

EVIDENCE-BASED EARLY LITERACY INTERVENTIONS

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 **The Larry King Center**
for Building Children's Futures

RESEARCH NOTES

CRITERIA

To be included in this review, the intervention must:

- 1) be designated as evidence-based by one of the sources listed below,
- 2) have a positive effect on a component of early literacy, and
- 3) focus primarily on early literacy, i.e. programs teaching the reading fundamentals for 0 to 5 year olds. Other programs that may have a literacy component or may focus on literacy for older children are not included, i.e. Parents as Teachers, HIPPY, EvenStart, Early Head Start, Head Start, High Scope, MotherRead etc., which may or may not be evidence-based.

SOURCES

To develop this matrix, the following evidence-based registries were reviewed:

- Office of Juvenile Justice and Delinquency Prevention (OJJDP) Model Programs Guide
- Coalition for Evidence-Based Policy, California Evidence-Based Clearinghouse (CEBC)
- Promising Practices Network (PPN)
- Child Trends
- Department of Health and Human Services , Home Visiting Evidence of Effectiveness (HomVEE)
- Washington Institute Public Policy.

No early literacy programs meeting the criteria were referenced. However, many of the registries sourced the What Works Clearinghouse (WWC) of the US Department of Education for programs that meet the criteria above. The WWC operates two registries: the Registry of Evaluation Researchers and the Registry of Randomized Controlled Trials.

- The Registry of Evaluation Researchers is an online database of researchers who conduct evaluations of the effectiveness of educational interventions. This resource is designed to help schools, school districts, and educational program developers identify potential researchers (individuals and organizations) to conduct studies of effectiveness of educational interventions.
- The Registry of Randomized Controlled Trials (RCTs) is an online database of completed and in-progress RCTs in education. This resource is designed to help schools, school districts, and educational program developers identify research regarding the effectiveness of educational interventions.

Daisy Quest	
Intervention Type	Software/Curriculum
Description	A software bundle that offers computer-assisted instruction in phonological awareness, targeting children aged three to seven years. The instructional activities, framed in a fairy tale involving a search for a friendly dragon named Daisy, teach children how to recognize words that rhyme; words that have the same beginning, middle, and ending sounds; and words that can be formed from a series of phonemes presented separately, as well as how to count the number of sounds in words.
Extent of Evidence	Beginning Reading Evidence – Small; Early Childhood Education – Not Rated
Target Outcomes/Findings	<p>Beginning Reading Evidence</p> <ul style="list-style-type: none"> • Positive effects on alphabetic skills. <p>Early Childhood Education</p> <ul style="list-style-type: none"> • Positive Effects on phonological processing
Research & Notes	<p>Beginning Reading Evidence: Four studies met the What Works Clearinghouse (WWC) evidence standards. The studies included a total of 223 students ranging in age from five to seven years, attending schools in different communities and states, including one western and one southeastern state. The studies examined DaisyQuest's effects in the alphabetic domain, specifically on phonological awareness and phonics measures. http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=128</p> <p>Early Childhood Education: Two studies of DaisyQuest met the WWC evidence standards. Together these studies included 68 preschool children from Tallahassee, Florida, and Orem, Utah, and examined intervention effects on phonological processing. The children studied were from families with low to middle socioeconomic status. This report focuses on immediate posttest findings to determine the effectiveness of the intervention. http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=130</p>

Dialogic Reading

Intervention Type	Technique
Description	An interactive shared picture book reading practice designed to enhance young children's language and literacy skills. During the shared reading practice, the adult and the child switch roles so that the child learns to become the storyteller with the assistance of the adult who functions as an active listener and questioner.
Extent of Evidence	Early Childhood Education – Not Rated Early Childhood Education for Children with Disabilities – Small
Target Outcomes/Findings	Early Childhood Education <ul style="list-style-type: none">• Positive Effects on oral language Early Childhood Education for Children with Disabilities <ul style="list-style-type: none">• Potentially positive effects on language competencies
Research & Notes	<p>Early Childhood Education: Four studies of Dialogic Reading met the What Works Clearinghouse (WWC) evidence standards and one study met the WWC evidence standards with reservations. Together these five studies included over 300 preschool children and examined intervention effects on children's oral language and phonological processing. The majority of the children studied were from economically disadvantaged families. This report focuses on immediate posttest findings to determine the effectiveness of the intervention.</p> <p>http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=135</p> <p>Early Childhood Education for Children with Disabilities: Two studies of dialogic reading that fall within the scope of the Early Childhood Education Interventions for Children with Disabilities review protocol meet What Works Clearinghouse (WWC) evidence standards. The two studies included 52 students with language delays, from ages three to six, participating in early childhood programs in the Pacific Northwest. Both studies examined intervention effects on children's communication and language competencies.</p> <p>http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=136</p>

