

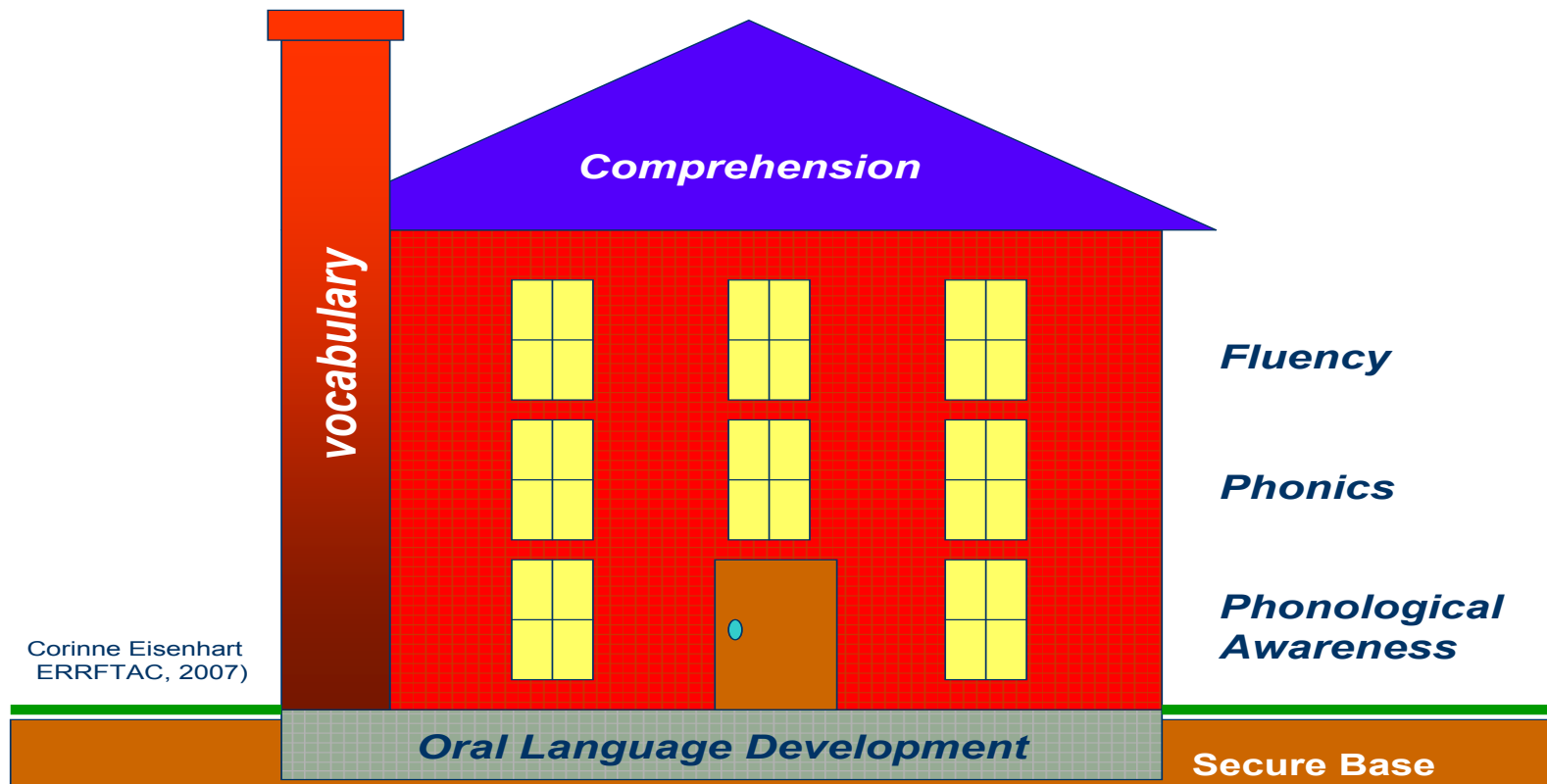


Words Matter

Closing the word gap closes the achievement gap.

➔ **Oral language IS the foundation for all learning.**

Beginning Reading Instruction



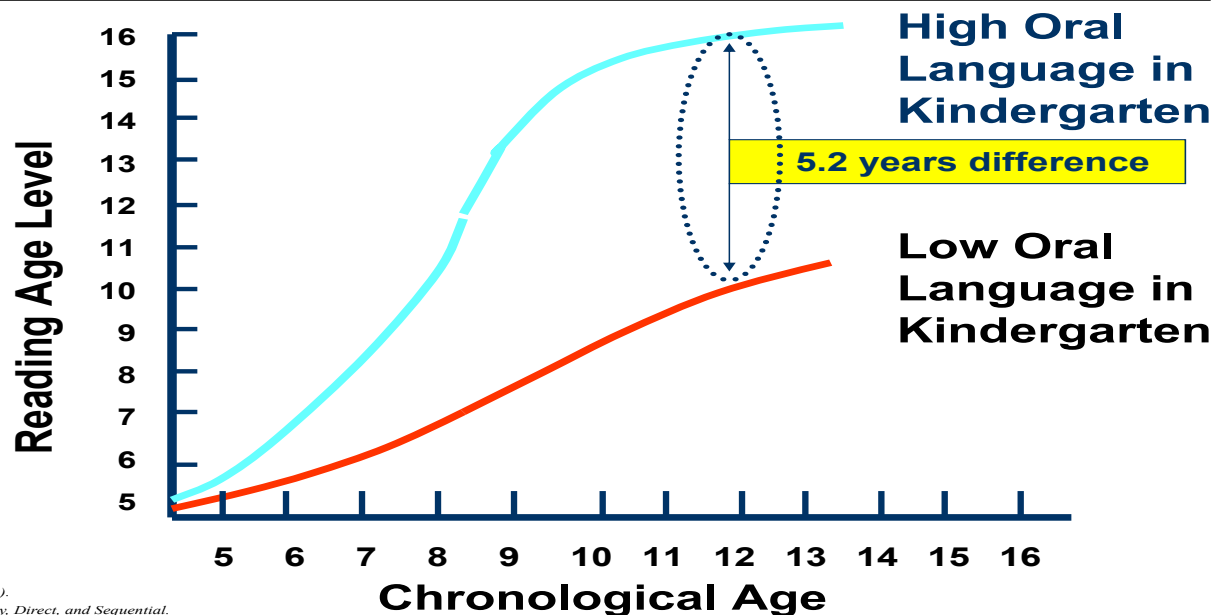


Words Matter

Closing the word gap closes the achievement gap.

- ➔ Research shows children entering kindergarten with low oral language skills struggle to read at age level and may never catch up to their higher language peers.

The Effects of Weaknesses in Oral Language on Reading Growth



Source: Biemiller, A. (2001).
Teaching Vocabulary: Early, Direct, and Sequential.
American Educator, 25, 24-28.



Words Matter

Closing the word gap closes the achievement gap.

- ➔ The more words a child hears, the more words he/she will learn. The more a child learns, the more successful he/she will be.

Achievement Gap

The diagram shows three human silhouettes of increasing height from left to right. The first silhouette is the shortest and has no text around it. The second silhouette is medium height and has the word 'words' written below it, with several smaller 'words' floating around it. The third silhouette is the tallest and has a large, dense word cloud around it, with the word 'words' being the most prominent. To the right of the tallest silhouette is a graduation cap and a diploma with the word 'HIRED' written on it.

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Reading aloud to children: the evidence

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Promoting healthy child development lies at the heart of paediatric practice, yet a major challenge facing the field is applying evidence based standards. However, the evidence is clear as regards reading aloud to children. Ample research demonstrates that reading aloud to young children promotes the development of language and other emergent literacy skills,¹⁻⁴ which in turn help children prepare for school.⁵⁻⁵

READING ALOUD AND CHILDREN'S EMERGENT LITERACY AND LANGUAGE SKILLS

Reading aloud to children or shared book-reading has been linked to young children's emergent literacy ability, which can be defined as the skills or knowledge that children develop before learning the more conventional skills of reading and writing⁶⁻⁸ which affect children's later success in reading.⁹

During shared bookreading, children learn to recognise letters, understand that print represents the spoken word, and learn how to hold a book, turn the page and start at the beginning.¹⁰⁻¹² Shared bookreading is also associated with learning print concepts¹¹ and exposing children to the written language register, which is different from spoken language,¹³ as well as story structures (eg, stories have a beginning, middle and end) and literacy conventions such as syntax and grammar which are essential for understanding texts.¹⁴ These emergent literacy skills are important for later success in reading.^{2 15}

PHONOLOGICAL AWARENESS AND ALPHABET KNOWLEDGE

Phonological awareness (the ability to manipulate the sounds of spoken language¹⁶⁻¹⁸) is another important prerequisite for learning to read. To read words, children need to know the rules for translating print into meaningful

sounds.^{8 16} For example, preschoolers' sensitivity to alliteration and rhyme at age 4-5 contributed to progress in reading and spelling at age 6-7.¹⁹ Children's knowledge of nursery rhymes at age 3-4 is related to detecting alliteration and rhyme at ages 4-7.²⁰ Many parents naturally promote awareness of sound patterns by emphasising rhyming words and patterns when reading to a child.²¹ When children do well at detecting and manipulating syllables, rhymes and phonemes, they tend to learn more quickly to read.^{15 19 22}

Children acquire sensitivity to different sounds in a specific order, although stages tend to overlap.²³ Children can learn about phonemes or sounds more or less informally by learning to name letters and by recognising which phoneme is critical in the name.²⁴ Many alphabet books, for example, contain the letter name accompanied by pictures of objects whose names begin with the critical sound, such as D, for example a dog, deer or doctor. When parents stress the initial sounds in these words while reading with their children, they are teaching awareness of initial phonemes or shared phonemes across words.^{24 25} Since children who have difficulty with phonological awareness can develop reading difficulties,^{1 26} parents might help to prevent these difficulties by exposing children to a wide variety of literacy materials and helping them become aware of the relationship between letters and sounds.

In addition to being aware of sounds, children also need to recognise the role that alphabet letters play and that letters have different sounds. It is easier to learn these letter-sound relationships once children know at least some alphabet letters and are able to recognise words that start with the same phoneme.²⁷ While shared bookreading promotes children's alphabet knowledge,¹⁰ most parents focus on the meaning of the story and not the print.²⁸ Also, while knowing the names of letters is not itself related to reading ability, it is knowing the sound of letters (eg, the letter 'b' sounds like 'ba') that is important.

There are important differences in letter knowledge between children from middle class and lower class families. Four-year-old

children from middle class families knew an average of 54% of the letter names and 5-year-old children knew 85% of the letters.²⁹ However, 4- and 5-year-old children from low-income families who enter programs such as Head Start know on average four letters and learn an additional five while enrolled in the program.^{24 30} Alphabet and counting books for young children promote greater focus on the print.¹⁰

READING ALOUD AND LANGUAGE DEVELOPMENT

Studies demonstrate a relationship between oral language skills such as vocabulary, syntactic (the way in which linguistic elements such as words are combined to form sentences) and semantic (focus on the meaning of words or sentences) processes, and narrative discourse processes such as memory, storytelling and comprehension,⁹ and reading ability.³¹ All of these contribute to word recognition and reading comprehension.^{32 33}

Children's oral language skills can be stimulated by parent-child literacy activities such as shared bookreading.³⁴ Children learn the meaning of new words during bookreading interactions with their parents.³⁵ Reading aloud familiarises children with the language found in books³⁶ and stimulates vocabulary growth.^{37 38} Books contain many words, especially the more sophisticated words that children are unlikely to encounter frequently in spoken language.³⁹ Children's books contain 50% more rare words than prime-time television or even college students' conversations.⁴⁰ Shared bookreading can stimulate more verbal interaction between child and parent, and therefore children's language development is likely to profit more from reading aloud than from toy play or other adult-child interactions.^{12 41} In addition to new vocabulary, children are exposed to the more complex language adults use interacting with children around a book.^{11 42 43}

Children with greater vocabulary knowledge and understanding of spoken language tend to have less trouble with reading.^{6 31} Large social class differences have been reported in children's exposure to oral language and their vocabularies. Hart and Risley reported that at age 3, children in professional families heard an average of 2153 words per hour, while children in working class families heard 1251 words per hour and children in welfare families heard only 616 words per hour.⁴⁴ This led to enormous differences in children's vocabularies. At age 3,

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children in professional families had an observed cumulative vocabulary of 1100 words, while children in working class families had an observed vocabulary of 750 words and those in welfare families of just above 500 words. In professional families, parents not only talked more but also used more different words and provided a greater richness of nouns, modifiers and verbs. Parents spent a lot of time and effort asking their children questions, affirming and expanding their responses and encouraging their children to listen and notice how words relate and refer in order to prepare their children for a culture focusing on “symbols and analytic problem solving” (see Hart and Risley,⁴⁴ p 133). On the other hand, parents on welfare spent less time talking while they more frequently initiated topics and used more imperatives and prohibitions. These parents were more concerned with established customs such as obedience, politeness and conformity. Working-class families showed a mixture of the two cultures using imperatives and prohibitives while using rich language to label, relate and discuss objects.⁴⁴

Shared bookreading provides children with opportunities to learn vocabulary from books as well as the use of decontextualised language (the use of language to communicate new information to those who have little experience with the context of the information).^{45 46} Since this task involves cognitive and linguistic demands, it tends to be more challenging for children.⁵ The positive effects of having been read to from an early age continue to be observable in the elementary school years.^{3 12} The age at which parents begin reading to their children is correlated with children’s language development; children who are read to from an early age tend to have higher scores on language measures later on.^{47 48}

READING ALOUD AS A SHARED EXPERIENCE

An added dimension of reading aloud is that it involves parents and other important adults to the child in a focused interaction. Early parent–child relationships influence children’s engagement in literacy activities. Mothers with securely attached children tend to more frequently provide a rich and interactive way of reading to their children than mothers of insecurely attached children.^{10 49–51} Children not only acquire knowledge about narratives but also learn about their own personal narrative when sharing a book with an adult, something that is important for their self-esteem.

Bookreading can play an important role in wake and sleep patterns by making bookreading part of bedtime routines. Sharing books with children can also help them learn about peer relationships, coping strategies, building self-esteem and general world knowledge.

Reading aloud likely promotes joint attention, which has many potential benefits related to reading,⁵² such as enhancing receptive language by asking children to point, touch or show during bookreading or expressive language by asking children questions about the text.⁵

FACTORS INFLUENCING QUANTITY AND STYLE OF SHARED BOOKREADING

Similar to child health problems, certain “risk” factors such as socioeconomic status, race/ethnicity and parental education can affect children’s development of emergent literacy and oral language skills. The National Center for Education Statistics (NCES), for example, found that children in families with incomes below the poverty threshold are less likely to show signs of emergent literacy skills such as pretending to read and write.⁵³ A total of 28% of children aged 3–5 years who were not living in poverty were able to recognise all the letters of the alphabet, while only 10% of children living in poverty were able to do so. In addition, 45% of children not living in poverty showed three or more signs of emerging literacy, while only 19% of children living in poverty did so.⁵³

Associated with these lower levels of emergent literacy skills is less exposure to bookreading and print. Children from low-income families often participate less frequently in shared bookreading than children from higher socioeconomic groups.^{54 55} According to the Federal Interagency Forum on Child and Family Statistics, 64% of families whose incomes were at or above the poverty level read to their preschoolers on a daily basis compared to 48% of families below the poverty level.⁵⁶

Children in low-income families often have less access to printed materials in the home,⁵⁴ which likely impairs children’s early language and literacy development and later reading achievement.⁴⁸ The 2007 Nation’s Report Card on reading showed that children from low-income families had lower reading scores in grade 4 and grade 8 than their peers from middle class families.⁵⁷ When children are poor readers at the end of first grade the probability that they will remain poor readers by the end of fourth grade has been reported to be as high as 0.88.⁵⁸

The National Research Council’s Committee on the Prevention of Reading Difficulties in Young Children stated that most reading difficulties can be prevented by ensuring that all children, in particular those at risk for reading difficulties, have access to early childhood environments that promote language and literacy development and encourage those skills needed to learn to read.³ It is essential to start promoting those skills needed to prepare for school early on by, for example, having parents read to their children.³

Low-income parents often have lower levels of education. The link between maternal education and frequency of shared bookreading is well documented. Mothers with higher levels of education are more likely to read frequently to their children than mothers with lower levels of education.^{59 60} In addition to social economic status (SES) which is based on family income, education and occupation, other factors such as race/ethnicity and language spoken at home play a role in parental bookreading practices. Hispanic non-English speaking mothers are less likely to read to their children compared to white, African-American or Hispanic English-speaking mothers.^{61 62}

QUALITY OR STYLE OF SHARED BOOKREADING

It is important for parents to keep children’s personal interests and motives in mind when trying to get children interested in books.^{63 64} When children’s encounters with literacy are pleasant, they are more likely to develop a positive disposition towards reading frequently and broadly.⁶³ Children who experience shared reading from an early age tend to be more interested in reading at age 4 and 5 than children who receive shared bookreading when they are older.⁶³

It is not only the reading itself that is important – the type of conversations adults and children have during shared bookreading, as well as the emotional quality of the interactions and the discussions related to print are even more important.⁶⁵ It is not sufficient to simply read a text aloud in order to encourage children to learn from being read to. When parents are supportive when interacting with their children around books, this affects how children engage with books.⁶⁶

The style of reading, more than the frequency, impacts children’s early language and literacy development.⁶⁷ White middle class parents tend to use a more interactive style when reading to their children. Working class non-white parents, on the other hand, tend to focus

more on labelling and describing pictures during bookreading.^{68, 69} These differences in reading styles can impact children's development of language and literacy-related skills.

