Promoting Language and Literacy in Early Childhood Care and Education Settings: Analytical Table

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	Citation	Groups Studied	Research Question	Research Approach	Data Source	Validity	Reliability	Findings	Comments
1.	Byrne, B., & Fielding-Barnsley, R. (1991). Evaluation of a program to teach phonemic awareness to young children. Journal of Educational Psychology, 84 (4), 451-455. (link)	126 children (mean age = 55 months) from four preschools in Australia.	Is phonemic awareness training more effective than training in semantics in improving children's ability to identify phonemes and read short words?	An experimental design was used to assess the effects of a phonemic awareness program, Sound Foundations. The experimental group received an intervention that consisted of 12 training sessions lasting 25-30 minutes in groups of four to six children. Control group children were trained in sessions of similar size and duration, but the content of the games and lessons was semantics.	Pretests included the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1989) and Clay's Concepts About Print Test (Clay, 1975). Children were also asked to name six common signs (Coca-Cola, MacDonalds, etc) and assessed for alphabet knowledge (sounds and names), rhyme recognition, and phoneme identity. At posttest, children were given the identical phoneme identity tests as in pretest, assessed for letter-sound knowledge, and were given a novel test where they were asked to "read" short words that forced them to parse phonemes.	[No information provided.]	[No information provided.]	The experimental and control groups experienced an increase from pretest to posttest on phoneme identity scores. However, children who received the phonemic awareness training had more substantial gains in their phonemic identification scores from pre- to post-test than chidlren who received the semantic training, for both taught and non-taught phonemes. Although increases were found for both specifically taught phonemes and non-taught phonemes at posttest, children in the experimental group did better with phonemes that were taught than those that were not. Children in both the experimental and control groups were more successful on the measure for phonemes that were the initial sound of the word, rather than the final sound. There was an indication that having both phonemic awareness and letter identification are neccessary but not sufficient for aquisition of the alphabetic principle (measured here by the "reading" task).	Neither validity nor reliability of measures were reported for this study. Though commonly used standardized measures such as the PPVT-R generally show acceptable reliability and validity, the more procedure oriented measures used in this study should be viewed with caution. The authors also assert in their discussion that "the data also show that recognition of the phoneme-identity in word-final position can be readily taught" (p. 454). Given that the reported results showed no interaction between phoneme position and Experimental vs. Control group, or Pretest or Posttest, it is unclear how the authors reached this conclusion.
2.	Byrne, B., & Fielding-Barnsley, R. (1993). Evaluation of a program to teach phonemic awareness to young children: A 1-year follow-up. Journal of Educational Psychology, 85 (1), 104-111. (link)	This sample is a follow-up study of the sample seen in Byrne and Fielding-Barnsley (1991). Due to attrition, the current experimental group consisted of 63 children (mean age = 72.4 months), and the control group consisted of 56 children (mean age = 72 months), for a	Do the effects of phonemic awareness training in preschool last until the end of kindergarten (as assessed through measures of phoneme identity, letter-sound knowledge, word identification, pseudoword identification, and spelling)?	Children who participated in a phonemic awareness intervention during preschool were retested a year later to determine persistence of the training effect. The experimental group received an intervention that consisted of 12 25-30 minute training sessions in groups of four to six children. Control group children were trained in groups of similar size and duration, but the content of the games and lessons concentrated on semantics. The intervention took place in preschool; follow-up assessments were administered at the end of kindergarten.	Initial measures: Peabody Picture Vocabulary Test (Dunn & Dunn, 1989); Clay's Concepts About Print Test (Clay, 1975); newly developed procedures were used to assess knowledge of letter sound and name, rhyme recognition, phoneme identity, and a "reading" task that asked the child to parse phonemes from short words. Follow-up measures: the same phoneme-	[No information provided.]	[No information provided.]	Using group mean comparisons, experimental and control groups did not differ in alphabet knowledge, word-identification, or spelling, but a significant difference was found for pseudoword-identification, with the experimental group doing better than the control. The null finding for word identification, yet significant finding for pseudoword may be due to the fact that words in the former required irregularly spelled words that could not be spelled based solely on phonetics (e.g., blue, one, etc.). Using ANOVAs, those within the experimental group had higher phoneme-identity scores at the end of their first year of kindergarten. The interaction for group X initial- vs. final-phoneme position was borderline, showing that while control groups lagged slightly behind on final-phoneme identity scores, they had mostly caught up with	Neither validity nor reliability was reported for measures used in this study. Though commonly used standardized measures such as the PPVT generally show acceptable reliability and validity, the PPVT is not cited in the text, so it is unclear as to which edition of the test was used, or

		total of 119. Children were finishing kindergarten at this assessment point.			identity procedure; phonemic-elision (i. e., child asked to say the word that was left when the beginning or ending phoneme is removed); letter-sound knowledge; word identification subtest of the Woodcock Reading Mastery Test (Woodcock, 1987); pseudoword identification; and spelling.			experimental groups, otherwise. Similar comparisons were made for the phonemic-elision dependent variable. No differences were found between the experimental and control groups, but there was a significant main effect for initial- vs. final-phoneme, with higher scores being seen for final-phoneme elisions. This was thought to be due to the greater commonality of letter clusters found in the initial-phoneme elision words (e.g., the cl in clock, being removed together, instead of just the c). Groups were reconfigured to represent those who "passed" the Phonemic Identity assessment from the first study (i.e., end of preschool year) versus those who did not. All 12 experimental subgroups and 3 control groups were included to make up the "Passers" group, whereas the "Failers" group was comprised of 9 of the control groups. Using t-tests, "Passers" were found to do significantly better than "Failers" for scores on word-identification, pseudoword-identification, and spelling. No difference was found between the two for alphabet knowledge. "Passers" in preschool also did better on kindergarten measures of phonemic-identity, and showed a group X phoneme position interaction, whereas "Passers" scored better on both initial- and final-phonemes than "Failers," but showed a larger effect for final-phonemes. Similarly, "Passers" did better on phoneme-elision, and, overall, both "Passers" and "Failers" did better for final-elision words, as opposed to initial-elisions. There was no group X elision position interaction. To look at the unique contribution of current phoneme-identity (i.e., kindergarten scores) and alphabet knowledge (while covarying PPVT scores), these variables were entered into three multiple regressions, predicting kindergarten Woodcock Word Identification, pseudoword-identification, and spelling scores, respectively. Phoneme-identity at kindergarten accounted for 16% of the variance in kindergarten pseudoword-identification and 4% of the variance in kindergarten spelling scores, beyond the effect of alphabet knowledge. Phoneme Identity was not uniquely related to reading ability (i.e., Woodcock Word Identification scores), whereas alphabet knowledge was. The relationship between pseudoword-identification, yet null result with actual "reading" is consistent with the conception that in early stages of literacy development children can learn words without having an understanding of their specific phonological structures. PPVT scores were not related to any of the outcomes.	whether a test normed in the US is applicable to an Australian sample. It is unclear why preschool phoneme-identity scores were not used in comparable regression analysis, along with the kindergarten measures of preschool phoneme-identity, given the follow-up nature of the study.
	3.	Byrne, B. & Fielding-Barnsley, R. (1995). Evaluation of a program to teach phonemic awarness to young children: a 2-and-3-year follow-up and a new preschool trial. Journal of Educational Psychology, 87 (3), 488-503. (link)	Please see Byrne and Fielding-Barnsley, R. (1991) for initial sample numbers. In the grade 1 follow-up, 64 (of the original 64) children were included in the experimental group (33 males and 31 females; mean age was 84.4 months); 54 (of 64) children were included in the	Do the effects of phonemic awareness training in preschool last until grade 1 and grade 2?	Children who participated in a phonemic awareness intervetnion during preschool were retested 2 and 3 years later (i.e., grades 1 and 2) to determine persistence of the training effect. The experimental group recieved a phonemic awareness intervention that consisted of 12 25-30 minute training sessions in groups of four to six children. Control group children were trained in groups of similar size and duration, but the content of the games and lessons concentrated on semantics. In grade 1, the testing for each child took two sessions on consecutive days. On the first day, the reading, phoneme identity, and the rapid naming test were administered on an individual basis. On the second day, the children were tested on alphabet and spelling knowledge in small groups of 4 or 5. In grade 2, each child was tested individually during two sessions for about 20 minutes each,	There were several different materials used during the grade 1 year to assess the children: (1) Word Identification: there were two word lists, each of which were 20 words long, one with regularly spelled words and one with irregularly spelled words. There was also a list with 20 pseudowords; (2) Spelling: the spelling test contained 18 items, 12 that were "real" words (1/2	[No information provided]	[No information provided]	In grade 1, small group means were used as the unit of analysis . There was a significant difference between the experimental and control group on pseudoword decoding, with the experimental group performing at a higher level on recognition. This group also had a higher mean score on recognition of regularly spelled words, however the effect was marginal. In addition, those who were were in the "passing" group when tested in preschool on phenome identity were significantly higher on each of the reading groups. In grade 2, there was a significant difference between the experimental and control group on the pseudoword reading task. Further analysis of five "less frequent" words on the word recognition word list showed that the experimental group, on average, was correct on 4.35/5, whereas the the control group	

		control group (29 males and 25 females; mean age was 84 months). In the grade 2 follow-up sample, 62(of 64) were in the experimental group(32 males and 30 females; mean age was 96.4 months); 53 (of 54) were included in the control group (28 males and 25 females; mean age was 96 months)	during two consecutive days. On the first day, the seven reading tests were administered, with the comprehension and title recognition tests being administered on the following day.	regularly spelled words, 1/2 irregularly spelled words) and 6 that were pseudowords; (3) Alphabet: the children were to write the letter cooresponding to the letter sound; (4) Phoneme Identity: a 20-item test of phoneme identity was administered , where children would choose which of two presented words(e.g. bowl or dig) began with the same sound as a target word (e.g. beak); and (5) Rapid Naming: this adapted test presented children with 30 digits were arranged in rows in blocks of five and were asked to name them quickly. In the 2nd year, there were seven tests in which the children were either to describe numbers or words: (1) Numerals: the children were to name eight single-digit numerals that were presented one at a time in a predetermined, yet randomized order; (2) Numbers: see "numeral" description, but the numbers were given in their written format (e.g. one, eight); (3) Pseudowords: there were three different lists of pseudowords. List one containesd eight single-syllable, three-letter words; list two contained 30 words, half were one-syllable and half were two-syllable; list three contained "non-words" (e.g. dalk and rild); (4) Regular words: (5) Irregular Words; (6) Reading and Listening comprehension: two stories were written (160 words), on age-appropriate topics. Each story was followed with 10 comprehension questions, presented verbally; and (7) title recognition test: this is an adapted measure of print exposure. The children were presented with 20 real bok titles and	was correct 3.93/5 times. In addition, there was a larger, and significant mean difference between the experimental and control group on the recognition of one and two-syllable pseudowords, with the experimental group recognizing more two-syllable pseudowords. Children with phonemic awareness training also had higher reading comprehension scores than did control children at the end of second grade, although there was no difference in listening comprehension scores.

