

# “Read My Story!” Using the Early Authors Program to Promote Early Literacy Among Diverse, Urban Preschool Children in Poverty

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This article evaluates the utility of the Early Authors Program, a 12-month early literacy intervention emphasizing highly meaningful language interactions that was implemented in childcare facilities in an ethnically and linguistically diverse, urban, low-income community. Children learn to be writers and readers by creating their own self-authored, storybook texts, supported by the sensitive guidance of adults.

Children ( $n = 280$ ) in 32 experimental group centers and children ( $n = 87$ ) in 9 similar control group centers were individually assessed at pretest and posttest on measures of language and cognition. Teachers completed pretest and posttest surveys and interviews, and interventionists were also interviewed. 3- to 5-year-old children receiving the intervention, as predicted, made significantly greater gains than the control group specifically on the child language measures but not on other measures. The quality of the classroom literacy environment and teachers' literacy-promoting practices improved considerably in centers receiving the intervention. Teachers reported high satisfaction and sustainability for the program.

There is evidence that children in poverty have considerable difficulty with literacy, including reading, letter recognition, text comprehension, and the production of written text (Hart & Risley, 1995; Washington, 2001; Whitehurst & Fischel, 2000). Further, poor reading skills during preschool and the early school years predict low levels of academic success and higher school dropout in later years (Entwisle & Alexander, 1999). Consequently, much attention has been paid recently by researchers, educators, and policymakers to interventions in early childhood for improving young children's emergent literacy skills (Armbruster, Lehr, & Osborn, 2001; Camilli, Vargas, & Yurecko, 2003; Fitzgerald et al., 2002; Hall, 2004; Snow, Burns, & Griffin, 1998). In the United States, such efforts have been accompanied by the strong sentiment, if not requirement, that there be scientifically rigorous, quantitative, empirical data from experimental or quasi-experimental studies showing the efficacy of educational or curricular interventions (Feuer, Towne, & Shavelson, 2002; U. S. Department of Education, 2003). This study evaluates the utility of a school-based early childhood literacy intervention for children in poverty using a prepost quasi-experimental design with direct child and teacher assessments.

According to the National Academy of Sciences (NAS; Snow et al., 1998) and the Center for the Improvement of Early Reading Achievement (Armbruster et al., 2001), the following skills are the building blocks for early literacy and reading: (a) phonological awareness—understanding the relationship between letters and corresponding sounds and manipulating such units; (b) phonemic awareness—the ability to isolate or segment one or more of the phonemes of a spoken word, to blend or combine a sequence of separate phonemes into a word, or to manipulate the phonemes within a word; (c) fluency—the development of rapid word identification processes that allow one to read with accuracy and speed; (this includes the combination of subskills such as decoding, dividing text into meaningful chunks, pausing appropriately at the end of sentences, changing emphasis and tone appropriately, and grouping words quickly to gain meaning that allows one to read with accuracy and speed); (d) vocabulary; and (e) text comprehension, referring to the meaning that a text is given.

Further, as articulated by the expert panel of the National Association for the Education of Young Children (NAEYC) and the International Reading Association (1998), there are optimal classroom environments that support effective literacy development; these include (a) providing a wide variety of diverse experiences with literacy with regular opportunities for active engagement with various types of print (e.g., reading aloud, talking about stories, writing stories and notes, acting out stories, having word labels in the classroom); (b) surrounding children with a print-rich literacy environment; (c) exposing youngsters to a diverse set of multiple literacies, broadly defined to include books, technology, computers, software, and multimedia; (d) supporting children's cultural background and promoting biliteracy in both the child's home language and the language of the school; and (e) having warm, positive, nurturing relationships between highly trained teachers and children, with such teachers engaging in responsive and stimulating conversations with individual children and holding high expectations for them. These expert opinions, in most cases, require empirical validation in any program being examined.

Early literacy interventions vary in terms of their philosophical approach and focus, and can be thought of as roughly falling along a continuum. At one end is the direct teaching of specific literacy skills. At the other end is an emphasis on changing the culture of the classroom and arranging it for learning through participation in literacy activities. Interventions that focus on formal reading instruction through structured, skills-based programs are numerous and have been shown to have positive effects in evaluation studies (Byrne & Fielding-Barnsley, 1991; Justice & Pullen, 2003; O'Connor, Notari-Syverson, & Vadasy, 1996). For example, programs in which teachers specifically teach phonics and phonemic awareness via rhyming, phoneme identification, finger-point reading, syllable clapping, first sound isolation, and blending and segmenting activities, such as that found in *Ladders to Literacy* (O'Connor et al., 1996), show positive effects on kindergarten children's language skills, as measured by the Peabody Picture Vocabulary Test (Dunn & Dunn, 1981), specific phonological skills tests, and the Woodcock-Johnson (Woodcock, McGrew, & Mather, 2001), relative to control classrooms. Skills-based interventions, despite their successes, have not been without criticism. A number of researchers, practitioners, and theorists are concerned that more attention needs to be paid to the social and cultural context of emergent literacy and to providing children with meaningful, motivating, culturally-relevant literacy experiences in the classroom. (Bransford, Brown, & Cocking, 1999; Cairney & Langbien, 1989; Erickson & Gutierrez, 2002; Gee, 1990, 2001; Guthrie, 2004; Labbo, Eakle, & Montero, 2002; Heath, 1983; Solsken, 1993). Recognizing the desirability of fostering motivation or reading and providing for pleasurable literacy activities, some have sought to include participatory processes with skills-based instruction. Crévola and Hill (1998), for example, implemented the Early Literacy Research Project—a program that involved 2 hr per day of reading to children, shared writing and reading activities, and guided writing—in 27

schools with large numbers of low-income and aboriginal students. They found sustained positive effects on children's print concepts, vocabulary, and text level relative to matched control schools. Dialogic reading—a socially interactive, discussion-based approach designed to increase children's reading and comprehension—also shows encouraging results in promoting children's literacy in Head Start settings (Justice & Pullen, 2003; Lonigan, Anthony, Bloomfield, Dyer, & Samwel, 1999; Whitehurst, Epstein, et al., 1994; Whitehurst et al., 1999). Finally, adult-mediated, literacy-enriched play programs, in which parents and teachers engage with children in a literacy-enriched play area, have also shown positive effects (Neuman & Roskos, 1993).

Other interventions involving shared book-reading in various contexts have demonstrated beneficial impacts for children from low socioeconomic status backgrounds. Whitehurst, Arnold et al. (1994) employed an intervention strategy whereby an adult reader, either a parent or teacher, engaged with the child during the reading process in home, school, and daycare environments. This process of interacting and sharing encouraged the children to answer questions using their own words, thus increasing their language capacity. Furthermore, this intervention increased children's exposure to book reading, thereby positively impacting children's language skills (Whitehurst, Arnold et al., 1994). Wasik and her colleagues (Wasik & Bond, 2001; Wasik, Bond, & Hindman, 2006) used similar methods of shared reading, along with other activities involving objects in the classroom, to reinforce vocabulary in their intervention and showed that children in modest to high poverty who participated in the intervention performed substantially better on tests than students in control classrooms (Wasik & Bond, 2001; Wasik et al., 2006).

A core proposition of the contextualist perspective on literacy is that learning is essentially a process of participation in a community of practice rather than what goes on in the individual learner's head (Lave & Wenger, 1991; Moll, 1992; Scribner & Cole, 1981). This perspective draws on family experiences and knowledge, or what Moll calls family "funds of knowledge," to create school activities that connect classroom literacy practices with students' home cultures and communities. Such a view sees literacy as not just about decoding text but the transmission and understanding of significant cultural events mediated through symbolic artifacts and language (Cummins, 2004; Dixon-Krauss, 1996; Freire, 1973; Vygotsky, 1997).

Cummins (2004) argued that early school experiences must be empowering for children for students to develop academic expertise. That is, early literacy programs must foster a sense of shared or collaborative power between teachers and children in which the culture and home language of the children is valued and effectively incorporated into early literacy activities in the classroom. For language-minority children, exposure to print at school that is in both their first and second languages and sharing of family stories and histories sends them the message that both of their languages are important. Such cultural validation helps stu-

dents develop an identity that involves confidence and enthusiasm for communicating with teachers and participating fully in classroom literacy activities.

