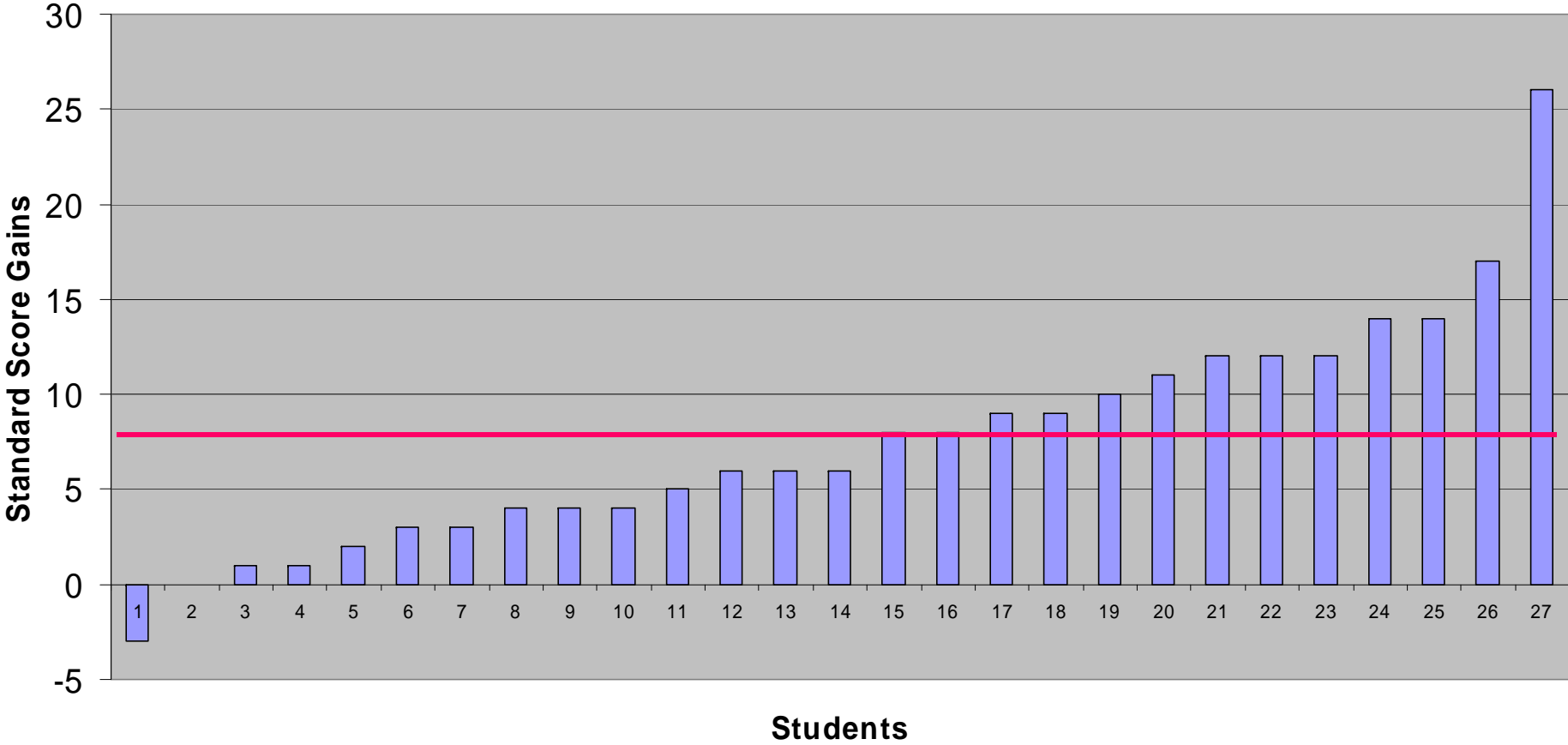
Proactive: $1/80 = < 1\%$ ($< .2\%$ of school population)

Responsive: $6/83 = 7\%$ ($< 1.5\%$ of school population)

Denton, Fletcher, Anthony, & Francis (2006; JLD)



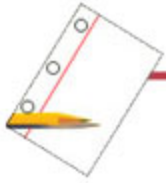
Gains in Basic Skills Standard Score Points During 16-Week Intervention



Conclusions

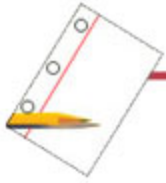
- Significant improvements in decoding, fluency, and comprehension after 8 weeks of Phonographix. Small to moderate effects of Read Naturally on fluency only, perhaps due to need for more decoding before repeated reading.
- 7 of the 27 students performed at or above the 30th %ile of the WJ-III Basic Reading after 16 weeks of daily 2-hr.intervention (& 4 between the 25th and 30th).
- Nonresponders with Tier 1 + 2 > Tier 1 alone.
- Development of reading skills dependent on establishment of LH neural network (Simos et al., 2007, JLD)

Are Volunteer Tutors Effective?



