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Thank you for your request to our REL Reference Desk regarding evidence-based information about the most efficient and effective way to ensure that students are reading successfully by the end of third grade. Ask A REL is a collaborative reference desk service provided by the ten regional educational laboratories (REL) that, by design, functions much in the same way as a technical reference library. It provides references, referrals, and brief responses in the form of citations on research based education questions.

The information below represents the most rigorous research available. Researchers consider the type of methodology and give priority to research reports that employ well described and thorough methods. The resources were also selected based on the date of the publication with a preference for research from the last ten years. Additional criteria for inclusion include the source and funder of the resource

**Question:** *Our district works to provide reading intervention for students in grades K-3, including the provision of a summer reading camp required by the state for students scoring at the lowest level on the state reading assessment at the end of third grade. What are the most efficient and effective ways to ensure that students are reading successfully by the end of third grade?*

### **Search Process**

**Key words and search strings used in the search:** *effective instruction, reading, early reading intervention, school, elementary, summer reading program.* These terms were sometimes used in combination with *effects*.

### **Search databases and websites:**

1. ERIC, <http://www.eric.ed.gov/>
2. JSTOR, <http://www.jstor.org/action/showAdvancedSearch>
3. Google Scholar, [www.google.com/scholar](http://www.google.com/scholar)
4. Institute of Education Sciences (IES) Resources, <http://ies.ed.gov>
5. What Works Clearinghouse, <http://ies.ed.gov/ncee/wwc/>

### **Sample Citations Retrieved:**

Foorman, B. R. & Torgesen, J. (2001). Critical elements of classroom and small-group instruction promote reading success in all children. *Learning Disabilities Research & Practice* 16(4), 203–212. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/0938-8982.00020/pdf>



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### Summary/Abstract

The components of effective reading instruction are the same whether the focus is prevention or intervention: phonemic awareness and phonemic decoding skills, fluency in word recognition and text processing, construction of meaning, vocabulary, spelling, and writing. Findings from evidence-based research show dramatic reductions in the incidence of reading failure when explicit instruction in these components is provided by the classroom teacher. To address the needs of children most at risk of reading failure, the same instructional components are relevant but they need to be made more explicit and comprehensive, more intensive, and more supportive in small-group or one-on-one formats. The argument is made that by coordinating research evidence from effective classroom reading instruction with effective small-group and one-on-one reading instruction we can meet the literacy needs of all children.

Taylor, B. M., Pearson, P. D, Clark, K., & Walpole, S. (2000). Effective schools and accomplished teachers: Lessons about primary-grade reading instruction in low-income schools. *The Elementary School Journal* 101(2), 121–165. Retrieved from <http://www.jstor.org/stable/1002340?origin=JSTOR-pdf>

### Summary/Abstract

We investigated school and classroom factors related to primary-grade reading achievement in schools with moderate to high numbers of students on subsidized lunch. 14 schools across the United States and 2 teachers in each of grades K-3 participated. 2 low and 2 average readers per class were tested individually in the fall and spring on measures of reading accuracy, fluency, and comprehension. The teachers were observed 5 times by trained observers between December and April during an hour of reading instruction, completed a written survey, completed a weekly log of reading/language arts activities in February and again in April, and were interviewed in May. Each school was identified as most, moderately, or least effective based on several measures of reading achievement in the primary grades. A combination of school and teacher factors, many of which were intertwined, was found to be important in the most effective schools. Statistically significant school factors included strong links to parents, systematic assessment of pupil progress, and strong building communication and collaboration. A collaborative model for the delivery of reading instruction, including early reading interventions, was a hallmark of the most effective schools. Statistically significant teacher factors included time spent in small-group instruction, time spent in independent reading, high levels of student on-task behavior, and strong home communication. More of the most accomplished teachers and teachers in the most effective schools supplemented explicit phonics instruction with coaching in which they taught students strategies for applying phonics to their everyday reading. Additionally, more of the most accomplished teachers and teachers in the most effective schools employed higher-level questions in discussions of text, and the most accomplished teachers were more likely to ask students to write in response to reading. In all of the most effective schools, reading was clearly a priority at both the school and classroom levels.



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Vaughn, S., Wanzek, J., Murray, C. S., Scammacca, N., Linan-Thompson, S., & Woodruff, A. L. (2009). Response to early reading intervention: examining higher and lower responders. *Exceptional Children* 75, 165-183.