Although there has been much interest in early childhood literacy interventions from a sociocultural perspective, there have been few rigorous evaluations of the effectiveness of such programs. Publications, instead, have tended to be qualitatively rich descriptions. Although these process descriptions include favorable outcomes, because of lack of controls, it is impossible to be sure that the outcome is the result of the specific intervention. In many of the outcome descriptions, crucial definitions are not given, including of such concepts as *identity*, *empowerment*, or *self-esteem*, as well as the problem of confounding concepts such as enthusiasm for the program. Consider the well-known study of Ada (1988) in the Pajaro Valley School District in California. The project involved a group of approximately 60–100 Spanish-speaking parents who had very little formal education and limited access to printed materials. The group of parents met on a monthly basis to discuss children's literature and to read stories and poems written by their children. This activity eventually led to the parents creating their own books. During the monthly sessions, books were read aloud, with parents dramatizing the action and discussing the illustrations. Parents then took a book home and later met in small groups to discuss it. The bilingual teachers facilitated the discussions and guided the comments to more reflective levels. The parents were also given a list of questions that they could use with their children when reading the books.

The success of the project demonstrated how use of the home language can be used to empower families and children. There were a number of areas of improvement as suggested by the following comment:

Parents have begun to read aloud to their children, the children have begun to bring home books from the school library, and parents and children have gone to the public library in search of books. At the first meeting we had a show of hands to find out how many parents had public library cards. None did. At a meeting nine months later almost everyone reported several visits to the library to check out books. (Ada, 1988, p. 223)

The children appear to have benefited in terms of involvement, and perhaps literacy in general. However, the study did not contain quantitative data supporting this impression. Although parents' self-reports were positive, with no control group, no formal evaluation, and no direct child outcome measures, conclusions about the efficacy of this program have little supporting data. This study reports on the implementation and preliminary assessment of a similar intervention program designed to provide authentic, culturally-relevant, and empowering literacy activities in early childhood classrooms, namely the Early Authors Program (EAP).

## THE EAP

This article reports on an evaluation of an early literacy intervention program, the EAP, implemented in Miami-Dade County Florida in 2003. The 12-month intervention program approached literacy skills and attitudes through meaningful, empowering activities involving children and families. The participants were 57 teachers at 32 childcare centers, 13 literacy specialists, 1,179 children, and 800 families. The intervention involved (a) literacy specialists working with preschool teachers to improve the quality of literacy-related activities and materials in the classroom and to incorporate students' home language (typically Spanish) into classroom literacy discussions; (b) bringing in technology and book-making equipment (computers, digital cameras, printers, laminating machines, paper, and binders) into the classrooms; (c) children self-authoring books with the help of literacy specialists, teachers, and parents; (d) parents coming in for on-site group parent/family meetings in which parents and other family members shared family stories and, together, made books based on the stories; and (e) frequent reading, sharing, display, and dissemination of the children's self-authored books in the classroom and the larger community. The evaluation included pre- and posttest assessments of experimental group children at EAP sites and control children from similar centers not participating in the program. The control sites did not participate in the EAP and were selected because the children who attended these sites had similar demographic characteristics to the experimental group. Control group centers continued their regular programs but received weekly visits from project staff and spent equal time on literacy activities. Data sources included direct child assessments, teacher reports, and interviews with intervention personnel.

The following research questions were addressed:

1. To what extent were the participating early childhood classrooms organized and equipped in a way to promote effective literacy development in children at the beginning of the program, and did participation in EAP improve the classrooms' literacy environment?
2. To what extent were participating early childhood teachers engaging in literacy and preliteracy activities with the children in their classrooms before the EAP intervention started, and how much improvement was evident after the EAP in teacher literacy activities in the classroom?
3. How were EAP children faring at the beginning of the intervention in terms of language and literacy skills, and how much improvement did children show in these domains from the beginning to the end of the EAP intervention, relative to control children?

4. How did participating teachers/caregivers and interventionists/literacy specialists feel about the EAP, and to what extent was the intervention implemented as planned?

## METHOD

### Participants

*Children.* The overall implementation of the EAP in Miami-Dade County reached 1,179 children in 800 families, and involved 57 teachers at 32 childcare centers (including center-based and family daycares serving children ranging in age from infancy to age 6), and 13 literacy specialists/interventionists. The Early Learning Coalition, the local collaborating agency responsible for improving child care quality and access and promoting school readiness in the community, generated a list of potential participating centers or childcare providers for the intervention on the basis that the provider had been established for at-least 2 years and that they served a considerable number of families receiving childcare subsidies. This list was stratified geographically to be representative of the entire county of centers accepting childcare subsidies, and included center-based and family daycare facilities. Centers directors were then offered the opportunity to be test sites for the EAP intervention. All centers or providers approached agreed to become EAP centers (centers got to keep the computers, books, and technology that were part of the intervention). The first 32 centers approached became the experimental centers and, in a waiting list control fashion, the next nine centers approached were asked (and agreed) to be control centers (who received only the free, commercially available children's books that were also a part of the EAP intervention).

The initial target subsample for the evaluation consisted of 325 EAP children, selected at random from the larger group of consenting children at EAP classrooms or centers, and 103 control children who were randomly selected from the larger group of consenting families in classrooms at control centers or providers that were serving the same population of families in the same neighborhoods as the experimental group.

The final resulting sample of children for whom we had at least some pretest or posttest data consisted of 367 children (280 EAP and 87 control) of which 51% were male, 48% were Hispanic/Latino, 44% African American (including those of Caribbean/Haitian origin), 5% Caucasian, and 3% Other/Haitian. This ethnic distribution is representative of that overall distribution for this diverse urban community. Children on average were 37.3 months ( $SD = 13.3$ ) old at pretest and 48.4 months of age ( $SD = 13.3$ ) at posttest. The control group and EAP group were comparable in terms of child gender and ethnicity. However, by chance, the assessed control group ended up being a little older (6 to 8 months on average) than

the EAP group at pretest. This group difference in age is taken into account in the analyses that follows.

*Educators.* The teachers at the center-based and family daycare centers were all women. They represented diverse ethnic backgrounds, primarily Hispanic and African-American and Haitian from North and South America and the Caribbean. Typically they had not received much specialized training in early childhood and had only a year or 2 of postsecondary diploma level-studies. Some were still engaged in those types of programs. The range of experience was from 1 to 20 years of teaching. Many of them were native speakers of Spanish and a few of other languages including Creole.

*Literacy specialists.* Literacy specialists were all women, had BAs, and sometimes MAs, in early childhood education. Many were credentialed teachers with experience in classroom settings. Their ethnic backgrounds were primarily Latino, African-American, and Haitian. The criteria for hiring them included knowledge of literacy interventions and facility with both English and Spanish or Creole. Three of the specialists were Haitian.

### The Early Authors Program

In *Authors in the Classroom*, Ada and Campoy (2003) discussed the empowering effect of authoring programs and provided examples of ways to implement the approach. A group of educators and researchers in Miami-Dade County worked with Ada and Campoy to design a program for use in early childhood centers, based on principles outlined in the book. The focus of the intervention was the authoring of books by the children, families, and caregivers at the 32 participating centers. In addition to attending three community events on the principles of the program, educators participated in a 2-day, on-site training led by literacy specialists. The training included theoretical frameworks such as the development of children's ideas about themselves and feelings (e.g., pride) about their ethnic backgrounds, the stages of literacy acquisition, and the importance of making meaningful connections with families. In addition, educators were given technical training in the use of the technology. Teachers were given books and resources with children's oral folklore, including traditional art, literature, and sayings. Finally, the teachers were trained to relate letters of the alphabet to children's names and the names of family members and friends.

The bookmaking component was as follows. First, children and their families were characters in their self-authored books. A second component involved teaching children to recite rhymes and poems in their home language. Each classroom was equipped with computers, digital cameras, color printers, and a laminator. The focus on technology-mediated experiences was seen as a way to broaden the ap-



proaches and methods used to support literacy initiatives (see Cope & Kalantzis, 2000; New London Group, 1996). During the intervention period, the authoring of books was integrated into regular classroom activities. The adults took photographs of the children as they went about their daily activities and discussed these with the children. Children were encouraged to use their home language, as well as English, in describing the photographs and in telling their story. The words used by the children were then typed and placed at the bottom of the picture. Once the collection of pages was printed (with the use of colored printers), the books were laminated and bound. The books made with the children were displayed in the classroom book area and additional copies were sent home. A number of books were also displayed at a local children's museum. Once the project was completed, the centers kept the technology and bookmaking equipment in the classrooms.