Two parental styles of reading were identified as having beneficial effects on child vocabulary and print skills: the describer style and the performance-oriented style. A describer style focuses on describing the pictures during reading and a performance-oriented style focuses on discussing the meaning of the story after completion.⁷⁰ Children with initial lower levels of vocabulary profited more from the describer style, while children with higher initial vocabulary levels profited most from the performance-oriented style.⁷⁰

Whitehurst *et al* developed an intervention program called dialogic reading to promote children's language development.^{38, 71} Adults are taught specific techniques that can be used during shared bookreading. These techniques focus on asking questions, providing feedback and letting the child become the narrator of the story.^{38, 71} Children whose parents received training in dialogic reading had significantly better expressive language skills, used longer and more utterances, and had lower frequency of single words than children whose parents did not use dialogic reading. These differences between the groups remained even 9 months after the training.³⁸

One of the most powerful pieces of shared reading is what happens in the pauses between pages and after the book is closed. The use of "decontextualised" or non-immediate talk and active engagement has proven to be particularly beneficial for children's language enhancement.^{70, 72-74} Non-immediate talk is talk that goes beyond the information in the text or the illustrations, for example, to make connections to the child's past experiences or to the real world (eg, "you like ice cream"), or to offer explanations (eg, "he cried because he was sad"), including explanations of word meanings (eg, "a piglet is a baby pig"). Mothers' use of non-immediate talk while reading to their preschoolers was related to children's later performance on measures of vocabulary, story comprehension, definitions and emergent literacy.⁷³ Engaging in book discussions that include non-immediate talk gives children the opportunity to understand and use the more sophisticated words required to make predictions, to describe the internal states of the characters and to evaluate the story.⁷³ It also provides the opportunity for children to learn to talk about

their own feelings. Children's early language and literacy development benefits more from actively engaging the child during shared bookreading than by simply reading the text.^{70, 75}

A CHALLENGE FOR PAEDIATRIC CLINICIANS

What are the implications of the importance of parents reading aloud to their children's development for child health clinicians? "Reach Out and Read (ROR)", founded at Boston City Hospital in 1989, promotes early childhood development by promoting reading aloud. In response to the small percentage of low-income parents reading to their children, ROR was created to involve child health clinicians by having them give new books to children and advice to parents about the importance of reading aloud as part of well child care. In an early study among inner city parents receiving ROR, researchers found that parents who had been given a children's book during a previous visit were four times more likely to report looking at books with their children or that looking at books was a favourite activity.⁷⁶ Among Spanish-speaking immigrant families, those who had been exposed to ROR reported a doubling in the rate of frequent book sharing, defined as reading aloud 3 or more days per week.⁷⁷ In the largest study to date of this program, in a national sample (multi-site evidence from 19 clinical sites in 10 states) of parents of children age 6–72 months, implementation of ROR programs was associated with increased parental support for reading aloud.⁷⁸ Most importantly, two studies show increased language development.^{79, 80}

Health practitioners who do not have access to ROR can help families by asking them about bookreading in the family, and by telling parents about the benefits and joy of sharing a book with their child. In addition, they can demonstrate ways of reading that are particularly beneficial to young children (eg, connecting the book with the child's world, making predictions).

SUMMARY

Reading aloud to young children, particularly in an engaging manner, promotes emergent literacy and language development and supports the relationship between child and parent. In addition it can promote a love for reading which is even more important than improving specific literacy skills.⁸¹ When parents hold positive attitudes towards reading, they are more likely to create opportunities for their children that promote

positive attitudes towards literacy⁸² and they can help children develop solid language and literacy skills. When parents share books with children, they also can promote children's understanding of the world, their social skills and their ability to learning coping strategies. When this message is supported by child health professionals during well child care and parents are given the tool, in this case a book, to be successful, the impact can be even greater. This effect may be more important among high risk children in low income families, who have parents with little education, belong to a minority group and do not speak English since they are less likely to be exposed to frequent and interactive shared reading.

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Review Article

How Reading Books Fosters Language Development around the World

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Research on literacy development is increasingly making clear the centrality of oral language to long-term literacy development, with longitudinal studies revealing the continuity between language ability in the preschool years and later reading. The language competencies that literacy builds upon begin to emerge as soon as children begin acquiring language; thus, the period between birth and age three also is important to later literacy. Book reading consistently has been found to have the power to create interactional contexts that nourish language development. Researchers, pediatricians, and librarians have taken notice of the potential for interventions designed to encourage parents to read with their children. This article reviews research on the connections between language and later reading, environmental factors associated with language learning, and interventions developed in varied countries for encouraging book use by parents of young children.

“The more that you read, the more things you will know. The more you learn, the more places you’ll go.”
Dr. Seuss, “I Can Read With My Eyes Shut!”

1. Introduction

For roughly forty years, researchers interested in early reading and language development have studied the effects of early home and preschool experiences. Language has received particular attention because of its centrality to overall human development and its particular importance to reading development [1–3]. Dr. Seuss got it right in the quotation above: learning to read—and being read to—takes you to new places, both literally in terms of children’s development and metaphorically as reading transports us to new vistas. As researchers examined differences between the growth trajectories of children from different backgrounds, it became apparent that environmental factors play a major role in determining the speed and ultimate success with which children learn to read [4]. Some children, notably those from

homes where parents are poor and have limited educations, face particular challenges in learning to read [5, 6].

Developmental and cognitive psychologists probe the mysteries of language development and unravel the complexities of the reading process. Their findings have made increasingly apparent that particular kinds of experiences can play a special role in advancing language growth. *The humble act of reading a book to a young child has repeatedly been found to have remarkable power* [7]. Programs implemented in different countries that put books in the hands of parents and young children and that equip parents with effective strategies for using books consistently have been found to be effective methods of fostering language acquisition and improving children’s early reading success.

In this paper, we first discuss research that demonstrates the profound and enduring connections between language

development and later reading, then review research on language acquisition, arguing that later language learning builds on prior acquisition; thus, earlier acquisition propels later learning. We then discuss research on the effects of reading books with children between birth and age three and review research on the effectiveness of programs that supply books and dispense advice regarding their use to parents.

2. Language and Reading

2.1. Language and the Reading Process. Reading comprehension is critical for long-term academic success and is dependent on language abilities that emerge early in life. When all goes well, these early language experiences fuel effective reading comprehension among school-aged children and young adults. An illustration of the importance of language for reading would be reading a paragraph where many of the words were unknown to the reader although the reader could sound them out. Comprehension would be seriously impaired. The dependency of reading on oral language is at the core of the simple view of reading [2], a long-standing theory of reading development, and the more recent Convergent Skills Model of Reading (CSMR) [8], that builds on and slightly extends the simple view. Both theories seek to explain reading comprehension and draw on many of the same prior studies for support.

The CSMR hypothesizes that initially there is a primary dependence on code-based abilities such as linking sounds to letters and analyzing the sounds of spoken language into small units [6, 9, 10]. Increased attention to sounds along with knowledge of the names of letters facilitates the mapping of sound units onto graphemes [11]. Later, when initial decoding ability has been established, the semantic, syntactic, and pragmatic abilities that support language comprehension become of primary importance to successful reading comprehension [12]. The hypotheses of the CSMR were tested by assessing a large array of language- and reading-related skills among relatively early readers (grades 2 and 3, $n = 297$) and a group of older readers (grades 6 and 7, $n = 171$) who were from middle-income homes. As expected, code-related abilities played an important role at both ages, but contrary to expectations, semantic knowledge was an equal and powerful predictor at both ages. This finding and the results of work by other researchers [13, 14] make clear that semantic knowledge makes an important contribution to reading comprehension and that later reading failures often can be attributed to weakness in language ability [15].

New evidence from studies of twins points to environmental factors as primary determinants of emerging competencies related to language, reading, and schooling success. One study of 7,179 twins, roughly half of whom were identical and half fraternal, revealed that language development and reading ability are largely determined by environmental factors [16]. Another study of early vocabulary and expressive language found that environmental factors accounted for between 54% and 78% of the variation in language development [17]. Another study of a representative sample of twins born between April 1995

and December 1998 in the Greater Montreal area collected measures of parental reading when children were 19 months old and assessed school readiness at age 63 months [18]. This study and another analysis of the same data set [19] revealed that school readiness was primarily determined by environmental factors and that language plays an important role in predicting school readiness.

Important as vocabulary is, a singular focus on it risks reifying one element of a complex system and overlooks the contributions of the full language system [1]. Authors of a meta-analysis that reviewed work completed up until 2003 provided empirical support for this claim when they found that measures of “complex language,” that is, language units beyond the single word, were better at predicting later reading than simple measures of vocabulary alone [10]. Another study found that age four language predicted grade two reading comprehension and that grammatical knowledge accounted for more variance than vocabulary [20].

Another strand of evidence highlights the subtle and pervasive effects of language on reading. For some time, it has been widely acknowledged that the ability to attend to the sounds of language is strongly associated with early reading success [21–23]. This ability is broadly described as “phonological awareness” with the most refined manifestation being “phonemic awareness,” the ability to attend to discrete phonemes. The sources from which language awareness emerge are not fully understood. Intervention studies show that efforts to draw children’s attention to the sounds of language can result in substantial growth in phonological awareness (e.g., [10, 24]). But, there also is evidence for the effect of vocabulary learning on language awareness. When children learn many words with similar sounds, their ability to attend to the sounds of language is heightened. The process by which this occurs is referred to as lexical reorganization [25–27]. The effects of language learning on phonological awareness may well begin to be apparent in the years before children begin formal schooling as indicated by a study of 56 children who were followed from infancy into first grade [28]. Researchers found evidence of direct effects of early language ability on phonological awareness when children were beginning to learn to read and evidence of indirect effects of language, mediated by phonological awareness, on grade one decoding.

3. The Organizing Role of Language between Birth and Age Five

Parents know that between birth and school entry the growth of children’s language abilities is astonishingly rapid. Less apparent are the profound effects that children’s emerging language competencies have on their conceptual, interpersonal, and self-regulatory abilities. Dickinson et al. [29] have argued that literacy development, similar to other aspects of development, should be viewed from a system perspective [30, 31] and that language lies at the heart of this complex emerging constellation of competencies. A core tenet of systems theory is that the developmental point when processes are first being fashioned into a stable,

interconnected network is when changes have the most enduring effects on the resulting system.

3.1. Language Organizes and Interfaces with Multiple Domains. The blossoming of language occurs at the same time that other conceptual and behavioral competencies are taking shape, providing the opportunity for language to influence and be influenced by multiple developmental domains. The far-reaching role of language in development has been stated by Tomasello [32]. Yet, Tomasello is also mindful that cognition and the ability to communicate are affected by social development and the child's ability to understand the perspectives of others. Nelson [31] makes this point even more forcefully. She reviewed extensive bodies of research on conceptual development, theory of mind, memory, and narrative and linked developmental shifts to the language abilities that become available during this era. She concluded that between the ages of two and six "...language and the surrounding culture take over the human mind. It is during these years that biology 'hands over' development to the social world" (page 325). Once children learn language, they also acquire a powerful tool to unite seemingly disparate instances of objects and events in the world (e.g., [33]; [34]). That is, the provision of a common label for a group of non identical objects or actions enables children to form a category of these instances, despite their variability.

Researchers who have studied social and emotional development, and who have an interest in the role of cognition in shaping social development [35], note the importance of language to children's emotion-related capabilities. Language, for example, seems to make it easier for children to regulate their own thoughts, feelings, and actions or abilities that are essential to social development and school success [36]. Preschool children with strong regulatory skills are better able to form positive relations with peers and teachers [37], display greater social competence in kindergarten [38], and have better achievement in kindergarten and beyond [39] relative to their peers with poorer regulatory skills. A precursor to self-regulation is the capacity for "effortful control" [40], an ability that begins to display consistently by age two [41]. Hints that this capacity may be linked to emerging language skill come from a study of twins [42] that found heritability effects on toddler's aggressive behaviors, but not on expressive vocabulary. Indeed, the acquisition of expressive vocabulary was related to less aggression. Similarly, in a study of preschool children, Kaiser found a relationship between behavior problems and low language [43]. Similarly, Hooper et al. [44] noted that expressive and receptive language deficits in kindergarten predicted later conduct problems. While these results are only correlational, they suggest that the ability to communicate to peers lessens the need to respond aggressively in a taxing situation. Thus, as Vygotsky long ago suggested [45], language is one tool that helps children learn to regulate their own emotions and behaviors and build relationships with others. Language ability also has far-reaching consequences for later social and academic functioning.

Next, we take this argument one step farther when we discuss the power of early parent-child book reading as

a context for nourishing multiple aspects of development. Book reading provides an ideal setting for fostering language while at the same time building strong affective bonds between parents and children. Book reading also provides recurrent occasions for parents to help their infants and toddlers learn to regulate their attention and responses to stimuli. This is not because parents control these interactions "with an iron hand" but rather because children learn to naturally regulate their attention when they are focusing on a task they find interesting in a context that is nurturing, warm, and responsive. Children benefit when they and their parent establish a positive pattern of relating while reading, as revealed by a study in which 18- to 22-month-old children were observed while engaged in book reading [46]. Further, children with longer periods of joint attention at 18 months were found to have stronger productive vocabularies at 24 months. The relationship between language and vocabulary at two years of age and later language at school entry and beyond has also been documented by Marchman and Fernald [47].

3.2. Early Language Learning Sets the Stage for Later Learning. As language competencies emerge, they exert profound effects on conceptual, social, and affective functioning and build linguistic competencies that make subsequent language learning easier [48]. Language is a self-sustaining system that gathers momentum during the preschool years. There is evidence that language is an evolving self-reinforcing system even in the prelinguistic period. The language comprehension ability and the inclination of 14-month-old toddlers to use gestures to communicate predict their subsequent expressive and receptive vocabulary [49], suggesting that early encouragement to communicate may have beneficial effects. The use of child gestures at 14 months predicts their vocabulary at 54 months beyond the effects of socioeconomic status and even the amount of language children hear [50]. These data show that parents who honor their children's inchoate communicative attempts and use gesture *themselves* when communicating with their children have offspring who request more information and linguistic input through their own gestures. The insight that language builds on its own success has been formulated into a theory of the development of children's word learning abilities called the emergent coalitionist perspective [51–53]. Drawing on studies of word learning from infancy through the preschool years, this theory posits that children use multiple cues to learn words and that the cues employed to learn words change over developmental time. These changes occur because children become able to use language cues such as morphology and grammatical context and rely less on pointing and guesses about the intention of the other speaker. For example, if children hear "John snorked Mary," they can infer that "snorked" is likely a verb as it appears between two nouns and with a morphological end (/ed/) that is often found on verbs. This use of syntactic cues to help detect something of the meanings of words varies among children; those with weaker language skills have more difficulty employing syntactic cues to learn new words [54]. Further, as we noted previously, very young children's capacity to quickly process language

is related to early vocabulary and language acquisition [55] and is predictive of vocabulary when children are eight years of age [47]. The impact of a preschooler's language ability on word learning also has been seen in studies in which children are taught new words by reading stories. Children with stronger language skills are more apt to learn more words than those with weaker skills unless special efforts are made to provide redundant and explicit information about word meanings [56, 57].

In the years between birth and age five early, language competencies facilitate the development of conceptual, affective, and attentional capacities. Language growth feeds upon itself and gains momentum during the preschool years. We now turn to consideration of how environmental factors influence the rate and course of language learning.