Summary/Abstract

This study examined the effects of an intensive reading intervention for students demonstrating minimal response to previous, less intensive intervention. Participants received intervention for 13 to 26 weeks in first grade. In second grade, students were screened and those meeting the benchmark (higher responders) did not receive further intervention, whereas those who did not meet benchmark (lower responders) received an additional 26 weeks of a more intensive intervention. Using a regression-discontinuity design, lower and higher responders were compared on several measures of reading. Significant findings for reading comprehension and word reading were demonstrated in favor of the lower responder group. No significant results were shown for reading fluency. Teachers' perspectives of the lower responders' academic competence were significantly lower than those of higher responders.

Denton, C. A., Solari, E. J., Ciancio, D. J., Hecht, S. A., & Swank, P. R. (2010, June). A pilot study of a kindergarten summer school reading program in high-poverty urban schools. *The Elementary School Journal* 110(4), 423-439. doi: 10.1086/651190

Summary/Abstract

This pilot study examined an implementation of a kindergarten summer school reading program in 4 high-poverty urban schools. The program targeted both basic reading skills and oral language development. Students were randomly assigned to a treatment group (n = 25) or a typical practice comparison group (n = 28) within each school; however, randomization was compromised due to school circumstances, resulting in a quasi-experimental design. Instruction was delivered by the schools' regular teachers during 20 full-day summer school sessions. Each day treatment group students received large-group listening comprehension and vocabulary lessons anchored in storybook reading, along with small-group lessons focused on basic reading skills and listening comprehension. The intervention was associated with improved outcomes for treatment group students in word reading and listening comprehension with mixed results for phonemic awareness and no significant between-group differences in reading fluency or vocabulary. Such an approach is potentially efficacious, suggesting the need for further research.

Zvoch, K. & Stevens, J. (2011). Summer school and summer learning: An examination of the short- and longer term changes in student literacy. *Early Education and Development* 22(4), 649-675. doi: 10.1080/10409289.2010.489891



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### Summary/Abstract

Multiple student cohorts were longitudinally tracked and student participation in a summer program bridging the 1st- and 2nd-grade academic years was recorded to examine selection and efficacy issues related to a summer school implementation in the Pacific Northwest. The estimation of regression discontinuity models uncovered evidence of a local average treatment effect. At the cutscore for program admission, participating students had estimated summer oral reading fluency gains approximately 0.40 SD larger than those of nonparticipants. Further examination of the literacy outcomes among the sample of cutscore eligible students revealed that struggling readers who participated in the summer program increased their level of reading fluency relative to struggling readers who declined an invitation to participate. However, the advantage gained by cutscore eligible participants was not sustained over the subsequent academic year. Practice or Policy: These results suggest that supplemental summer instruction delivered to at-risk students may promote literacy gains during the otherwise challenging summer months and thereby serve as a useful intermediary tool for K–12 stakeholders seeking to keep struggling readers on track toward proficiency.

Vadasy, P. F., Sanders, E. A., & Abbott, R. D. (2008). Effects of supplemental early reading intervention at 2-year follow up: Reading skill growth patterns and predictors. *Scientific Studies of Reading, 12*, 51-89. doi: 10.1080/10888430701746906

### Summary/Abstract

This study examined the long-term growth of reading skills following 1 year of supplemental 1st-grade code-oriented intervention provided by paraeducators. A group of 79 1st graders with reading skills averaging in the lowest quartile received explicit alphabetic and decoding instruction and were assessed post intervention and at 1-year intervals through the end of 3rd grade. Growth model results indicate that students continued to benefit from 1st-grade intervention through the end of 3rd grade, with average performance near 50th percentile on decoding and reading fluency, near 40th percentile on word reading and comprehension, and near 30th percentile on spelling. Without exception, both receptive language and rapid automatized naming uniquely predicted 3rd-grade outcomes. Of the students remaining in study in fall of 2nd grade, a subgroup selected by their teachers received additional supplemental instruction. Students referred for added intervention continued to perform significantly lower than those more readily remediated with 1st-grade intervention alone.

Simmons, D. C., Kame'enui, E. J., Harn, B., Coyne, M. D., Stoolmiller, M., Santoroa, L. E., Smith, S. B., Beck, C. T. & Kufman, N. K. (2007). Attributes of effective and efficient kindergarten reading intervention: An examination of instructional time and design specificity. *Journal of Learning Disabilities, 40*, 331-347. doi: 10.1177/00222194070400040401



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### Summary/Abstract

A randomized experimental design with three levels of intervention was used to compare the effects of beginning reading interventions on early phonemic, decoding, and spelling outcomes of 96 kindergartners identified as at risk for reading difficulty. The three instructional interventions varied systematically along two dimensions—time and design of instruction specificity—and consisted of (a) 30 min with high design specificity (30/H), (b) 15 min with high design specificity plus 15 min of non-code-based instruction (15/H+15), and (c) a commercial comparison condition that reflected 30 min of moderate design specificity instruction (30/M). With the exception of the second 15 min of the 15/H+15 condition, all instruction focused on phonemic, alphabetic, and orthographic skills and strategies. Students were randomly assigned to one of the three interventions and received 108 thirty-minute sessions of small-group instruction as a supplement to their typical half-day kindergarten experience. Planned comparisons indicated findings of statistical and practical significance that varied according to measure and students' entry-level performance. The results are discussed in terms of the pedagogical precision needed to design and provide effective and efficient instruction for students who are most at risk.

