REFLECTIONS ON THE RESEARCH

AN EXCERPT FROM THE MIDPOINT SNAPSHOTS
Graduating from high school is a crucial step in escaping poverty, wrote Brookings researchers Ron Haskins and Isabel Sawhill in 2009: “Those who finish high school, work full time, and marry before having children are virtually guaranteed a place in the middle class. Only about 2 percent of this group ends up in poverty. Conversely, about three-fourths of those who have done none of these three things are poor in any given year.”

And on the path to high school graduation, being able to read proficiently by the end of third grade is an essential milestone. As the National Research Council stated in 1998, “Academic success, as defined by high school graduation, can be predicted with reasonable accuracy by knowing someone’s reading skill at the end of third grade. A person who is not at least a modestly skilled reader by that time is quite unlikely to graduate from high school.”

The make-or-break nature of those findings was on my mind when I was asked to write Early Warning! Why Reading by the End of Third Grade Matters, the KIDS COUNT special report that launched the Campaign for Grade-Level Reading in 2010. Using a broad research base, Early Warning drew a link between reading proficiency by the end of third grade, academic success later in school, on-time high school graduation and chances of economic success later in life — including ability to break the cycle of intergenerational poverty.

Early Warning highlighted findings that underscored the pivotal nature of third-grade reading proficiency: Up to half of the printed fourth-grade curriculum is incomprehensible to students who read below that grade level, and almost three-quarters (73 percent) of children who are poor readers in third grade remain so in high school. It then explored some major factors that help determine whether children can read proficiently by the end third grade, including:

**School Readiness**

Children who are ready to learn (cognitively, socially, emotionally and physically) by the time they enter kindergarten have a better chance of learning to read at grade level. However, low-income children have a higher incidence of health problems that interfere with learning and often lack early interactions that foster linguistic development, including verbal interactions with their parents, being read to and access to books in their home, compared with children from middle-income families. These children may not develop the social and emotional skills needed to function in a structured environment like school before they reach school age. In fact, “by the time children from low-income families enter kindergarten they are typically 12–14 months below national norms in language and pre-reading skills.”
Once enrolled in school, children need to be present regularly in order to learn. In 2008, Hedy Chang and Mariajose Romero reported that 1 in 10 students are at risk academically because of chronic early absence from school. For poor children, chronic absence predicts the lowest levels of educational achievement at the end of fifth grade, and by ninth grade missing 20 percent of school could predict school drop out better than eighth-grade test scores. \(^9\)

Children need high-quality learning opportunities, beginning at birth and continuing in and out of school, so they can sustain gains and not lose ground. But although children of all socioeconomic groups make similar amounts of progress academically during the school year, low-income children fall behind during the summer by as much as two months of reading achievement while their middle-income peers continue to move ahead. \(^10\) Moreover, summer learning loss increases over the years; one study found that by the end of fifth grade, low-income students read at a level almost three grades behind that of middle-income students. \(^11\)

As the Campaign for Grade-Level Reading moved forward, school readiness, attendance and summer learning would become key components of participating communities’ solutions.

*During the three years after the GLR Campaign’s launch, new research reinforced Early Warning’s premise* and heightened the sense of urgency around third-grade reading proficiency. In 2013, I summarized the new findings in *Early Warning Confirmed: A Research Update on Third-Grade Reading*, looking especially at knowledge reaching down the developmental spectrum to the earliest year of childhood, broadening our awareness of the precursors of reading achievement and deepening our understanding of the degree to which early factors are associated with later success or failure.

*Early Warning Confirmed* underscored again the connection between third-grade reading proficiency and high school graduation, with new research by Donald Hernandez finding that children who do not read proficiently by the end of third grade are four times more likely to leave school without a diploma than proficient readers — six times more likely if they also are poor. \(^12\) New research also quantified the “income achievement gap,” with Sean Reardon finding that the reading achievement gap between children of families from the lowest and highest socioeconomic groups was the equivalent of three to six years of learning at kindergarten entry, \(^13,14\) and that the
achievement gap between children, like the economic gap between their families, had grown over time.\textsuperscript{15}

Research published between 2010 and 2013 showed that the three topics the GLR Campaign selected as “community solutions areas” — school readiness, attendance, and summer learning — continue to be vitally important, especially for children in low-income families. For example:

• Entering school ready to learn can improve a person’s chances of reaching middle-class status by age 40 by about 8 percentage points,\textsuperscript{16} yet fewer than half (48 percent) of poor children are ready for school at age 5, compared with 75 percent of children from families with moderate and high income.\textsuperscript{17}

• Nationally, 5 million to 7.5 million students miss at least 10 percent of their school days every year.\textsuperscript{18} Chronic absence in kindergarten and first grade may erase many benefits of entering kindergarten ready for school;\textsuperscript{19} and beginning in eighth grade, the odds of dropping out approximately double for each year that a student is chronically absent.\textsuperscript{20}

• Students who regularly attend high-quality summer programs do better in school than peers who do not, and the positive effects last for at least two years.\textsuperscript{21}

\textit{Today, six years after Early Warning’s publication, the evidence is stronger than ever} as research continues to examine connections between poverty, early childhood learning and development, third-grade reading proficiency and high school graduation. Nothing in the ever-growing research base has done anything but strengthen the GLR Campaign’s assumptions that school readiness, school attendance and summer learning are contributors to closing the achievement gap — and are amenable to intervention. And early practice-based data from communities in the GLR Network offer another source of evidence supporting these assumptions: Communities that are reporting measurable progress in outcomes for low-income students on school readiness, attendance and summer learning also are reporting measurable progress on third-grade reading proficiency.

During the past three years several lines of research have expanded in intriguing ways. One is neuroscience: New studies show that reading has a biological effect on brain development, with children who are read to more frequently at home having greater activity in the parts of the brain involved with mental imagery and narrative comprehension — regions essential for later literacy — than children who have low reading exposure.\textsuperscript{22}
Researchers are learning more about how and when reading-related brain developments occur. Researchers at the University of California-San Francisco who tracked children from pre-K to third grade found that the development of white matter during the period when a child starts school and learns to read for the first time predicts how well the child ends up reading — even more reliably than factors such as genetic predisposition, cognitive abilities and home environment. The change in volume of white matter during this period is more important than the amount of white matter in the brain at kindergarten entry, suggesting both that appropriate stimulation during that time may help more children learn to read — and that children who don't receive appropriate support during that period may have a harder time learning to read.

Other brain research, meanwhile, provides graphic illustration of how poverty undermines reading proficiency: Children in poor families have less gray matter in areas of the brain associated with school readiness skills and less surface area in the brain regions involved with language and executive functions, compared with children in higher-income families.

A second line of recent research is helping to make an even stronger case for early intervention. Greg Duncan and Aaron Sojourner have found that intensive early education emphasizing language, social, emotional and cognitive development may eliminate income-based cognitive and achievement gaps by ages 5 and 8. Other researchers found that when caregivers learned and used home-based child development activities they were able to help low-income children who were cognitively behind at age 1 catch up to children from higher-income families by age 3, while children who did not receive the early intervention remained behind.

There are too many other new research findings to mention here, with more emerging every month from the fields of education, health, child development, psychology, neurobiology and family support, among others. Here at the GLR Campaign's midpoint, however, we feel confident that the research not only continues to support our assumptions, it is affirmed on a daily basis by people in communities who devote their time, talent, dollars and sweat equity to closing the achievement gap.
**EARLY WARNING ENDED WITH THIS CALL TO ACTION**

Now comes the time to turn argument to action. America’s major education reforms of the past two decades have been both ambitious and, for the most part, bipartisan…. Today these promises remain unrepaid — and mostly unkept. As a nation, we still owe our children a fair opportunity to graduate from high school “ready for college, ready for a career, ready for life.” Similarly, we owe the nation’s workforce, employers, colleges and universities, and armed forces a larger pool of high school graduates prepared to take up the responsibilities of citizenship and adulthood. The alternative future is one with an enormous loss in individual potential and an unacceptable erosion of our nation’s competitiveness and readiness. That is why we conclude this essay with a challenge to the nation’s educators and public officials — federal, state and local alike: Keep the promises already made.

Next year, when I prepare the next iteration of *Early Warning*, I look forward not only to reviewing the wealth of research that informs this work but also to capturing some of the progress that Grade-Level Reading Network communities have made in keeping those promises.

*Leila Fiester*

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Endnotes