4. Environmental Support for Language Learning

There are various estimates of the size of children's vocabularies when they enter school, but a relatively conservative estimate is 5,000 base words [58, 59]. If one assumes that children are not learning many words before the age of one and that school entry occurs at age five, then we can estimate that children learn roughly 3.5 words every day from age one to age five. Furthermore, they are acquiring mastery of the intricacies of their language's grammatical structure and learning to use language in socially appropriate ways.

Children, as opposed to the family's dog which also is surrounded by language, demonstrate such dramatic growth partly because there are biological adaptations that equip humans to understand and use language. However, this achievement does not occur in a vacuum; children must hear much language from adults willing to explain and expand, including a broad range of vocabulary and sentence structures, to show this growth. In other words, children need to engage in many language-based interactions with supportive adults. There are six principles that describe environmental factors that spur language learning, all of which can be activated as children hear books read aloud [60].

4.1. *Principle 1: Children Need to Hear Many Words Often.* Exposure to language plays an important role in children's emerging ability to interpret the meanings of words. Early language processing abilities are associated with the amount of language children hear [61–63], and by the second year of life, children's ability to rapidly understand words predicts their ability to comprehend language and learn new vocabulary [55]. Consider how this might work. If a child is slow at understanding language relative to her peers, she might be processing one part of a complex sentence while the speaker continues to talk. Eventually, a backlog might develop, and the child might lose some of what is being said. As Marchman and Fernald [47] concluded, the findings of their research "...suggest that processing speed and early language skills are fundamental to intellectual functioning" even predicting out to the child's 8th year of life (page 1).

Language input also varies dramatically as revealed by Hart and Risley's [64] study of children's home language environments between ages one and three. Less well-educated parents exposed children to far less language and a much smaller range of vocabulary than better-educated parents. Other correlational studies also have found variation in the amount of language exposure different children experience and association between exposure and rates of language acquisition [65–67]. Exposure to vocabulary is particularly likely to have beneficial effects when the input includes a relatively high density of novel words relative to total words [67–71]. Finally, recent research by Hackman and Farah [72] suggests that the language parts of the brain are affected by poverty more than other areas, resulting in differences related to brain structure at age five.

4.2. *Principle 2: Children Learn Words When They Are Interested.* Bloom [73] summarized research showing that language learning occurs best when talk is about objects or actions of immediate interest to children. One study demonstrated that children at 10 months of age systematically assume that a word label interesting, not boring objects [74]. It may well be the case that many "mismappings" of this nature occur early on but are not revealed as most children do not yet talk. For children younger than about 18 months, studies of joint attention—that is, of times when adults and children attend to the same object or event—have found that adults who are more skilled in creating occasions of joint attention have children who have more advanced vocabularies [75–77]. In fact, parents who try to redirect children's attention and label objects not of interest have children who learn fewer words [53, 76].

4.3. *Principle 3: Children Learn Best When Adults Are Responsive to Them.* Young children benefit from interacting with adults who offer prompt, contingent, and appropriate reactions to their utterances [78, 79], for example, parents who take turns, share periods of joint focus, and express positive affect [77, 80]. One study found that when children were 9 and 13 months old maternal responsiveness was associated with how soon children reached different developmental milestones (e.g., put words together, talk about the past) [81]. Another study examined children at 6, 12, 24, and 40 months and found faster rates of cognitive development when mothers were sensitive to children's focus of attention and interests. Research by Hirsh-Pasek and Burchinal [82] affirms the relationship between sensitive and responsive adults and language and cognitive outcomes using the large longitudinal data set from the NICHD Study of Early Child Care. Both parents and caregivers who demonstrated stable responsive behavior across time from 6 to 54 months of age had children who were more cognitively competent. No doubt it is not only responsive language that controls these outcomes, but also the affective quality of mother-child interactions such that affective responsiveness in early childhood projects out to cognitive competencies like mental ability scores at age 4, school readiness skills at age 5 and 6, IQ scores at age 6, and vocabulary and mathematics performance at age 12 [83].

Responsiveness of parents in terms of diversity of language also relates to later proficiency [84]. Further, the degree of responsiveness is especially important for children at medical risk due to low birth weight [85].

One question raised by this research concerns what exactly is meant by responsiveness. Children under the age of 3 do not seem to learn words when watching a televised show where there is little contingent responsive interaction [86, 87]. They do learn the same words, however, in Skype conversations where the person communicates in a way that is directly responsive to the child [88]. Note principles 2 and 3 tease apart conversation in ways that focus on the interest and action of the child (Principle 2) and the role of the adult (Principle 3) in maintaining the conversation.

4.4. Principle 4: Words Are Learned When Meanings Are Made Clear. To increase their vocabulary, children need help understanding what they mean and how they are used. When young children converse with adults, they may be helped to grasp the meaning of words by, for example, having the adult directly tell them the word's meaning, pointing to an example of the word, or using intonation or gestures to signal the meaning. The children of parents who use such strategies have enhanced understanding of word meanings [84]. Direct teaching of word meanings has been found to speed acquisition in classrooms as well as in the home [56, 58, 89]. Word meanings also can be made apparent when a new word is used in the midst of on-going activity and when words are used to describe an object or concept that is connected to other concepts that are being discussed. For example, the word "ankle" is more likely to be learned as naming a part of the leg in the context of talk about toes, legs, or fingers than when used out of context (e.g., "My ankle hurts").

4.5. Principle 5: Vocabulary and Grammar Are Learned Together. While language includes distinct components (e.g., the lexicon, grammar, and phonological system) that can be studied and measured separately, children experience and learn language as an interconnected package. Therefore, it is not surprising that the amount and diversity of verbal stimulation children receive relates to growth of vocabulary and grammar [64, 70, 90]. Vocabulary and grammar are not divorced; rather, they feed one another. In a large sample of children aging 16–30 months ($n = 1461$), Dixon and Marchman [91] found that words and grammar developed in parallel. This relationship between grammar and vocabulary learning is also celebrated in research with bilingual children. Conboy and Thal [92] find, for example, that toddlers' English vocabulary predicted their English grammar and their Spanish vocabulary predicted their Spanish grammar.

Children learn vocabulary through grammar and grammar through vocabulary [93] in two ways. First, when children note the linguistic context in which words appear, they gain information about a word's part of speech [93]. Hearing, for example, "Where's my *glorp*?" tips children off to the fact that "glorp" must refer to a concrete object and likely be a noun. Indeed, as early as two and three years of age, respectively, children can use the sentence context in

which novel nouns and verbs appear to identify the likely referents for these new terms in pictures [94, 95]. Second, once a word is known, by observing the diverse linguistic contexts in which words are used, children detect nuances in word meaning [96]. Thus, "rigid" can refer to the properties of objects as well as characteristics of some people.

4.6. Principle 6: Keep It Positive. One of Hart and Risley's [64] startling finding was that lower-income children are far more likely to hear prohibitions (e.g., "Do not touch that!") than to hear what they called "affirmations" (e.g., "That's an interesting toy"). Prohibitions are not only more negative in tone, but they serve as conversation closers. In a lovely illustration, Chase-Lansdale and Takanishi [97] opened a recent report entitled, *How do families matter?*, with a vignette they called "three mothers and an eggplant."

The first mother wheels her shopping cart down the produce aisle, where her kindergartner spots an eggplant and asks what it is. The mother shushes her child, ignoring the question. A second mother, faced with the same question, responds curtly, "Oh, that's an eggplant, but we do not eat it." The third mother coos, "Oh, that's an eggplant. It's one of the few purple vegetables." She picks it up, hands it to her son, and encourages him to put it on the scale. "Oh, look, it's about two pounds!" she says. "And it's \$1.99 a pound, so that would cost just about \$4. That's a bit pricey, but you like veal parmesan, and eggplant parmesan is delicious too. You'll love it. Let's buy one, take it home, cut it open. We'll make a dish together."

Rather than closing off the conversation, the third mother affirms the child's interest, speaks in full sentences, and continues the conversation in a way that builds vocabulary and grammar. When we expand on our children's language and ask questions rather than simply giving directives, we talk more and we create a climate that spurs language growth. Continuing the conversation increases the amount of talk, uses language in a social context, builds on children's interest, makes language meaningful, and generates more complex language samples.

Taken collectively, the six research-derived principles of language development offer a way to alter the trajectory of a child's language development. Teachers and parents can confidently give children a rich language base by applying the principles in areas that are of interest to them and their children. The trick is to start the conversation and keep it going as captured in the phrase Dickinson coined, "Strive for five," meaning five back and forth turns with the child. When conversations are only one-side prohibitions or one-word answers, children are not hearing the language they need to fuel their language-learning engine nor are they being sufficiently exposed to the concepts language encodes. In fact, a recent analysis by Chi [98] suggests that conversation requires children to engage in just the kind of interactive and constructive processing that fuels learning.

5. The Power of Book Reading in Instantiating the Six Principles of Language Learning

Reading storybooks to children maximizes the kinds of experiences that predict language learning and may even exceed the power of oral conversations at times. There are at least three ways in which book reading influences language learning.

First, it offers children the opportunity to hear *new vocabulary items embedded in varied grammatical sentences*. Books written for children use well-formed, relatively short sentences that are rich in varied vocabulary. Furthermore, books often use the same words in diverse grammatical constructions, offering implicit lessons in how words are used. The texts of books tend to have more low-frequency words than does spoken language [99] and books encourage use of a wider range of words than would occur in everyday conversations. Indeed, Sénéchal and her colleagues (see, [100], for a review) consistently find that “parent reports of shared reading were a robust predictor of children’s receptive and expressive vocabulary” (page 179).

The second way in which book reading enriches children’s lives and language is that it *promotes joint attention and interest*. Consider all the ways in which storybooks conspire to help children maintain their attention. Children’s books often use bold colors and strong contrasts and typically depict objects and animals that appeal to young children. The page of the book provides a clear focus for attention, and, unlike movable toys such as balls and trucks, books are held and remain relatively stationary. An attentive adult can easily notice what a child is attending to and build on it with commentary. In turn, children are able to draw an adult’s attention to interesting pictures using a broad range of cues including gestures, sounds, and words. Thus, attention can be managed by the child as well as the adult.

Finally, *book reading helps children learn language because it requires the participants to be active and engage in responsive interactions about word meanings*. It is an opportunity for a parent or other caring adult to focus on the child and make efforts to be responsive to his or her interests. When parents and young children communicate around book reading and move away from the text as occurs during “dialogic reading” [101], they are engaging in a language-based activity that yields even more varied vocabulary and diverse sentences structures. Dialogic reading occurs when adults follow the child’s interest and engage in conversation about material on the printed page or about experiences the child has had that relate to the story. Book reading becomes an “up close and personal” experience when done in this way and yields the most in the way of language learning [10, 101–103]).

6. Supporting Language Development between Birth and Age Three

The evidence we have presented builds a strong case for the importance of making language a primary focus for early interventions. Language is affected by home patterns of communication, and it consistently lags among children from

homes where parents are poor and have limited education. Between birth and age five, biological factors increase the beneficial and far-reaching effects of language input. Finally, there are well-researched approaches to supporting early language that can be delivered by parents at relatively low cost.

There is strong empirical support for using book reading as the core of an intervention. Since the 1990’s, there have been several meta-analytic syntheses of experimental studies of reading interventions that have included work on children from the earliest years up through the beginning years of school. The criteria used to select studies differed in these reviews. Yet despite differences in the ages of the children included, and in the nature of the study (e.g., observational, experimental), all have concluded that book reading has moderate sized beneficial effects and that the impact of book reading is most evident in language ability [10, 104–107]. Estimates of the size of the impact of book reading vary depending on the ages of the children, the type of intervention, and the outcome measures used, but what is constant is the finding that *efforts to foster language that include books have positive and valuable effects*. Based on results of two recent reviews [10, 107], it is safe to assume that a modest sized effect of 0.5 can be achieved for many such interventions, but effects may be greater for children with stronger vocabulary prior to the intervention [57] and children from higher SES families [107]. Analyses of studies that consider only children from birth to age three find evidence that these positive effects are magnified.

There have been relatively few studies of book reading among very young children (less than two years of age). The work that has been done indicates that interventions employing book reading can foster early language development especially in combination with tutorial support for parents in how to maximize the benefits of reading experiences. We now review programmatic efforts to use books to support development and then discuss specific features of book reading that are associated with enhanced development.

7. Book Distribution Programs, Effectiveness, and Recommendations

Recognition of the potential power of book reading to foster language and literacy has resulted in rapid spread of programs that distribute books to parents. Such programs have been implemented and evaluated in several countries. These interventions include some that have distributed books through local libraries and others that have used medical clinics. There is variability in the type of material distributed (books, literacy information, CDs, toys, etc.), in whether or not training was provided, and, if provided, in the content of the training (e.g., one-time literacy training, continuous training for physicians), in the country (United Kingdom, United States, Finland), in the population to whom the intervention was provided, and in the nature and amount of data collected. The research conducted on these programs has some methodological limitations that we discuss below, but the overall pattern of results is encouraging in that it points toward delivery mechanisms that have been found to work across countries.

7.1. European Programs. The most impressive research on European book programs examined Bookstart, a program that has been widely implemented in the United Kingdom. Based in public libraries, it began in Birmingham with 300 inner city families. A major study examining its effects began when contact was made with mothers at 36 weeks of pregnancy. Families subsequently received four book packs over two years. A comparison group of infants who did not receive Bookstart packs was also followed through the course of the longitudinal study [108]. Data included initial questionnaires which were distributed six months after the first Bookstart pack was received, home activities surveys, observational studies conducted approximately two years after the first Bookstart pack was received, a baseline assessment upon start of school, and another assessment (SAT) at about age 7.5. Questionnaires revealed that most (71%) parents bought more books for their children and 28% reported spending an increased amount of time sharing books with their children after receiving a Bookstart pack. The home activities surveys revealed that Bookstart children were significantly more likely than comparison group children to list looking at books as their favorite activity after receiving the Bookstart pack, and parents were significantly more likely to give their children books as presents after receiving the Bookstart pack. Observational studies in family homes found that Bookstart parents were significantly more likely than the comparison group to read the entire text of books, talk about the story, and encourage children to make predictions and connections—all precursors to later reading competence. Upon school entry, the baseline assessment that is administered to all children in the city by local authorities revealed that Bookstart children were ahead of a randomly selected control group ($n = 41$), especially in the categories of number and reading. Finally, the SAT assessment administered at age 7.5 (a national achievement test administered to all students in England at three points throughout their schooling) showed that Bookstart children were significantly ahead of the comparison group in all areas.

This study is noteworthy for the fact that it followed children from infancy into school, included observational data from homes as well as assessments, and had two comparison groups, one selected using random selection methods. Despite its strengths, one cannot draw strong causal conclusions because the initial sample was not selected using random methods, there is no information about how the books were used, and direct assessment of children did not occur until school entry, long after the intervention was over. It yields intriguing but far from conclusive evidence that the program had beneficial effects.

Two other studies have examined related book programs. In each case, they employ adult report measures to collect evidence of satisfaction with the program, but lack direct observational data or systematically identified control groups. The Cradle Club program was developed in conjunction with Bookstart and delivered as a morning session held for parents and their babies during which the librarians modeled play and reading for parents [108]. Librarians reported that the program was popular and believed it helped parents improve communication skills and

encouraged them to share books with their children. Health professionals believed that it enabled them to engage in more conversations about literacy and that some families were encouraged to buy books as gifts instead of sweets. Nursery school teachers, who had a mixture of Bookstart children and non-Bookstart children, observed that the program had positive effects on the entire family and, in some cases, tried to implement similar programs for non-Bookstart children to make up for opportunities that may have been missed.

Also based in the United Kingdom, the *Boots Books for Babies* program distributed books and information through local health centers [109], and effects were studied both through questionnaires and an examination of library circulation records. A three-year program based on Bookstart, it was implemented from 1998–2000 and delivered book packs to caregivers at nine-month hearing checkups at local health centers. Health providers were given a short training at the beginning of the program through a partnership with a local college. The packets contained two children's books, an advertisement for the local library, copies of common nursery rhymes, a poster about community resources, and the link for a coordinating website. The links were also available in other languages when necessary. After two years, the impact of the *Boots Books for Babies* project was evaluated through parent questionnaires. Some parents said they used the library sooner than they might have before the program and the number of babies registered at local libraries rose by 54%, an interesting outcome that could be the result of the project but lacking a control group design it is not possible to rule out other factors that could have been at work in the community at the time.

