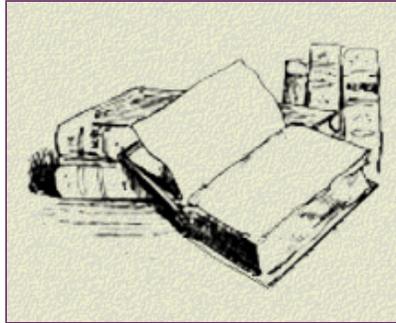


NATIONAL CHILDREN'S LITERACY WEBSITE

50 Top Research Findings*



How We Can Help Children

Literacy, Language, and the Brain

- 1.** The greatest amount of brain growth occurs between birth and age five. In fact, by age 3, roughly 85% of the brain's core structure is formed. In contrast, the majority of our investments are made in the traditional education years of K-12, which begin at age five. *"Lifetime Effects: The High/Scope Perry Preschool Study Through age 40."* Ypsilanti, MI: High/Scope Educational Research Foundation, 2005.
- 2.** Cognitive processes develop rapidly in the first few years of life. At birth your baby's brain is only 25 percent of its adult size. By age three your child's brain will be 80 percent of its adult size. www.zerotothree.org/child-development/healthy-minds.html.
- 3.** The developing brain triples in the first year alone and is virtually fully formed by the time a child enters kindergarten. *Eliot, L. (1999). What's Going on in There? : How the Brain and Mind Develop in the First Five Years of Life. Bantam Books.*
- 4.** Given the course of brain development, it is not surprising that young children who are exposed to certain early language and literacy experiences usually prove to be good readers later. Just as a child develops language skills long before being able to speak, the child also develops literacy skills long before being able to read. *National Research Council. (1998). Preventing Reading Difficulties in Young Children. Washington, D.C.: National Academy Press.*
- 5.** The average child from a professional family hears 215,000 words per week; a child from a working-class family hears 125,000 words per week; and a child from a family receiving welfare benefits hears 62,000 words per week. *Hart, B. & Risley, T.R. (1995). Meaningful Differences in the Everyday Experience of Young American Children. Baltimore, MD: Brookes Publishing.*

6. Researchers found that when mothers frequently spoke to their infants, their children learned almost 300 more words by age 2 than did their peers whose mothers rarely spoke to them. *Huttenlocher et al., 1991. Early vocabulary growth: Relation to language input and gender. Developmental Psychology, 27, 236-248.*
7. The most important aspect of parent talk is its amount. Parents who just talk as they go about their daily activities expose their children to 1000-2000 words every hour. *Hart and Risley (1999) The social world of children learning to talk.*
8. In the first three years, infants and toddlers begin acquiring the first of thousands of words they will use throughout their lives. Simultaneously, children are learning the rules of grammar as well as absorbing the social conventions that exist around communication in their community. *Im, J., Osborn, C., Sánchez, S. and Thorp, E. (in press). Cradling Literacy: Building Teachers' Skills to Nurture Early Language and Literacy Birth to Five. Washington, DC: ZERO TO THREE.*
9. While good early experiences help the brain develop well, poor experiences can literally cause a genetically normal child to have a lower I.Q. Scientific evidence shows that maltreated children who receive little stimulation – children who are exposed to fewer colors, less touch, little interaction with adults, fewer sights and sounds, and less language – actually have smaller brains. *De Bellis, M.D., Keshaven, M.S., Clark, D.B., Casey, B.J., Giedd, J.B., Boring, A.M., Frustaci, K., & Ryan, N.D. (1999). Developmental traumatology. Part 2: Brain development. Biological Psychiatry, 45, 1271-1284.*
10. Children's academic successes at ages 9 and 10 can be attributed to the amount of talk they hear from birth through age 3. *Hart and Risley, Meaningful Differences in the Everyday Experience of Young American Children.*
11. By age 2, a child's brain is as active as an adult's and by age 3 the brain is more than twice as active as an adult's - and stays that way for the first 10 years of life. *Shore, R. (1997). Rethinking the Brain: New Insights into Early Development. New York: Families and Work Institute.*
12. Experts are nearly unanimous in stating that babies should routinely experience shared books as soon as they experience shared talking, that is, during the first weeks and months of life. *Butler, D. (1998). Babies need books. Portsmouth, NH: Heinemann.*
13. Early literacy encompasses all of a child's experiences with conversation, stories (oral and written), books, and print. *Rebecca Parlakian, Before the ABCs: Promoting School Readiness in Infants and Toddlers. Washington, DC: Zero to Three, 2003.*
14. Reading aloud to young children is not only one of the best activities to stimulate language and cognitive skills; it also builds motivation, curiosity, and memory. *Bardige, B. Talk to Me, Baby! (2009), Paul H Brookes Pub Co.*
15. At its heart, literacy is about communication, which begins long before a baby utters her first word. Babies are prewired to learn, communicate, and connect with others; they tell us what they need through their cries, facial expressions, sounds, and movements. *Janice Im, Carol Osborn, Sylvia Sánchez, et al., Cradling Literacy: Building Teachers' Skills to Nurture Early Language and Literacy from Birth to Five. Washington, DC: Zero to Three, 2007.*