Thirteen Literacy Specialists were responsible for providing support to teachers implementing the EAP in their classrooms. The literacy specialists worked with the teachers to improve the quality of literacy-related activities and materials in the classroom and to incorporate students' home language (typically Spanish) into classroom literacy discussions. Specialists brought technology and book-making equipment (e.g., computers, digital cameras, printers, laminating machines, paper, and binders) into the classrooms and showed parents, teachers, and children how to use these materials. Specialists also ran the parent meetings, gave commercial children's books to the classrooms, observed the teacher, had conferences with the teacher about ways to involve children more in literacy activities and book reading, and took pictures of the children and classrooms. Specialists visited each EAP classroom twice a week and spent a half day with the classroom on each visit.

The literacy specialists established a professional relationship with each site and conducted meetings with the director as needed. During their visits, the literacy specialists worked in support of teachers. Part of the project involved four parent meetings at each site. During the 2-hr meetings, family members engaged in simple writing prompts about their life experiences. The writing activities provided a springboard for discussion around key themes. *I am* books, *Where I come from* poems, ABC books, and stories about children's names were authored by the family members. In addition to placing these books in the classroom, they were taken home as a way to enhance families' ties with the written word. A total of 73 books were created by family members in the context of these sessions.

Using the bookmaking equipment located in each EAP classroom, children and teachers authored a total of 3,286 books. The emphasis of the books authored by children was to allow them to communicate their personal stories and family photographs. Many of the books featured the child as the protagonist. These books were typically placed in the classroom and family libraries. In addition, during the process of writing their books, children experimented with a variety of writing tools including computers, markers, and pencils.

## Literacy Specialist Training

The initial training for the literacy specialists began with a 3-day session conducted by Ada and Campoy to review the principles of the EAP and its relationship to children's language and literacy development. The next two training sessions provided support for the authoring process and an opportunity to share books made by parents and children in previous implementations of dual-language authoring programs. All literacy specialists were equipped with laptop computers and digital cameras and were trained in their use. In addition, the 13 literacy specialists participated in professional development seminars held every Monday during the course of the entire study. They discussed the progress of the program and notes from their journals, which dealt with application of the concepts in both home and school environments. The professional development seminars were conducted by the lead literacy specialist who had an MA degree in early childhood education.

## Procedure

The assessors were doctoral students enrolled in the local university's educational psychology program. They participated in a 5-day training session facilitated by the project investigators. The Learning Accomplishment Profile–Diagnostic Edition (LAP-D; Nehring, Nehring, Bruni, & Randolph, 1992) training (described in a section to follow) was delivered by the test developers. The Preschool Language Scale—Revised Fourth Edition (PLS-R; Zimmerman, Steiner, & Evatt Pond, 2002) training (described in a section to follow) was directed by a speech pathologist. All assessments took place in a quiet room at the childcare center. The pretest started 2 months before the intervention began and took 3 months to be completed; the posttest lasted 2 months and took place after the intervention was completed. Due to scheduling difficulties and constraints, child attendance problems, and a limited time frame for completing the pretest child assessments, assessments were not able to be conducted on all experimental and control children at pretest. At posttest, in addition to the scheduling difficulties and constraints discussed previously, financial resources for completing the assessments had depleted and the local funding agency requested that remaining assessment resources be spent on the EAP group, at the expense of the control group. Thus, many of the children in the control group were not assessed at posttest. Specific sample sizes for each measure at pretest and posttest are noted in the results section and in the tables.

## Measures

*LAP-D.* For children 30 months of age or older, the trained assessors individually administered the LAP-D (Nehring et al., 1992) in a quiet and separate room or area within the childcare setting. Children were assessed using either the Eng-

lish or Spanish standardized versions of the LAP-D depending on the child's dominant language according to the child's teacher. The LAP-D was created to assist educators in selecting developmentally appropriate teaching strategies and to measure skills of children in interventions programs to assess project effectiveness (Nehring et al., 1992). The LAP-D is a norm-referenced, standardized developmental assessment instrument that yields raw scores, standard scores, age-equivalents, and national percentile scores in four domains (three were used here): language (two subscales—naming and comprehension), cognition (two subscales—counting and matching), and fine motor (two subscales—object manipulation and fine motor writing). The LAP-D has been shown to have good internal consistency reliability (.76 to .92) and reasonable construct validity in terms of correlations with other standard assessments of developmental competencies (Nehring et al., 1992).

*PLS-R.* The PLS-R (Zimmerman et al., 2002) was individually administered to children to provide an accurate picture of a child's expressive (expressive communication scale) and receptive (auditory comprehension scale) language skills. This instrument was administered either in English or Spanish, depending on the child's dominant language according to the child's teacher. The skills tapped by the PLS-4 at all ages are important precursors for literacy development (Armbruster et al., 2001). The test-retest stability coefficients for the PLS-R range between .82 and .95 for the two subscale scores and .90 to .97 for the total language score .

*Teacher-reported child literacy skills.* In addition to the previously-discussed direct assessment with the children, children's childcare or preschool teachers were asked to complete the Interaction with Books Survey. The survey was distributed to the teachers before the intervention started by the assessors. The teachers filled out the instrument and returned it to the assessors within 2 weeks. The Interaction with Books Survey, completed in English, Spanish, or Haitian-Creole by the teacher, was developed for this project to assess teachers' reports of children's literacy interest and engagement with books and stories. There were eight items on the scale (reads or plays with books on own, requests to be read to, shows relevant emotion during book reading, identifies characters, can retell storylines, can describe setting, can tell beginning and end, can tell causal events in story), which were based on the literature on children's meaningful storybook experiences, cultural practices, and play experiences with literacy (Gunn, Simmons, & Kameenui, 1998; Hart & Risley, 1995; NAEYC, 1998; Snow et al., 1998). In our effort to avoid a situation where educators gave evaluations directly to their trainers, we had asked them to submit postsurvey material directly to the project director at the Early Learning Coalition, which may have led to fewer teachers completing the posttest survey.

*Early Steps to Reading Success (ESRS).* To assess the quality of the classroom literacy environment and teacher literacy-promoting teaching practices in the EAP classrooms, teachers or caregivers participating in the EAP intervention completed the ESRS survey (Matsumura & Boscardin, 2002) before and after the implementation of the EAP. The survey is a teacher self-report instrument that has been widely used to evaluate literacy aspects of both teachers and their settings. The ESRS questionnaire has two sections, one measuring instructional practices and the second measuring environmental changes. The instructional practices section asks teachers to indicate how often, during a recent typical week, they provided certain types of instructional activities. Sample items include “Write down children’s stories and read them back to them,” and “Guide children to use literacy materials in their play.” The response format is a five-point scale ranging from not at all to 2+ times per day. The Literacy Environment Checklist section was used to rate the use of books in the classroom, availability of writing materials, environmental print policies, and literacy instruction practices. Teachers’ instructional practices were further tapped by a 40-item battery within the ESRS, which evaluated how frequently the teachers involved children in activities such as writing, reading, playing with sounds, and teaching new vocabulary. This section asks teachers to circle the response that best describes their classroom. Sample items include “Approximately how many books represent similar cultures to the children in the class?” and “Is there a distinct writing area that children are able to use?” Responses are given in a yes–no format except for four of the items that are ranked in a four-point scale.

*Teacher implementation of and satisfaction with the EAP.* To determine the extent to which teachers liked the EAP and implemented the intervention as planned, teachers completed a postintervention survey at the end of the program. We developed instrument was developed in both English and Spanish and distributed it to the teachers in their preferred language. Teachers were asked about their agreement or disagreement with comments such as: “Books were written using children’s own words” or “I think the books made with the children were meaningful to them.” In completing the 40-item instrument, teachers were asked to rate their agreement or disagreement with statements on a seven-point scale. Sample items to measure the extent to which the teachers liked the program were “How much did you like the early authors program?” and “Being part of the EAP project allowed me to see strengths in the families.” Items designed to measure the extent to which the program was implemented as planned included “As part of the program, I related letters of the alphabet to children’s names and the names of family members and friends,” “Books were written using the children’s own words” and “I was able to integrate the books into regular classroom activities.”

*Literacy specialist interviews.* Finally, an exit interview was conducted with each of the literacy specialists. The interviews, which were audiotaped, transcribed, and coded, evaluated literacy specialists' perceptions in the following domains: "Effects on children's identity and self-esteem," "Print knowledge and motivation," and "Teachers understanding of the Early Authors Program." The eight open-ended items included questions such as "In your opinion, what was the most significant aspect of this experience for the children?" and "What are three aspects of this program that you would implement in the future?"