Babies Need Books, also in the UK, distributed books and information at health centers, baby clinics, parenting groups, and toddler groups [110]. Concurrently, the local libraries stocked a collection of books designed to appeal to these babies and their caregivers. This study also used library circulation as an outcome measure and found that 26% of babies in the *Babies Need Books* project were library users. Telephone interviews with parents revealed that shared book reading was an important part of most families' daily routines and parents mentioned the calming routine of book reading, the opportunity to spend special time together, and the opportunity to promote achievement through book reading. Parents also mentioned that grandparents started giving children books instead of sweets or toys for gifts after the intervention. Such changes in interactions between adults and children in homes is a potentially powerful byproduct of such programs that merits the use of direct observation or more careful tracking of home activities (e.g., regular phone calls to check on home activity) to guard against biases that occur when people report about their experiences.

Another library-based distribution program is *Bookbabies*, based in Finland [111]. The objective of this program is to encourage "having fun with books," a slogan chosen so as not to intimidate parents and one that is consistent with the self-reported effects of the *Babies Need Books* program. The target group for the study of this two-year intervention was 82 Flemish couples with young babies, with a special emphasis on hard-to-reach families. The project

was based at local libraries, which also served as the hub for workshops and informational sessions for parents. In follow-up interviews, parents especially noted appreciation for the focus on enjoyment over performance when reading. They also reported that, after the *Bookbabies* program, they would be likely to introduce books to their children at a younger age than they would have before participating in the program.

7.2. Programs Based in the United States. In the United States, book distribution programs also have been developed and studied, but, in many cases, they also provide advice related to book use. Most of the evaluated programs for babies have used pediatricians to deliver the program, with *Reach Out and Read* being the premier program now implemented at over 4,000 sites in the United States and abroad [112]. The appeal of this approach is that all children have access to health clinics, and they serve low-income children [112, 113]. During the first five years of life, most children are seen 13–15 times, allowing for guidance and support from a trusted health care provider. The cost of such book distribution programs is much lower than intervention programs such as home visits or Head Start [112]. In *Reach Out and Read*, the waiting room of the doctor's office is utilized to train parents in reading techniques as volunteers read books to children who are waiting, and pediatricians incorporate questions about reading to children into their health visit [113]. Additionally, a free, developmentally and culturally appropriate book is distributed to families at each visit. The focus is on teaching children to love to read and not on learning to read early.

Evaluations of the *Reach Out and Read* program have found positive effects, with parent report data being used but several studies using comparison group designs and testing data (reviewed in [113]). Key findings include mothers listing book reading as their favorite activity after the intervention, parental reports of more frequent reading, and, importantly, evidence that *Reach Out and Read* children score higher in receptive and expressive language than non-*Reach Out and Read* children [113, 114]. Also, there is evidence that families that receive more intervention show more effects, a fact that lends further weight to the argument that the program has a causal impact on children and parents [114].

Two large-scale efforts in the United States based in public libraries have sought to train parents to engage children in conversations around books rather than reading straight through books. This work has sought to encourage the use of a method known as dialogic reading [101]. In the first such endeavor, children's librarians were taught to introduce dialogic reading to parents of 28-month-old children either in one-hour sessions in the library or by viewing a training video [115]. This large randomized trial project included 588 children and had clear positive effects. Analysis of videotapes of reading sessions revealed a four-fold increase in the use of dialogic methods by the experimental group. Importantly, children's observed mean length of utterance and amount of talk during the reading event increased significantly. The authors noted that parents who had not received the training did not naturally use the recommended methods, suggesting that there may be

value in providing guidance to all parents. At a three-month followup, researchers found continued use of the methods, and parents reported a reduction in parenting stress. The in-person training was found to be more effective than video-based training. But parents who only received the video training outperformed the control group, indicating that even if a program cannot deliver training in person, training that is delivered using technology (e.g., videotape, internet) may still have beneficial effects.

A subsequent study examined the comparative value of video based as opposed to live training using the same basic research design [116]. Some parents received live training, some were sent videotapes with a follow-up phone conversations about the method, and others used the videotapes on their own. Beneficial effects were observed on children's expressive language for *all* approaches, with the impact being similar across intervention methods except for parents with limited educational background. Those with only high school level education needed the live training in order to benefit from the method.

8. Dimensions of Book Reading Associated with Enhanced Development

While simply creating opportunities for parents and caregivers to read to children has predictable beneficial effects, research has identified a number of dimensions of book reading that are associated with greater effects. Knowledge of these can be of value to those planning and supporting book-reading interventions.

8.1. Frequency and Age of Onset of Book Reading. The most fundamental issue relating to the impact of reading on children is reading frequency. One of the first meta-analyses of book reading [104] drove this point home by noting that *frequency of reading was more important than social economic class in predicting children's growth.*

The importance of reading frequency for children from birth to age three was clearly revealed by findings of a large study of low-income mothers, 39% of whom were teenagers when their child was born [117]. Mothers' reports of daily book reading at age 14 months related to vocabulary and language comprehension at 14 and 24 months. When discussing results of path analyses, the authors stated, "...the period from 14 to 24 months appears to be one during which child language and maternal book reading may together begin a "snowball" effect for subsequent book reading experiences and development" (page 944). An additional demonstration of the long-term impact of early book reading comes from a study of twins that sought to parcel out environmental from genetic effects on school readiness. Researchers [18] tracked children from 6 to 63 months and found that SES was strongly related to school readiness, but that its effects were mediated in two ways: SES affected the frequency of book reading, and book reading was directly related to school readiness. SES-related effects on expressive language were through its impact on the frequency of book reading.

There is also evidence that the *age* at which parents begin to read to children is important. One observational

study found that children in households where reading was reported with children as young as eight months had stronger early language growth [118]. An intervention study conducted with middle class families compared the effects of interactive reading when their babies were 4 months old and when babies were 8 months old. Only the condition with older babies was effective, with improved language abilities being found when the babies were 12 and 16 months old [119].

8.2. *Book Reading Style: Observational Studies.* Variation in how books are read and discussed has been found to be important. Ninio [120] examined interactions between Israeli mothers and babies who were between 17- and 22-months old and included 20 middle class and 20 lower class mothers. Mothers tended to use one of three interactional routines, asking one of two types of questions “What’s that?,” “Where’s that?,” or simply naming objects. Mothers from all backgrounds were most likely to ask the more verbally advanced children to name things (“what’s that?”), but middle class mothers were more likely to label objects for the least advanced children and to request pointing responses from children with stronger language skills. Less educated mothers talked less and used fewer names for actions and features of objects, and the rate of their children’s language development was slower. A similar study compared the reading styles of working class Caucasian and African-American mothers in the United States with similar education levels [121]. There were many similarities in how books were used, but African-American mothers used significantly fewer questioning behaviors, and Caucasian children produced comments in response to maternal questions whereas African-American children produced more spontaneous comments.

A large study of the reading approaches of 126 teenage mothers found stylistic variability in how they read to their children at age 7 and 24 months [122]. Maternal style was related to language growth, with children faring better when they were encouraged to participate in the reading and supported in their understanding, but this style was found in only 30 of 126 mothers and was concentrated among the most verbal mothers.

Many experimental studies have sought to encourage parents to adopt ways of reading and discussing books found to be related to enhanced learning. By far the most common method adopted is dialogic reading. As described earlier, dialogic reading was found to have beneficial effects on a variety of measures of productive language when used by middle class mothers of two years old children [101]. The model quickly became popular and has been used in many studies with preschool and kindergarten aged children. The upward shift in age is important to note because the most recently published meta-analysis of dialogic reading found that it loses its value with the older children [105]. It may be that the method is best suited to book reading with infants, toddlers, and younger preschool children.

This method has been extended to 2-year-old children in a community day care center in Mexico [103]. Over a period of 6 to 7 weeks, the researcher engaged children, selected because they had the lowest language skills, with resulting

strong positive effects on standardized measures of language. The authors of this paper concluded,

The implementation of this intervention in a regular Mexican day care center is relevant to the potential application of early intervention programs in underdeveloped countries. These countries lack the economic resources to conduct thorough, intensive intervention programs such as Head Start. Small-scale intervention programs such as the present study demonstrated that within the poor conditions in operation at this day care center, the dialogic-reading program had an impact on children’s linguistic development. . . . We expect that continuous exposure to picture book activities would produce larger and more lasting effects. . . (page 113).

8.3. *Attachment and Responsiveness.* Language acquisition occurs in the context of intimate interactions between adults and children. Woven into these interactions are periods of joint attention when adult and child attend to the same object or event. Ideally, there is a complex and sensitive tuning of warm, supportive parental actions, and language in response to children’s language and behavior. Such dynamics give rise to strong affective bonds between mothers and children that also foster language growth [82]. Book reading is one setting in which parents’ abilities to engage in such interactions can be observed.

Researchers interested in mother-child attachment have found that the quality of attachment is related to how children engage in book reading, with more securely attached children more likely to be able to establish and maintain joint attention with their mothers and with fewer disruptions caused by the need for discipline [123]. Given the importance of attachment for children’s overall development, interventions have been designed with the goal of enhancing the quality of parenting. The most well-developed such method is playing and learning strategies (PALSs), a program for coaching maternal responsiveness [124, 125]. PALS seeks to help mothers to consistently give prompt, sensitive responses to children’s actions, to express positive affect, to help the child manage attention, and to provide language input. Children of mothers who participated were more communicative and cooperative [124]. Mothers who participated during infancy displayed increased expressions of warmth and skill in helping children maintain their focus of attention, but improvement in children’s vocabulary and complex language skills occurred only when parents received support once their child was old enough to actively use language [125].

A similar approach has been developed for use in the offices of pediatricians [126]. In the Video Interaction Project (VIP), when mothers visit the pediatrician for their child’s regular checkup, they also receive help in learning to be responsive when interacting with their infants and toddlers. In one study, 150 dyads were assigned to either VIP or control groups, and analysis of book reading events found significant effects on children for mothers with at least a 7th

grade education (see, [126]). Research continues to explore the impact of VIP, with evidence that it results in improved sensitivity in parenting, lessens disruptive behaviors, and enhances cognitive and language development [127].

8.4. Summary. Studies of book reading have found evidence that children begin to benefit when regular reading begins as early as 8 months and that children benefit most from regular reading routines that include sensitive and responsive, language-rich interactional routines. Evidence from multiple countries suggests that the simple act of providing books to families can increase the frequency of reading, of library use and may have beneficial effects on interactions around books. By and large studies of distribution programs have been relatively small in scale and lacking in resources to conduct rigorous research. Data sometimes is not collected prior to or at the beginning of the intervention, random assignment to condition is very rare, and parent reports often are the primary form of data. This type of research may well provide feedback to programs that is of value, but additional rigor is needed if strong conclusions are to be drawn.

9. Implications for Nonwestern and Developing Nations

Research on book reading has been concentrated in the United States, Europe, and Israel so it is difficult to know the extent to which findings can generalize to developing nations. One study conducted in Chile examined reading practices among 188 families from different SES backgrounds [128]. They found low rates of early literacy knowledge and found that 42% of the families had fewer than 10 books in the home. Books that were owned tended to come from farmer's markets, super markets, and street vendors rather than bookstores. This pattern of acquisition suggests that these books are often of poor quality and that many may be simply coloring books or books of stickers. Families in Chile may have limited access to places that sell high quality children's literature, and similar issues of availability likely exist in many other developing countries. Indeed, issues of access may become increasingly common even in communities in economically advantaged areas as the number of bookstores dwindles under pressures from electronic distribution systems. Internet-based purchases of books are on the rise. In the future, differential access to the internet and associated access to credit could translate into differential access to books, further disadvantaging the poorest families.

Across studies conducted with different populations, there is the consistent finding that the educational level of parents affects reading, with more well-educated parents typically adopting more supportive methods. As is the case in the United States, there are also likely differences in approaches to book reading among ethnic groups. Support for this point comes from the Netherlands where interactions of Surinamese-Dutch mothers were compared with those of Turkish-Dutch and Dutch mothers. Differences in the amount of talk were associated with literacy level, but ethnic differences that may have been associated with beliefs about child rearing also affected how mothers read [129].

Caution is advised, however, before presuming that SES differences are always the key variable in book reading interactions. Chilean middle and lower SES mothers of 12- to 24-month-old infants were observed interacting with their children [130]. Mothers of *both* groups adjusted their styles to match the abilities of their children, indicating that all parents were sensitive to their children's language level and able to tune their own behavior accordingly. In addition, the Huebner and Meltzoff [116] study conducted in the United States with parents from different backgrounds found that dialogic reading methods were not spontaneously used by parents [116]. Thus, any intervention should assume that all parents may find some of the methods being recommended to be novel.

Although group-level differences are prevalent, there are also family-specific differences in what is called the "scholarly orientation" of families. A recent analysis of a huge database of interview data from over 70,000 cases drawn from 27 countries representing the full spectrum of political philosophy (e.g., communist, Western style democratic) has examined the impact of book ownership on the social mobility of families [131]. This unique study started from the premise that families vary in their orientation toward the importance of education and operationalized this construct using people's recollections of the number of books they had in their home when growing up. After controlling for income, education, time in history, and country of origin, the authors found that the number of books owned led to substantial increases in the years children attended school. The impact of book ownership is greatest among families with the least education and the fewest books. Across all countries, they found that, among families with no formal education, the impact of owning 25 books instead of none, was two additional years of schooling. If they owned 500 books this translated into two more years of schooling. In parents with primary grade schooling (8.8 years), owning 25 instead of no books also added about two years of schooling. These are correlations; therefore, one cannot presume that putting 25 more books in homes will result in such changes in schooling. What the data do indicate is that families whose value structures are such that they have acquired books, kept them, and passed them down from one generation to the next value schooling and learning. Although simply giving books may not create a scholarly orientation in families, interventions can help parents and babies experience the pleasures of reading and instill a love of reading and books that might nourish attitudes that lead to placing a higher value on education.

10. Future Research

Much of the research that has been done has examined the effects of a small set of approaches, many of which may not be feasible to employ in developing countries or in poorly resourced communities in Western countries. Research is needed to understand alternative ways of delivering books and guidance in their use and into examination of how these services are and are not taken up by families. Data on the impact of interventions on attitudes and reported

practices is useful and inexpensive to collect but is subject to bias on the part of respondents. Much remains to be learned about specific ways that family practices are affected by interventions and the extent to which such changes have enduring effects.

Book programs often spring from community sources, and research tends to be done with a limited budget and, as a result, lacks elements found in rigorous scientific research. In many developing countries, research funding is quite limited, but effort should be made to conduct at least small-scale studies before scarce resources are spent on programs that may be well meaning but of limited value. Critical issues worthy of such investigation include the following.

- (1) The functioning of the program needs to be studied from the perspective of those being served. Can and do they access the service? Can they receive the material regularly enough to benefit? Are they motivated to participate? Can they understand the training? Are the things to be read in a language they can read and understand?
- (2) The delivery of the program needs to be examined. How are the services and material delivered? Is the required level of expertise for delivering the service available? What are motivations for the entity delivering the service to provide it and does it maintain the quality required for success. In other words, the fidelity with which the program is delivered should be studied.
- (3) What are anticipated effects of the intervention and how will they be described? A pilot study should be used to ensure that the approaches being considered will be feasible given the resources and the context.

Research that is done should be conducted in as rigorous a manner as possible given the context. Projects should consider the following strategies that can help address methodological flaws that are present in some of the following prior studies.

- (1) Track some who do not receive the service. If random assignment is not possible try to identify those who are as similar as possible to those receiving services. Collect the same data from these subjects as is collected from the sample receiving the services.
- (2) Collect data prior to or very early in the project so as to have stronger evidence of possible changes in practices.
- (3) Collect information about the processes that are critical to the study, including the quality of delivery of the service or training (e.g., whether books were received, if appropriate advice was given), and the extent to which training guidance was followed. Limit asking for recollection of long-past events. Use phone calls, surveys, or other data collection that asks about recent activities (e.g., that day, the past week or month). Such data might be collected on selected cases if it is not possible to do so for the full sample.

- (4) Strive to get objective data about children and, if relevant, adult-child interactions. Observations of book reading and direct assessment of children yield the strongest data.
- (5) Seek to use indirect measures of impact using data sources such as library circulation records or testing data carried out by school systems to provide a way to compare your data to larger samples or to get other forms of objective data about your sample.

