

Research

Education:

- The *National Assessment of Educational Progress*, conducted in 2009 by the National Center for Education Statistics, reported that 68% of the nation's fourth graders do not read at a level of proficiency.
- In *Preventing Reading Difficulties in Young Children*, published in 1998, the National Research Council concludes that a student's reading ability at the end of third grade strongly correlates with their future academic success.
- In *Early Warning! Why Reading by the End of Third Grade Matters*, the Annie E. Casey Foundation, in 2010, argued, "It's crucial that children master grade-level reading by 3rd grade because that's when instruction moves from a focus on learning to read to reading to learn."
- The National Institute for Literacy reports, "Early childhood through third grade is a critical time for beginning readers... children are taught the skills that together enable them to understand and find meaning in what they read and take advantage of the learning opportunities in fourth grade and beyond. These skills include phonemic awareness, phonics, fluency, vocabulary, and text comprehension."
- The Minnesota Department of Education's annual *Minnesota School Readiness Study: Developmental Assessment at Kindergarten Entrance, 2008*, noted that over half of the state's kindergartners are "not proficient" in personal and social development, mathematical thinking, the arts, and language and literacy.
- The *National Assessment of Educational Progress*, conducted in 2009 by the National Center for Education Statistics, reported that Minnesota's fourth grade reading gap is the second largest in the country. From 2002-09, the average fourth grade reading score for white Minnesota students increased by one point while black students decreased by seven points and Hispanic students dropped by eight points.
- In the *Early Childhood Longitudinal Study, 2004*, the National Center for Education Statistics concludes that the number of family risk factors (low income, limited English proficiency, single parents, low education, etc.) is negatively associated with a child's achievement gains in reading and mathematics. As the number of family risk factors increase, the smaller gains a child will make from the start of kindergarten through the end of 3rd grade in both subject areas."
- The Annie E. Casey Foundation's *Early Childhood and School Readiness* initiative focuses on third grade reading achievement because research shows, "Many poor children today enter school already behind, and once behind, few catch up. By third grade, poor children have vocabularies of about 4,000 words compared to 12,000 by middle class kids, and half the math and reading gap for high school seniors can be attributed to gaps at school entry."
- The National Reading Panel's studies show that reading is highly complex and requires a combination of skills. Its instruction must be taught through multiple

strategies because children arrive in school with different levels of readiness and not all of them learn in the same way.

- The National Institute of Child Health and Human Development believes that teaching and learning in today's schools are not only a critical educational and social issue, but a significant public health one as well.
- G. Reid Lyon, PhD, former Chief of the Child Development and Behavior Branch of the National Institute of Child Health and Human Development, said, in his 2001 speech to the U.S. House of Representatives' Subcommittee on Education Reform, "the development of reading skills serves as the major foundational academic ability for all school-based learning...and difficulty in learning to read crushes the excitement and love for learning, which most children have when they enter school."

Economics:

- McKinsey & Company's *The Economic Impact of the Achievement Gap in America's Schools, 2009*, demonstrates that the declining quality of American schools hurts the economy and if achievement gaps were closed, the yearly gross domestic product would be trillions of dollars higher.
- In *The Social Savings from Reducing Crime through Education, 2006*, authors Lochner and Moretti report that one economist estimates the United States "could reduce the number of crimes committed by 100,000 each year and save \$1.4 billion annually, if 1% more males graduated from high school each year."
- In *The Cost Burden to Minnesota K-12 when Children are Unprepared for Kindergarten*, a 2008 study by the Amherst H. Wilder Foundation, it states, "the estimated cost burden to the Minnesota K-12 system due to children entering kindergarten unprepared for school success is about \$113 million annually."
- The Amherst H. Wilder Foundation's *Minnesota Family Literacy and School Readiness Study, 2010*, claims that delays in school readiness often result in achievement gaps that continue throughout a child's academic career. This is a national problem that threatens the future of poor, minority, and non-native English-speaking children, and harms the economic vitality of the United States.

Brain:

- Scientists at the University of California-Berkeley's Helen Wills Institute and the School of Public Health reported, in 2008, that kids from lower socio-economic levels show brain psychology patterns similar to stroke victims.
- Researchers from Cornell University have reported that chronic stress from growing up poor directly impacts the brain and impairs working memory.
- In *Brain Facts*, the Society of Neuroscience says, in 2008, that enriched environments can bolster brain development through increased neuron branching and connections.

Vision:

- In *Cognitive Neuroscience: The Biology of the Mind*, 2008, psychologists Gazzaniga, Ivry, and Mangun stress that 80% of learning comes through the visual pathways.
- In *Vision Screening of Preschool Children: Evaluating the Past, Looking Toward the Future*, published in *Optometry & Vision Science*, 2008, optometrists say that vision disorders are the fourth most common disability in the United States, and one of the most prevalent handicapping conditions in childhood.
- In *Promoting Healthy Vision in Students: Progress and Challenges in Policy, Programs, and Research*, published in the *Journal of School Health*, 2008, researchers Ethan and Basch say, “Children from poor urban areas, many of whom are ethnic minorities, experience more than twice the normal rate of vision problems.”
- The National Parent Teacher Association reports that more than 10 million children suffer from vision problems that may contribute to poor academic performance.
- The American Optometric Association reports “60 percent of children identified as ‘problem learners’ actually suffer from undetected vision problems, and in some cases, have been inaccurately diagnosed with attention-deficit disorder or attention-deficit hyperactivity disorder.”
- Dr. Stanley Kaseno, an optometrist and pioneer in incorporating visual testing and training into juvenile delinquent treatment programs, says research shows that 90% of juvenile delinquents have some kind of visual problem: “If a child’s primary information-gathering system (eyes) is not functioning adequately, then problem solving abilities cannot develop properly. Task time is extended, frustration is increased, and behavior problems become routine as early as kindergarten and first grade.”