## RESULTS

### Classroom Literacy Environment and Teacher Literacy Promoting Activities

The first two research questions had to do with the quality of the literacy environment in the EAP childcare center classrooms, both in terms of the physical classroom itself and in terms of teacher/caregiver literacy-related practices. Table 1 lists the means (and standard deviations) on EAP teachers' self-reported overall quality of the classroom literacy environment, and also lists teachers' scores on several of the key individual items as well for descriptive purposes. The table lists the values both overall, for all teachers from whom we had pre ( $n = 57$ ) or post ( $n = 21$ ) survey data, and for the 14 teachers who completed both the pre- and postsurveys. It is important to note that the same pattern of improvements over time was true for both the overall sample and the paired (had both pre- and post-) sample, which suggests that those who completed both the pretest and posttest surveys are not wildly different from those who failed to return the surveys. However, the fact that the mean at pretest for the paired sample group is typically larger than that for the overall group suggests that it was the teachers at the higher quality centers who were more likely to complete both pre- and postsurveys. Paired  $t$ -tests were run using the paired (had both pre- and post-,  $n = 14$ ) teacher sample. According to the teachers (and informally verified by observations of the literacy specialists), the quality of the book area,  $t(13) = -1.99$ ,  $p = .07$ , and the writing area,  $t(13) = -2.50$ ,  $p < .05$ , and the overall literacy environment of the EAP classrooms,  $t(13) = 4.64$ ,  $p < .05$ , improved considerably over time.

Found at the bottom of Table 1 are the pretest/posttest values for the overall aggregate of EAP teachers' self-reported literacy-supportive behaviors/activities engaged in the classrooms. Considerable improvement was seen from the beginning to the end of the EAP program on this measure,  $t = -1.88$ ,  $p = .08$ . For illustrative purposes, we provide, in Table 2, the pretest–posttest results for some of the original key items on the ESRS in terms of the frequency with which teachers engaged in several literacy activities in the classroom. Listed in Table 2 are both the percent-

TABLE 1  
EAP Teacher Means and SDs on Self-Reported Quality of the Classroom  
Literacy Environment and Overall Literacy-Supportive Teaching Strategies

<i>Measure</i>	<i>Pretest</i>		<i>Posttest</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Availability of books (Range = 0 to 4)				
Total sample (Pre <i>N</i> = 56; Post <i>N</i> = 20)	1.74	1.50	2.41	1.31
Paired pre–post Sample ( <i>N</i> = 14)	2.21	1.37	2.50	1.29
Availability of culturally relevant books (Range = 0 to 8)				
Total sample	4.15	1.32	4.55	1.28
Paired pre–post sample	4.43	1.22	4.71	1.20
Quality of book area (Range = 0 to 10)				
Total sample	7.12	2.23	8.30	1.56
Paired pre–post sample +	7.71	1.73	8.57	1.50
Quality of writing area (Range = 0 to 6)				
Total sample	4.38	1.73	5.45	.89
Paired pre–post sample *	4.79	1.37	5.50	.76
Overall literacy environment (Range = 0 to 42)				
Total sample	26.45	7.95	33.0	4.33
Paired pre–post Sample *	30.30	4.87	33.71	3.89
Overall use of literacy-supportive teaching strategies (Range = 41 to 205)				
Total sample pre ( <i>N</i> = 57; Post <i>N</i> = 21)	120.46	33.66	141.76	29.12
Paired pre–post sample ( <i>N</i> = 14)+	129.64	28.61	140.71	27.75

*Note.* +*p* < .10. \**p* < .05.

ages of teachers who indicated that they engaged in the particular behavior once a day or more (a 4 or a 5 on the five-point scale) and the mean for the paired sample of the 12–14 teachers who completed these items on both pretest and posttest surveys. For example, 16.7% of teachers reported writing down children’s oral stories and reading them back to the children daily before the EAP, and this figure rose to 47% after the program. Also, reading to children daily in small or large group settings increased from about 60% doing this daily at pre to more than 80% at post. Finally, reading books in the native languages of the children increased from 32% daily to 52% by the end of the program. Figure 1 graphically displays the gains made from pretest to posttest in both the overall literacy environment and teacher literacy-related practices in EAP classrooms. Thus, the results suggest that the EAP program may be effective in increasing not only things like the number of relevant books found in the early childhood classrooms, but also the general quality of the literacy environment, and the frequency with which teachers engaged in literacy activities in the classroom.

TABLE 2  
 Literacy-Related Activities of Early Authors Program Teachers  
 at Pretest and Posttest

Activity	Percentage of Teachers Using Technique at Least Daily		Pretest (Ns = 12 to 14)		Posttest (Ns = 12 to 14)	
	Pretest (N = 57)	Posttest (N = 22)	Paired Sample Mean	SD	Paired Sample Mean	SD
	Encourage children to write on their own	45.3	70.0	3.80	1.14	4.00
Write down children's stories and read them back	16.7	47.4	2.70	1.25*	3.50	1.18*
Read to children in small group settings	53.7	80.9	3.70	1.42	4.40	.70
Read to children in whole group settings	66.6	85.0	3.70	1.16	4.10	1.20
Provide activities linked to the child's home culture	22.2	38.1	2.40	1.27	2.80	1.48
Encourage children to use writing in their play	29.5	42.1	2.70	1.64*	3.30	1.16*
Encourage children's conversations about books before, during, and after reading	56.3	75.0	3.90	1.20	4.10	.99
Read books that represent children's home culture and language	32.7	52.6	3.30	1.42	3.50	1.35
Use props during storybook readings to teach new vocabulary	31.5	55.0	2.90	1.66	3.30	1.25

Note. \*RMANOVA  $p < .05$ .

## Child Outcomes

*Language and literacy.* Table 3 provides children's overall language scores (composite of expressive and comprehension) on the PLS-R by group and by time. The table also provides this information for all children combined and separately for the 3- to 4-year-olds and for those two years old and younger. The first area shows children's language developmental age equivalent scores according to the assessment. The first row shows the overall values for all children assessed at pretest and all children assessed at posttest, regardless of whether the posttest children were the same as the pretest children. The second row shows the means (and standard deviations) for the smaller paired sample—those children that had both pre- and postPLS-R assessment data. It is worth noting that the results are very similar for the entire sample and for the paired sample. This means that the subsample

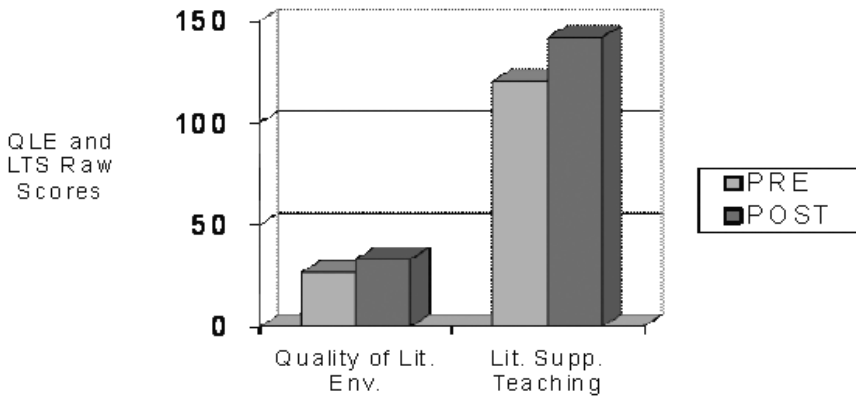


FIGURE 1 Gains made in EAP classrooms from pre- to posttest in Quality of the Literacy Environment (QLE) and use of Literacy-Supportive Teaching Strategies (LTS).

paired means are representative of the larger group of children. Because (a) the age range of the children is so great making developmental age scores limited in their interpretation; (b) the control group children who were assessed, by chance, started slightly older than the EAP children at pretest; and (c) we wanted to control for potentially different intervals of time between the pretest and posttest assessment across children, we also provide developmental age equivalent scores minus actual chronological age at time of assessment in Table 3. This score provides essentially a developmental lag estimate, indicating how behind (in the case of a negative number) or how ahead (in the case of a positive number) the child is with their language development compared to national norms for the child's current age. Only overall language total scores (expressive and comprehension scores combined) are reported here for simplicity, because the same exact patterns were seen for both receptive and expressive language.

Mixed ANOVAs on children's total PLS-R language scores with time (pre- and post-) as the repeated measure and group as the between-subjects factor, run separately for each age group, revealed a significant group-by-time interaction when all age groups were included,  $F(1,156) = 8.51, p < .01$ , and when done on just the 3- to 4-year-olds,  $F(1,66) = 11.47, p < .01$ . Three- to four-year-old EAP children made significantly greater gains in language from pretest to posttest (about 10 months) compared to the control children (about 3 months). Children two and under, however, made similar gains (about 9 months) on average from pretest to posttest in language development regardless of their group status and there was no group-by-time interaction for the younger group of children. Figure 2 displays the pattern of the PLS-R results by group.