11. Conclusion

Research on child development has established beyond doubt the fact that the years between birth and age three are critical for children's long-term language, cognitive, emotional, and interpersonal development. To an extent, the power of these years springs from the fact that the brain is maturing rapidly and is sensitive to environmental stimulation or lack thereof. Also, this is the time when linguistic, cognitive, affective, and regulatory systems are developing and becoming interdependent. At this critical juncture, book reading has special power to have enduring impact on parents' patterns of interpersonal interaction with their children in a way that has lasting consequences for them. As parents read with children, they have the opportunity for frequent, sensitively tuned, language-rich interactions that draw children into conversations about books, the world, language and concepts. However, most parents do not spontaneously make the most of the opportunities that books present and many lack access to high quality books. Multiple programs from several countries have demonstrated that these twin challenges can be met. Large-scale distribution of high quality books and useful information is possible when coordinated through existing respected community agencies, especially if parents are responsive to and benefit from advice regarding how to best engage their child. Further, when the distribution of books is accompanied by guidance in how to read those books, there is enormous potential to enhance reading and self-regulatory competencies. There is evidence that simply providing books has value, especially in settings where very few books are otherwise available, but evidence is much stronger that the combination of books and guidance for reading has great potential to result in and lead to more frequent and more effective reading and improvements in children's language and self-regulatory competencies.

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Children's Story **Retelling** as a Literacy and Language Enhancement Strategy

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The effects of children's story retelling on early literacy and language development was examined in a meta-analysis of 11 studies including 687 toddlers and preschoolers. Results indicated that children's story retelling influenced both story-related comprehension and expressive vocabulary as well as nonstory-related receptive language and early literacy development. Findings also showed that the use of the characteristics that experts consider the important features of retelling practices was associated with positive child outcomes. Implications for practice are described.

Engaging young children in retelling stories read to them by parents or teachers is a strategy that is often used to promote story-related comprehension and expressive vocabulary (e.g., Gambrell & Dromsky, 2000; Geva & Olson, 1983; Soundy, 1993). When used with toddlers and preschoolers, a child or group of children is asked to retell, rehearse, or recall different parts of a story read to them by adults or older children (Koskinen, Gambrell, Kapinus, & Heathington, 1988). According to Isbell (2002), "Retelling stories encourages children to use their imagination, expand their ideas, and create visual images as they transfer the plot [of the story] to new settings, including different characters or new voices" (p. 28).

A retelling episode typically includes a teacher or parent scaffolding child engagement in storybook reading. This often includes asking open-ended questions, asking a child to make predictions, and engaging a child in verbal elaborations. Story retelling is characterized by actively involving a child in the reading episode, retelling the story to the child, promoting additional child elaborations and expansions, and asking the child to retell the story (in his or her own words) (Cliatt & Shaw, 1988).

The purpose of the meta-analysis reported in this *CELL-review* was to investigate the effectiveness of children's story retelling on the children's story-related comprehension and expressive vocabulary. The goal was to identify the characteristics of and conditions under which children's story retelling has the largest sizes of effect on the study outcomes, and especially comprehension and expressive vocabulary consistent with the hypothesis that children's story retelling should influence these particular outcomes (Gambrell & Dromsky, 2000; Isbell, 2002; Koskinen et al., 1988).

Search Strategy

Studies were located using *retelling, story retell*, pretend reading, retold story, child retell, child story retell* AND *infant, infancy, toddler, preschool, kindergarten, neonat** as search terms. Both controlled-vocabulary and natural-language searches were conducted (Isbell, 2002; Koskinen et al., 1988; Lucas & Cutspec, 2007).

Psychological Abstracts (PsycINFO), Education Resource Information Center (ERIC), Medline, Academic Search Premier, Education Research Complete, and CINAHL were searched. These were supplemented by Google Scholar, Scirus, Ingenta, JStor, and Socindex searches, as well as a search of an EndNote Library maintained by our Institute. Hand searches of the reference sections of all retrieved journal articles, book chapters, books, dissertations, and unpublished papers were also examined to locate additional studies. Studies were included if child retelling was used as part of a storybook reading intervention and either pretest-post test changes or between group comparisons were made between interventions and nonintervention group participants and the largest majority of participants in a study were 72 months of age or younger.

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Search Results

Eleven studies were located that included 13 samples of toddlers and preschoolers. The studies included 687 children. Appendix A shows the background characteristics of the participants. The children's average mean age was 57 months (SD = 11, Range = 35-93). The children were equally divided between males (51%) and females (49%). Four of the samples consisted of typically developing children, eight samples consisted of children considered at risk for poor outcomes, and one sample consisted of children with intellectual disabilities.

Selected characteristics of the storybook reading sessions are shown in Appendix B. All but one intervention

employed picture books or storybooks. The largest majority of child retellings were done on an individual basis (N=6) or both an individual and group basis (N=3). The children were engaged in retelling stories between one (N=2) and four or more times (N=7). The storybook-reading sessions lasted between 15 and 45 minutes and the interventions lasted from 1 to 36 weeks.

The storybook-reading episodes by the adults and the child story retellings were examined in each study to identify the characteristics of the interventions. Table 1 shows the characteristics that were coded for both the adults and children. Appendix C shows which studies included the different adult characteristics and Appendix D shows which studies included the child's retelling characteristics. A char-

Table 1
Definitions of the Characteristics of the Retelling Intervention

Characteristic	Definition
<i>Adult Reading</i>	
Story introduction	Reader introduces the story by showing the cover of the book and prompts class to predict what the story may be about before beginning to read it.
Repeated readings	The oral reading of the same book multiple times from a caregiver to the child.
Story review	Reader presents an oral review of the characters and events in the story.
Relatedness	Reader relates a picture or event in story to child's personal experience.
Prompts child responses	Reader asks child to make comments and ask questions during the reading or reader pauses during reading episode in order to prompt the child to fill in the missing information.
Open-ended questions	Reader asks the child open-ended questions about the book during the reading episode or the reader asks questions that the child already knows answers to in order to get the child to respond or make comments.
Asks for predictions	Before reading the story, the reader asks child to make a prediction of what the story is about based upon what the child sees on the cover of the book.
Manipulatives	Reader uses props or toys relevant to the book that help engage the child in the reading episode.
Visual aid	Reader tells story utilizing a visual aid such as the book illustrations or separate picture sequencing cards.
<i>Child's Retelling</i>	
Adult prompting	Reader encourages child to go further with their retelling using phrases such as "What happened next?" or "And then what?" Reader assists child with their retelling by helping the child focus on structural elements, encouraging the child to explain characters, events, and plots.
Elaborations	Reader uses a conversational approach to help the child reconstruct the story and relate parts of the story to the child's own experiences. Reader uses specific questions to guide the child's attention to story structure.
Book access	Child is allowed to hold and use the book for cues during the retelling.
Dramatization	Child is asked to role play or act out parts of the story while the story is being read.
Visual Aid	Reader provides child with picture sequencing cards or pictures in the book that illustrate the events in the story to assist in child's retelling.
Manipulatives	Child is given props or toys relevant to the book that can be used by the child to help retell the story.

acteristic was coded as used by the investigators if it was described in the research report as a key feature of the retelling practice. Both the adult and child features of the interventions included the characteristics that reading experts consider the children's story retelling practices (e.g., Gambrell & Dromsky, 2000; Koskinen et al., 1988; Soundy, 1993) although individual investigators tended to emphasize the use of different reading characteristics.

The outcomes used to evaluate the effects of child story retelling included comprehension (e.g., Leung, 2008; Simon, 2003), expressive vocabulary (e.g., Newcomer & Hammill, 1988), receptive language (e.g., Dunn & Dunn, 1981; Geva & Olson, 1983; Morrow, Sisco, & Smith, 1992), and different aspects of early literacy development (phonological awareness, print awareness, etc.). The comprehension measures included, but were not limited to, both the children's story-related comprehension (e.g., Morrow et al., 1992; Simon, 2003) and a child's ability to infer meaning from orally presented text (e.g., Karweit, 1989). The receptive language measures mostly included standardized tests of correct identification of named pictures (e.g., Evans, 2006). The expressive vocabulary measures included both a child's ability to retell parts of or key aspects of a story (e.g., Morrow, 1985; Stalnaker & Craghead, 1982) and standardized expressive language tests (e.g., Karweit, 1989). One focus of the meta-analysis was the extent to which the findings were consistent with the expectation that children's retelling would affect their comprehension and expressive vocabulary (e.g., Geva & Olson, 1983; John, Lui, & Tannock, 2003; Morrow et al., 1992).

Nine studies employed between group quasi-experimental designs, four studies used one group pretest-post test designs, and two studies used between group experimental designs. Cohen's *d* effect sizes for the pretest-post test gains or the effect sizes for the post-test differences between the intervention and nonintervention group participants were used to estimate the effects of story retelling on the study outcomes. The average weighted effect sizes were used to estimate the effects of the retelling interventions. The 95% confidence intervals (CI) for the average effect sizes were used for substantive interpretation of the findings. A 95% CI not including zero indicates that the average effect size differs significantly from zero at the $p < .05$ level (Rosenthal, 1994). An effect size between 0.20 and 0.49 is considered small, an effect size between 0.50 and 0.79 is considered medium, and an effect size equal to or greater than 0.80 is considered large (Lipsey & Wilson, 2001).

Synthesis Findings

Preliminary analyses were performed to determine if the quasi-experimental design studies produced average effect sizes that were larger than those for the experimental design studies. The experimental studies has an average $d =$

0.88 (95 CI= 0.71 to 1.05) and the quasi-experimental design studies had an average $d = 0.42$ (95% CI = 0.35 to 0.49). Inasmuch as the latter type of design did not yield inflated effect sizes, we performed all primary analyses with all studies combined.

Figure 1 shows the effect sizes for the types of outcomes constituting the focus of investigation. The story retelling interventions had positive effects on the children's literacy-related and language outcomes. The largest effect sizes were for the two outcomes (comprehension, expressive vocabulary) with which children's story retelling has been hypothesized to be associated.

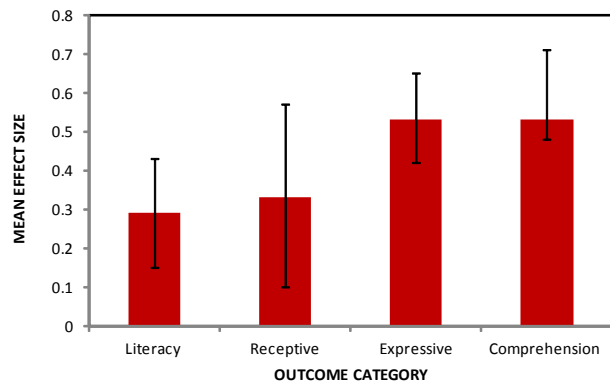


Figure 1. Average effect sizes and 95% confidence intervals for the relationship between children's story retelling and child literacy and language outcomes.

Different investigators tended to emphasize the importance of different adult and child retelling characteristics as the factors influencing text comprehension and expressive vocabulary. The relative importance of the characteristics listed in Table 1 was examined by computing the effect sizes for whether they were explicitly used in each study to identify which characteristics were in fact associated with the largest sizes of effect. The results are shown in Table 2. All of the characteristics were significantly related to the child outcomes as evidenced by confidence intervals not including zero. The characteristics were, however, differentially related to the children's literacy and language outcomes. Relating the story to a child's interests or personal experiences proved the most effective practice. A cluster of instructional practices during both the adult reading a story and a child retelling the story were associated with positive child outcomes. These included an adult reading and rereading a story, prompting child responses and verbal elaborations, asking questions and requesting predictions, and encouraging and supporting child retelling. The use of manipulatives and visual aids was somewhat more effective when used by the children compared to the adults. Taken together, the results provide support for the contentions made by reading experts in terms of the key features of retelling interventions.

The extent to which a combination of characteristics

Table 2
Average Effect Sizes and 95% Confidence Intervals (CI) for the Adult Reading and Child Retelling Characteristics

Characteristics	Number of Effect Sizes	Average Effect Size	95% CI
<i>Adult Reading</i>			
Related Story to Child's Interests/Experiences	11	.91	.73-1.09
Reread Story to Child	6	.87	.31-1.43
Introduced Story to the Child	38	.57	.49-.65
Reviewed Story with the Child	12	.56	.45-.68
Prompted Child Response	15	.49	.37-.61
Asked Open-Ended Questions	13	.46	.32-.59
Requested Child Predictions	16	.50	.39-.50
Used Visual Aids	39	.43	.36-.50
<i>Child Retelling</i>			
Adult Prompted Child Elaborations	7	.62	.30-.95
Used Manipulatives During Retelling	16	.59	.36-.81
Adult-Prompted Child Retelling	22	.50	.37-.63
Used Visual Aids	27	.52	.42-.63
Child Provided Access to Books	10	.40	.16-.64
Encouraged Child Role Playing of Story	20	.39	.30-.48

was associated with larger sizes of effect was determined by summing the number of adult and child characteristics used in a study and examining the effect sizes for different numbers of characteristics. The results are shown in Figure 2. Using only 1 or 2 characteristics was not at all effective, whereas using 3 or more characteristics was associated with larger effect sizes. The practices were optimally effective when 3 to 6 characteristics were used as part of the interventions. The inverted-U function shown in the figure suggests that the use of too few characteristics is not at all effective and the use of too many characteristics may be too much for a child to process. The particular combination of practices (5 or 6) that was associated with the largest effect sizes included relating the story to a child's interests or experiences, taking the time to introduce/explain the story, asking a child either open-ended questions or to make predictions following story introductions, prompting child retelling or verbal elaborations, and using visual aids or manipulatives.

Whether the relationships between the retelling interventions and child the outcomes were moderated by study or child variables is shown in Table 3. Enough information was included in the primary studies to code three study variables (year of publication, type of publication, intervener) and two child variables (age, condition). The relationships between the intervention and outcome variables were all statistically significant regardless of the moderators as evidence by confidence intervals not including zero. There were, however, some noticeable differences for several between moderator group comparisons. The interventions were more effective when implemented with the youngest children and

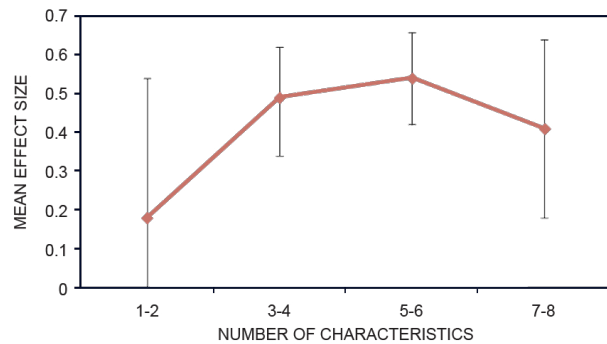


Figure 2. Average effect sizes and 95% confidence intervals for the use of different combinations of adult and child retelling characteristics.

when conducted by the investigators, and studies conducted prior to 1990 had larger effect sizes than those conducted between 1990 and 2008.

Discussion

Results reported in this *CELLreview* showed that children's story retelling was an effective literacy and language enhancement strategy, and that a combination of different intervention practice characteristics was associated with the largest sizes of effect with the study outcomes. The particular characteristics that were associated with positive results included relating the story to a child's interests or personal experiences, taking the time to introduce/explain the story, asking a child either open-ended questions or for predictions after introducing the story, prompting child retelling or

Table 3
Moderators of the Relationship Between Children's Story Retelling and the Study Outcomes

Moderators	Number of Effect Sizes	Average Effect Sizes	95% CI
<i>Year of Publication</i>			
1982-1989	35	.57	.49-.65
1990-2008	23	.33	.21-.45
<i>Type of Publication</i>			
Journal Article	50	.50	.43-.57
Non-Journal Article	8	.44	.22-.67
<i>Intervener</i>			
Study Investigator	25	.76	.62-.91
Practitioners	33	.42	.35-.50
<i>Child Age (months)</i>			
41-57	28	.60	.49-.71
60-73	30	.43	.35-.52
<i>Child Condition</i>			
Typically Developing	13	.46	.32-.59
At Risk/Disabled	45	.50	.43-.58

NOTE. CI = Confidence Intervals.

verbal elaborations, and using visual aids or manipulatives. These characteristics are very similar to those Cliatt and Shaw (1988) as well as others (e.g., Gambrell & Dromsky, 2000; Isbell, 2002; Soundy, 1993) generally consider the key features of child story retelling.

The particular characteristics that were found to be most associated with positive child outcomes include elements that are considered the key features of scaffolding (Berk & Winsler, 1995), responsive teaching (Raab & Dunst, 2009), or other naturalistic teaching procedures (Dunst, Raab, & Trivette, in press). These include, but are not limited to, engaging children in interest-based learning opportunities, teacher responsiveness to child behavior, and the use of a variety of response elaboration strategies (e.g., asking questions, prompting responses). The key characteristics of children's story retelling practices therefore can be considered a special case of a naturalistic instructional practice (Pickert & Chase, 1978; Valdez-Menchaca & Whitehurst, 1988) for promoting early literacy and language development.