					12 false titles and were asked to tell if they had heard of the book before.				
4.	Byrne, B., Fielding-Barnsley, R., & Ashley, L. (2000). Effects of preschool phoneme identity training after six years: Outcome level distinguished from rate of response. Journal of Educational Psychology, 92 (4), 659-667. (link)	In the original sample there were 126 preschoolers (64 in the intervention group and 62 in the control group). For the fifth grade follow-up, there were 56 children from the experimental group and 47 from the control group. The average age at follow-up for both the intervention and control groups was 11 years. No demographic information was given in this article.	To investigate the long-term outcomes of preschool phoneme training, reading and spelling abilities as assessed in the fifth grade.	126 preschoolers were trained by the same teacher in subgroups of four to six for approximately half an hour per week for 12 weeks. The 64 preschoolers in the intervention group were taught to classify items based on shared phonemes. The 62 preschoolers in the control group were exposed to the same program materials for about half an hour per week for 12 weeks; however, the control group did not receive the phoneme identity training. Instead, they were taught to classify items using categories (e.g., color, shape, edibility). At the fifth grade follow-up, five reading tests, one written spelling test, and a title recognition test were administered to each child.	The Woodcock Reading Mastery Tests-Revised (Woodcock, 1987), Word Attack and Word Identification subtests. Three reading lists (Castles 1993), which included 30 items each; one list contained nonwords, one contained regularly spelled words, and one contained irregularly spelled words (e.g., blood, choir). The 70-item South Australian Test of Written Spelling (Westwood, 1999). A Title Recognition Test, based on Cunningham and Stanovich (1990).	[No information provided.]	[No information provided.]	In the fifth grade follow-up, the experimental group showed some benefits in word identification and global print identification. However, the effect sizes were small to moderate (.33 to .39). The intervention produced the strongest effect for reading irregularly spelled words. In addition, the authors examined nine children in the intervention group who became disabled readers even though these children were not distinguishable from the other children based on the postintervention test of phoneme identity. Based on these nine disabled readers, the authors concluded that successful readers must master more than phonemic awareness as preschoolers.	The authors state that the intervention was very limited in terms of time (i.e., total of 6 to 7 hours of training) and materials (i.e., only phonemic awareness was taught). The authors suggest that interventions need to include more intensive training, such as training in segmentation and blending along with phonemic awareness.
5.	Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult otucomes from the Abecedarian Project. Applied Developmental Psychology, 6 (1), 42-57. (link)	The sample included 111 socially disadvantaged children living in a relatively affluent college town in North Carolina. These children were primarily first-born children (67%) being raised by young (mean age=20), black (94%), single women (83%) with less than a high school education (mean years of schooling=10). At age 21, 104 of the original 111 infants took part in the follow-up study (99% retention rate of eligible participants at age 21).	To investigate the long-term effects (through age 21) of attending a high quality preschool program from infancy through age 5 in a low-income sample.	Children were randomly assigned to receive either high-quality child care from 6 weeks through age five (n=57), or to a control group (n=54). Both treatment and control group children received social work services, a guarantee of medical care, and nutritional supplements for the first 15 months of the infant's life. Children were then randomly assigned to school-age treatment (intervention during the first 3 years of school; K-2) and control groups. The school-age treatment consisted of educational support for children at home and in school, learning support over the summer, and support for parent involvement in the child's learning. Children were assessed twice annually for the first 54 months of participation (i. e., 12, 18, 24, 30, 36, 42, 48, and 54 months). Follow-up assessments were conducted at ages 3, 4, 5, 6.5, 8, 12, 15, and 21.	At age 21, data were gathered on intellectual level and academic skills using the Weschler Adult Intelligence Scale-Revised (WAIS-R; Weschsler, 1981) and the Woodcock-Johnson Psychoeducational Battery-Revised (WJ-R; Woodcock & Johnson, 1989). Participants were also interviewed about their educational attainment, employment status, self-sufficiency, and social adjustment (substance abuse items taken from the Youth Risk Behavior Survey; Center for Disease Control, 1992). [Note that many other types of assessments were used at earlier timepoints; we report here on results found at age 21.]	[No information provided.]	[No information provided.]	Statistically significant differences between the preschool and preschool-controls (favoring the preschool group) were found on cognitive test scores as early as age 8, and persisted through age 21. Those with preschool treatment earned grade equivalent scores almost 2 years higher in math and reading than those of preschoool controls. Examination of effect sizes for reading and math scores indicated that those with intervention both in preschool and during the first 3 years of formal schooling performed the best, followed by those with just preschool intervention, and then those with just school-age intervention. Effect sizes were larger for reading than for math scores. By age 21, 36% of the treatment group had graduated from or were still attending a 4-year college, compared to 14% of the no-treatment group. In addition, 47% of the treatment group was in skilled employment, compared to 27% of the controls. There were no significant differences between treatment and control groups in attainment of economic self-sufficiency, nor in their social adjustment, as measured by use of legal and illegal substances, substance abuse, violence, and crime. However, preschool treatment was associated with a significant reduction in teen parenthood (26% vs. 45%), and a significant delay in average age at first birth (19.1 years vs. 17.7 years), compared to controls. Thus, participation in this intensive, high-quality child care experience had lasting effects into young adulthood for these socially disadvantaged individuals. Participation in the preschool intervention (from 6 weeks to 5 years) was more potent than intervention during the first three years of formal schooling (K-2), although continued intervention for a full 8 years helps to improve reading and math scores above and beyond preschool intervention.	The authors note that duration and timing of the intervention is confounded, so it is hard to disintangle whether it is the length or the timing of the intervention which is most important. However, effect sizes indicate that intervening earlier in a child's life, and especially during infancy, is probably more effective than intervening once the child has entered formal schooling. Furthermore, the authors note that the early intervention went directly to the child, while the school-age intervention was through the parent.

6.	Christie, J. F., & Enz, B. (1992). The effects of literacy play interventions on preschoolers' play patterns and literacy development. Early Education and Development, 3 (3), 205-220. (link)	32 4- and 5-year-old children in two part-day preschool classes (one morning class and one afternoon class taught by the same teacher) in a metropolitan middle-class neighborhood. The morning class had 17 children with a mean age of 58 months; the afternoon class had 15 children with a mean age of 57 months. No information regarding race/ethnicity was provided.	Will adding literacy materials to a preschool classroom have an effect on children's play activities, print concepts, early writing, and letter recognition? Are there differences in effects depending on whether or not an adult encourages the children to use literacy materials in their play?	Literacy materials were added to the classroom in the dramatic play area, housekeeping area, and a theme center area (which was set up like a doctor's office). Classrooms were randomly assigned to two different treatment conditions. The morning class was exposed to literacy materials as well as adult involvement in which the teachers and research assistants encouraged the children to incorporate literacy materials into their play. The afternoon class was exposed to the same literacy materials but without adult involvement. The treatment lasted for 20 weeks (children were allowed to use the area 30 minutes per day), including four weeks of pretreatment observation to assess the preschoolers' play and literacy development and four weeks of posttreatment assessments and observations.	An observation scale adapted from Rubin, Watson, and Jambor (1987) was used to code the levels of children's play into three categories: cognitive levels (functional play, constructive play, dramatic play, and games with rules); social levels (solitary play, parallel play, and group play); and other behaviors (unoccupied/onlooking/transition and nonplay activities). Other measures used were a modified version of Clay's (1972) Concepts about Print test; Galda, Pellegrini, and Cox's (1989) technique to examine early writing; and a letter recognition measure.	The validity of the play observation scale has been challenged (according to the authors). No information was provided for the other measures.	An inter-rater reliability check for the play observation scale revealed that the two raters agreed on 89 percent of the codings during a 30-minute play period. No information was provided for the other measures.	The children involved in the literacy materials plus adult involvement group showed an increase in the number of times literacy was incorporated into dramatic play. This group also showed a significant increase in total number of play activities and a decrease in nonplay activities. The materials only group showed a significant increase in functional play and a decrease in dramatic play, and neither group showed a difference in the social play category. Newman-Keuls post hoc tests suggested that both groups made gains on literacy measures (concepts about print, writing, & letter recognition); however, there were no significant differences between the two groups, suggesting that gains in emergent literacy over time may be due to maturation rather than either intervention.	The generalizability of the findings is limited because of the small sample size and the use of a single classroom. In addition, there was no non-treatment control group in this study. Furthermore, classrooms, not children, were randomly assigned to treatment conditions. Findings that both treatment groups showed improvement over time on the literacy measures indicates that maturation rather than either form of intervention may be responsible for the gains in literacy skills.
7.	Dickinson, D. K., & Smith, M. W. (1994). Long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. Reading Research Quarterly, 29 (2), 105-121. (link)	The sample consisted of 4-year-old children from low-income families who participated in a variety of early childhood education settings (including Head Start). [The sample size is not provided.] The children were 62 percent white, 34 percent African-American, and 4 percent Hispanic.	To observe and code approaches to book reading in various early childhood education classrooms and analyze the correlations between the approaches and children's receptive vocabulary and story comprehension skills.	Data from a longitudinal study of the precursors of language and literacy development in children from low-income families were analyzed. The children participated in a variety of early childhood programs at age 4, including Head Start. Twenty-five classrooms were observed, and the children's language and literacy were then assessed one year later.	Peabody Picture Vocabulary Test-Revised (PPVT-R). An original measure of story comprehension--each child was read a storybook, and then asked questions that included a mix of recall, factual, and inferential questions.	[No information provided.]	[No information provided.]	Based on observations of story times in the classrooms, the authors found that there were three distinct approaches to book reading. The "co-constructive approach" was characterized by high amounts of talk by both children and teachers during the reading; the talk was analytic in nature. The "didactic-interactional approach" was characterized by very little talk; when the teachers asked questions, they were designed to manage disruptions or solicit simple recall. The "performance-oriented approach" was characterized by talk being limited to before and after the reading; talk after the story was used to reconstruct the story or relate it to the children's lives.As for children's development at age 5, effects for type of reading were found for the PPVT-R but not for the measure of story comprehension. Children who had been in performance-oriented classrooms scored significantly better on the PPVT-R than children who had been in the didactic-interactional classrooms. In addition, a single variable was found to be predictive of scores on both measures--the variable reflects "the proportion of prompted or responsive analysis, prediction, and vocabulary utterances by teachers and children." This variable was significantly correlated with the two outcomes even after controlling for other classroom variables (e.g., amount of time teachers worked with small groups, teachers' concern for fostering readiness skills).	