A more interesting and complete picture on the language development of these children comes from the analyses on children's developmental lag (DA-CA)



TABLE 3  
 Developmental Age Scores and Developmental Age Relative  
 to Chronological Age on the PLS-4, by Group and Time

<i>PLS-4 Language Total</i>	<i>All Ages Combined</i>		<i>2 Years or Younger</i>		<i>3- to 4-Year-Olds</i>	
	<i>Pretest</i>	<i>Posttest</i>	<i>Pretest</i>	<i>Posttest</i>	<i>Pretest</i>	<i>Posttest</i>
<b>EAP group</b>						
Developmental age (DA) scores						
Total sample	34.15 (15.30) <i>N</i> = 244	41.41 (15.03) <i>N</i> = 130	22.33 (8.81) <i>N</i> = 125	32.64 (10.79) <i>N</i> = 78	46.56 (9.86) <i>N</i> = 119	54.56 (10.07) <i>N</i> = 52
Paired pre-post sample	31.79* (13.61) <i>N</i> = 127	41.56* (15.08) <i>N</i> = 127	23.34 (8.72) <i>N</i> = 76	32.67 (10.77) <i>N</i> = 76	44.37* (9.12) <i>N</i> = 51	54.80* (10.01) <i>N</i> = 51
DA-CA scores						
Paired pre-post sample	-2.83 (6.07) <i>N</i> = 126	-3.00 (8.66) <i>N</i> = 126	-2.85 (5.35) <i>N</i> = 76	-3.50 (7.92) <i>N</i> = 76	-2.78* (6.99) <i>N</i> = 50	-2.12* (9.76) <i>N</i> = 50
<b>Control group</b>						
DA Scores						
Total sample	45.52 (13.03) <i>N</i> = 87	47.55 (10.57) <i>N</i> = 31	32.15 (9.85) <i>N</i> = 26	42.07 (11.64) <i>N</i> = 14	51.21 (9.62) <i>N</i> = 61	52.06 (7.19) <i>N</i> = 17
Paired pre-post sample	42.00* (12.45) <i>N</i> = 31	47.54* (10.57) <i>N</i> = 31	33.64 (12.24) <i>N</i> = 14	42.07 (11.64) <i>N</i> = 14	48.88* (7.57) <i>N</i> = 17	52.06* (7.19) <i>N</i> = 17
DA-CA Scores						
Paired pre-post sample	.16 (7.16) <i>N</i> = 31	-2.00 (7.25) <i>N</i> = 31	.71 (6.52) <i>N</i> = 14	1.63 (5.41) <i>N</i> = 14	-.68* (7.82) <i>N</i> = 17	-5.08* (7.50) <i>N</i> = 17

*Note.* \* $p < .05$ , for group by time interaction.

scores. Overall, and for the 3- to 4-year-old children in particular, children in the EAP group stayed about the same (for all ages combined) or improved (for 3- to 4-year-olds) in terms of how behind they were, compared to national norms for their specific age, whereas the developmental lag for the control group worsened over time. That is, although EAP 3- to 4-year-olds started and remained about 2 months behind the national language norms for their age, preschoolers in the control group fell behind by more than 5 months at posttest, group-by-time interaction,  $F(1,66) = 5.78$ ,  $p < .05$ . Thus, as has been described before in the literature (Entwisle & Alexander, 1999), although children in poverty continue to make small absolute gains in literacy development, without intervention they fall more and more behind in terms of their comparisons with national norms for their age

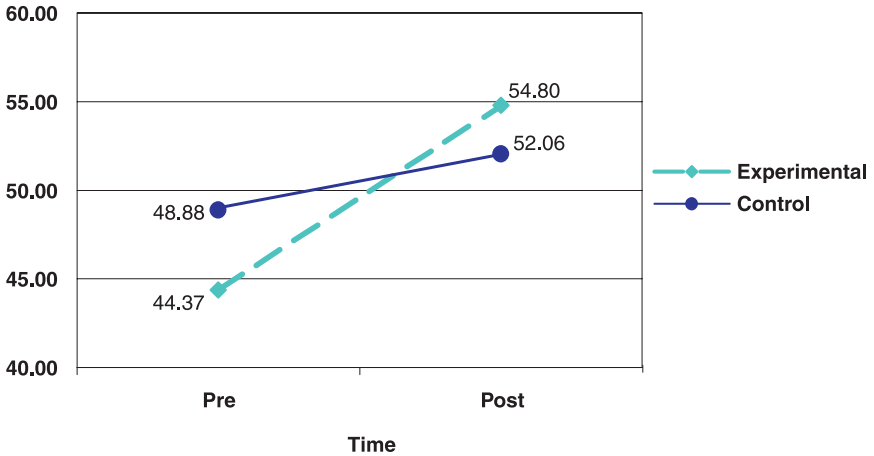


FIGURE 2 Gains made on the PLS-4 Language total age-equivalent scores from pre- to posttest for 3- to 4-year-olds in the EAP and control groups.

group. The EAP intervention described here appeared to both increase children's absolute language skills more so than that seen among control children and prevent the children from falling more and more behind in terms of comparison with national age norms.

The other direct child assessment (completed only by the EAP children three and older) was the LAP-D. Table 4 lists both absolute developmental age-equivalent scores and the national percentile scores at pretest and posttest for children in the EAP. Similar to the use of the DA-CA scores on the PLS-R discussed previously, the national percentile scores for the LAP-D compare how the children were doing at pretest and posttest, relative to the national standardization sample norms for the child's age at each time point. Thus, increases on this metric indicate not only an increase in actual skills developed within the child (as do the age-equivalent scores) but also gains made in terms of how the child compares to national norms. As before, the overall sample means (all children assessed at pretest and then all children assessed at posttest, regardless of whether children had both assessments) and the paired sample means (for those with both pretest and posttest LAP-Ds) are provided. Although the control group did not receive this measure, the pattern of results for EAP children on the language development portion of this assessment is the same as that seen on the PLS-R for which a control group was present. This suggests that the same patterns for the control would likely have emerged on the LAP-D if the control had received this assessment.

Children in EAP classrooms made considerable gains from pretest to posttest in their absolute expressive, naming  $t(47) = -5.95, p < .05$ , and receptive, comprehen-

TABLE 4  
Means and SDs for 3- to 4-Year-Old Early Author Program  
Children's LAP-D Scores

<i>Measure</i>	<i>Pretest</i>		<i>Posttest</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Language naming				
Total sample (Pre <i>N</i> = 100; Post <i>N</i> = 62)				
Developmental age	45.28	12.19	53.84	10.37
National percentile	39.11	31.09	41.97	23.68
Paired pre–post sample ( <i>N</i> = 48)				
Developmental age*	43.31	12.23	54.28	10.52
National percentile	36.77	31.52	41.69	23.85
Language comprehension				
Total sample (Pre <i>N</i> = 100; Post <i>N</i> = 62)				
Developmental age	43.62	12.25	53.98	11.39
National percentile	35.31	29.12	44.62	29.06
Paired pre–post sample ( <i>N</i> = 48)				
Developmental age*	42.92	10.67	54.77	11.38
National percentile*	37.08	28.74	46.19	29.38
Cognitive matching				
Total sample (Pre <i>N</i> = 100; Post <i>N</i> = 62)				
Developmental age	48.77	13.42	55.26	10.74
National percentile	51.48	33.84	49.61	29.55
Paired pre–post sample ( <i>N</i> = 48)				
Developmental age*	46.24	12.59	56.49	11.14
National percentile	48.48	34.26	50.65	29.37
Cognitive counting				
Total sample (Pre <i>N</i> = 100; Post <i>N</i> = 62)				
Developmental age	50.04	11.55	56.13	10.44
National percentile	59.89	31.15	54.46	28.03
Paired pre–post sample ( <i>N</i> = 48)				
Developmental age*	48.05	11.19	56.49	10.64
National percentile**	61.19	31.59	52.19	28.26
Fine motor manipulation				
Total sample (Pre <i>N</i> = 100; Post <i>N</i> = 62)				
Developmental age	50.04	12.37	56.82	10.81
National percentile	53.26	33.48	52.87	31.91
Paired pre–post sample ( <i>N</i> = 49)				
Developmental age*	47.57	12.26	57.44	10.92
National percentile	52.35	32.86	52.47	32.03
Fine motor writing				
Total sample (Pre <i>N</i> = 100; Post <i>N</i> = 62)				
Developmental age	50.63	10.55	56.39	9.74
National percentile	61.09	29.18	52.00	29.97
Paired pre–post sample ( <i>N</i> = 49)				
Developmental age*	48.01	10.50	57.44	9.80
National percentile*	60.73	29.71	51.08	30.75

*Note.* LAP-D = Learning Accomplishment Profile–Diagnostic Edition.