The Benefits of Books in the Home and Reading to Your Child

16. The single most significant factor influencing a child's early educational success is an introduction to books and being read to at home prior to beginning school. *National Commission on Reading, 1985*
17. Having books in the home is twice as important as the father's education level. *Research in Social Stratification and Mobility, 2010*
18. The only behavior measure that correlates significantly with reading scores is the number of books in the home. *The Literacy Crisis: False Claims, Real Solutions, 1998*
19. An analysis of nearly 100,000 U.S. school children found that access to printed materials is the "critical variable affecting reading acquisition." *JMcQuillan, J. (1998). The Literacy Crisis: False Claims, Real Solutions. Heinemann.*

20. The most successful way to improve the reading achievement of low-income children is to increase their access to print. Newman, Sanford, et al. "American's Child Care Crisis: A Crime Prevention Tragedy"; *Fight Crime: Invest in Kids*, 2000.
21. Creating a steady stream of new, age-appropriate books has been shown to nearly triple interest in reading within months. Harris, Louis. *An Assessment of the Impact of First Book's Northeast Program*. January 2003.
22. By the age of 2, children who are read to regularly display greater language comprehension, larger vocabularies, and higher cognitive skills than their peers. Raikes, H., Pan, B.A., Luze, G.J., Tamis-LeMonda, C.S., Brooks-Gunn, J., Constantine, J., Tarullo, L.B., Raikes, H.A., Rodriguez, E. (2006). "Mother-child book reading in low-income families: Correlates and outcomes during the first three years of life." *Child Development*, 77(4).
23. Children who are read to at least three times a week by a family member are almost twice as likely to score in the top 25% in reading compared to children who are read to less than 3 times a week. Denton, Kristen and Gerry West, *Children's Reading and Mathematics Achievement in Kindergarten and First Grade (PDF file)*, U.S. Department of Education, NCES, Washington, DC, 2002.
24. Children who live in print-rich environments and who are read to during the first years of life are much more likely to learn to read on schedule. Southern Early Childhood Association, "Making Books Part of a Healthy Childhood."
25. Children with greater access to books and other print materials express more enjoyment of books, reading, and academics. *Children's Access to Print Material and Education Related Outcomes*.
26. Children who are "well-read-to" (at least five times a week), when asked to tell a story, used more literary language than unread to children, and they used more sophisticated syntactic forms, longer phrases, and relative clauses. They were also better able to understand the oral and written language of others – an important foundation for the comprehension skills that will develop in the coming years. Wolf, M. (2007). *Proust and the Squid: The Story and Science of the Reading Brain*. New York: Harper Perennial.
27. Children growing up in homes with at least twenty books get three years more schooling than children from bookless homes, independent of their parents' education, occupation, and class. Evans, M. D., Kelley, J., Sikora, J., & Treiman, D. J. (2010). *Family scholarly culture and educational success: Books and schooling in 27 nations*. *Research in Social Stratification and Mobility*, 28(2), 171-197.
28. Books contain many words that children are unlikely to encounter frequently in spoken language. Children's books actually contain 50% more rare words than primetime television or even college students' conversations. *The Read-Aloud Handbook*, by Jim Trelease.
29. The nurturing and one-on-one attention from parents during reading aloud encourages children to form a positive association with books and reading later in life. *Reach Out and Read, Archives of Disease in Childhood, Reading Aloud to Children: The Evidence*, 2008.
30. When adults read to children, discussing story content, asking open-ended questions about story events, explaining the meaning of words, and pointing out features of print, they promote increased language development, comprehension of story content, knowledge of story structure, and a better understanding of language– all of which lead to literacy success. Berk, L. E. (2009). *Child Development (8th ed.)*. Pearson Education, Inc.
31. Parents who read to their child while asking minimal questions during reading, and pausing infrequently, had children who did not talk very much. On the other hand, parents who paused frequently during the story had children who asked more questions, talked more, and engaged in conversation. *Home-School Study*, DeTemple (2001)

