

Effective Early Childhood Education Programs: A Systematic Review

Educator's Summary September, 2010

This review systematically applied consistent methodological standards to evaluate programs that early childhood educators might consider adopting to prepare children for success in elementary school. The findings of this review reinforce evidence that children's educational experiences before they start school have an important impact on their achievement in elementary school.

The review was extensive, considering all available research conducted from 1960 onwards on programs for children aged three to five in a group setting. Study inclusion criteria included the use of randomized or matched control groups, evidence of initial equality, and study duration of at least 12 weeks. Studies included valid measures of language, literacy, phonological awareness, mathematical, and/or cognitive outcomes that were independent of the experimental treatments. Thirty-eight studies evaluating 27 different programs met the criteria for outcomes assessed at the end of preschool and/or kindergarten.

Program Ratings

The review concluded that on academic outcomes at the end of preschool and/or kindergarten, of the 27 early childhood programs included in the review, six showed strong evidence of effectiveness and five had moderate evidence of effectiveness. Programs were rated as follows.

Strong Evidence of Effectiveness

Six early childhood programs produced strong evidence of effectiveness, with a sample size-weighted effect size of at least +0.20 in at least two studies, one of which was randomized. The effects for these programs were on language, literacy, and/or phonological awareness. For some of the studies, the meaningful effects were seen only at the end of preschool (*Direct Instruction and Interactive Book Reading*), and for others, positive effects were apparent at the end of kindergarten (*Curiosity Corner*, *ELLM*, and *Ready Set Leap!*).

All of these programs had explicit academic content, a balance of teacher-led and child-initiated activity, and significant training and follow-up support.

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Rating	Program	Description	Contact / Website
	Curiosity Corner	A comprehensive cognitive-developmental program developed by the Success for All Foundation. It aims to develop the attitudes, skills, and knowledge necessary for later school success with an emphasis on children's language and literacy skills.	E-mail: sfainfo@successforall.org Website: www.successforall.org/Programs/curiositycorner.html
	Direct Instruction	A teacher-directed program in which specific cognitive and literacy skills are broken down into small units and taught explicitly. The main focus of the program is on basic academic concepts, such as arithmetic and reading.	E-mail: info@nifdi.org Website: www.nifdi.org
	Early Literacy and Learning Model (ELLM)	A literacy-focused curriculum and support system designed for young children from low-income families. The <i>ELLM</i> curriculum and support system is designed to enhance existing classroom curricula by specifically focusing on children's early literacy skills and knowledge.	Website: www.unf.edu/dept/fie/ellm-plus-home.html

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Rating	Program	Description	Contact / Website
	Interactive Book Reading	A program designed to promote the language and literacy proficiency of young children. Teachers actively engage their children in shared reading time by asking open-ended questions, encouraging them to use newly acquired vocabulary from the book, and providing opportunities to elaborate on what children read and hear.	No contact information currently available
	Let's Begin with the Letter People	A program that emphasizes early language and literacy development through play. In addition to classroom teaching, the program has a strong home/parent component.	Website: www.abramslearningtrends.com/lets_begin_with_letter_people.aspx
	Ready Set Leap!	A comprehensive preschool curriculum which combines literacy-focused instructional approaches with multisensory technology. The program stresses the importance of experiential learning, social and emotional development, teacher-child relationships, and home-school connections.	Website: www.leapfrogschoolhouse.com

 **Moderate Evidence of Effectiveness**

Five programs had at least one randomized or two matched studies and a weighted mean effect size of at least +0.20.

Rating	Program	Description	Contact / Website
	Breakthrough to Literacy	A systematic and integrated literacy and language program which aims to promote language development and literacy skills among preschool children. The program uses systematic, direct instruction built around a series of weekly books in the classroom.	Website: www.breakthroughtoliteracy.com
	Bright Beginnings	An integrated curriculum with a focus on language and early literacy. The curriculum goals are to provide a child-centered, literacy-focused program that is consistent, and to include instruction that addresses the needs of the whole child.	Website: www.cms.k12.nc.us/cmsdepartments/ci/pre-kservices/Pages/default.aspx
	PreK Mathematics Plus DLM Software	<i>PreK Mathematics</i> is a supplemental curriculum designed to develop informal mathematical knowledge and skills in preschool children with content organized in seven units. The <i>DLM Early Childhood Express</i> math software includes 26 numerical, quantitative, geometric, and spatial activities.	E-mail: SEG_customerservice@mcgraw-hill.com

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Rating	Program	Description	Contact / Website
	DLM Express plus Open Court	The <i>DLM Early Childhood Express</i> program is a comprehensive curriculum, designed to promote children’s social, emotional, intellectual, aesthetic, and physical development. <i>Open Court Reading Pre-K</i> contains eight thematic units that address children’s identity, families, friends, social interactions, transportation, the physical senses, nature, and transitions.	Website: www.sraonline.com/oc_home.html
	Project Approach	A set of teaching strategies that enables teachers to guide children through in-depth investigations of real world topics. The curriculum is designed to use children’s interests as the starting point for organizing and developing classroom learning activities.	Website: www.projectapproach.org

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

Three programs met the criteria for ‘moderate evidence of effectiveness,’ except that they had lower weighted mean effect sizes, between +0.10 and +0.19, on one or more outcome clusters.