	8.	Dunn, L., Beach, S., & Kontos, S. (1994). Quality of the literacy environment in day care and in children's development. Journal of Research in Childhood Education, 9, 24-34. (link)	Thirty day care classrooms in 24 centers. One head teacher in each of those classrooms (N = 30). All but three were White; 19 had some education beyond high school. Sixty children were randomly selected from each of the classrooms. 57% girls; 43% boys. Mean age: 51.85 months (SD = 6.71). Majority (54%) White; 6% Black. Average family income range: $29,000-34,999. Children had to be normally developing, attending day care full-time, and enrolled in the center for at least 6 months.	Are environments that stimulate literacy more likely to occur in day care settings scoring high on measures of structural and global quality? Do the literacy environments in these classrooms have an effect on children's literacy and cognitive development?	Initially, a phone interview was conducted with each center director regarding the characteristics of the center. Additionally, each center was visited three times. The first visit consisted of an observer rating the classroom using the ECERS and literacy instruments. During this visit, the number of children and adults present in the classroom was recorded and the teacher was interviewed regarding the structural quality variables. The teacher also received a questionnaire about the children's language development and teacher characteristics. The second visit consisted of another observation (by someone who was blind to the ECERS literacy ratings) during play time. During this visit, the teacher questionnaires were collected. During the third visit, the Preschool Inventory was administered to the children.	Day care quality was collected in two different parts: (1) Structural quality included teachers' education, training, certification, and experience, as well as teacher:child ratio and group size; and (2) global quality was assessed by the ECERS (Harms & Clifford, 1980). In addition, two measures were used to specify the quality of the literacy environment. The first measure was created by determining the number of literacy-related activities available from the play units identified during classroom observation; the second was an assessment of the quality of the reading and writing environment, using the Observational Rating Scale for Language Development and Literacy programs in preschools (Hyson, Van Trieste, & Rauch, 1989). Child outcome measures included the verbal intelligence subscale of the Classroom Behavior Inventory (CBI, Schaefer & Edgerton, 1978) and the Preschool Inventory - Revised Edition (PSI, Caldwell, 1970).	[No information provided.]	The authors give a very detailed report of reliability on the ECERS in this article. For example, the authors of the scale report interrater reliability at .93 and internal consitency at .83. For the present study, interrater reliability was established prior to the data collection at .94. There were subsequent interrater reliability checks for three classrooms at 10 intervals, averaging .92. For the observation of the literacy environment, interrater reliability was established prior to data collection at .90 and remained at .90 though reliability checks. Internal consistency was .81. For the CBI, internal consistency of .95 for the subscale in the original sample. Internal consistency for this subscale in the current sample was .90 (Cronbach's alpha). For the PSI, Split-half reliability of the instrument was reported for the sample on which the measure was developed: .92 and .91.	Results show that few free play activities were literacy related, as the maximum number of literacy-related play units in any classroom was two. Thirty percent of the classrooms did not have any literacy-related play units. The observation time indicated that the literacy quality of the classrooms was at a moderate level, suggesting that literacy was not a prime focus in the classrooms. A moderate effect ($p<.05$) was found between teacher certification and the quality of the classroom environment, in that classrooms that had teachers who have had some type of formal training were rated higher on the literacy scale. In addition, the quality of the global environment was significantly correlated with available literacy-related activities. When child outcomes were examined, the authors found that the quality of the day care environment can enhance the child's language development. Teacher ratings of children's language development were related to developmentally appropriate activities and the language/reasoning subscale, suggesting that children in higher quality child care environments had more advanced language development. Hierarchical regression indicated that child care quality, as measured by the appropriate activities factor and the language/reasoning subscale, accounted for a significant proportion of the variance (controlling for family factors). Children's language development was positively related to the quality of the environment, but not to the number of literacy-related activities available. Hierarchical regression showed that literacy quality predicted a significant portion of the variance in children's language development (controlling for family factors). The environment (general quality or literacy-related activities) did not influence children's cognitive development (as assessed by the PSI).	This study is innovative in that it seeks to examine specific aspects of quality of the classroom environment and relate them to specific aspects of children's development (in this case, literacy-related activities in the classroom were related to literacy outcomes for children in those classrooms). Indeed, the use of relevant subscales of the ECERS in addition to a global measure of quality by the ECERS is useful. However, the study still seeks to relate more global measures of the literacy environment to outcomes for specific children. That is, it would have been nice to see the authors measure the particular literacy investments made in the child being tested for literacy outcomes. For example, just because there are books in the room doesn't mean that a particular child is encouraged to use them. The fact that so few spontaneous literacy-related activities occurred during free play indicates that even when literacy materials are available (though they may be few), they are not necessarily used by particular children. Also, more assessments could be used to measure child outcomes.