\* $p < .05$ . \*\* $p < .10$ .

sion  $t(47) = -7.47, p < .05$ , language skills. More impressive, however, was the fact that in the language domain (and only in the language domain) children made considerable gains in their national percentile scores from pre- to post-, indicating that children receiving this intervention are not simply acquiring average language skills that would be expected from simply getting older, but that they are gaining ground in terms of how they are comparing to other (nonpoor) children nationally. Children on average moved from the 37th percentile to the 46th percentile on language comprehension,  $t(47) = -2.27, p < .05$ , and similar gains were seen in children's composite language scores,  $t(47) = -1.97, p = .06$ . The fact that these at-risk EAP children actually lost ground nationally in their percentile scores in the areas of cognition and fine motor skills provides evidence of the efficacy and specificity of the EAP intervention. Language and literacy skills were the specific targets for the intervention and, indeed, that is where the children made their gains.

### Teacher Reports of Child's Literacy/Interaction With Books

Teachers rated, at pretest and posttest, children's overall literacy skills in terms of the quality of their interaction with books for both groups. This score is the overall aggregate score of the eight items of the scale (reads or plays with books on own, requests to be read to, shows relevant emotion during book reading, identifies characters, can retell storylines, can describe setting, can tell beginning and end, can tell causal events in story). Unfortunately, the teacher reports of children's literacy with this measure were only completed on 10 control children (and out of this, only four 3- to 4-year-olds). Thus, the results of this measure are not analyzed and reported in detail, due to the small sample sizes. It is worthwhile to point out, however, that the pattern of results matched the results of the standardized direct assessments conducted on the children previously described—the EAP 3- to 4-year-old group increased in the quality of their literate behaviors and interactions with books according to teachers (from  $M = 16.7$  at pretest to  $21.4$  at posttest), whereas the control group declined ( $M = 27$  at pretest to  $18.7$  at posttest),  $F(1, 24) = 5.24, p < .05$ ,

### Literacy Specialist Interviews

The final research question addressed literacy specialist and teacher perceptions of the EAP program. We first describe the qualitative results from the interviews with the literacy specialists and then follow with a description of the teachers' perceptions of the program. The exit interviews with the literacy specialists were audiotaped, transcribed, coded, and evaluated in terms of the literacy specialists' perceptions in the following domains or themes that emerged from the interviews: effects on children's identity and self-esteem, print knowledge and motivation, and educators' understanding of the EAP.

*Children's identity and self-esteem.* A frequently cited answer to the question of what specialists thought children learned from the EAP had to do with children's identity and self-esteem. The literacy specialists reported that the children in EAP sites "felt like they were being successful when they recognized the letter of their name or just a letter in general." One of the literacy specialists whose language and cultural heritage was English said,

I think making their own books was very powerful in that the children were able to see themselves in the books and to talk about themselves. And, I think there was a lot of pride when the book was finished. When they completed their final book, they shared it with the class and they just beamed. They were so excited to show their book and they felt so proud.

The specialists tended to employ such everyday psychological terms as identity and self-esteem, and in this exploratory study the investigators have, for the time being, used such a conceptual structure for reporting. At the same time, it is recognized that we do not have measures of these constructs.

*Print knowledge and motivation.* A number of specialists reported that the children "love to interact and look at each other's books." Subsequently, they noted a growing interest in their own and other children's books. One specialist, who speaks both English and Spanish, said,

On a number of occasions when I went to visit the center, they wanted to have their own books read to them versus a traditional book.... The book was about them and they wanted to hear what the story was about, and they wanted to look at the pictures in the book because they could relate to it, it had meaning.... But the part I liked best was when they went back and looked at their photos and could explain what they were doing in the photos, and it made sense because it tied right into the "I can" ... Basically, they wrote their own books. The "I can" book they wrote themselves.

Letter recognition and name recognition were also skills in the process of development, as acknowledged in the statement, "not only did they learn to recognize the alphabet, they learned to recognize their names." The literacy specialists also reported an increase in the literacy skills of the children. Skills identified as improved included verbal skills according to one bilingual specialist with an M.Ed.:

They definitely became more verbal. In the beginning, some of them were just saying one word or two words when they were looking at their picture. And by the end now, some of those kids that were just giving us a word or two were saying full sentences.... The children helped with the words of their book and would talk about their pictures and say what they were doing. They would decorate the pages of the book. They were completely involved.

Additional skills that were mentioned included an increase in the attention span of the children and the development of a connection between reading and writing, as reflected in the following statement by a specialist who is fluent in both Haitian-Creole and English:

They all see the connection, pretty much except for the babies, really the connection because when we would write...they could understand that the words we'd written anyone could read them and we had recorded what they had said and that we were writing down what they had said. So they could see the connection with writing.

*Educators' understanding of the EAP.* A number of the literacy specialists expressed their understanding of the intervention program in terms of the importance of involving teachers, parents, and children in the process of literacy. One specialist focused on the importance of involving the child as reflected in the following statement:

These [books] were more personal because they included the photos of the children, and the children were able to see themselves in the book, which was one of the main points of the program—for it to have meaning for the child because the child was actually the protagonist of the book and they were the main character of the book.

A statement made by a literacy specialist of Hispanic heritage, who is bilingual in Spanish and English, identified her understanding of the impact that such a program had for the teachers, parents, and children involved in the program:

I think that the program was absolutely an amazing experience, and I was honored and privileged to be a part of it. I see its value, and I really hope that the outcomes of what we feel have been very successful really show as a success... because I see the success in the parents, I see it in the teachers, I see it in the students, and I think it was a wonderful experience and I'm glad I was a part of it... I feel that the growth on the emotional end of the Early Authors Program is huge with parents, caregivers, students, the literacy specialists themselves. I think that that's where the value lies. It might show in the academic and I hope it does, but again because the philosophy is a two-part philosophy [emotional and academic], an assessment is not going to show all of the growth that really has taken place.

### Teacher Perceptions of the EAP

Table 5 provides the results of the end of program teacher survey that was completed by 39 of the participating EAP teachers. Of interest was whether the teachers liked the EAP, whether they thought it was sustainable in the classroom after the evaluation project was completed, and whether it appeared to be implemented as planned. There is, of course, no sense in having an early literacy intervention if

TABLE 5  
 Teacher Implementation and Attitudes About the Early Authors Program  
 (EAP) at Posttest ( $N = 39$  Teachers)

	<i>Percentage Who Agreed or Strongly Agreed</i>
I used children's oral folklore.	51.3
I related letters to names of children, their families, and friends.	75.7
I was able to integrate the authoring of books into classroom activities.	47.2
I encouraged children and their families to be characters in the self-authored books.	45.7
Books were written using the children's own words.	84.6
The teachers were involved in making the books.	89.7
The children were involved in making the books.	86.9
The program served to increase the number of contacts with parents.	65.8
I saw evidence of collaboration between EAP specialists and children.	97.4
I saw evidence of collaboration between EAP specialists and caregivers.	97.4
The process of authoring books was empowering and joyful for families.	92.1
Being part of EAP allowed me to see strengths in the families.	71.8
I liked the Early Authors Program.	94.9
I have developed an adequate knowledge of the EAP.	89.5
Adjustments were made to the EAP program based on your particular views and needs.	81.6
I will be able to continue with the EAP if the literacy specialist stops visiting.	79.0
I think the literacy specialist implemented the EAP as planned.	89.4

early childhood teachers do not like it or think it is workable. Listed in the table is the percentage of EAP teachers who either *agreed* or *strongly agreed* (the top two responses on a 5- or 7-point scale). As can be seen from Table 5, the EAP teachers liked the EAP program and believed both that they were able to carry out the intervention effectively and that they could continue to do this by themselves now. The teachers saw much collaboration going on between the specialists, the children, and the parents; many books were made, and the teachers engaged in most of the EAP literacy-related activities.