Cartledge, G., Yurick, A., Harjani, A., Keyes, S. E. & Kourea, L. (2011). Follow-up study of the effects of a supplemental early reading intervention on the reading/disability risk of urban primary learners. *Exceptionality*, 19, 140-159. doi: 10.1080/09362835.2011.562095

### Summary/Abstract

Early intervention to mitigate special education and reading risk is especially critical for low socioeconomic and minority learners. This study examined the lasting effects of an early reading intervention package of phonemic awareness on the reading skills of 38 second-grade students one and two years after intervention ended. The participants were kindergarten through second grade low socioeconomic, racially diverse learners from three urban elementary schools. Assessments consisted of standardized annual pre- and posttests and Dynamic Indicators of Basic Early Literacy Skills regular measures. The findings showed beneficial effects of the early literacy interventions with strong responders attaining and maintaining benchmark status and with poorer responders needing more intensive instruction to show continuous growth. On the other hand, initially low-risk (non-treatment) urban learners failed to maintain their early advantage over their higher risk peers, suggesting the need for more extensive monitoring and interventions within urban settings. The implications of these findings as well as directions for future research are discussed. (Contains 2 tables and 5 figures.)



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Vellutino, F. R., Scanlon, D. M., Zhang, H. & Schatschneider, C. (2008). Using response to kindergarten and first grade intervention to identify children at-risk for long-term reading difficulties. *Reading and Writing: An Interdisciplinary Journal*, 21, 437-480. doi: 10.1007/s11145-007-9098-2

### Summary/Abstract

Entry-level kindergartners in classrooms from five middle class school districts were given a test of letter identification and children who scored at or below the 30th percentile on the test were classified as "at risk" for early reading difficulties. Half of these children were randomly assigned to a project-based intervention condition where they received supplementary intervention in small groups until the end of their kindergarten year. The other half received whatever remedial services were available at their home schools and literacy skills development in both groups was tracked throughout kindergarten. All available at-risk children were again assessed at the beginning of first grade and dichotomized into a "continued-risk" group and a "no-longer-at-risk" group using a composite measure of basic word level skills. Normal reader controls were also identified using the same measure. Children in the continued-risk group received either project-based intervention (one-to-one tutoring 30 min daily) or school-based intervention throughout first grade. Intervention for project treatment children was discontinued at the end of first grade and literacy development in all groups was tracked until the end of third grade. The present study focused on literacy development in children who received only project-based kindergarten intervention or both (project-based) kindergarten and first grade intervention, relative to the normal reader controls. Of special interest was the question of whether measures of response to intervention would more effectively distinguish between continued-risk and no-longer-at-risk children than would kindergarten screening measures, measures of intelligence, or measures of reading-related cognitive abilities. Results indicated that the RTI measures more effectively and more consistently distinguished between these two groups than did the psychometric measures.

Gersten, R., Compton, D., Connor, C.M., Dimino, J., Santoro, L., Linan-Thompson, S., and Tilly, W. D. (2008). *Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide.* (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncee/wwc/publications/practiceguides/>.

### Summary/Abstract

This guide offers five specific recommendations to help educators identify struggling readers and implement evidence-based strategies to promote their reading achievement. Teachers and reading specialists can utilize these strategies to implement RtI and multi-tier intervention methods and frameworks at the classroom or school level. Recommendations cover how to





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screen students for reading problems, design a multi-tier intervention program, adjust instruction to help struggling readers, and monitor student progress.

## **Referrals**

### **Organizations:**

The Campaign for Grade-level Reading, <http://gradelevelreading.net/>

National Association of Elementary School Principals, <http://www.naesp.org/>

International Reading Association, [www.reading.org](http://www.reading.org)

Florida Center for Reading Research, [www.fcrr.org](http://www.fcrr.org)

### **Federally Funded Resources:**

- US Department of Education, Institute of Education Sciences (IES) Resources, <http://ies.ed.gov>  
Publication search engine available at: <http://ies.ed.gov/pubsearch/>
- What Works Clearinghouse, <http://ies.ed.gov/ncee/wwc/>

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