									Only two were used (CBI, PSI) and this may have limited the associations found between classroom environment and outcomes.
9.	Lonigan, C.J., & Whitehurst, G. J. (1998). Relative efficacy of parent and teacher involvement in a shared-reading intervention for preschool children from low-income backgrounds. Early Childhood Research Quarterly, 13 (2), 263-290. (link)	The sample consisted of 91 3- and 4-year-olds from low-income families. The children attended four child care centers in Nashville, TN which mainly served families eligible for subsidized child care. The sample was 91.2 percent African-American.	To investigate the effect of dialogic reading (a way to engage children as active participants in joint bookreading) in three conditions: (1) teacher reads with small groups of children; (2) parent reads with child; (3) combination of the two approaches. Outcomes investigated include expressive and receptive language abilities.	Children were randomly assigned to three experimental groups or a control group. The three experimental groups were "school reading," "home reading," and "school plus home reading." The interventions lasted for six weeks. Parents and teachers were trained via videotape in dialogic reading. Children in the school condition or school plus home condition were read to daily by a teacher or aide in a group of five or fewer children (in a location separated from other children in the classrooms). For the home and school plus home conditions, parents were encouraged to read to their children daily. A total of six books were used--the same books in the classrooms and at home.	Three assessments were used as pre- and post-tests. The first was the Peabody Picture Vocabulary Test--Revised (PPVT-R; Form L as pre-test, Form M as post-test; Dunn & Dunn, 1981). The second was the Expressive One-Word Picture Vocabulary Test at pre-test (EOWPVT; Gardner, 1979) and the EOWPVT-R at post-test (Gardner, 1990). The third was the Verbal Expression subtest of the Illinois Test of Psycholinguistic Abilities (ITPA-VE; Kirk, McCarthy, & Kirk, 1968). Another assessment was completed at the end of the school year for 66 of the children. Each child was shown two books and asked open-ended questions. The interactions were audiotaped and then coded.	"At pretest, scores on each of the three tests were only moderately correlated (ranging from r = .27 to r = .66), suggesting that these tests assessed somewhat different dimensions of oral language."	"Indices of internal consistency for each test are high (e.g., split-half reliabilities: PPVT-R = .80, EOWPVT = .94, ITPA-VE = .86)." The authors also reported on the correlations between pre- and post-test for the measures; correlations ranged from .57 to .73, indicating that the tests have "moderately high reliability across time and form."	The authors examined effects separately for high and low compliance centers. For the EOWPVT, in the high compliance centers, the combined intervention group (home plus school) significantly outperformed the control group, but none of the three experimental groups were significantly different from each other, and the differences between the two other experimental groups and the control group were not significant. In the low compliance centers, the school group performed significantly lower than all three of the other groups (including the control group). As for the ITPA-VE, all three intervention groups scored significantly higher than the control group (regardless of center compliance). Scores for the home group were significantly higher than scores for either the school group or the combined group. No significant effects were found for the PPVT. As for the recorded interactions while looking at books, for the high compliance centers, all three of the experimental groups scored significantly higher on a majority of the variables (e.g., mean length of utterance, diversity of words) than the control group (there were few significant differences between the three experimental groups). Few significant effects were found for low compliance centers on this measure.	The authors report that all three intervention types had significant effects on children's language development. However, it seems that the results were highly variable; no consistent pattern emerged. Some results were found only for high compliance centers, some for both high and low compliance centers. Furthermore, in general, it appears that the combined (home plus school) intervention was the most effective, but this pattern did not emerge across all of the measures.
10.	Love, J.M., Kisker, E.E., Ross, C.M., Schochet, P.Z., Brooks-Gunn, J., Paulsell, D., Boller, K., Constantine, J., Vogel, S., Fuligni, A.S., & Brady-Smith, C. (2002). Making a difference in the lives of infants and toddlers and their families: The impacts of Early Head Start. Washington, DC: U.S. Department of Health and Human Services. (link)	There were 1,513 families in the experimental group and 1,488 in the control group across 17 sites. In order to be eligible to participate in the research, the primary caregiver had to be pregnant or have a child under the age of 12 months. About one-third of the families were African American, one-fourth were Hispanic, and one-third were white. About half of the primary caregivers did not have a high school degree at the time of enrollment, and most were receiving public	To investigate the effects of Early Head Start, a program serving low-income families from pregnancy through the child's third birthday using a combination of home- and center-based services.	Families in 17 Early Head Start sites were randomly assigned to receive the intervention or to a no-intervention control group (i.e., waiting list). The timing of assignment depended on when families enrolled, but to be eligible, women had to be pregnant or have a child under the age of 12 months. Length of participation also varied, depending on the needs and motivation of the family, but could potentially have lasted until the child's third birthday. Families were assessed when children were 3 years old. Services varied depending on families' needs, but included home-based services (e.g., home visits), center-based services (e.g., child care, parenting classes), or a combination of the two. In addition, families were provided referrals for health care and other community services (e.g., services related to employment, education, mental health needs).	At age 3, data were gathered through interviews with parents, direct assessments of children (the Mental Development Index of the Bayley Scales of Infant Development and the Peabody Picture Vocabulary Test -- III), observations of the home environment (the Home Observation for Measurement of the Environment), and videotaped parent-child interactions.	[No information provided.]	The report appendix C provides very detailed information on the reliability of the various observational measures and variables created for the study. For example, coders of the videotaped parent-child interactions were trained to a level of 85 percent for inter-rater reliability. However, little information is provided on the Bayley or the PPVT-III.	Children in the experimental group (i.e., those attending Early Head Start) scored significantly higher than control group children on an assessment of cognitive development (Bayley Mental Development Index) at ages 2 and 3. They also scored significantly higher on an assessment of receptive vocabulary (PPVT-III). The results for the Bayley and PPVT-III were small but significant. In the realm of social/emotional development, experimental group children were less negative with their parents during observed interactions and were rated lower in aggressive behavior by their parents than control group children.The researchers also investigated the effects of type of program on parent and child outcomes. They found that mixed-approach programs generally produced stronger results than either center-based programs or home-based programs. They also examined the results for particular subgroups. Although all subgroups generally benefited from participation in Early Head Start, the researchers found that the effects for parenting and child outcomes were the greatest when mothers enrolled during pregnancy. The strongest results were found for African American and Hispanic families (as opposed to white families). In addition, strong results were found for teenage mothers.	Early Head Start produced many small yet significant results for parents and children. Although the center-based and home-based approaches produced some significant results, the best results were produced by mixed-approach programs. (However, being in a mixed-approach program did not necessarily mean that each family received both types of services. Rather, program staff decided what kind of approach would best meet the needs of each

		assistance of some kind (e.g., WIC, Food Stamps, AFDC or TANF). About one-fourth of primary caregivers enrolled during pregnancy.							family.)
11.	Majsterek, D.J., Shorr, D.N., & Erion, V.L. (2000). Promoting early literacy through rhyme detection activities during Head Start circle-time. Child Study Journal, 30(3), 143-151. (link)	40 children ranging in age from 46 to 63 months attending four Head Start classrooms.	Is phonological training or semantic training more effective in increasing children's ability to detect rhymes?	The four classrooms were randomly assigned to one of two interventions: phonological treatment or semantic treatment. Both interventions consisted of nine 10-minute sessions led by a researcher over a 4-week period during circle times. In both conditions, each session began and ended with singing activities. Four minutes were devoted to the intervention (between the singing activities). In the phonological treatment, rhyming activities were used; the semantic treatment focused on meaning. Children were individually pre- and post-tested by their teachers using an assessment developed by the authors.	Children were pre- and post-tested by their teachers using an assessment developed by the authors (adapted from Adams, Foorman, Lundberg, and Beeler's curriculum [1997]). For the pre-test, the child was presented with four pictures and asked to identify which of the last three pictures rhyme with the first picture (total of five sets). The post-test followed the same format as the pre-test, except the child was presented with ten sets of pictures (instead of five) that were different than those used in the pre-test.	[No information provided.]	[No information provided.]	Because there was a moderate (but nonsignificant) difference between the two groups on the rhyme detection pre-test, gain scores were used as the dependent variable in a t-test. A significant difference was found between the gains made by the two groups on the rhyme detection test; children in the phonological treatment made greater gains than children in the semantic treatment.	As noted by the authors themselves, semantic skills may be as important to later reading development as phonological skills. Therefore, both interventions could be valuable in boosting important pre-reading skills, and it would have been useful to include assessments of semantic skills, as well as rhyme detection. Furthermore, it would have been useful to include a non-intervention control group. Finally, it is not clear whether or not the alphabet test was included in the post-test (but it does not appear to have been as it is not discussed in the "Results and Discussion" section). The reason for including it in the pre-test was not given by the authors.
12.	McCarton, C. M., Brooks-Gunn, J., Wallace, I.F., Bauer, C.R., Bennett, F.C., Bernbaum, J. C., Broyles, S., Casey, P.H., McCormick, M. C., Scott, D.T., Tyson, J., Tonascia, J., & Meinert, C.L. (1997). Results at age 8 years of early intervention for low-birth-wieght premature infants: The Infant Health and Development	Infant Health and Development Program (IHDP). 985 low birth weight (less than 2,500 grams) infants were recruited from eight medical institutions in eight cities (Cambridge, Dallas, Little Rock, Miami, New Haven, New York City, Philadelphia, and Seattle). The original sample was 53% black, 10% Hispanic,	To examine the long-term effects (at age 8) of an intensive intervention for low birth weight infants and their families.	Eighty-nine percent (n = 874) of the original 985 infants were assessed at age 8. Assessments included measures of cognitive development, academic achievement, behavior, and health.	Weschler Intelligence Scale for Children-III (Weschler, 1991); Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981); Woodcock-Johnson Test of Achievement-Revised (Woodcock & Johnson, 1990); Child Behavior Checklist (Achenbach & Edelbrock, 1983); Child General Health Survey (Landgraf et al., 1993); Developmental Test of Visual-Motor Integration (Beery, 1989); Rey-	[No information provided.]	[No information provided.]	At age 3 and 5 years, children in the intervention group had significantly higher scores on cognitive tests than children in the control group. However, by age 8 the two groups were no longer significantly different on measures of cognitive development, behavior, school performance, or health. However, the subsample of children in the intervention group who were "heavier" at birth had higher scores on several cognitive tests (i.e., receptive vocabulary, math, overall IQ) than the subsample of "heavier" children in the control group. The difference between the two groups was smaller than that seen at age 3, so the effects of IHDP had faded a bit over time. As for the "lighter" subsample of the intervention group, in comparison to the "lighter" subsample of the follow-up group, all of the earlier positive effects had disappeared by age 8.	IHDP was a very expensive program (it cost about $45,000 per child); the authors stated that the benefits might not be worth the cost.