## DISCUSSION

Finding interventions that work on a large scale to improve the emergent literacy of low-income children is critical and a key element of all contemporary policy and intervention efforts in the area of early childhood and school readiness (Barnett, 2002; Snow et al., 1998). This study evaluated the potential utility of a literacy intervention program that was implemented on a large scale in an ethnically and lin-

gustically diverse sample of young children in poverty receiving subsidies to attend community-based childcare programs in an inner-city, urban environment. Results of this study show that the EAP shows great promise, at least for 3- to 4-year-olds. First, it is accessible, well-liked by caregivers, and appears able to be implemented on a fairly large scale. Participating early childhood teachers reported that they liked the intervention and that they felt like they could continue to implement EAP in their classrooms without assistance. Second, the literacy environment of the early childhood classrooms, both in terms of the availability and quality of literacy materials and teachers' literacy-supportive teaching practices, increased considerably in the EAP classrooms. Third, and most important, independently, directly-assessed child developmental outcomes were found to be enhanced in EAP classrooms relative to control classrooms, at least for children 3 to 4 years old.

More specifically, 3- and 4-year-old children who participated in the EAP intervention showed greater gains than control children in language and literacy development, according to all measures—the PLS-R, the LAP-D (expressive and receptive language), and teacher reports of children's interaction with books. Children receiving the EAP intervention not only made greater gains in their absolute levels of language skill but they also maintained or gained in their position nationally, compared to controls in terms of either percentile scores (in the case of the LAP-D) or developmental-age-relative-to-chronological-age scores (PLS-R), both based on national norms for their age groups. As is typical for children at risk due to poverty, control children lost ground in terms of their national ranking relative to (nonpoor) standardization samples, and experimental group children also lost ground in domains that were not specifically targeted for growth as a function of the EAP intervention. These findings suggest theoretically predicted specificity of the EAP intervention. The fact that teacher reports of children's literacy skills also followed the same pattern of findings as independent individual child assessments suggests that the teacher reports in this study are reliable.

The EAP was an intervention incorporating empowerment and family inclusive strategies. It is worth mentioning that the intervention here did not focus on teaching children component literacy skills as such, but, rather, focused on children and families creating meaningful self-authored texts with the assumption that this approach would motivate children, teachers, and families to engage in literacy activities. Minority children's identity and valuation of their language and culture are known to be important factors in their success at school. In particular, as Cummins (2004) and others have pointed out (Corson, 1993, 1998; Dolson, 1985; Hagman & Lahdenpera, 1998), if one respects and maintains one's home language, the acquisition of English can be an additive process, which is to say, the student moves toward bilingual and bicultural identity without losing the home language and culture. The results here are consistent with, yet extend, those found in other studies evaluating early literacy interventions (Crévola & Hill, 1998; Lonigan et al., 1999;



Neuman & Roskos, 1993; Whitehurst, Arnold et al., 1994; Whitehurst et al., 1999) in showing that global literacy interventions that involve increasing children's participation in meaningful literacy activities, and that do not overemphasize direct teaching of literacy skills and subcomponents, are effective in increasing the language skills of diverse, urban young children in poverty.

It is crucial to note that there was evidence as well of a qualitative change that took place in EAP classrooms, not merely a quantitative one as shown in the tables and figures. Teachers and literacy specialists noted that the children became more verbal, formed fuller sentences, and saw the connections between writing and reading. It was a principle of the program that the material be meaningful to the children. There is reason to believe that the higher numbers displayed in the tables and figures also reflect the fact that the material held greater meaning for the children. The impressions of those visiting the classrooms were of positive changes in the area of children's identity and appreciation of their culture. Further, the teachers and researchers noted that the students showed a great deal of collaboration and, hence, the change is suggestive of a move in the direction of a community of learners as defined by Lave and Wenger (1991).

Previous brief training programs for teachers and paraprofessionals have typically included specific instruction in teaching strategies and tactics. These results were achieved without such detailed and specific training and therefore suggest an alternative, less arduous approach to improving classroom teaching. We propose that much of what are seen as teacher improvements can equally be considered as outcomes of the teachers' immersion in an environment of children who have become highly motivated. These children were asking for certain books to be read to them and demanding to know how to write up family events.

By way of contextualizing the changes we observed, we remind the reader that many of the classrooms originally had minimal support materials as related to reading and literacy. In some cases, the books available were ripped and vandalized—in short, the marks of deteriorated schooling in poor, inner-city urban areas of the United States. Classroom environments showed improvement in a number of areas, most prominently, in displaying books around the room, and having an alphabet visible at the children's eye level. The increase in the number of books partly reflects the inclusion of the students' own books. Seeing their own books displayed along with other books legitimizes their own creations, takes away the mystery of books and literate activities, and shows children how they can be literate as well.

Although this study provides preliminary support for the efficacy of the EAP with low-income, diverse, 3- to 4-year-old preschoolers in a large, subsidized childcare setting, it is important to note that numerous methodological limitations of this study necessarily weaken the strength with which one can conclude causal effects of the EAP program. First, this was not a randomized controlled trial with random assignment of children to treatment conditions. Instead it was a large-

scale, community-based, applied intervention program evaluation, using a quasi-experimental, technically nonequivalent experimental–control group design, which likely suffered from unmeasured family selection factors. Although efforts were made to select similar control group centers, it is possible that the groups differed on numerous undetected factors.

Second, this study suffered from incomplete and missing data. It was unfortunate that local funding and scheduling constraints limited the number of child assessments that could be completed on the control children, especially at posttest, yielding relatively few children with complete pretest and posttest assessments. Further, not all teachers completed the surveys at both time points. However, even with the relatively small control group and small number of children with both pretest and posttest scores, differential and statistically significant gains in child outcomes were observed between the experimental and control groups. Also, the fact that the pattern of findings at pretest and posttest for all 3- to 4-year-old children (forgetting about whether the children had both assessments) was always the same as that found for the smaller, paired sample suggests that the findings within the small groups are indeed representative of the full sample. Given that many evaluations of early childhood and curricular interventions don't include a control group at all, this study, with its limited sample size, is still a methodologically strong contribution.

Another limitation of this study was the use of only teacher self-report measures of the quality of the classroom literacy environment and teacher practices. Clearly, observations of classroom quality made by independent observers would be a better approach for future studies. Future work of this type would benefit from including independent assessments of classroom quality and change over time. There is evidence, however, that the teachers surveyed here were being truthful and not strongly biased to give socially desirable responses, in that the teachers did not claim to be doing everything that was intended and possibly perceived as good. For instance, only 18% of teachers mentioned that they provided books from other cultures to the children, despite the fact that this was a clearly desired, if not required, aspect of implementing the EAP.

Another limiting issue to be addressed in future evaluations of the EAP and other similar programs is the fact that we have limited information about the mechanism of change involved with the intervention. Although the literacy specialists during their interviews, and the theoretical foundations of the intervention itself, suggested that perhaps the intervention was having an effect on children's literacy identity, their self-image as a reader, or their self-efficacy/self-esteem, we did not have measures of any of these constructs. Future studies should more measure such constructs, as well as other potential mediators of the EAP intervention. Attention should also be given to distinguishing self-esteem from positive affect and enthusiasm about the program or one's active participation in it. Another limitation, true for most intervention research, is the fact that there were multiple aspects

of the EAP intervention occurring simultaneously (parent sessions, specialists working with teachers, classroom literacy environment changes) and we were not able to determine which unique factor or combination of components was most responsible for the observed outcomes.

Finally, as is the case with any new intervention, it will remain to be seen to what extent the EAP program can be successfully implemented and replicated results obtained in other locations and with other populations. The nature of the EAP intervention, however, in that it focuses on children's own stories in their own language and provides much support and validation for multiple languages, suggests that the EAP curriculum might work well in many other cultural and linguistic settings.

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### REFERENCES

- Ada, A. F. (1988). The Pajaro Valley experience: Working with Spanish-speaking parents to develop children's reading and writing skills in the home through the use of children's literature. In T. Skutnabb-Kangas & J. Cummins (Eds.), *Minority education: From shame to struggle* (pp. 223–238). Clevedon, England: Multilingual Matters.
- Ada, A. F., & Campoy, I. (2003). *Authors in the classroom: A transformative education process*. Boston: Allyn & Bacon.
- Armbruster, B. B., Lehr, F., & Osborn, J. (2001). *Put reading first: The research building blocks for teaching children to read*. Washington, DC: Partnership for Reading.
- Barnett, W. S. (2002). Early childhood education. In A. Molnar (Ed.), *School reform proposals: The research evidence* (pp. 1–26). Greenwich, CT: Information Age.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academies Press.
- Byrne, B., & Fielding-Barnsley, R. (1991). Evaluation of a program to teach phonemic awareness to young children. *Journal of Educational Psychology*, 83, 451–455.
- Cairney, T. H., & Langbien, S. (1989). Building communities of readers and writers. *The Reading Teacher*, 42, 560–567.
- Camilli, G., Sadako, V., & Michele, Y. (2003). Teaching children to read: The fragile link between science and federal education policy. *Education Policy Analysis Archives*, 11(15). Retrieved January 27, 2008, from <http://epaa.asu.edu/epaa/v11m15/>.
- Cope, B., & Kalantzis, M. (Eds.). (2000). *Multiliteracies: Literacy learning and the design of social futures*. New York: Routledge.