Proponents of children's story retelling assert that the practice is particularly useful for promoting text comprehension and verbal vocabulary (e.g., Hansen, 2004; Isbell, 2002; Koskinen et al., 1988; Morrow et al., 1992). Findings reported in this *CELLreview* confirm this expectation. The two outcomes measures which had the largest effect sizes were expressive vocabulary and comprehension.

Implications for Practice

Isbell (2002) proposed a telling and retelling intervention strategy that includes nearly all the key features of retelling identified in this synthesis as effective practices. Her sto-

rytelling procedure includes reading a story to a child, actively engaging the child in the reading episode, rereading the story to a child, promoting deeper child participation in the reading episode, asking the child to retell the story, and prompting child comprehension and verbal elaborations. As previously mentioned, different retelling enthusiasts tend to highlight the importance of different strategies and practices, including, but not limited to, story props (Carger, 1993; Soundy, 1993), asking questions (Myers, 2005), modeling retelling (Brown & Cambourne, 1987; Gambrell & Dromsky, 2000), responsiveness to child initiations and responses (Isbell, 2002; Kupetz & Green, 1997), and actively engaging a child in story retelling (Geva & Olson, 1983; Pappas & Pettegrew, 1991). Incorporating 3 or 4 of these characteristics into any one retelling episode is likely to have positive effects on young children's early literacy and language development.

Nearly all the *CELL* storytelling and reading practice guides (www.earlyliteracylearning.org) either include many of the retelling characteristics found effective in promoting early literacy and language skills or can be easily incorporated into the practices. These include interest-based storytelling activities, repeated story and book reading, asking questions and prompting child engagement, encouraging verbal descriptions and elaborations, and promoting child retelling as he or she develops expressive language skills. All of the practice guides, whether for infants, toddlers or preschoolers, include the use of naturalistic teaching procedures that make reading and retelling not only fun, enjoyable, and interesting, but also effective intervention practices for promoting comprehension and expressive vocabulary as well as receptive language and early literacy development.

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Appendix A
Background Characteristics of the Child Participants

Study	Sample Size	Child Mean Age (Months)	Child Age Range (Months)	Child Gender		Child		Child Condition
				Male	Female	Ethnicity	Percent	
Carger (1993)	3	66	NR	1	2	Latino	100	At-risk
Center & Freeman (1997)	156	72	NR	87	69	NR	NR	At-risk
Evans (2006)	16	56 ^a	51-62	8	8	African American	88	At-risk
						Caucasian	6	
						Latino	6	
Karweit (1989) (Sample 1)	86	48	NR	NR	NR	NR	NR	At-risk
Karweit (1989) (Sample 2)	120	60	NR	NR	NR	NR	NR	At-risk
Leung (2008) (Sample 1)	14	41	35-49	NR	NR	Caucasian	66	Typically developing
						African American	25	
						Asian American	6	
						Latino	3	
Leung (2008) (Sample 2)	18	54	50-61	NR	NR	Caucasian	66	Typically developing
						African American	25	
						Asian American	6	
						Latino	3	
Morrow (1985) (Study 1)	59	68	NR	34	25	NR	NR	Typically developing
Morrow (1985) (Study 2)	82	62	NR	39	43	NR	NR	Typically developing
Morrow (1988)	54	48	NR	NR	NR	Caucasian	60	At-risk
						Other	40	
Morrow et al. (1992)	24	73	58-93	7	17	NR	NR	Intellectually disabled
Simon (2003)	43	42	36-48	21	22	NR	NR	At-risk
Stalnaker & Creaghead (1982)	12	57 ^a	48-66	4	8	African American	92	At-risk
						Caucasian	8	

^a Median.
 NR = Not Reported.

Appendix B
Characteristics of the Child Retelling Reading Episodes

Study	Type of Book	Child Retelling Details			Group or Individual Child Retelling	Class Size	Duration of Each Session (Minutes)	Duration of Study (Weeks)
		Number of Stories Retold	Number of Retellings	Total Number of Retellings by Child				
Carger (1993)	Storybook ^a	1	4	4	Both	8	NR	1
Center & Freeman (1997)	Storybook	NR	NR	NR	NR	15 ^d	20	24
Evans (2006)	Storybook	12	5	72	Both	17	45	12
Karweit (1989)	Storybook	70 ^d	2	70	Both	20 ^d	25	36 ^d
Leung (2008)	Informational text ^c	4	3	12	Individual	4	NR	4
Morrow (1985) Study 1	Picture Book ^b	1	1	1	Individual	15	10	NR
Morrow (1985) Study 2	Picture Book	8	1	8	Individual	15 ^d	NR	10
Morrow (1988)	Storybook	9	1	9	Individual	18 ^d	15	10
Morrow et al. (1992)	Picture Book	12	1	12	Individual	1	NR	8
Simon (2003)	Storybook	NR	1	NR	Group	15+ ^d	20	10
Stalnaker & Creaghead (1982)	Storybook	1	1	1	Individual	12	15	NR

^a Primarily text with pictures.

^b Science book.

^c Picture book with limited text.

^d Estimated.

NR = Not reported.

Appendix C

Selected Characteristics of the Initial Adult Story Reading to the Children

Study	Introduction			Elaborations			Props	
	Story Introduction	Repeated Reading	Story Review Relatedness	Prompts Child Responses	Open-ended Questions	Asks for Predictions	Included Manipulatives	Visual Aid
Carger (1993)		X					X	X
Center & Freeman (1997)				X				X
Evans (2006)	X		X					X
Karweit (1989)	X		X			X		X
Leung (2008)		X	X	X	X			X
Morrow (1985) Study 1	X				X			X
Morrow (1985) Study 2	X				X			X
Morrow (1988)	X		X	X				
Morrow et al. (1992)								
Simon (2003)	X					X	X	X
Stalnaker & Creaghead (1982)							X	

Appendix D

Selected Characteristics of Child's Story Retelling

Study	Scaffolding		Supports			
	Adult Prompting	Elaborations	Book Access	Dramatization	Visual Aid	Includes Manipulatives
Carger (1993)	X		X		X	X
Center & Freeman (1997)				X		
Evans (2006)						X
Karweit (1989)				X	X	
Leung (2008)	X	X			X	
Morrow (1985) Study 1	X					
Morrow (1985) Study 2	X					
Morrow (1988)						
Morrow et al. (1992)	X	X			X	X
Simon (2003)			X	X	X	
Stalnaker & Creaghead (1982)						X

Appendix E

Cohen's d Effect Sizes of the Effects of Child Retelling on the Child Outcomes

Study	Type of Design	Type of Measure	Comparison	Outcome Category	Child Outcome Measure	Cohen's <i>d</i> Effect Size
Carger (1993)	One group pretest-post test	Basic word count during child's audio recorded pretend reading	Pretest-post difference	Expressive Language	Total number of words during child's retelling	1.31
					Number of multi syllable words in retelling	2.22
					Number of meaning units in retelling	1.24
					Number of target vocabulary words in retelling	1.53
Center & Freeman (1997)	Between group quasi-experimental	Passage Reading Test (Deno et al. 1982)	Post-test difference	Literacy Related	Median number of words read correctly in one minute (Reading Connected Texts)	0.39
		Invented Spelling Test (Mann et al. 1987)	Post-test difference	Literacy Related	Invented spelling	0.14
		Expressive Word Attack Skills Test, Pseudo-word section only	Post-test difference	Literacy Related	Number of correct phonological decodings deciphered by child when test administer points to vowels and vowel blends (Reading Pseudo-words)	0.12
		Burt Word Reading Test (Gilmore et al. 1981)	Post-test difference	Literacy Related	Word recognition	0.04
Evans (2006)	One group pretest-post test	Peabody Picture Vocabulary Test (Dunn & Dunn 1981)	Pretest-post difference	Receptive Language	Frequency child pointed to correct picture of target word being spoken	0.44
		Developmental Indicators for the Assessment of Learning-3 (Mardel-Czudnowski & Goldenberg 1998)	Pretest-post difference	Expressive/Receptive Language	Child's gains in receptive and expressive language skills	1.76
Karweit (1989) (Sample 1)	Between group quasi-experimental	Test of Language Development (Newcomer & Hammill 1988) (Picture Vocabulary)	Post-test difference	Receptive Language	Frequency child points to correct picture out of six that best represents a series of two-word stimulus (semantics, listening)	0.52
		Test of Language Development (Newcomer & Hammill 1988) (Sentence imitation)	Post-test difference	Expressive Language	Child's ability to repeat a sentence spoken by the reader	0.50
		Test of Language Development (Newcomer & Hammill 1988) (Grammatical completion)	Post-test difference	Expressive Language	Frequency child can supply the correct morpheme missing from an unfinished sentence	0.28
		Merrill Language Screening Test (Mumm et al. 1980)	Post-test difference	Comprehension	Child's ability to infer meaning from pseudo words	0.57
Karweit (1989) (Sample 2)	Between group quasi-experimental	Test of Language Development (Newcomer & Hammill 1988) (Picture Vocabulary)	Post-test difference	Receptive Language	Frequency child points to correct picture out of six that best represents a series of two-word stimulus (semantics, listening)	0.24
		Test of Language Development (Newcomer & Hammill 1988) (Sentence imitation)	Post-test difference	Expressive Language	Child's ability to repeat a sentence just spoken by the reader	0.49
		Test of Language Development (Newcomer & Hammill 1988) (Grammatical completion)	Post-test difference	Expressive Language	Frequency child can supply the correct morpheme missing from an unfinished sentence	0.61
		Merrill Language Screening Test Comprehension (Mumm et al. 1980)	Post-test difference	Comprehension	Child's ability to infer meaning from pseudo words	0.52
		Woodcock Language Proficiency Battery Letter-Word Test (Woodcock & Johnson 1977)	Post-test difference	Expressive Language	Child's general English language proficiency assessed by reading and writing tasks	0.62
		Woodcock Word Attack (Woodcock & Johnson 1977)	Post-test difference	Literacy Related	Child's ability to correctly pronounce phonemes in pseudo words	1.04

Appendix E, continued

Study	Type of Design	Type of Measure	Comparison	Outcome Category	Child Outcome Measure	Cohen's <i>d</i> Effect Size
Leung (2008) (Sample 1)	One group pretest-post test	Comparison of recall test scores between retelling condition and no retelling condition	Post-test difference	Comprehension	Rating of target vocabulary comprehension	0.54
Leung (2008) (Sample 2)	One group pretest-post test	Comparison of recall test scores between retelling condition and no retelling condition	Post-test difference	Comprehension	Rating of target vocabulary comprehension	0.43
Morrow (1985) Study 1	Between group quasi-experimental	Comprehension Test and Structural Test	Post-test difference	Comprehension	Composite score from both comprehension and story structure tests	0.55
Morrow (1985) Study 2	Between group quasi-experimental	Comprehension Test and Structural Test	Post-test difference	Comprehension	Score on a traditional comprehension test	0.81
					Score on a story structure test	0.77
	Between group quasi-experimental	Transcribed children's story retellings analyzed for inclusion of structural elements and overall language complexity	Post-test difference	Comprehension	Number of setting items included in retelling	0.44
					Number of theme items included in retelling	0.00
					Number of plot episodes included in retelling	0.82
					Number of story resolution items included in retelling	0.32
					Number of correct story sequences during retelling	0.60
					Expressive Language	Average number of words per spoken unit
Expressive Language	Syntactic complexity count	-1.81				
Morrow (1988)	Experimental	Transcribed child utterances during readings	Post-test difference	Expressive Language	Frequency of child comments during readings	0.62
					Frequency of child questions during readings	1.94
					Frequency of child's speech focusing on meaning	1.20
					Frequency of child's speech focusing on detail	0.91
					Frequency of child's speech focusing on interpretation	1.27
					Frequency of child's speech focusing on prediction	0.21
					Frequency of child's speech that draws from experience	1.28
					Frequency of child's speech focusing on labeling	1.42
					Frequency of child's speech focusing on narration	0.16
					Morrow et al. (1992)	Experimental
Number of theme items included in retelling	0.55					
Number of plot episodes included in retelling	0.67					
Number of story resolution items included in story retelling	0.71					
Number of correct story sequences during retelling	0.86					

Appendix E, continued

Study	Type of Design	Type of Measure	Comparison	Outcome Category	Child Outcome Measure	Cohen's <i>d</i> Effect Size
Simon (2003)	Between group quasi-experimental	Peabody Picture Vocabulary Test (Dunn & Dunn 1981)	Post-test difference	Receptive Language	Frequency child pointed to correct picture of target word being spoken	0.14
		Picture Description Fluency (Investigator developed)	Post-test difference	Comprehension	Total number of words child used in one minute to describe pictures of vocabulary words	-0.05
		SAIL Picture Description Fluency (Investigator developed)	Post-test difference	Comprehension	Total number of words child used to describe pictures of vocabulary words	1.10
		Comprehension Test	Post-test difference	Comprehension	Total number of 6 "what, where, and why" comprehension questions answered correctly by child	0.02
		Story Retell Fluency	Post-test difference	Comprehension	Number of words produced by child in one minute of retelling a story just heard	0.69
		Concepts About Print (Clay 1993)	Post-test difference	Literacy Related	Score of print awareness ability	0.13
Stalnaker & Creaghead (1982)	Between conditions quasi-experimental	15 minute recorded language sample from child's retelling of a story versus child's talk about play	Between conditions difference	Expressive Language	Total number of utterances in language sample	0.35
					Mean length of utterances in language sample	0.38
					Proportion of total utterances which are sentence fragments in language sample	-0.57
					Number of transformations and adverbial expansions in language sample	0.35
					Number of different semantic categories in language sample	0.38

NOTE. Comprehension outcome category includes either or both vocabulary or language comprehension outcomes.



Brain Development and Early Learning

Research on Brain Development

For decades researchers have been aware of the extraordinary development of a child's brain during the first five years of life. Recent advances in neuroscience have helped crystallize earlier findings, bringing new clarity and understanding to the field of early childhood brain development. Children are born ready to learn. They cultivate 85 percent of their intellect, personality and skills by age five. The first months and years of life set the stage for lifelong development.ⁱ Because of the importance of early brain development, what happens in the early years has serious implications for public policy that will be explored later in this paper.



With the neuroscience of brain development unfolding, we now know that (1) the way a brain develops hinges on the complex interplay between the genes a person is born with and the experiences a person has from birth on; (2) it actually takes up to 12 years for the brain to become fully organized, with parts of the cortex still to become organized through the later teen years; (3) the quality of an infant's relationship with his or her primary caregivers has a decisive impact on the architecture of the brain, affecting the nature and extent of adult capabilities; and (4) early interactions directly affect the way the brain is "wired," and do not merely create a context for development.

The human brain develops more rapidly between birth and age five than during any other subsequent period.

The 100 billion neurons that humans are born with make connections through synapses, "wiring" the brain for action. The experiences an individual has impact the types

and amount of synaptic connections that are made. Synaptic connections begin prior to birth and are created at a rapid rate through age three. The brain operates on a "use it or lose it" principle. Only those connections and pathways that are activated frequently are retained. Other connections that are not consistently used will be pruned or discarded so the active connections can become stronger.ⁱⁱ

The preschool years are the time in which the brain begins to maximize efficiency by determining which connections to keep and which to eliminate.

Providing Repeated Positive Experiences is Critical

For children's brains to become highly developed for learning, repeated experiences are essential. Connections become stronger and more efficient through repeated use. Reading to children every day, for example, helps strengthen essential connections. Connections are also made stronger when children have daily opportunities to develop both large- and small-muscle skills, have the chance to practice developing social skills, and interact directly with their environment. It is vital to incorporate rich language into all of these activities, since exposure to rich language creates the foundation for a child's use and understanding of words, and increases the likelihood of reading success at a later age.

Research shows that the richness of a young child's verbal interactions has a dramatic effect on vocabulary and school readiness, with differences correlated to socio-economic status. A watershed study on the topic found that by age 3, the observed cumulative vocabulary for children in professional families was 1,116 words; for working class families it was about 740, and for welfare families 525.

continued on page 2



Brainstem—regulates blood pressure, heart rate, and body temperature
Midbrain—motor regulation and sleep
Limbic—attachment, sexual behavior, emotional reactivity
Cortex—abstract and concrete thought

Basics of Brain Structure

The brain grows in sequential fashion, from bottom (brainstem) to top (cortex), or from the least complex functioning to the most complex. By age three, 85 percent of the core structures of the brain are formed.