	Program. Journal of the American Medical Association, 277 (2), 126-132. (link)	and 37% either white, Asian, or other racial/ethnic background. This is an eight-year follow-up study; of the original 985, 874 children (366 in the intervention and 538 in the control group) were included.			Osterrieth Complex Figure (Waber & Holmes, 1985); Matrices (Elliott, 1990); Wide Range Assessment of Memory and Learning, Story Memory subtest (Sheslow & Adams, 1990); Behavior Rating Profile-2 (Brown & Hammill, 1990); Psychological Examination Behavior Profile (Buka et al, 1992); growth measures; grade retention; special education placement; health questionnaire.				
13.	Morrow, L.M. (1988). Young children's responses to one-to-one story readings in school settings. Reading Research Quarterly, 23 (1), 89-107. (link)	The sample consisted of 79 4-year-olds attending three child care centers. The children were from low-income families. Forty percent belonged to minority groups (no details provided).	Is one-on-one storybook reading using an interactive style effective in enhancing the number and complexity of young children's responses during shared book reading?	Children were randomly assigned to one of two experimental groups or a control group. A storybook reading intervention was administered by research assistants to each individual child in the two experimental groups. The research assistants used an interactive reading style by asking questions and discussing the story. In the first experimental group, the "different-book group," children were read a different book each week for nine weeks. In the second experimental group, the "repeated-book group," three books were repeated three times each over the course of the nine weeks. The children in the control group worked at "reading readiness tasks" (using workbooks) and were read to twice (for the pre- and post-assessment).	The TOBE II Language Test of Basic Experiences (Moss, 1979) was used as a pre-test. The first and last reading sessions served as pre- and post-treatment measures. The sessions were videotaped, and children's comments and questions were scored.	[No information provided.]	Inter-rater reliabilities for the different response categories ranged from 87 percent to 100 percent.	Children in both experimental groups made a significantly greater number of responses (questions and comments) during a story reading session after treatment than children in the control group. Further, the repeated-book group made a significantly greater number of responses than the different-book group (an average of 31 responses in the repeated-book group, 24 in the different-book group, and 13 in the control group). Responses were coded as focusing on meaning, story structure, print, or illustrations. At post-test, the two experimental groups made a significantly greater number of responses focused on meaning than the control group (the difference between the two experimental groups was not significant). As for a focus on story structure, the repeated-book group made a significantly greater number of responses in this area than the different-book group, which made a significantly greater number of responses than the control gorup. The repeated-book group had a significantly higher number of responses focused on print than either the different-book or control groups (the difference between the latter two groups was not significant). The different-book group made a significantly greater number of responses focused on illustrations than the repeated-book group, which had a significantly higher number of responses in this area than the control group. Furthermore, in the repeated-book group, children with the lowest initial ability (as measured by the TOBE) made significantly more responses than children with higher initial abilities. In contrast, in the different-book group, high-ability children made more responses than children of lower ability levels.	The post-treatment measure used was the amount and complexity of children's comments and questions during a storybook reading session. It is not clear if this is a useful measure of children's emergent literacy; it may simply reflect that children in the two experimental groups were trained to ask questions when read to while control group children were not. The authors point out that the majority of the children were not read to at home, as measured through a pre-intervention questionnaire administered to parents.
14.	Neuman, S.B., & Roskos, K. (1993). Access to print for children in poverty: Differential effects of adult medication and literacy-enriched play settings on environmental and functional print tasks. American Educational Research Journal, 30(1), 95-122. (link)	The sample consisted of 138 3- to 5-year-old children from eight classrooms in a Head Start center in a metropolitan area. Niney-eight percent were black; 2 percent were Hispanic.	To investigate the effect of literacy-rich play settings in Head Start classrooms on children's literacy-focused play, environmental word reading, and understanding of the functions of print.	The eight classrooms were randomly assigned to one of two intervention conditions or a control group. Both types of interventions included the creation of an "office play setting." A play area was reorganized and enriched with signs, labels, telephones, paper, pencils, etc. The play setting was "open" for a period of time three days per week over a 5-month period. In the first intervention group, a parent volunteer actively assisted children in their play in the area. In the second intervention group, a parent volunteer simply observed and monitored the children's activities.	The Test of Early Reading Ability (TERA; Reid, Hresko, & Hammill, 1981) was used to determine comparability across the three groups prior to intervention. An observational procedure of children's play behaviors (developed by Smith and Connolly, 1980) was used as the pre- and post-intervention measure (as well as	[No information provided.]	Inter-rater reliabilities were 100 percent for the environmental word reading task, 98 percent for labeling in the functional print task, and 94 percent for describing objects' functions in the functional print task.	At post-test, during free play time, children in the two intervention groups were observed to engage in significantly more literacy-related play activities than children in the control group (32 percent of their time in the group with direct parent participation--Group 1; 24 percent in the group with parent monitoring--Group 2; 2 percent in the control group). There were also significant differences between groups on the environmental word reading task. Children from both intervention groups performed better than the control group, and Group 1 performed better than Group 2. As for the functional print task, children from both intervention groups were better able to label the objects than children in the control group, but the difference between the two intervention groups was not significant. There were no differences	It would have been useful to include measures of children's emergent literacy and language development in addition to measures of literacy-related play activities. In is still unclear whether increasing the environmental print in a classroom has an effect on

					at a middle time point). Children's literacy-based play activities were coded. Each child was also assessed after the intervention using an environmental word reading task (the child was asked to read signs that had been posted in the office play area) and a functional print task, adapted from Lomax and McGree (1987; the child was asked to label and identify the function of certain objects that had been in the office play setting, e.g., a message pad, a calculator).			between the three groups in naming the functions of the objects.	children's ability to read environmental print or label functional items, for example.
15.	Ramey, C.T., & Campbell, F.A. (1984). Preventive education for high-rsk children: Cognitive consequences of the Carolina Abecedarian Project. American Journal of Mental Deficiency, 88 (5), 515-523. (link)	The sample included 111 socially disadvantaged children living in a relatively affluent college town in North Carolina. These children were primarily first-born children (67%) being raised by young (mean age=20), black (94%), single woman (83%) with less than a high school education (mean years of schooling=10).	To investigate the effects of attending a high quality preschool program from infancy through age 5 in a low-income sample.	Children and families were matched on High-Risk Index scores, then randomly assigned to receive either high-quality child care from 6 weeks through age five (n=57), or to a control group which did not receive the high quality care (n=54). Enrollment occurred over a five year period, with approximately 28 children admitted each year. Children in the program group attended preschool for full days, 5 days a week, 50 weeks a year, starting as early as 6 weeks of age (98% were attending by 3 months of age). Both program and control group children received social work services, a guarantee of medical care, and nutritional supplements for the first 15 months of the infant's life. Children in both the program and control groups were assessed twice annually for the first 54 months of participation.	Different standardized measures were used at different ages. The Bayley Scales of Infant Development (Bayley, 1969) was given to infants (up to 18 months). For older children, two other assessments were alternated. At 24, 36, and 48 months, the Stanford-Binet Intelligence Scale (Terman & Merrill, 1973) was used. At 42 and 54 months, the McCarthy Scales of Children's Abilities (McCarthy, 1972) was used.	[No information provided.]	[No information provided.]	Statistically significant differences between the program and control groups (favoring the program group) on the standardized cognitive and verbal measures began to appear at 18 months, and continued through age 54 months. Measures of memory and motor development did not differ at 42 months, but the trend favored the program children. Children in the program group scored at or near the national average, while the control group children scored approximately one standard deviation below the program children on the mental tests. Thus, participation in this intensive, high-quality child care experience served to protect these socially disadvantaged children from decline into below-average performance.	
16.	Reese, E., & Cox, A. (1999). Quality of adult book reading affects children's emergent literacy. Developmental Psychology, 35 (1), 20-28. (link)	50 4-year-olds in three state-run preschools in Dunedin, New Zealand. 92% were white; 8% were Maori. The children were predominantly from working class families.	Is there a difference in the effects of three different styles of one-on-one storybook reading for children's receptive langague, environmental print knowledge, and story comprehension?	Children were read to individually by a researcher for six weeks (two or three times each week). Children were randomly assigned to one of three reading conditions: Describer (the reader made comments and asked questions throughout the story, focusing on labels and descriptions of the pictures); Comprehender (the reader made comments and asked questions throughout the story pertaining to the storyline and characters' feelings); and Performance-Oriented (the reader introduced the story with comments and then asked for inferences and evaluations after reading the story).	Children were pre- and post-tested using the Peabody Picture Vocabulary Test--Revised (PPVT-R; Dunn & Dunn, 1981); a measure of environmental print knowledge, comprised of original items and items from existing measures (e.g., logo identification, letter and word identification from the Wide Range Achievement Test--Revised [WRAT-R; Jastak & Jastak, 1978], and print concept items from the Concepts About Print test [CAP; Clay, 1979]); and a story comprehension test adapted from Beals & DeTemple (1967).	[No information provided.]	For the PPVT-R, "split-half reliability for Form L with 4-year-olds is .70 and for Form M is .74, with a retest reliability of .78" (from the manual). For the WRAT-R, "retest reliability on the entire reading test with 7- to 10-year-olds is .94-.96" (from the manual). For the story comprehension task, inter-rater reliability was .86 at pre-test and .93 at post-test.	Children in the describer condition had significantly greater gains on the PPVT-R than children in the performance-oriented condition (there were no significant differences between the comprehender condition and the other two conditions for the PPVT-R). However, children with higher initial vocabulary skills made greater gains on the PPVT-R in the performance-oriented condition, rather than the describer condition. As for the assessment of print knowledge, children in the describer condition made significantly greater gains than children in the comprehender condition (differences for the performance-oriented style were not significant). When taking into account pre-test scores, the authors found that children with higher initial story comprehension skills benefited the most from the describer style, while children with lower initial skills benefited the most from the performance-oriented style. Finally, no differences were found between the interventions for story comprehension.	As pointed out by the authors, one would expect that children with higher initial skill levels would benefit the most from a demanding reading style, while children with lower skill levels would benefit from a less demanding style. While such results were found for vocabulary, an opposite effect was found for story comprehension (when predicting to outcomes in print skills).