- Corson, D. (1993). *Language, minority, education and gender: Linking social justice and power*. Toronto, Ontario: Ontario Institute for Studies in Education Press.
- Corson, D. (1998). *Changing education for diversity*. Philadelphia: Open University Press.
- Crévoila, C., & Hill, P. (1998). *Journal of Education for Students Placed at Risk*, 3, 133–158.
- Cummins, J. (2004). Multiliteracies pedagogy and the role of identity texts. In K. Leithwood, P. McAdie, N. Bascia, & A. Rodrigue (Eds.), *Teaching for deep understanding: Towards the Ontario curriculum that we need* (pp. 68–74). Toronto: Ontario Institute for Studies in Education of the University of Toronto and the Elementary Federation of Teachers of Ontario.
- Dixon-Krauss, L. (1996). *Vygotsky in the classroom: Mediated literacy instruction and assessment*. Newbury Park, CA: Addison-Wesley.
- Dolson, D. P. (1985). The effects of Spanish home language use on the scholastic performance of Hispanic pupils. *Journal of Multilingual and Multicultural Development*, 6, 135–155.
- Dunn, L.M. & Dunn, L.M. (1981). *Peabody picture vocabulary test-revised*. Circle Pines, MN: American Guidance Survey.
- Entwisle, D. R., & Alexander, K. L. (1999). Early schooling and social stratification. In R. C. Pianta & M. J. Cox (Eds.), *The transition to kindergarten* (pp. 363–379). Baltimore: Paul Brookes.
- Erickson, F., & Gutierrez, K. (2002). Culture, rigor, and science in educational research. *Educational Researcher*, 31(8), 21–24.
- Feuer, M. J., Towne, L., & Shavelson, R. J. (2002). Scientific culture and educational research. *Educational Researcher*, 31(8), 4–14.
- Fitzgerald, J., Morrow, L. M., Gambrell, L., Calfee, R., Venezky, R., Woo, D. G., et al. (2002). Federal policy and program evaluation and research: The America Reads example. *Reading Research & Instruction*, 41, 345–370.
- Freire, P. (1973). *The pedagogy of the oppressed*. New York: Seabury Press.
- Gee, J. P. (1990). *Social linguistics and literacies: Ideology in discourses*. London: Falmer.
- Gee, J. P. (2001). A sociocultural perspective on early literacy development. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook on research in early literacy* (pp. 30–42). New York: Guilford.
- Gunn, B. K., Simmons, D. C., & Kameenui, E. J. (1998). Emergent literacy: Research bases. In D. C. Simmons & E. J. Kameenui (Eds.), *What reading research tells us about children with diverse learning needs: bases and basics* (pp. 2–50). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Guthrie, J. T. (2004). Classroom contexts for engaged reading: An overview. In J. T. Guthrie, A. Wigfield, & K. C. Perencevich (Eds.), *Motivating reading comprehension: Concept-oriented reading instruction* (pp. 1–24). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Hagman, A., & Lahdenpera, A. (1998). Nine years of Finnish medium education in Sweden—What happens afterwards? The education of minority children in Botkyrka. In T. Skutnabb-Kangas & J. Cummins (Eds.), *Minority education: From shame to struggle* (pp. 329–335). Clevedon, England: Multilingual Matters.
- Hall, K. (2004). Reflections on six years of the National Literacy Strategy in England: An interview with Stephen Anwyll, Director of the NLS 2001–2004. *Literacy*, 38, 119–125.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Paul Brookes.
- Heath, S. B. (1983) *Ways with words: Language, life and work in community and classrooms*. Cambridge, UK: Cambridge University Press.
- Justice, L., & Pullen, P. (2003). Promising interventions for promoting emergent literacy skills: Three evidence-based approaches. *Topics in Early Childhood Special Education*, 23, 99–113.
- Labbo, L. D., Eakle, A. J., & Montero, M. K. (2002). Digital language experience approach: Using digital photographs and software as a language experience approach innovation. *Reading Online*, 5(8), 24–43.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.

- Lonigan, C. J., Anthony, J. L., Bloomfield, B. G., Dyer, S. M., & Samwel, C. S. (1999). Effects of two shared-reading interventions on emergent literacy skills of at-risk preschoolers. *Journal of Early Intervention, 22*, 306–322.
- Matsumura, L. C., & Boscardin, C. K. (2002). *The implementation and eEffects of Early Steps to Reading Success: Evaluation year 2001–2002*. Los Angeles: Center for the Study of Evaluation, UCLA Graduate School of Education and Information Studies.
- Moll, L. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice, 31*(2), 132–141.
- National Association for the Education of Young Children, & International Reading Association. (1998). Learning to read and write: Developmentally appropriate practices for young children. *Young Children, 53*(4), 30–46.
- Nehring, A. D., Nehring, E. F., Bruni, J. R., & Randolph, P. L. (1992). *Learning Accomplishment Profile—Diagnostic Standardized Assessment*. Lewisville, NC: Kaplan Press.
- Neuman, S. B., & Roskos, K. (1993). Access to print for children of poverty: Differential effects of adult mediation and literacy-enriched play settings on environmental and functional print tasks. *American Educational Research Journal, 30*, 95–122.
- New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60–86.
- O'Connor, R. E., Notari-Syverson, A., & Vadasy, P. (1996). Ladders to literacy: The effects of teacher-led phonological activities for kindergarten children with and without disabilities. *Exceptional Children, 63*, 117–130.
- Scribner, S., & Cole, M. (1981). *The psychology of literacy*. Cambridge, MA: Harvard University Press.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academies Press.
- Solsken, J. (1993). *Literacy, gender and work in families and in school*. Norwood, NJ: Ablex.
- U. S. Dept of Education, Institute for Education Sciences, & National Center for Educational Evaluation and Regional Assistance. (2003). *Identifying and implementing educational practices supported by rigorous evidence: A user friendly guide*. Washington, DC: Author. Retrieved on November 13, 2007, from <http://www.ed.gov/rschstat/research/pubs/rigorousetid/index.html>.
- Vygotsky, L. S. (1997). *Educational psychology* (R. Silverman, Trans.). Boca Raton, FL: St. Lucie Press.
- Washington, J. A. (2001). Early literacy skills in African-American children: Research considerations. *Learning Disabilities Research & Practice, 16*, 213–221.
- Wasik, B. A., & Bond, M. A. (2001). Beyond the pages of a book: Interactive book reading and language development in preschool classrooms. *Journal of Educational Psychology, 93*, 243–250.
- Wasik, B. A., Bond, M. A., & Hindman, A. (2006). The effects of a language and literacy intervention on Head Start children and teachers. *Journal of Educational Psychology, 98*, 63–74.
- Whitehurst, G. J., Arnold, D. S., Epstein, J. N., Angell, A. L., Smith, M., & Fischel, J. E. (1994). A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology, 30*, 679–689.
- Whitehurst, G. J., Epstein, J. N., Angell, A. L., Payne, A. C., Crone, D. A., & Fischel, J. E. (1994). Outcomes of an emergent literacy intervention in Head Start. *Journal of Educational Psychology, 86*, 542–555.
- Whitehurst, G. J., & Fischel, J. E. (2000). Reading and language impairments in conditions of poverty. In D. V. M. Bishop & L. B. Leonard (Eds.), *Speech and language impairments in children: Causes, characteristics, intervention and outcome* (pp. 53–71). New York: Psychology Press.
- Whitehurst, G. J., Zevenbergen, A. A., Crone, D. A., Schultz, M. D., Veltling, O. N., & Fischel, J. E. (1999). Outcomes of an emergent literacy intervention from Head Start through second grade. *Journal of Educational Psychology, 91*, 261–272.

- Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock–Johnson Tests of Cognitive Abilities*. Rolling Meadows, IL: Riverside.
- Zimmerman, I. L., Steiner, V. G., & Evatt Pond, R. (2002). *Preschool Language Scale (PLS-R)* (4th ed.). San Antonio, TX: The Psychological Corporation.

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