“The characteristics of learning readiness are developed rather than taught and only through numerous concrete interactions with the world can a young child prepare to benefit from formal instruction later.”
—David Elkind, noted author on child development

To develop the higher areas of the brain, children must be able to experience things for themselves and feel the sense of accomplishment that goes along with completing tasks independently. To support this, adults need to allow (not force) enough time for children to try things over and over again. In this way, the brain is reassured that what is learned is true. However, children need someone available to help and encourage them when things get overwhelming, and to support them in new situations. Children feel comfortable and develop a continued sense of excitement toward learning when caring adults provide structure and appropriate stimulation.

The brains of preschoolers are working to create organization through consistency. It is essential that routines and limits for preschool children be established and are adhered to. Preschool children’s brains have a lot of plasticity and also vulnerability to their environment, and will therefore continually adapt to what they are exposed to. Environments that are chaotic, disorderly or highly stressful have a direct negative influence on the development of the cortex.

“A child does not learn from a passive kaleidoscope of experiences but from the outcomes of actions that he or she has initiated.”

—John Keith Brierley, author of *Give Me a Child Until He Is Seven: Brain Studies and Early Childhood Education*

Early Learning Programs Impact the Developing Brain

Early learning programs that are appropriate for a child’s developmental level provide opportunities to learn through play and hands-on exploration. Through this type of learning, children test new knowledge in a relaxed setting and then naturally relate it to existing knowledge and store the new information.

“Learning progress may actually be slowed by overly academic preschool experiences that introduce formalized learning experiences too early for a child’s developmental status.”

—Rebecca Marcon, Developmental Psychologist

According to Jane Healy, a well-respected educational psychologist, “Early childhood programs that implement a directed academic curriculum often replace essential, hands-on learning activities with skill-based performance and rote-learning tasks. In doing so, they risk the developmental growth necessary for children’s future academic success.”ⁱⁱⁱ Experts believe that when rote-learning tasks are used extensively in an early childhood classroom or other setting, normal growth and development of the brain can become distorted.





Through increased understanding of brain development, we know what young children need most. Whether at home or in a formal early education setting, children will develop best if they are provided with:

- Positive, reliable and supportive relationships
- Regular routines and consistency
- Chances to repeat activities
- Opportunities to learn through hands-on interaction
- Exposure to rich, interactive language
- Novel ways to learn

Public Policy Implications

What does this research on early childhood brain development mean for public policy? To what extent should states and communities take public action to improve early learning? Should families be expected to manage on their own? These questions have provided the basis for growing public debate about investments in early care and education.

Profound Societal Changes

After reviewing a quarter century of research, scholars convened by the National Research Council concluded that profound social and economic transformations are posing serious challenges to the efforts of parents and others to ensure proper early childhood development.^{iv}

These changing conditions include:

- The remarkable growth in the number of working mothers with young children. In 2004, 66 percent (approximately 267,000) of all children under six in Wisconsin had all parents in the labor force, one of the highest percentages in the nation.^v
- The rise in divorce and in poor single-parent families. Wisconsin's divorce rate has doubled over the last 30 years, and nearly one quarter of children live in single-parent families.

It appears that many of Wisconsin's parents are struggling in their efforts to assure that their children are safe, healthy, and prepared for school. Most developed countries far surpass the United States in their early care and education services.

Evidence of Benefits of High Quality Early Care and Education

Mounting evidence indicates that effective, well-planned early care and education programs can positively supplement parents' efforts, and have dramatic positive impacts on children's school success. This success carries over into their adult lives.

“The policy issue is not one of getting children “ready to learn”, but rather one of appreciating that they are born to learn and crafting policies and programs that actively build on their considerable capabilities.”

—National Research Council, 2000

According to James Heckman, University of Chicago Economist and Nobel Laureate, investments in high-quality early education programs have the highest rate of return of any social investment.^{vi} The Committee for Economic Development, an independent, nonpartisan think tank, concluded that high quality preschool programs offer societal benefits that far outweigh program costs by improving the later education, employment, earnings and crime outcomes of students who attend preschool.^{vii} A strong body of research indicates that investing in rich learning experiences for low-income children produces particularly high returns, while new research shows encouraging impacts on middle-class children with exposure to well-designed preschool programs.

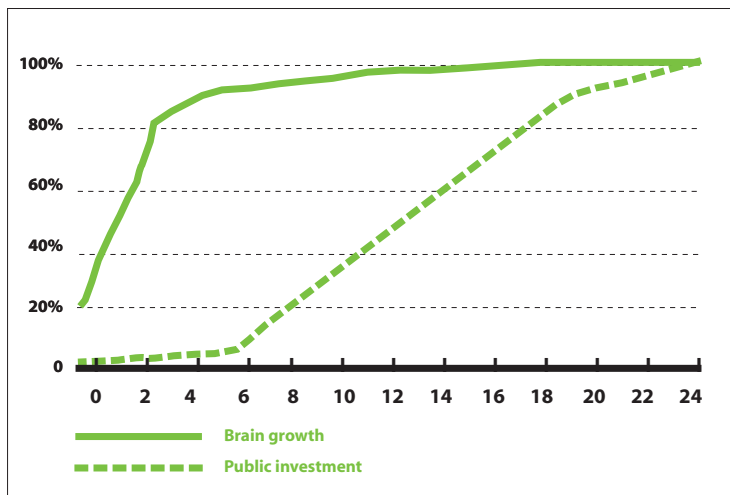
Some argue that investments in early care and education are wiser than those made at any other age. The graph below illustrates the trajectory of brain development compared to public investment, by age. It is striking that while 85 percent of a child's



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Brain Growth and Public Investment



Source: *Early Learning Left Out, Voices for America's Children and the Child and Family Policy Center, 2004.*

core brain structure is formed by age five, less than 4 percent of public investments on education and development have occurred by that time.

Three factors combine to present a strong case for a new public policy that invests more in young children's development and education: the growing body of research of the importance of the first five years in brain development and school readiness; the changing pressures on Wisconsin's families; and the promising evidence of the positive long-term effects from investing in early learning programs. The research and experience of the last quarter century logically lead to a call for Wisconsin to review its current investments in early education and to design a more coherent system of early care and education services. For more information on specific policy changes, go to www.wccf.org.



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Endnotes

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SCIENCE | NYT NOW

Quality of Words, Not Quantity, Is Crucial to Language Skills, Study Finds

By DOUGLAS QUENQUA OCT. 16, 2014

It has been nearly 20 years since a landmark education study found that by age 3, children from low-income families have heard 30 million fewer words than more affluent children, putting them at an educational disadvantage before they even began school. The findings led to increased calls for publicly funded prekindergarten programs and dozens of campaigns urging parents to get chatty with their children.

Now, a growing body of research is challenging the notion that merely exposing poor children to more language is enough to overcome the deficits they face. **The quality of the communication between children and their parents and caregivers, the researchers say, is of much greater importance than the number of words a child hears.**

A study presented on Thursday at a White House conference on “bridging the word gap” found that among 2-year-olds from low-income families, quality interactions involving words — the use of shared symbols (“Look, a dog!”); rituals (“Want a bottle after your bath?”); and conversational fluency (“Yes, that is a bus!”) — were a far better predictor of language skills at age 3 than any other factor, including the quantity of words a child heard.

“It’s not just about shoving words in,” said Kathryn Hirsh-Pasek, a professor of psychology at Temple University and lead author of the study. “It’s about having these fluid conversations around shared rituals and objects, like pretending to have morning coffee together or using the banana as a phone. That is the stuff from which language is made.”

In a related finding, published in April, researchers who observed 11- and 14-month-old children in their homes found that the prevalence of one-on-one

interactions and frequent use of parentese — the slow, high-pitched voice commonly used for talking to babies — were reliable predictors of language ability at age 2. The total number of words had no correlation with future ability.

The idea that quality of communication matters when it comes to teaching children language is hardly new.

“Our field has been pretty consistent in recognizing all along that there has to be quality and quantity,” said Dr. Hirsh-Pasek. Even the 1995 study that introduced the notion of the 30-million-word gap, conducted by the University of Kansas psychologists Betty Hart and Todd R. Risley, found that parental tone, responsiveness and use of symbols affected a child’s I.Q. and vocabulary.

But this year’s studies are the first time researchers have compared the impact of word quantity with quality of communication. The findings, said Dr. Patricia K. Kuhl, a director of the Institute for Learning and Brain Sciences at the University of Washington and an author of the April study, suggest that advocates and educators should reconsider rallying cries like “close the word gap,” that may oversimplify the challenges facing poor children.

“I worry about these messages acting as though what parents ought to focus on is a word count, as though they need a Fitbit for words,” she said, referring to the wearable devices that tally steps.

The use of the word “gap” may be counterproductive, said Dr. Hirsh-Pasek. “When we talk about gaps, our natural tendency is to talk about filling them,” she said. “So we talk about the amount as if we’re putting words inside the empty head of a child.”

“But in the same way that you can’t drop the shingles and the siding for a house on the ground, you need to have the foundation there first if language isn’t going to just roll off the child’s back and become background noise.”

For the new study, Dr. Hirsh-Pasek and colleagues selected 60 low-income 3-year-olds with varying degrees of language proficiency from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development, a long-term, wide-ranging study of 1,300 children from birth to age 15. Other researchers reviewed video of those children at age 2 in play sessions with their parents. The researchers watching the video were unaware of how the children would later develop.

“We were able to ask whether those interactions held any clues accounting for the differences we saw at age 3,” said Dr. Hirsh-Pasek, who was an author of

the long-term study. “It turned out we were able to account for a whole lot of the variability later on.”

Quality of communication accounted for 27 percent of the variation in expressive language skills one year later, she said. The results were not significantly changed when the researchers controlled for the parents’ educational level.

But those who urge parents to talk to their children more say that increased quantity of language inevitably leads to better quality.

“It’s not that one mother is saying ‘dog’ and the other is saying ‘dog, dog, dog,’ ” said Anne Fernald, a developmental psychologist at Stanford. “When you learn to talk more, you tend to speak in more diverse ways and elaborate more, and that helps the child’s cognitive development.

Dr. Fernald, author of a 2013 study that found a vocabulary gap between affluent and poor children as young as 18 months, is a scientific adviser to Providence Talks, a program in Providence, R.I., that outfits children with devices that record the number of words they hear each day.

“People emphasize the quantity because that’s what you can measure,” she said. But she noted that the program also sent counselors into children’s homes to more closely evaluate their exposure to language and teach parents how best to communicate with children.

Still, Ann O’Leary, director of Too Small to Fail, a joint effort of the nonprofit Next Generation and the Bill, Hillary & Chelsea Clinton Foundation that focuses on closing the word gap, acknowledged that messages to parents could do more to emphasize quality.

“When we’re doing these campaigns to close the word gap, they do capture the imagination, they do get people understanding that we do need to do a lot more talking,” she said. “But we also need to be more mindful that part of what we need to do is model what that talking looks like.”

Correction: November 10, 2014

An article on Oct. 17 about a study that found that the quality of the communication between children and their parents and caregivers was more valuable than the number of words heard in the development of a child’s language skills misspelled the given name and misstated the surname of a developmental psychologist at Stanford. She is Anne Fernald, not Ann Ferald.

A version of this article appears in print on October 17, 2014, on page A22 of the New York edition with the headline: Quality of Words, Not Quantity, Is Crucial to Language Skills, Study Finds.

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New York State P-12

Common Core Learning Standards for

English Language Arts & Literacy

This document includes all of the Common Core State Standards in English Language Arts and Literacy plus the New York recommended additions approved on January 10, 2011. All of the New York State additions to the Common Core are highlighted in yellow under the related strand (reading, writing, speaking and listening, and language) or standard.

***Highlighted in Pink* are the Common Core Standards aligned with You TELL Me Stories and Activity Books**

Standards for English Language Arts
& Literacy in History/Social Studies,
Science, and Technical Subjects

Prekindergarten

Reading Standards for Literature: Prekindergarten

Prekindergarteners:	
Key Ideas and Details	
1.	With prompting and support, ask and answer about detail(s) in a text.
2.	With prompting and support, retell familiar stories.
3.	With prompting and support, ask and answer questions about characters and major events in a story.
Craft and Structure	
4.	Exhibit curiosity and interest in learning new vocabulary (e.g., ask questions about unfamiliar vocabulary).
5.	Students interact with a variety of common types of texts (e.g., storybooks, poems, songs).
6.	With prompting and support, can describe the role of an author and illustrator.
Integration and Knowledge of Ideas	
7.	With prompting and support, students will engage in a picture walk to make connections between self, illustrations, and the story.
8.	Not applicable to literature
9.	With prompting and support, students will compare and contrast two stories relating to the same topic. a. With prompting and support, students will make cultural connections to text and self.
Range of Reading and Level of Text Complexity	
10.	Actively engage in group reading activities with purpose and understanding.
Responding to Literature	
11.	With prompting and support, make connections between self, text, and the world around them (text, media, social interaction).

Reading Standards for Informational Text: Prekindergarten

Prekindergarteners:	
Key Ideas and Details	
1.	With prompting and support, ask and answer questions about details in a text.
2.	With prompting and support, retell detail(s) in a text.
3.	With prompting and support, describe the connection between two events or pieces of information in a text.
Craft and Structure	
4.	Exhibit curiosity and interest in learning new vocabulary (e.g., ask questions about unfamiliar vocabulary).
5.	Identify the front cover, back cover; displays correct orientation of book, page turning skills.
6.	With prompting and support, can describe the role of an author and illustrator.
Integration and Knowledge of Ideas	
7.	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g. what person, place, thing or idea in the text an illustration depicts).
8.	Not applicable to prekindergarten.
9.	With prompting and support, identify basic similarities and differences between two texts on the same topic (e.g. illustrations, descriptions or procedures).
Range of Reading and Level of Text Complexity	
10.	With prompting and support, actively engage in group reading activities with purpose and understanding.

Reading Standards: Foundational Skills Prekindergarten

NOTE: In prekindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow

Prekindergarteners:	
Print Concepts	
1.	<ul style="list-style-type: none">a. Follow words from left to right, top to bottom, and page by page.b. Recognize that spoken words are represented in written language by specific sequences of letters.c. Understand that words are separated by spaces in print.d. Recognize and name some upper /lowercase letters of the alphabet, especially those in own name.e. Recognize that letters are grouped to form words.f. Differentiate letters from numerals.
Phonological Awareness	
2.	<ul style="list-style-type: none">a. Engage in language play (e.g. alliterative language, rhyming, sound patterns).b. Recognize and match words that rhyme.c. Demonstrate awareness of relationship between sounds and letters.d. With support and prompting, isolate and pronounce the initial sounds in words.
Phonics and Word Recognition	
3.	<ul style="list-style-type: none">a. With prompting and support, demonstrate one-to-one letter-sound correspondence by producing the primary sound of some consonants.b. Recognizes own name and common signs and labels in the environment.
Fluency	
4.	Displays emergent reading behaviors with purpose and understanding (e.g., pretend reading).

Writing Standards: Prekindergarten

Prekindergarteners:	
Text Types and Purposes	
1.	With prompting and support, use a combination of drawing, dictating, or writing to express an opinion about a book or topic (e.g., I like... because...)
2.	With prompting and support, use a combination of drawing, dictating, or writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
3.	With prompting and support, use a combination of drawing, dictating, or writing to narrate a single event and provide a reaction to what happened.
Production and Distribution of Writing	
4.	Not applicable to prekindergarten (begins in grade 3).
5.	With guidance and support, respond to questions and suggestions and add details to strengthen illustration or writing, as needed.
6.	With guidance and support, explore a variety of digital tools to produce and publish writing; collaborate with peers.
Research to Build and Present Knowledge	
7.	With guidance and support, participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).
8.	With guidance and support, recall information from experiences or gather information from provided sources to answer a question.
9.	Not applicable to prekindergarten (begins in grade 4).
Range of Writing	
10.	Not applicable to prekindergarten (begins in grade 3).
Responding to Literature	
11.	Create and present a poem, dramatization, art work, or personal response to a particular author or theme studied in class, with prompting and support as needed.

Speaking and Listening Standards: Prekindergarten

Prekindergarteners:	
Comprehension and Collaboration	
1.	With guidance and support, participate in collaborative conversations with diverse partners about <i>pre-kindergarten topics and texts</i> with peers and adults in small and large groups. a. Engage in agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Engage in extended conversations. c. Communicate with individuals from different cultural backgrounds.
2.	With guidance and support, confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
3.	With guidance and support, ask and answer questions in order to seek help, get information, or clarify something that is not understood.
Presentation of Knowledge and Ideas	
4.	Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.
5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
6.	Demonstrate an emergent ability to express thoughts, feelings and ideas.