17.	Reynolds, A.J. (1994). Effects of a preschool plus follow-on intervention for children at risk, Developmental Psychology, 30 (6), 787-804. (link)	1,052 children in Chicago. All children were black and were sampled from 20 government funded (Title I) Child Parent and Expansion Programs (CPCs; i.e., intervention group) or six randomly selected schools participating in a locally funded kindergarten program for low-income children (i.e., comparison group). All programs were created to serve the most in-need, low-income families in Chicago.	To investigate the long-term outcomes of a comprehensive intervention for children and parents using a quasi-experimental design.	The CPC intervention began when the children were either in preschool or kindergarten, depending upon the year that they opted to join the intervention, with the option of continuing through 3rd grade. The intervention itself consisted of "comprehensive services" such as meeting child nutritional or health needs, funds for in-service teacher training and instructional supplies, emphasis on reading readiness, and frequent reading activities. Children were classified into seven groups based on both when they started and how many years of follow-on intervention they had. These seven groups were then compared for achievement, adjustment, parental involvement, special education placement, and grade retention outcomes in Grades 3-5.	The six intervention groups and one comparison group were compared to each other for differences on various measures in grade 3 (i.e., directly after intervention ended) and grades 4 and 5. Reading and math achievement were measured using the Iowa Test of Basic Skills (ITBS; Hieronymous & Hoover, 1990; Hieronymous, Lindquist, & Hoover, 1980). School Adjustment was rated by teachers on a six-item rating scale (Reynolds, 1989, 1991). Parent involvement was rated by teachers on a single item regarding parents' involvement in school activities. Special education placement was a dichotomous measure of whether the child was assigned to a special education classroom between grades 3 and 5. Grade retention was assessed through school records from kindergarten through grade 5.	Both ITBS subtests (reading and math) were reported to show predictive validity for the standardization sample, but psychometric analyses on the current sample were not reported. The six-item teacher rated school adjustment scores were correlated (.85) with the original full teacher rating scale. Principle-components analysis supported the notion that teacher reports were reasonably independent from measures of school progress, but detailed analysis was not provided.	Both ITBS subtests were reported to have internal reliabilities of > .90 for the standardization sample. Teacher rated school adjustment scores had a coefficient alpha of .94.	Early participation (i.e., beginning in preschool vs. beginning in primary school), as well as duration, contributed to mean group differences in teacher rated adjustment. Those who began the intervention in preschool and had continuous follow-on intervention had the highest math and reading achievement scores, teacher ratings, and the lowest incidence of grade retention. Duration versus age of entry effects differed by outcome domain. While duration was related to achievement outcomes, and to a lesser extent grade retention, having begun the intervention in preschool, as opposed to primary school, was associated with better teacher ratings of social adjustment, parent involvement, and lower rates of special education placement. This effect was seen through the two-year follow-up. To summarize the results, 1.) duration of the intervention was related to child outcomes after controlling for child and family level variables; 2.) school-aged follow-on intervention contributed to child outcomes beyond preschool intervention; 3.) both follow-on and full-intervention effects were significant and stable two years post-program, and 4.) though both preschool and follow-on intervention contributed to positive outcomes, full participation (i.e., preschool plus follow-on) yielded the largest effects over time. Although children who received the full intervention did better than children in the comparison group and children in the intervention groups with lesser "dosage" of intervention on many of the outcome measures, their achievement scores were still below national averages (i.e., one year behind in reading and six months behind in math in Grade 5).	Because groups were not randomly assigned, causal results should be interpreted with caution; group differences could be a result of selection effects. This concern, though, is somewhat tempered by the fact that groups did not differ by socio-demographic characteristics. Similarly, to assess whether the results might be due to school stability, as opposed to intervention alone, the full intervention group was compared to school-stable students in the non-CPC comparison group. Those within the full intervention group remained significantly better on outcome measures than school-stable children in the comparison group.
18.	Reynolds, A.J., & Temple, J.A. (1998). Extended early childhood intervention and school achievement: Age thirteen findings from the Chicago Longitudinal Study. Child Development, 69(1), 231-246. (link)	559 children in Chicago participated. All children were black, were sampled from 20 government funded (Title I) Child Parent and Expansion Programs (CPCs), and were active in the school system in grades 3 (1988-1989) through 7 (1992-1993). From this sample, a subset of 426 children were selected who had received the CPC intervention in both preschool and kindergarten, as well as the follow-on intervention for two or three years	To investigate the long-term outcomes of a comprehensive intervention for children and parents using a quasi-experimental design.	The intervention consisted of "comprehensive services" such as nutritional or health needs, coordinated adult supervision, funds for in-service teacher training and instructional supplies, emphasis on reading readiness, frequent reading activities and feedback (though there was no proscribed reading curriculum used universally). Intervention classrooms consisted of small group sizes and had low child to teacher ratios. The program also stressed both parent involvement and educational attainment. Analyses were performed on outcomes obtained immediately after the intervention (Grade 3) and 4 years later (Grade 7).	Reading and mathematics achievement (grades 3 and 7) were measured using the Reading Comprehension and Mathematics total subtest scores of the Iowa Test of Basic Skills (ITBS; Hieronymous & Hoover, 1990; Hieronymous, Lindquist, & Hoover, 1980). Information on grade retention and special education placement were obtained from school records.	[No information provided.]	The Reading Comprehension subtests showed KR-20 reliabilities of .92 and .94 for grades 3 and 7, respectively. The Mathematics total subtest composites showed a KR-20 reliability of .95 for both grades 3 and 7.	Children who received the extended intervention (i.e., preschool through grades 2 or 3) had higher scores for reading and math achievement in grade 3, compared to those who left the intervention after attending preschool and kindergarten, controlling for child and family attributes. In addition, those who continued the extended-intervention for two or three years post-kindergarten did better on reading achievement in grade 7 than those who did not participate in the extended intervention. This effect was not found for math achievement in grade 7. As for grade retention and special education placement, having attended the extended-intervention for two or three years after kindergarten was related to lower rates of grade retention and special education placement, compared to those who left after receiving the intervention through kindergarten, controlling for child and family attributes, as well as unobservable influences (i.e., children who left had a higher probability of grade retention and special education placement). In a comparison between those who received the full three years of extended-intervention and those who left after two years, children with the three-year intervention did better on both reading and math achievement in grade 3, but only for reading in grade 7. Three-year children showed better cumulative grade retention, yet no differences were	Because groups were not randomly assigned, causal results should be interpreted with caution; group differences could be a result of selection effects. This concern, though, is tempered by the fact that socio-demographic characteristics were controlled, and statistical analysis made conservative estimates based on the quantification of possible selection/ attrition bias. Similarly, to assess whether the results might be due

		post-kindergarten. Another group of 133 children were selected from the larger sample who had received the preschool and kindergarten CPC intervention, but no follow-on intervention (i.e., comparison group).							found for special education placement.	to school stability, the comparison group was selected based on comparable school stability to limit any effect of such a confound. Selection-maturation effects were also controlled by entering measures of kindergarten readiness for two different time points in kindergarten into the model.
19.	Schweinhart, L. J., Barnes, H. V., & Weikart, D.P. (1993). Significant benefits: The High/Scope Perry Preschool Study through age 27 (Monograph of the High/Scope Educational Research Foundation, 10). Ypsilanti, MI: High/Scope Press. (link)	The sample included 123 3- and 4-year-old African-American children living in poverty in Ypsilanti, MI. An eligibility criterion was a score between 50 and 85 on the Stanford-Binet Intelligence Test (that is, all of the children had a low IQ).	To investigate the effects through age 27 of attending a high quality preschool at ages 3 and 4.	Children were randomly assigned to receive either high-quality preschool or no preschool. The intervention was carried out in five waves beginning in 1962. Children in the program group attended preschool for half-days at ages 3 and 4 (although one cohort of 28 children entered the study at age 4 and only attended preschool for one year). The program also included weekly home visits by teachers in order to discuss and practice activities for parents to carry out with their children. Children in both the program and control groups were assessed annually from ages 3 to 11, at ages 14-15, at age 19 and at age 27.	At age 27, data were gathered through interviews with study participants, school records, arrest records, and social service records. [Note that many other types of assessments were used at earlier timepoints; we report here on results found at age 27.]	[No information provided; however, reliability/ validity is not applicable for the measures used at age 27. See earlier monographs for details on the measures used at earlier time points.]	[No information provided; however, reliability/ validity is not applicable for the measures used at age 27. See earlier monographs for details on the measures used at earlier time points.]	By age 27, intervention participants had higher rates of high school graduation, higher weekly earnings, higher percentages of home ownership, lower rates of receipt of welfare assistance as adults, fewer out of wedlock births, and fewer arrests. All of these findings were significant. There were non-significant findings in several areas, including childrearing practices, health, and community involvement. It should also be noted that the pattern of results was different for females and males. For females, the program seemed to affect their desire and ability to remain in school and graduate. For males, the program seemed to affect their adjustment to society--they engaged in less criminal and antisocial behavior. Earlier results related to literacy and school achievement were found. Intervention group participants significantly outperformed non-participants on the California Achievement Tests (reading, math, and language) at age 14 and a measure of literacy (Adult Performance Level Survey) at age 19.	
20.	Senechal, M. (1997). The differential effect of storybook reading on preschoolers' awuisition of expressive and receptive vocabulary. Journal of Child Language, 24, 123-138 (link)	Thirty children (15 boys and 15 girls) were in each group of three and four-year-olds (number of groups not given). The children were recruited from daycare centers in Ottawa, Canada. Ninety percent of the children were Caucasian, while the remaining 10 percent were Asian. Parents reported that they read to their children frequently (about seven times per week). The majority of the families were from middle-class neighborhoods.	Do specific storybook reading techniques (single reading, repeated reading, and questioning) have differential effects on receptive and expressive vocabulary, and do these differential effects change with age?	There were three experimental conditions for storybook reading technique: a single-reading, a repeated-reading, and a questioning condition. Ten "novel" words were introduced one time each in the storybook. In the repeated reading and questioning conditions, the book was read three times and the children in the questioning condition labeled the target items with "novel" words. All children were pretested for knowledge of target words, were read the storybook, and were post-tested for expressive and receptive vocabulary knowledge. Children in the single reading condition were tested individually in one 25-minute session. The repetitive and questioning conditions took two sessions, each lasting 20 minutes. In the first session, children were pretested with the receptive vocabulary test and then were read to twice. During questioning, the children were asked questions after reading each target word. In the second session, the storybook was read one more time (with questioning for that condition), and expressive and receptive vocabulary assessments were conducted. During the expressive vocabulary test (which was similar to the PPVT-R), the children labeled the target items which appeared in a different picture than presented in the storybook.	The storybook used was titled Just in Passing, and was selected because it had repetition of an action throughout the book. Expressive and receptive vocabulary tests were those that were used extensively in the past and have shown to be sensitive measures of vocabulary. The receptive vocabulary test was designed similarly as the PPVT-R, where the test consisted of one plate for each target item. Each plate had four pictures, one representing the target item, and three that were foils, but also represented items that were in the book. The expressive vocabulary test had children label target items that were	[Not noted here, but may have be mentioned in previous articles]	[Not noted here, but may have be mentioned in previous articles]	Children's correct answers on the receptive vocabulary pre-test were somewhat higher than chance performance, yet pretest performance did not vary with age or reading condition, or interact with the two, and was not related to post-test receptive vocabulary scores. Pretest receptive vocabulary scores were covaried in analyses to reveal significant differences by reading condition on post-test receptive vocabulary. Similarly, there were differences across the three reading conditions on expressive vocabulary. Planned comparisons revealed a consistent pattern for both receptive and expressive vocabulary: repeated readings as well as questioning during reading are beneficial for both receptive and expressive language. For example, children produced more words after three readings than a single reading, and produced more words from answering questions during repeated readings than from repeated readings without questioning. Four-year-olds produced more words than the three-year-olds, and more words were produced in the questioning than in the repeated-reading sessions. Further analyses suggest that asking questions during the repeated reading sessions helps children acquire expressive vocabulary more than receptive vocabulary. Overall, however, performance on the receptive vocabulary test was higher than on the expressive vocabulary test, suggesting that receptive vocabulary precedes expressive	The author acknowledges in the limitations section of the paper that the pretests could have inflated scores, even though the author concluded that the data do not support that theory. Also, as mentioned in the limitations section, repeated readings were completed over multiple days, whereas the children in the single reading group completed their reading in one day. The outcome may have been different if the repeated reading group did all of their readings in one day. It might