Rating	Program	Description	Contact / Website
	Doors to Discovery	A preschool program that is based on oral language, phonological awareness, concepts of print, alphabet knowledge, writing, and comprehension. The program focuses on the use of learning centers and shared literacy activities in the preschool classroom.	Website: www.wrightgroup.com
	Language Focused Curriculum	A curriculum that has a thematic organization and focuses on the use of daily dramatic play to teach and use linguistic concepts. There are both teacher-led and child-led activities with explicit attention to oral language development that is enhanced by teacher-child conversations.	Website: www.brookespublishing.com/store/books/bunce-69223/index.htm
	Literacy Express	A preschool curriculum that is designed to promote children’s emergent literacy skills. The curriculum is structured around thematic units that are sequenced in order of complexity.	E-mail: phillips_literacyexpress@live.com

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

Four programs had a weighted mean effect size of at least +0.20, but did not qualify for ‘moderate evidence of effectiveness’ due to insufficient numbers of students.

Rating	Program	Description	Contact / Website
	EMERGE	A literacy-based program designed to help children from low-income families acquire early literacy skills. The program supports children’s development of four early literacy skills.	E-mail: mgetting@wisc.edu
	PATHS	A social-emotional curriculum, delivered in a developmentally-appropriate sequence. The curriculum emphasizes affective awareness of self and others, targeting children’s ability to self-regulate their behavior.	E-mail: prevention@psu.edu Website: www.prevention.psu.edu/projects/PATHS.html
	Sound Foundations	A phonemic awareness program that focuses on recognition of phoneme identity across words with special attention paid to nine key phonemes. Large pictorial posters with words using these key phonemes are used in the class to help children learn them.	Website: www.macmillanenglish.com/methodology/books/Sound-Foundations.htm



Insufficient Evidence of Effectiveness

Studies of the following programs did not meet the criteria for limited evidence of effectiveness.

BELL
Creative Curriculum
DARCEE
Dialogic Reading
Ladders to Literacy
Montessori
Project Construct
REDI
Tools of the Mind
Waterford

N No Qualifying Studies

These programs did not have any qualifying studies.

Abecedarian
Building Blocks
Early Authors Program
High/Scope
Reggio Emilia
Scholastic Preschool Program

Program Ratings Basis



Strong Evidence of Effectiveness

Programs in this category were evaluated in at least two studies, one of which is a large 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 250 students or 20 classes. The effects can be on any of the academic or cognitive outcomes, at the end of preschool and/or kindergarten.



Moderate Evidence of Effectiveness

Programs in this category were evaluated in at least one randomized or two matched studies of any qualifying design, with a collective sample size of 125 students or 10 classes, and a weighted mean effect size of at least +0.20 across all measures in a particular domain.



Limited Evidence of Effectiveness: Strong Evidence of Modest Effects

Programs in this category have studies that meet the criteria for ‘moderate evidence of effectiveness’ except that the weighted mean effect size is +0.10 to +0.19 across all measures in a particular domain.



Limited Evidence of Effectiveness: Weak Evidence with Notable Effects

Programs in this category have studies that have a weighted mean effect size of at least +0.20, but do not qualify for ‘moderate evidence of effectiveness’ due to insufficient numbers of studies or small sample sizes.



Insufficient Evidence of Effectiveness

Qualifying studies do not meet the criteria for ‘limited evidence of effectiveness.’

N No Qualifying Studies

Programs in this category do not have any qualifying studies.

Also summarized in the report are the long-term impact of studies conducted in the 1960s and 70s that indicate enduring effects of participation in high-quality early childhood programs.

Conclusion

The findings of this review add to a growing body of evidence that early childhood programs can have an important impact on increasing the school readiness of young children.

Full Report

Chambers, B., Cheung, A., Slavin, R.E., Smith, D., Laurenzano, M. (2010, September) *Effective Early Childhood Education Programs: A Systematic Review*. Baltimore, MD: Johns Hopkins University, Center for Research and Reform in Education.

The full report can be downloaded at www.bestevidence.org.