Lack of Books and Access to Print

32. In middle-income neighborhoods the ratio of books per child is 13 to 1, in low-income neighborhoods, the ratio is 1 age-appropriate book for every 300 children. Neuman, Susan B. and David K. Dickinson, ed. *Handbook of Early Literacy Research, Volume 2*. New York, NY: 2006, p. 31

33. 61% of low-income families have no books at all in their homes for their children. *Reading Literacy in the United States: Findings from the IEA Reading Literacy Study. (1996).*
34. 80% of preschool and after-school programs serving low-income populations have no age-appropriate books for their children. *Neuman, Susan B., et al. Access for All: Closing the Book Gap for Children in Early Education. Newark, DE: International Reading Association, 2001, p. 3.*
35. Children from lower-income homes have limited access to books. Because of this, preschoolers from low-income families have fewer home and preschool language and literacy opportunities than children from economically advantaged backgrounds – a major reason that they lag behind in reading achievement throughout the school years. *Berk, L. E. (2009) Child Development (8th ed.). Pearson Education, Inc*
36. Across the nation just under half of children between birth and five years (47.8%) are read to every day by their parents or other family members . *Russ S, Perez V, Garro N, Klass P, Kuo AA, Gershun M, Halfon N, Zuckerman B. Reading Across the Nation: A Chartbook (2007): Reach Out and Read National Center, Boston, MA .*
37. Children in low-income families lack essential one-on-one reading time. The average child growing up in a middle class family has been exposed to 1,000 to 1,700 hours of one-on-one picture book reading. The average child growing up in a low-income family, in contrast, has only been exposed to 25 hours of one-on-one reading. *McQuillan, J. (1998).The Literacy Crisis: False Claims, Real Solutions. Heinemann.*
38. On average, children in economically depressed communities have 0-2 age appropriate books in their homes. *Jeff McQuillan. The Literacy Crisis. California State University, 1998.*

The Consequences When Children Lack Early Language Exposure

39. 37% of children arrive at kindergarten without the skills necessary for lifetime learning. *Landry, S. H. (2005). Effective Early Childhood Programs: Turning Knowledge Into Action. Houston, TX: University of Texas, Health Science Center at Houston.*
40. Half of children from low-income communities start first grade up to two years behind their peers. *Brizius, J. A., & Foster S. A. (1993). Generation to Generation: Realizing the Promise of Family Literacy. HighScope Press.*
41. Researchers estimate that before ever entering kindergarten, cognitive scores for children of low-income families are likely to average 60 percent lower than those in the highest socioeconomic groups, something that remains true through high school. *Lee, V. E. & Burkam, D. T. (2002). Inequality at the starting gate: Social background differences in achievement as children begin school. Washington, D.C.: Economic Policy Institute.*
42. 1 in 4 children in America grow up without learning how to read. *WriteExpress Corporation. "Literacy Statistics." Begin to Read. Accessed April 16, 2014.*
43. The sad truth is that the vast majority of children who start behind, stay behind, leading to an increase in our nation's dropouts rate among low-income and minority students. *America's Early Childhood. Jumpstart, 2009*
44. There is almost a 90% probability that a child will remain a poor reader at the end of the fourth grade if the child is a poor reader at the end of first grade. *Boyer, The Carnegie Foundation for the Advancement of Teaching.*
45. Children who aren't reading at grade level by the end of third grade are four times as likely to drop out of high school. *Donald J. Hernandez, Double Jeopardy: How Third-Grade Reading Skills and Poverty Influence High School Graduation. The Annie E. Casey Foundation; Center*
46. 68% of fourth-graders in Georgia are not reading proficiently. *Georgia Center for Nonprofits 2013*
47. In fact, low achievement as early as fourth grade is a powerful predictor of high school and college graduation rates, as well as lifetime earnings. *McKinsey & Company (April 2009). The Economic Impact of the Achievement Gap in America's schools. Washington, D.C.*

48. Each dropout, over his or her lifetime, costs the nation approximately \$260,000. Rouse, C.E. (2005). "Labor market consequences of an inadequate education." Paper prepared the Social Costs of Inadequate Education symposium, Teachers College Columbia University. October 2005.

49. 78% of juvenile crime is committed by high school dropouts. "Literacy Research." National Children's Reading Foundation.

50. Surveys of adolescents and young adults with criminal records show that about half have reading difficulties. Similarly, about half of youths with a history of substance abuse have reading problems. National Information Center for Children and Youth with Disabilities. (1998). Children with reading disability. Washington, D.C.: Robert Bock.

* This summary of literacy research was compiled by Ferst Readers