					featured in the book. Children's use of the target items were scored liberally, to take into account mispronounciations, for example.			vocabulary.	have also been useful to have the post-tests done at a later time point rather than immediately after the final reading.
21.	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 (2), 243-250. (link)	127 4-year-olds from low-income families; final participation was 121 children (61 in intervention group; 60 in control group). All children attended a Title I early learning center in Baltimore, MD. 95% of the children at the center are eligible for free or reduced lunch, and 94% are African American. Children from eight classrooms participated (four teachers, each with a morning and afternoon class).	To investigate the effects of interactive book reading in groups on children's receptive and expressive vocabulary development.	Two teachers were randomly assigned to the intervention condition, and two were randomly assigned to the control condition. The intervention was conducted over 15 weeks, but these were not consecutive weeks. The intervention consisted of training teachers in interactive book reading techniques for large groups (not one-on-one) and book reading extension activities. Books and materials for supporting activities were also provided. The control teachers also received the books, but not the added instruction on how to do interactive book reading in large groups.	Peabody Picture Vocabulary Test - III (PPVT-III; Dunn & Dunn, 1998) was used as both a prettest and posttest. A second receptive vocabulary test, modeled after the PPVT-III, as well as an expressive vocabulary test, were made for randomly-selected vocabulary words (out of the 100 introduced as part of the intervention). These two latter tests were only administered post-intervention. In addition, classroom observations were conducted in each classroom during the 9th and 11th week of the intervention; all teachers were observed while they read the same two stories. A frequency count was tallied for the number of times teachers used 10 target vocabulary words from the stories.	[No information provided.]	[No information provided.]	Analyses were conducted with the child as the unit of analysis, and with the classroom as the unit of analysis. Analyses came to the same conclusion, regardless of the different units of analysis. Preliminary analyses indicated that there was no signficant difference for time of day (AM and PM classes) or individual teacher (control teacher 1 vs. control teacher 2), so these variables were dropped from further analyses. A treatment by trial interaction was found for the PPVT-III, indicating that the intervention and control groups did not differ from each other at pretest on the PPVT-III, but that the intervention group performed better than the control group on the PPVT-III at posttest. Both the AM and PM intervention children outperformed their control group counterparts on the receptive and expressive vocabulary posttests. Finally, a significant main effect of group and word, as well as a significant group X word interaction, were found for the frequency count of vocabulary words used during observed book reading sessions. Intervention teachers used some target words more often than the control group teachers.	The authors do not discuss any limitations to their study. However, we note several caveats. There was no information provided on the fidelity of implementation of the intervention across classrooms/ teachers. Also, there was no information on the inter-rater reliability for observational data collection or child assessment. Furthermore, there was no information on whether child assessors and classroom observers were blind to the treatment/ control group assignments. Any or all of these issues may have effects on the outcomes of the study.
22.	Weikart, D.P., Bond, J.T., & McNeil, J.T. (1978). The Ypsilanti Perry Preschool Project: Preschool years and longitudinal results through fourth grade (Monograph of the High/Scope Educational Research Foundation, 3). Ypsilanti, MI: High/Scope Press. (link)	The sample included 123 3- and 4-year-old African-American children living in poverty in Ypsilanti, MI. An eligibility criterion was a score between 50 and 85 on the Stanford-Binet Intelligence Test (that is, all of the children had a low IQ).	To investigate the effects through fourth grade of attending a high quality preschool at ages 3 and 4.	Children were randomly assigned to receive either high-quality preschool or no preschool. The intervention was carried out in five waves beginning in 1962. Children in the program group attended preschool for half-days at ages 3 and 4 (although one cohort of 28 children entered the study at age 4 and only attended preschool for one year). The program also included weekly home visits by teachers in order to discuss and practice activities for parents to carry out with their children. Children in both the program and control groups were assessed annually from ages 3 to 11, at ages 14-15, at age 19 and at age 27.	Initial measures (used from preschool through fourth grade) were the Stanford-Binet Intelligence Scale (Binet; Terman & Merrill, 1960); Peabody Picture Vocabulary Test (PPVT; Dunn, 1965); Illinois Test of Psycholinguistic Abilities (ITPA; McCarthy & Kirk, 1961); Arthur Adaptation of the Leiter International Performance Scale (Leiter; Arthur, 1952). Additional outcome measures in kindergarten and elementary school were the California Achievement Test (CAT; Tiegs & Clark, 1957); Pupil Behavior Inventory, Academic Motivation Scale (PBI; Vinter, Sarri, Vorwaller, & Schafer, 1966); Ypsilanti Rating Scale, Academic	Concurrent validity of the preschool measures, using Binet as the criterion, ranged from -.08 to .57 (all of the correlations were significant, except for ITPA for the control group at the beginning of the study). Concurrent validity of the measures used from kindergarten through fourth grade were computed using Binet and CAT as the criterion. Correlations of the other measures with Binet ranged from .10 to .69 (all of the values were	Test-retest reliabilities during the preschool period ranged from .22 to .70 (the .22 coefficient was for the PPVT for the experimental group; all other coefficients were .41 or greater and were significant). From kindergarten through fourth grade, test-retest reliabilities over one-year intervals ranged from .25 to .87 (all but two of the reliabilities were significant--those for YRS verbal skills for the experimental group from kindergarten to first grade and PBI for the	At the end of both preschool years, children in the intervention group scored significantly higher than control group children on all four measures of aptitude (Binet, Leiter, PPVT, and ITPA). As for longitudinal results through the fourth grade, differences on measures of aptitude tended to decrease over time. Intervention group children scored significantly better than control group children on ITPA and Leiter through the third grade (but not in fourth grade); differences on the Binet were significant in kindergarten and first grade but not later; differences on the PPVT were significant in kindergarten but not later. As for the CAT test of achievement (measures of reading, arithmetic, and language), intervention group children scored significantly better than control group children through fourth grade, and the magnitude of differences tended to increase over time. Differences on teacher ratings of academic motivation and achievement were not significant. On teacher ratings of children's social and emotional development (PBI and YRS) from kindergarten through fourth grade, the authors state that the experimental group tended to outperform the control group, but "specific comparisons between the two groups reached significance only about a third of the time" (p. 65). Differences became stronger over time. Finally, intervention group children were significantly less likely than control group	