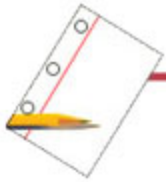
- Overall mean effect size for tutoring in several large meta-analyses is .40 (Cohen et al., 1982; Elbaum et al., 2000).
- Average effect size for volunteers was .26; however, in studies describing tutors' training, effect size was .59 (Elbaum et al.)

Effect sizes on components of reading



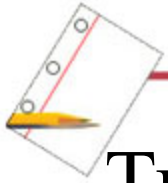
- Word identification: .42 (Baker et al., 2000) to 1.24 (Invernizzi et al., 1997)
- Word attack: .32 (Vadasy et al., 1997) to 1.24 (Vadasy et al., 2000)
- Fluency: .48 (Baker et al., 2000) to .53 (Baker et al., 2000)
- Comprehension: .10 (Vadasy et al., 2002) to .32 (Baker et al., 2000), .90 (Al Otaiba et al., 2005)

Book Buddies (Invernizzi et al., 1997)



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- Started by Invernizzi in 1993 at UVA.
 - 1:1 tutoring 4 days per week by trained, supported, & supervised volunteer tutors for a minimum of 20 weeks.
 - Effect sizes of 1.24 for word recognition relative to Title 1 historical controls. Effects hold up over time (to Grade 3).

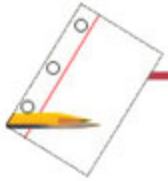
Book Buddies (cont.)



Tutoring box contains:

1. Lesson plan
2. Familiar book to be reread for fluency
3. Word bank cards and folder
4. Composition book for writing & recording word sorts
5. New book to be read that day
6. Record keeping lists

Intensity matters....



Al Otaiba et al. (2005) studied effectiveness of TAILS (Tutor Assisted Intensive Learning strategies) delivered by community volunteers (paid \$5/hr.) during the school day with at-risk kindergarteners and found that effect sizes were larger for 4 days of tutoring vs. 2 days per week (.79 for word id; .90 for passage comprehension; .83 for basic reading skills)

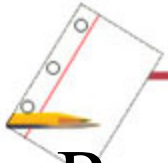
But...when less may be more



Start Making a Reader Today (SMART; Baker et al. 2000):

- Adult volunteers tutor first and second graders in 30-min. 1:1 sessions two times per week during school year
- Students selected by teachers to be in SMART
- Tutors trained in 1-hr sessions or on the job
- Each school has a half-time SMART coordinator who recruits volunteers, finds tutoring space in school, sets time, and locates books
- Effect sizes of .44 (word ID), fluency(.48-.53), word comprehension (.43), passage comprehension (.32).

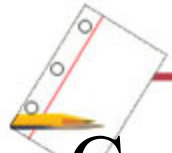
SMART handbook



Reading improves with:


- Necessary background knowledge for story
- Opportunities to hear different types of books
- Learning letter-sound relations for unknown words
- Making predictions about the story
- Deriving meaning from illustrations
- Reading, rereading, and discussing meaning

Support for community tutors (Wazik, 1998)




- Certified reading specialist to supervise tutors
- Ongoing training and feedback for tutors
- Structured tutoring sessions that incorporate basic literacy elements
- Consistent/intensive tutoring for struggling readers
- Access to high quality materials
- Ongoing assessment of student progress
- Monitoring of attendance
- Coordination of tutoring with classroom instruction

Multi-Tiered Reading Instruction



If progress is inadequate, move to next level.



Level 1: Primary Intervention

Enhanced general education classroom instruction (90 min, uninterrupted).

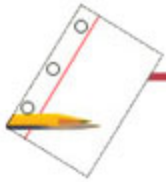
Level 2: Secondary Intervention

Child receives more intense instruction in **general education** in small groups (30 min).

Level 3: Tertiary

Intervention increases in intensity and duration; remedial, small groups (30+ min.)

For more information....



Go to www.FCRR.org



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Thank you!