Doors to Discovery

Intervention Type	Curriculum
Description	An early childhood curriculum, focuses on the development of children's vocabulary and expressive and receptive language through a learning process called "shared literacy," where adults and children work together to develop literacy-related skills. Literacy activities, organized into thematic units, encourage children's development in a number of areas identified by research as the foundation for early literacy success: oral

	language, phonological awareness, concepts of print, alphabet knowledge, writing, and comprehension. Each unit is available as a kit that includes various teacher resources.
Extent of Evidence	Small, Medium to Large
Target Outcomes/Findings	<p>Early Childhood Education</p> <ul style="list-style-type: none"> • potentially positive effects on oral language • potentially positive effects on print knowledge
Research & Notes	<p>One study of <i>Doors to Discovery</i>TM meets What Works Clearinghouse (WWC) evidence standards, and one study meets WWC evidence standards with reservations. The two studies included 33 preschool classrooms and 220 prekindergarten children from three to five years of age in two locations in the southwest United States.</p> <p>http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=153</p>

Earobics	
Intervention Type	Software/Curriculum
Description	<p>An interactive software that provides students in pre-K through third grade with individual, systematic instruction in early literacy skills as students interact with animated characters. Earobics[®] Foundations is the version for prekindergarten, kindergarten, and first grade. Earobics[®] Connections is for second and third graders and older struggling readers. The program builds children's skills in phonemic awareness, auditory processing, and phonics, as well as the cognitive and language skills required for comprehension. Each level of instruction addresses recognizing and blending sounds, rhyming, and discriminating phonemes within words, adjusting to each student's ability level. The software is supported by music, audiocassettes, and videotapes and includes picture/word cards, letter-sound decks, big books, little books, and leveled readers for reading independently or in groups.</p>
Extent of Evidence	Small
Target Outcomes/Findings	<p>Beginning Reading Evidence</p> <ul style="list-style-type: none"> • Positive effects on alphabets • Potential positive effects on reading fluency

Research & Notes	Two studies of Earobics® meet What Works Clearinghouse (WWC) evidence standards and two studies meet WWC evidence standards with reservations. The four studies included 246 students from grades K through 3 in Los Angeles, California; southwest Florida; Anchorage, Alaska; and Chicago, Illinois. http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=158
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Headsprout® Early Reading	
Intervention Type	Curriculum
Description	An Internet-based supplemental early literacy curriculum consisting of eighty 20-minute animated episodes, the first 40 of which are appropriate for prekindergarten age students. The episodes are designed to teach phonemic awareness, phonics, fluency, vocabulary, and comprehension. The program adapts to a child's responses, providing additional instruction and review if a child does not choose the correct answer. Teachers may use stories based on the episodes to reinforce instruction provided in the lessons.
Extent of Evidence	Small
Target Outcomes/Findings	Early Childhood Education <ul style="list-style-type: none"> • potentially positive effects on oral language • potentially positive effects on print knowledge
Research & Notes	One study of <i>Headsprout® Early Reading</i> meets What Works Clearinghouse (WWC) evidence standards and no studies meet WWC evidence standards with reservations. This study included 62 preschool children across five classrooms in two Head Start centers in Florida. http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=211

Interactive Shared Book Reading	
Intervention Type	Technique
Description	General practice that adults may use when reading with children and is intended to enhance young children's language and literacy skills. Typically, Interactive Shared Book Reading involves an adult reading a book to a child or a small group of children and using a variety of techniques to engage the children in the text.

Extent of Evidence	Small
Target	Early Childhood Education
Outcomes/Findings	<ul style="list-style-type: none"> • Potentially Positive Effects on early reading/writing • Mixed effects on oral language
Research & Notes	<p>Two studies of Interactive Shared Book Reading met the WWC evidence standards and one study met the WWC evidence standards with reservations. Together these three studies included over 100 preschool children from the Midwest and Florida, and they examined intervention effects on children's oral language, print knowledge, and early reading/writing. The majority of the children were from economically disadvantaged families and many were considered at-risk. This report focuses on immediate posttest findings to determine the effectiveness of the practice.</p> <p>http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=240</p>

Literacy Express	
Intervention Type	Curriculum
Description	<p>Preschool curriculum designed for three- to five-year-old children. It is structured around units on oral language, emergent literacy, basic math, science, general knowledge, and socioemotional development. It can be used in half- or full-day programs with typically developing children and children with special needs. It provides professional development opportunities for staff; teaching materials; suggested activities; and recommendations for room arrangement, daily schedules, and classroom management.</p>
Extent of Evidence	Small, Medium to Large
Target	Early Childhood Education
Outcomes/Findings	<ul style="list-style-type: none"> • positive effects on oral language • positive effects on print knowledge • positive effects on phonological processing •
Research & Notes	<p>Three studies of <i>Literacy Express</i> that fall within the scope of the Early Childhood Education review protocol meet What Works Clearinghouse (WWC) evidence standards. The three studies include 1,004 preschool children from three to five years of age from 70 preschools in Florida and California.</p> <p>http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=288</p>