					Potential and Verbal Skill Scales (YRS; project staff). Other outcome measures were grade retention and placement in special education.	significant except for YRS for the experimental group in first grade, and YRS and PBI for the control group in third grade). Correlations with CAT scores ranged from .07 to .74 (all were significant except for PPVT and ITPA for the control group in second and third grade and YRS in third grade).	control group from second to third grade).	children to be retained in grade or placed in special education between kindergarten and fourth grade.	
23.	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 (5), 679-689. (link)	73 3-year-olds from low-income families. About half were black, a quarter were Hispanic, and a quarter white. The children attended five day-care centers in Suffolk County, NY.	Can a dialogic reading intervention (a way to engage children as active participants in joint bookreading) enhance children's receptive and expressive language development? Is training parents in dialogic reading, in addition to exposure to dialogic reading in the classroom, more effective than exposure to dialogic reading in the classroom alone?	Teachers and parents were instructed (via videotape) in the "dialogic reading" technique, a way to engage children as active participants in joint bookreading. Children were pretested on standardized language measures, then randomly assigned to one of three conditions: school reading, school plus home reading, or control. Posttesting occurred immediately after the 6-week intervention. Follow-up testing occurred 6 months after posttesting.	The same assessments were used as pre- and post-tests: Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981), Expressive One-Word Picture Vocuabulary Test-Revised (One Word; Gardner, 1990), Illinois Test of Psycholinguistic Abilities, expressive subscale (ITPA; Kirk, McCarthy, & Kirk, 1968), and Our Word (expressive vocabulary test of the researchers' devising). The Family Reading Survey (Whitehurst, 1990) was also gathered.	Construct validity: Only moderate correlations between the four measures at pretest suggest that they are capturing slightly different dimensions of language (rs ranged from .37 to . 52; M=.46).	Each test was reported to have moderately high reliability across time and across forms (for PPVT-R and One Word), as measured by correlations between pre- and posttest scores for the control group (rs ranged from .62 to .80).	Substantial variability was found in the fidelity with which teachers followed the reading/activities schedule in the classrooms. Also, there was substantial variability in the amount that children who were in the "school plus home" condition were read to at home. Nearly 25% of the children who were available at posttest had left their centers before follow-up testing (6 months later). ANCOVAs revealed that children in the reading conditions outperformed those in the control condition on the One Word and Our Word posttests. For example, children in the reading conditions gained approximately double the number of words in the Our Word posttest. Significant effects of condition also existed for the One Word at the 6 month follow-up. However, those children in the least compliant center (i.e., the one with the lowest frequency of classroom reading) did not benefit from the intervention as did those children in the other centers. There was no effect of the intervention on PPVT or ITPA scores at posttest or follow-up.	Compliance with the intervention is needed in order to achieve results. Having dialogic reading in both home and school does not appear to be beneficial beyond having it in school alone (across mulitple assessments), perhaps because of variability in the amount of reading occurring at home. Results were not robust across multiple assessments; positive effects were found for only two of the four assessments. Furthermore, positive effects were not persistent; only one of the four assessments showed a continued significant effect of the intervention at 6 months post-intervention.
24.	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 (4), 542-555.	167 4-year-olds attending four Head Start centers in Suffolk County, NY. 46% were white, 45% were black, 8% were Hispanic, and 1% were Asian.	Will an intervention consisting of dialogic reading (a way to engage children as active participants in joint bookreading) both in the classroom and at home, as well as participation in	Fifteen Head Start classrooms were randomly assigned to the intervention group or the control group. The intervention consisted of two components. The first component was training in dialogic reading via videotape for both parents and teachers at the beginning of the school year. Lending libraries were established for the families. The second component was a phonemic awareness curriculum implemented in the classrooms for the second half of the school year. Children were pre-tested at the beginning of the school year and post-tested at the end of the school year by docotoral students.	The same assessments were used as pre- and post-tests: Peabody Picture Vocabulary Test-Revised Form M (PPVT-R; Dunn & Dunn, 1981), Expressive One-Word Picture Vocuabulary Test (One Word; Gardner, 1981), Illinois Test of Psycholinguistic Abilities, expressive	A principal components analysis was conducted using the 21 post-test measures, and four factors emerged: Language, Writing, Linguistic Awareness, and Print Concepts. Most of the factors	"Split-half reliability is high for each measure (PPVT-R = .80, One Word = .94, ITPA = .86, and DSC = .84). Other measures of reliability and validity are reported in the manual for each instrument."	In order to reduce the number of outcomes to analyze, a principal components analysis was conducted using the 21 post-test measures. Four factors emerged: Language (e.g., receptive vocabulary, expressive language), Writing (e.g., write first name), Linguistic Awareness (e.g., segment words), and Print Concepts (e. g., name letters, distinguish words/ pictures/numbers). Children in the intervention group performed significantly better than control group children on the Writing and Print Concepts factors. Differences on the Language and Linguistic Awareness	Results were only found for two of the four factors. While the Writing and Print Concepts factors were made up of measures of emergent literacy, the other two factors (Language and Linguistic Awareness) are

	(link)		a phonemic awareness curriculum, produce positive results on measures of receptive and expressive language, writing, print concepts, and linguistic awareness?		subscale (ITPA; Kirk, McCarthy, & Kirk, 1968), and Developing Skills Checklist (DSC; CTB, 1990).	had loadings on subtests in a way the authors expected; however, the analysis was not quite as clean for Print Concepts, which had loadings on a measure of rhyming and a measure of sound blending, which would both logically fall with Linguistic Awareness.		factors were not significant, but there was a significant difference for the Identify Sounds and Letters subtest (included in the Linguistic Awareness factor). The authors also examined the relationship between children's outcomes and their parents' compliance with the intervention (assessed at post-test by testing parents' knowledge of which books they had read to their children and their report of the frequency of shared reading). The analysis controlled for parent IQ, parent education, and freqency of shared reading at pre-test. Parents' compliance with the intervention was a significant predictor of children's performance on the Language factor.	likely also important for literacy development. In addition, the intervention consisted of two components; it is not possible to determine from this study if one component produced the positive results for Writing and Print Concepts or if both components are necessary.
25.	Whitehurst, G. J., Zevenbergen, A.A., Crone, D. A., Schultz, M. D., Velting, O. N., & Fischel, J. E. (1999). Outcomes of an emergent literacy intervention from Head Start through second grade. Journal of Educaitonal Psychology, 91 (2), 261-272. (link)	The study included two samples. First, 127 children from the original cohort of 167 Head Start children in Suffolk County, NY were followed up. Second, a replication cohort was studied; this cohort consisted of 153 Head Start children attending different Head Start Centers than the original cohort but in the same county. Of the total sample of 280 children, 43% were black, 33% were white, 18% were Hispanic, and 6% were "other."	Will an intervention consisting of dialogic reading (a way to engage children as active participants in joint bookreading) both in the classroom and at home, as well as participation in a phonemic awareness curriculum, produce long-term results for children's reading development through the end of second grade?	For the original study, 15 classrooms were randomly assigned to the intervention group or the control group. For the replication cohort, 22 classrooms were randomly assigned to the intervention or control group. The intervention consisted of training in dialogic reading (a way to engage children as active participants in joint bookreading) via videotape for both parents and teachers, as well as the implementation of a phonemic awareness curriculum in the classrooms. Children were pre-tested at the beginning of the Head Start year and post-tested at the end of the year. All children were followed up at the end of kindergarten, the end of first grade, and again at the end of second grade.	The pre-test consisted of the Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981) and the Developing Skills Checklist (DSC; CTB, 1990). The same assessments were used for post-testing at the end of Head Start and the end of kindergarten, with the addition of the Expressive One-Word Picture Vocuabulary Test (One Word; Gardner, 1981). The assessments used at the end of the first and second grades were the Word Reading subscale of the Stanford Achievement Test--Eighth Edition (Psychological Corporation, 1989) and the Word Attack subscale of the Woodcock Reading Mastery Tests--Revised (Woodcock, 1987).	[No information provided.]	"Each assessment device was standardized, was normed on a national sample of children, and had internal reliability of .80 or higher as determined from the standardization sample."	Children in the intervention groups performed significantly better than control group children on the PPVT and the DSC (total score, made up of tests of Memory [e.g., naming letters, blending sounds into words], Auditory [e.g., segmenting sentences, rhyming], Print Concepts [e.g., holding a book properly, differentiating print from pictures], and Writing [e.g., printing first name, writing from left to right] at the end of the Head Start year, as well as at the end of kindergarten (with the addition of the One Word at the end of kindergarten). However, there were no significant differences between the two groups of children on the two reading scores at the end of the first and second grades. The authors note that there was variablity in the degree to which Head Start teachers fully implemented the curriculum. They also found that children's gains in reading skills from year to year were significantly affected by the characteristics of the eduational settings, suggesting that learning might depend more on the educational environment than the skills that each child brings to it.	The authors note that the reason effects of the intervention were not found for reading scores at the end of the first and second grades might be that the intervention focused on interactions with picture books and phonological awareness (e. g., finding objects that begin with a certain sound). They suggest that for an intervention to have long-term effects on reading skills, it might need to focus on pre-reading skills such as letter recognition and letter-sound matching.
26.	Yaden, D.B., Tam, A., Madrigal, P., Brassell, D., Massa, J., Altamirano, L. S., & Armendariz, J. (2000). Early literacy for inner-city children: The effects of reading and writing interventions in English and Spanish during the preschool years. The Reading Teacher, 54(2), 186-189. (link)	55 low-income, primarily Latino 4-year-olds attending a child care center in downtown Los Angeles, CA.	In kindergarten, how does the early literacy development of children who participated in a language- and literacy-focused curriculum at age 4 compare to the literacy development of other children?	In this quasi-experimental study, a cohort of children who had been exposed to a literacy curriculum in a child care center for a full year at age 4 were assessed in kindergarten. Their development was compared to that of other children. The intervention consisted of three components: (1) a 2- to 3-hour morning language and literacy program; (2) in-classroom support and inservices regarding emergent literacy theory and activities for child care teachers and paraprofessionals; (3) a book-lending library for families and periodic parent workshops on reading at home.	The Spanish Concepts About Print Test (Escamilla, Andrade, Basurto, Ruiz, & Clay, 1996) was used as a pre- and post-test. Piagetian clincial interviews were used to capture knowledge of written language concepts (Ferreiro & Teberosky, 1982). Home visits were used to capture literacy activities. From the classroom the following were gathered: children's writing products, field notes, photographs, and video. Archival	[No information provided.]	[No information provided.]	A significant average gain of 4.5 points was made between pretest (M=4.2) and posttest (M=8.7) on the Spanish Concepts About Print Test, indicating gains in knowledge about directionality of print, awareness that printed words are read instead of pictures, and ability to identify capital and lower-case letters as well as some punctuation. Compared to children who attended other preschool programs, children who had a full year of this intervention had higher scores at the beginning of kindergarten on English tests of upper- and lower-case letter identification and vowel and consonant recognition (data presumably from school records, but unclear).	The information on sample and comparison group characteristics, study design, measurement characteristics, and outcomes is all very sketchy in this article. No details are provided about the timing of testing or statistical analyses conducted; no p values are provided. It is unclear which component(s) of the intervention

						records and test scores were obtained from the elementary school.				were responsible for the positive outcomes identified for the intervention group.