Language Standards: Prekindergarten

Prekindergarteners:	
Conventions of Standard English	
1.	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. <ol style="list-style-type: none">Print some upper- and lowercase letters.(e.g. letters in their name).Use frequently occurring nouns and verbs (orally).With guidance and support, form regular plural nouns orally by adding /s/ or /es/ (e.g., <i>dog, dogs; wish, wishes</i>) (orally).Understand and use question words (interrogatives) (e.g., <i>who, what, where, when, why, how</i>).In speech, use the most frequently occurring prepositions (e.g., <i>to, from, in, out, on, off, for, of, by, with</i>).With guidance and support, produce and expand complete sentences in shared language activities.
2.	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. <ol style="list-style-type: none">Capitalize the first letter in their name.Attempt to write a letter or letters to represent a word.With guidance and support, attempt to spell simple words phonetically, drawing on knowledge of sound-letter relationships.
Knowledge of Language	
3.	Use knowledge of language and how language functions in different contexts
Vocabulary Acquisition and Use	
4.	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>pre-kindergarten reading and content</i> . <ol style="list-style-type: none">Identify new meanings for familiar words and apply them accurately (e.g., knowing <i>duck</i> is a bird and learning the verb <i>to duck</i>).
5.	With guidance and support, explore word relationships and nuances in word meanings. <ol style="list-style-type: none">Sort common objects into categories (e.g., shapes, foods) for understanding of the concepts the categories represent.Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (e.g., up, down, stop, go, in, out).Identify real-life connections between words and their use (e.g., note places at school that are <i>colorful</i>).Distinguish shades of meaning among verbs describing the same general action (e.g., <i>walk, march, strut, prance</i>) by acting out the meanings.
6.	With prompting and support, use words and phrases acquired through conversations, reading and being read to, and responding to texts.

Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

K-5

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year’s grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Kindergartners:	Grade 1 students:	Grade 2 students:
Key Ideas and Details		
1. With prompting and support, ask and answer questions about key details in a text.	1. Ask and answer questions about key details in a text.	1. Ask and answer such questions as <i>who</i> , <i>what</i> , <i>where</i> , <i>when</i> , <i>why</i> , and <i>how</i> to demonstrate understanding of key details in a text.
2. With prompting and support, retell familiar stories, including key details.	2. Retell stories, including key details, and demonstrate understanding of their central message or lesson.	2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3. With prompting and support, identify characters, settings, and major events in a story.	3. Describe characters, settings, and major events in a story, using key details.	3. Describe how characters in a story respond to major events and challenges.
Craft and Structure		
4. Ask and answer questions about unknown words in a text.	4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	4. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
5. Recognize common types of texts (e.g., storybooks, poems).	5. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.	5. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.	6. Identify who is telling the story at various points in a text.	6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.
Integration of Knowledge and Ideas		
7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).	7. Use illustrations and details in a story to describe its characters, setting, or events.	7. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
8. (Not applicable to literature)	8. (Not applicable to literature)	8. (Not applicable to literature)
9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories. a. With prompting and support, students will make cultural connections to text and self.	9. Compare and contrast the adventures and experiences of characters in stories. a. With prompting and support, students will make cultural connections to text and self.	9. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
Range of Reading and Level of Text Complexity		
10. Actively engage in group reading activities with purpose and understanding.	10. With prompting and support, read prose and poetry of appropriate complexity for grade 1.	10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
Responding to Literature		
11. With prompting and support, make connections between self, text, and the world around them (text, media, social interaction).	11. Make connections between self, text, and the world around them (text, media, social interaction).	Responding to Literature 11. Make connections between self, text, and the world around them (text, media, social interaction).

Kindergartners:	Grade 1 students:	Grade 2 students:
<i>Key Ideas and Details</i>		
1. With prompting and support, ask and answer questions about key details in a text.	1. Ask and answer questions about key details in a text.	1. Ask and answer such questions as <i>who</i> , <i>what</i> , <i>where</i> , <i>when</i> , <i>why</i> , and <i>how</i> to demonstrate understanding of key details in a text.
2. With prompting and support, identify the main topic and retell key details of a text.	2. Identify the main topic and retell key details of a text.	2. Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.	3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
<i>Craft and Structure</i>		
4. With prompting and support, ask and answer questions about unknown words in a text.	4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	4. Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i> .
5. Identify the front cover, back cover, and title page of a book.	5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.	5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.	6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
<i>Integration of Knowledge and Ideas</i>		
7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).	7. Use the illustrations and details in a text to describe its key ideas.	7. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
8. With prompting and support, identify the reasons an author gives to support points in a text.	8. Identify the reasons an author gives to support points in a text.	8. Describe how reasons support specific points the author makes in a text.
9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	9. Compare and contrast the most important points presented by two texts on the same topic.
<i>Range of Reading and Level of Text Complexity</i>		
10. Actively engage in group reading activities with purpose and understanding.	10. With prompting and support, read informational texts appropriately complex for grade 1.	10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards: Foundational Skills (K–5)

[RF]

These standards are directed toward fostering students’ understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

Note: In kindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow.

Kindergartners:	Grade 1 students:
<i>Print Concepts</i>	
<p>1. Demonstrate understanding of the organization and basic features of print.</p> <ul style="list-style-type: none">a. Follow words from left to right, top to bottom, and page by page.b. Recognize that spoken words are represented in written language by specific sequences of letters.c. Understand that words are separated by spaces in print.d. Recognize and name all upper- and lowercase letters of the alphabet.	<p>1. Demonstrate understanding of the organization and basic features of print.</p> <ul style="list-style-type: none">a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).
<i>Phonological Awareness</i>	
<p>2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).</p> <ul style="list-style-type: none">a. Recognize and produce rhyming words.b. Count, pronounce, blend, and segment syllables in spoken words.c. Blend and segment onsets and rimes of single-syllable spoken words.d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.* (This does not include CVCs ending with /l/, /r/, or /x/.)e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.	<p>2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).</p> <ul style="list-style-type: none">a. Distinguish long from short vowel sounds in spoken single-syllable words.b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

*Words, syllables, or phonemes written in /slashes/ refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.

Note: In kindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow.

Kindergartners:	Grade 1 students:	Grade 2 students:
<i>Phonics and Word Recognition</i>		
<p>3. Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant. b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. c. Read common high-frequency words by sight (e.g., <i>the, of, to, you, she, my, is, are, do, does</i>). d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ. 	<p>3. Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> a. Know the spelling-sound correspondences for common consonant digraphs. b. Decode regularly spelled one-syllable words. c. Know final <i>-e</i> and common vowel team conventions for representing long vowel sounds. d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. e. Decode two-syllable words following basic patterns by breaking the words into syllables. f. Read words with inflectional endings. g. Recognize and read grade-appropriate irregularly spelled words. 	<p>3. Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> a. Distinguish long and short vowels when reading regularly spelled one-syllable words. b. Know spelling-sound correspondences for additional common vowel teams. c. Decode regularly spelled two-syllable words with long vowels. d. Decode words with common prefixes and suffixes. e. Identify words with inconsistent but common spelling-sound correspondences. f. Recognize and read grade-appropriate irregularly spelled words.
<i>Fluency</i>		
<p>4. Read emergent-reader texts with purpose and understanding.</p>	<p>4. Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> a. Read grade-level text with purpose and understanding. b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. 	<p>4. Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> a. Read grade-level text with purpose and understanding. b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year’s grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Kindergartners:	Grade 1 students:	Grade 2 students:
Text Types and Purposes		
<p>1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., <i>My favorite book is . . .</i>).</p>	<p>1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.</p>	<p>1. Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., <i>because, and, also</i>) to connect opinion and reasons, and provide a concluding statement or section.</p>
<p>2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.</p>	<p>2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.</p>	<p>2. Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.</p>
<p>3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.</p>	<p>3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.</p>	<p>3. Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.</p>
Production and Distribution of Writing		
<p>4. (Begins in grade 3)</p>	<p>4. (Begins in grade 3)</p>	<p>4. (Begins in grade 3)</p>
<p>5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.</p>	<p>5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.</p>	<p>5. With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.</p>
<p>6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.</p>	<p>6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.</p>	<p>6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.</p>
Research to Build and Present Knowledge		
<p>7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).</p>	<p>7. Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).</p>	<p>7. Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).</p>
<p>8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.</p>	<p>8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.</p>	<p>8. Recall information from experiences or gather information from provided sources to answer a question.</p>
<p>9. (Begins in grade 4)</p>	<p>9. (Begins in grade 4)</p>	<p>9. (Begins in grade 4)</p>

Kindergartners:**Grade 1 students:****Grade 2 students:***Range of Writing*

10. (Begins in grade 3)

Responding to Literature

11. Create and/or present a poem, dramatization, art work, or personal response to a particular author or theme studied in class, with support as needed.

10. (Begins in grade 3)

Responding to Literature

11. Create and present a poem, dramatization, art work, or personal response to a particular author or theme studied in class, with support as needed.

10. (Begins in grade 3)

Responding to Literature

11. Create and present a poem, narrative, play, art work, or personal response to a particular author or theme studied in class, with support as needed.

Speaking and Listening Standards K–5

[SL]

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year’s grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Kindergartners:	Grade 1 students:	Grade 2 students:
Comprehension and Collaboration		
<p>1. Participate in collaborative conversations with diverse partners about <i>kindergarten topics and texts</i> with peers and adults in small and larger groups.</p> <p>a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).</p> <p>b. Continue a conversation through multiple exchanges.</p> <p>c. Seek to understand and communicate with individuals from different cultural backgrounds.</p>	<p>1. Participate in collaborative conversations with diverse partners about <i>grade 1 topics and texts</i> with peers and adults in small and larger groups.</p> <p>a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>b. Build on others’ talk in conversations by responding to the comments of others through multiple exchanges.</p> <p>c. Ask questions to clear up any confusion about the topics and texts under discussion.</p> <p>d. Seek to understand and communicate with individuals from different cultural backgrounds.</p>	<p>1. Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups.</p> <p>a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>b. Build on others’ talk in conversations by linking their comments to the remarks of others.</p> <p>c. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>d. Seek to understand and communicate with individuals from different cultural backgrounds.</p>
<p>2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.</p>	<p>2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.</p>	<p>2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.</p>
<p>3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.</p>	<p>3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.</p>	<p>3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p>
Presentation of Knowledge and Ideas		
<p>4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.</p>	<p>4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.</p>	<p>4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p>
<p>5. Add drawings or other visual displays to descriptions as desired to provide additional detail.</p>	<p>5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.</p>	<p>5. Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p>
<p>6. Speak audibly and express thoughts, feelings, and ideas clearly.</p>	<p>6. Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 on page 36 for specific expectations.)</p>	<p>6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 on page 36 for specific expectations.)</p>

The following standards for grades K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year’s grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 31 for a complete list and Appendix A for an example of how these skills develop in sophistication.

Kindergartners:	Grade 1 students:	Grade 2 students:
Conventions of Standard English		
<p>1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> a. Print many upper- and lowercase letters. b. Use frequently occurring nouns and verbs. c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., <i>dog, dogs; wish, wishes</i>). d. Understand and use question words (interrogatives) (e.g., <i>who, what, where, when, why, how</i>). e. Use the most frequently occurring prepositions (e.g., <i>to, from, in, out, on, off, for, of, by, with</i>). f. Produce and expand complete sentences in shared language activities. 	<p>1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> a. Print all upper- and lowercase letters. b. Use common, proper, and possessive nouns. c. Use singular and plural nouns with matching verbs in basic sentences (e.g., <i>He hops; We hop</i>). d. Use personal, possessive, and indefinite pronouns (e.g., <i>I, me, my; they, them, their; anyone, everything</i>). e. Use verbs to convey a sense of past, present, and future (e.g., <i>Yesterday I walked home; Today I walk home; Tomorrow I will walk home</i>). f. Use frequently occurring adjectives. g. Use frequently occurring conjunctions (e.g., <i>and, but, or, so, because</i>). h. Use determiners (e.g., articles, demonstratives). i. Use frequently occurring prepositions (e.g., <i>during, beyond, toward</i>). j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. 	<p>1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> a. Use collective nouns (e.g., <i>group</i>). b. Form and use frequently occurring irregular plural nouns (e.g., <i>feet, children, teeth, mice, fish</i>). c. Use reflexive pronouns (e.g., <i>myself, ourselves</i>). d. Form and use the past tense of frequently occurring irregular verbs (e.g., <i>sat, hid, told</i>). e. Use adjectives and adverbs, and choose between them depending on what is to be modified. f. Produce, expand, and rearrange complete simple and compound sentences (e.g., <i>The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy</i>).
<p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> a. Capitalize the first word in a sentence and the pronoun <i>I</i>. b. Recognize and name end punctuation. c. Write a letter or letters for most consonant and short-vowel sounds (phonemes). d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships. 	<p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> a. Capitalize dates and names of people. b. Use end punctuation for sentences. c. Use commas in dates and to separate single words in a series. d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. 	<p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> a. Capitalize holidays, product names, and geographic names. b. Use commas in greetings and closings of letters. c. Use an apostrophe to form contractions and frequently occurring possessives. d. Generalize learned spelling patterns when writing words (e.g., <i>cage</i> → <i>badge</i>; <i>boy</i> → <i>boil</i>). e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.
Knowledge of Language		
<p>3. (Begins in grade 2)</p>	<p>3. (Begins in grade 2)</p>	<p>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <ul style="list-style-type: none"> a. Compare formal and informal uses of English.

Kindergartners:

Grade 1 students:

Grade 2 students:

Vocabulary Acquisition and Use

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>kindergarten reading and content</i>.</p> <ol style="list-style-type: none"> Identify new meanings for familiar words and apply them accurately (e.g., knowing <i>duck</i> is a bird and learning the verb <i>to duck</i>). Use the most frequently occurring inflections and affixes (e.g., <i>-ed</i>, <i>-s</i>, <i>re-</i>, <i>un-</i>, <i>pre-</i>, <i>-ful</i>, <i>-less</i>) as a clue to the meaning of an unknown word. | <p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 1 reading and content</i>, choosing flexibly from an array of strategies.</p> <ol style="list-style-type: none"> Use sentence-level context as a clue to the meaning of a word or phrase. Use frequently occurring affixes as a clue to the meaning of a word. Identify frequently occurring root words (e.g., <i>look</i>) and their inflectional forms (e.g., <i>looks</i>, <i>looked</i>, <i>looking</i>). | <p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 2 reading and content</i>, choosing flexibly from an array of strategies.</p> <ol style="list-style-type: none"> Use sentence-level context as a clue to the meaning of a word or phrase. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., <i>happy/unhappy</i>, <i>tell/retell</i>). Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., <i>addition</i>, <i>additional</i>). Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., <i>birdhouse</i>, <i>lighthouse</i>, <i>housefly</i>; <i>bookshelf</i>, <i>notebook</i>, <i>bookmark</i>). Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases. |
| <p>5. With guidance and support from adults, explore word relationships and nuances in word meanings.</p> <ol style="list-style-type: none"> Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). Identify real-life connections between words and their use (e.g., note places at school that are <i>colorful</i>). Distinguish shades of meaning among verbs describing the same general action (e.g., <i>walk</i>, <i>march</i>, <i>strut</i>, <i>prance</i>) by acting out the meanings. | <p>5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings.</p> <ol style="list-style-type: none"> Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. Define words by category and by one or more key attributes (e.g., a <i>duck</i> is a bird that swims; a <i>tiger</i> is a large cat with stripes). Identify real-life connections between words and their use (e.g., note places at home that are <i>cozy</i>). Distinguish shades of meaning among verbs differing in manner (e.g., <i>look</i>, <i>peek</i>, <i>glance</i>, <i>stare</i>, <i>glare</i>, <i>scowl</i>) and adjectives differing in intensity (e.g., <i>large</i>, <i>gigantic</i>) by defining or choosing them or by acting out the meanings. | <p>5. Demonstrate understanding of word relationships and nuances in word meanings.</p> <ol style="list-style-type: none"> Identify real-life connections between words and their use (e.g., describe foods that are <i>spicy</i> or <i>juicy</i>). Distinguish shades of meaning among closely related verbs (e.g., <i>toss</i>, <i>throw</i>, <i>hurl</i>) and closely related adjectives (e.g., <i>thin</i>, <i>slender</i>, <i>skinny</i>, <i>scrawny</i>). |
| <p>6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.</p> | <p>6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., <i>because</i>).</p> | <p>6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., <i>When other kids are happy that makes me happy</i>).</p> |