Sound Foundations	
Intervention Type	Curriculum
Description	A literacy curriculum designed to teach phonological awareness to preliterate children, focuses exclusively on phoneme identity (that is, different words can start and end with the same sound). It works from the principle that phonemic awareness is necessary but not sufficient to reading, which depends on the alphabetic principle (that is, the association of sounds with letters and using those sounds to form words). The curriculum is self-contained and can be used by teachers, parents, or teaching assistants.
Extent of Evidence	Small
Target Outcomes/Findings	<p>Early Childhood Education</p> <ul style="list-style-type: none"> • Potentially Positive Effects on phonological processing • Potentially positive effects on reading/writing
Research & Notes	<p>Early Childhood Education: One study of Sound Foundations met the What Works Clearinghouse (WWC) evidence standards. This study included 26 preschool children and examined intervention effects on children's phonological processing and early reading/writing. This report focuses on immediate posttest findings to determine the effectiveness of the intervention; however, follow-up findings provided by the study authors are included in the technical appendices.</p> <p>http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=474</p>

Stepping Stones to Literacy	
Intervention Type	Curriculum
Description	A supplemental curriculum designed to promote listening, print conventions, phonological awareness, phonemic awareness, and serial processing/rapid naming (quickly naming familiar visual symbols and stimuli such as letters

	or colors). The program targets kindergarten and older preschool students considered to be underachieving readers, based on teacher's recommendations, assessments, and systematic screening. Students participate in 10- to 20-minute daily lessons in a small group or individually. The curriculum consists of 25 lessons, for a total of 9–15 hours of instructional time.
Extent of Evidence	Small
Target Outcomes/Findings	Beginning Reading Evidence <ul style="list-style-type: none"> • potential positive effects on alphabetics
Research & Notes	Two studies of Stepping Stones to Literacy met the What Works Clearinghouse (WWC) evidence standards. The two studies included 120 kindergarten students in 17 elementary schools in the Midwest. The WWC considers the extent of evidence for Stepping Stones to Literacy to be small for alphabetics. No studies that met WWC evidence standards with or without reservations addressed fluency, comprehension, or general reading achievement. http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=484

Success for All	
Intervention Type	Curriculum
Description	<p>A whole-school reform model that includes a reading, writing, and oral language development program for students in prekindergarten through eighth grade. Classroom reading instruction is delivered in daily 90-minute blocks to students grouped by reading ability. Immediate intervention with tutors who are certified teachers is given each day to those students who are having difficulty reading at the same level as their classmates.</p> <p>This intervention report focuses on the reading component of SFA®, which is often implemented in the context of the SFA® whole-school reform program. Although the whole-school reform program has key components that are implemented in each school, school sites may vary considerably in the number of personnel used to implement SFA®, particularly tutors and family support staff. The reading curricula are essentially the same at all schools, with each school receiving the same training, coaching support, and materials. Ratings presented in this report are not disaggregated by the variations in implementation of whole-school reforms.</p>
Extent of Evidence	Medium to Large
Target	Beginning Reading Evidence

Outcomes/Findings

- positive effects on alphabetics
- mixed effects for comprehension
- potentially positive effects on general reading achievement

Research & Notes

One study of *SFA*® meets the What Works Clearinghouse (WWC) evidence standards and six studies meet WWC evidence standards with reservations. Altogether, the studies included nearly 4,000 students attending more than 70 elementary schools across the United States. The seven studies focused on students in grades K–3 who received the *SFA*® intervention for varying amounts of time.

<http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=496>

APPENDIX: What Works Clearinghouse Criteria for “Extent of Evidence” Designation and Findings

Extent of Evidence – The extent of evidence categorization for intervention reports was developed to inform readers how much evidence was used to determine the intervention effectiveness rating, focusing on the number and sizes of studies. This scheme has two categories: small and medium to large. Outcomes with a small extent of evidence include only one study, or one school, or findings based on a total sample size of less than 350 students and, assuming 25 students in a class, a total of less than 14 classrooms across studies. Outcomes with a medium to large extent of evidence include more than one study, more than one school, and findings based on a total sample size of 350 students, or assuming 25 students in a class, a total of at least 14 classrooms across studies.

Findings – In intervention reports, the WWC rates the effects of an intervention on student outcomes as: positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.

- Positive Effects: strong evidence of a positive effect with no overriding contrary evidence.
- Potentially Positive Effects: evidence of a positive effect with no overriding contrary evidence.
- Mixed Effects: evidence of inconsistent effects.

Interventions that only had a designation of “no discernible effects”, “potentially negative,” and/or “negative” were not included in matrix.

The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings, the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies.