LEADING INDICATOR SPOTLIGHT

Early Reading Proficiency

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A Companion Series to
Beyond Test Scores: *Leading Indicators for Education*

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About the Leading Indicator Spotlight series of research briefs

Improving student outcomes and closing achievement gaps takes time – more time than is often allowed in typical big-city political environments. Education leaders and community members need a way to monitor how much – if any – progress is being made in their schools and school systems *before* the results show up in indicators like student test scores, when it is often too late to intervene effectively.

Leading indicators that signal early progress toward academic achievement allow education leaders, especially at the district central office level, to make decisions about supporting student learning that are less reactive and more strategic. The concept of leading indicators builds on existing efforts by school districts to use data to inform systemwide decision making.

The report *Beyond Test Scores: Leading Indicators for Education*, published by the Annenberg Institute in 2008, looks at four school districts that are in the vanguard of data-informed decision making. The report examines how these districts – Hamilton County (Chattanooga, Tennessee), Montgomery County (Maryland), Naperville (Illinois), and Philadelphia (Pennsylvania) – are developing and using leading indicators for education.

The Leading Indicator Spotlight series of research briefs is designed to accompany *Beyond Test Scores*. Each brief examines in detail one leading indicator identified in the study and answers the questions:

- Why is this indicator useful for monitoring academic achievement?
- How do school districts measure this indicator?
- How can districts act on this indicator for intervention and reform?

About the Author

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Introduction

In *Beyond Test Scores: Leading Indicators for Education*, Foley and colleagues (2008) define leading indicators as those that "provide early signals of progress toward academic achievement" (p. 1) and stress that educators "need leading indicators to help them see the direction their efforts are going in and to take corrective action as soon as possible" (p. 3). The authors identify early reading proficiency as one leading indicator that is commonly used by school districts. This brief in the Leading Indicator Spotlight series will discuss why this indicator is useful, how this indicator is measured by school districts, and how districts can put data about this indicator into action for intervention and reform.

Why use early reading proficiency as a leading indicator?

> Learning to read and write opens doors to progress and prosperity across a lifetime.
>
> *– National Institute for Literacy, 2009*

The significance of early grades

Throughout the K–12 school experience, children continue to build upon prior knowledge to develop grade-level academic skills and knowledge. However, students who fall behind in the early grades have a harder time catching up, making it particularly important to identify struggling students early. Reading improvement changes most dramatically in the early years and slower in later years. In other words, there is greater potential for learning reading skills in the early grades. With each additional year, gains in reading are smaller and smaller (Francis et al. 1996).

The potential for rapid learning in the early grades comes as no surprise to scholars of cognitive development. "All cultures that provide formal schooling for their children begin it between ages five and seven" (Eccles 1999, p. 32). This is also the time (age six to eight), that many children around the world begin working (Heckt 1999) and that children develop the ability to cooperate and to coordinate points of view with others (Rogoff 1990).

By third grade, students are expected to know the fundamentals of reading and be able to apply their reading skills across the curriculum. Students are not being taught how to read anymore in third grade. Instead, teachers use written text to teach other material, such as science, history, math, or literature. This shift from "learning to read" to "reading to learn" is extremely difficult for children who have not mastered basic reading skills. As they get older, struggling readers find themselves with less and less access to texts that are getting more and more complicated.

First-grade reading scores are fairly reliable predictors of future reading scores (Juel 1988). This means that readers scoring at the 80th percentile in first grade will probably score near the same percentile in fourth grade. One study found that retention in first grade is correlated more powerfully with reading skills than with IQ (Wilson & Hughes 2009). This signifies that many students are being held back not for their intelligence level, but for their reading skills.

Reading skills in third grade are highly predictive of future academic performance. One study found that 74 percent of third-graders who read poorly are still struggling in ninth grade (Fletcher & Lyon 1998), and another found

that high school graduation can be reasonably predicted by knowing third-grade reading scores.[1]

> A person who is not at least a modestly skilled reader by the end of third grade is quite unlikely to graduate from high school. Only a generation ago, this did not matter so much, because the long-term economic effects of not becoming a good reader and not graduating from high school were less severe. (Snow, Burns & Griffin 1998, p. 21)

Early reading skills, therefore, affect not only graduation rates, but also economic prospects for students and communities.

Literacy in the twenty-first century

> The ability to read and write is fundamental to full participation in American society. Our nation of farmers and mechanics has been transformed into one in which economic, civic, and social success depend on educational attainment for all, particularly in literacy.
>
> *– National Institute for Literacy, 2009*

Literacy has emerged as key to success in twenty-first-century America. People with higher literacy skills have higher salaries, higher employment rates, higher civic participation rates, lower public assistance rates, and lower crime rates than people with lower literacy skills (National Institute for Literacy 2009; Kutner et al. 2007). A generation ago, literacy skills, a high school diploma, and a college degree weren't as important, as our economy was built on agriculture and manufacturing. However, we are now living in a knowledge-based, globally competitive economy. This new economy demands higher literacy skills, creates a greater portion of jobs that require advanced learning, and depends on individuals to manage their daily lives using highly sophisticated systems.

A study about the economics of education concluded,

> Most employers today cannot compete successfully without a workforce that has solid academic skills. . . . Employers need workers who have mastered reading processes that allow them to locate information and use higher-level thinking strategies to solve problems. (Carnevale & Desrochers 2003, p. 40)

In the book *Preventing Reading Difficulties in Young Children*, Snow, Burns, and Griffen (1998) describe our changing society through the lens of literacy demands. The authors suggest that there is a rising demand for literacy accompanying the development of technology and an increasingly competitive, increasingly global, knowledge-based economy. Moreover, they remind us that unless we address the literacy gap among children, the economic gap between social classes will only increase.

Enjoyment and self-esteem

While children in elementary school recognize reading as important, their success hinges upon their enjoyment of reading, motivation to read, and confidence in their own aptitude. Unfortunately, competence beliefs tend to decrease between first and fourth grade as children become more aware of themselves and compare themselves to their peers (Wigfield et al. 1997).

In a longitudinal study of literacy development in first through fourth grade, Juel (1988) found that poor readers reported that they do not read often outside school because they don't enjoy reading and would rather do other things.

> When asked whether they would rather clean their room or read, only 5 percent of the good readers said they would clean, whereas 40 percent of the poor readers preferred to clean – one child stated, "I'd rather clean the mold around the bathtub than read." (p. 139)

[1] For reviews, see Slavin et al. 1994.

Therefore, children who are reading at grade level or who see themselves as skilled readers are more likely to spend their time reading, which reinforces and improves reading skills.

Furthermore, achievement, interest, and competence beliefs in reading are highly correlated for third-graders. Children's competencies affect interest in material as well as competency beliefs as early as third grade (Rathbun, West & Husken 2004). The students who enjoy reading the most and have confidence in their reading abilities are also the students who score the best on reading tests. This suggests that struggling readers in early grades might avoid reading due to lack of engagement and lack of confidence. With less reading practice and less interest in reading, low-performing readers fall further behind their classmates each year, leading to lower graduation and college-going rates.

How can early reading proficiency be measured?

This indicator is measured using a variety of early reading proficiency assessments. Together, these assessments measure:

- Reading comprehension
- Language comprehension
- Background knowledge
- Linguistic knowledge
- Phonology
- Syntax
- Semantics
- Decoding
- Cipher knowledge
- Lexical knowledge
- Phoneme awareness
- Alphabetic principle
- Letter knowledge
- Concepts about print

The Reading Assessment Database, published by SEDL in 2006, provides an interactive summary chart of early reading proficiency assessments (Wren & Litke 2006).[2]

Typically, statewide standardized testing begins in third grade because it is challenging to accurately and thoroughly test younger children. Very young children have short attention spans, typically express their knowledge through interactive ways rather than through paper and pencil activities, develop cognitively in uneven and episodic ways, and are highly influenced by environmental factors (Guddemi & Case 2004). Therefore, testing needs to be administered carefully, frequently, and in short amounts of time.

New products have been released since 2006 that allow teachers to record assessment data electronically during test administration. One urban district is using a handheld device from which data can be uploaded to the server for immediate feedback, sharing, and interactive analysis.[3]

Intervention and reform: How can districts put data into action?

One district in California utilized student monitoring, lowered class sizes, and explicit instruction to improve first-grade reading scores (Menzies, Mahdavi & Lewis 2008). A midsized district in Oregon achieved success by using a

> systematic integration of effective practices, including capacity building professional development, schoolwide positive behavior support, early literacy, early intervention, and special education evaluation and identification using student responsiveness to intervention. (Sadler & Sugai 2009, p. 35)

2 See interactive chart at <www.sedl.org/reading/rad/chart.html>.

3 Boston Public Schools has selected Wireless Generation mCLASS: Reading 3D for use in kindergarten through second grade.

Districts that gain self-awareness through data analysis can take the appropriate steps towards reform. The topics described in this section have been put forth in the field as levers for change.

Teacher quality and professional development

Low early reading scores are often addressed by improvements to human capital. Despite gaps in school readiness, strong teaching practices can significantly improve students' academic skills. Economist Eric Hanushek said, "The difference between a good and a bad teacher can be a full level of achievement in a single school year" (Haycock 1998, p. 5). In Tennessee, researchers found that fifth-grade students are still affected by the quality of their third-grade teacher (Sanders & Horn 1998). A Texas study found that students assigned to highly effective teachers three years in a row scored more than two standard deviations higher than students assigned to three lower-performing teachers in a row (Ferguson 1997).

During the 1990s, school districts in the El Paso area in Texas that invested heavily in improving teaching quality were able to increase scores of all subgroups and significantly narrow the achievement gap between White and minority students (Haycock 1998). Teachers have the crucial role of implementing all new initiatives in the classroom, creating a supportive learning environment, and directly educating children. Elementary school teachers who understand how different children learn to read, can teach varied strategies for developing reading skills, and can build confidence in students as readers will be able to influence the success of the district down the road.

Birth to five: Early childhood education and family engagement

Children enter kindergarten with varying levels of literacy. Districts with lagging early reading proficiency scores might consider outreach and programming for young children. Between birth and age five, the cognitive development of the child is shaped by early experiences within the family and in early childhood education settings.

Language skills upon entering kindergarten are the basis for reading development in the following grades. Children entering kindergarten with "oral language proficiency and early abilities in processing print do better in learning to read in first, second, and third grades" (Scarborough 2001, cited in National Institute for Literacy 2008, p. xiv). According to Denton and West (2002),

> Children who recognize their letters, who are read to at least three times a week, who recognize their basic numbers and shapes, and who demonstrate an understanding of the mathematical concept of relative size as they enter kindergarten demonstrate significantly higher overall reading and mathematics knowledge and skills (in terms of an overall scale score) in the spring of kindergarten and the spring of first grade than children who do not have these resources. (p. x)

These skills can be developed both in the home and in early childhood education programs.

> Early childhood programs can produce large short-term benefits for children on intelligence quotient (IQ) and sizable long-term effects on school achievement, grade retention, placement in special education, and social adjustment. (Barnett 1995, p. 25)

While early childhood programs have the potential to decrease the school readiness gap and improve long-term outcomes for a school

district, programs for low-income families have long waiting lists and vary in quality (Magnuson & Waldfogel 2005).

Parents with higher literacy skills are more likely to read to their children several times a week and are more involved in their children's schooling (Kutner et al. 2007). Therefore, children of parents with lower literacy skills are more likely to enter kindergarten with fewer language abilities. While engaging families in the district, school districts can encourage parents to read to their young children and offer literacy classes to adults. A district's outreach to parents of young children can have significant benefits later on as the children enter school.

Curriculum and instruction

While reading percentiles are generally stable for students across grades, there is evidence that reading skills can be improved by excellent and relevant curriculum and instruction programs. In Florida, an evaluation of the Reading First program found that the program had a tremendous impact on first grade students (Conner et al. 2009). Slavin and colleagues (1994) review a series of successful programs that improve early reading competence. However, no single curriculum or pedagogy will work for all children. The district can support teachers in delivering the curriculum by suggesting adaptations for different learners.

Analyzing early reading proficiency data can help districts understand if there are particular reading skills that are weak at the district or school levels. These data can also help districts learn if certain populations are struggling with particular reading skills. For example, English learners might need extra support with vocabulary; students with special needs might need extra support with decoding. In learning about district-, school-, teacher-, or student-level deficits, appropriate modifications can be made to curriculum and instruction.

Assessment and early intervention

Assessment is essential to determine how districts are succeeding with early reading and to help students and teachers understand their own strengths and weaknesses. Identifying and addressing students' academic challenges early saves students years of struggle and isolation. Early reading proficiency scores can identify which students are right for early intervention programs, rather than relying on teacher referral alone. Snow, Burns, and Griffen (1998) found that when children's reading problems are diagnosed and addressed early, their reading achievement improves.

Districts can use different assessment methods to collect various relevant kinds of information and use historical trends to set future goals. Teachers are also continually assessing their students to understand how easy or challenging the work is, how comfortable or anxious students are, and how each child learns. Every day, teachers collect valuable information that can be channeled to improve instruction. Allowing teachers time to document and share this student-centered information with team members would help districts provide appropriate student-level support.

Out-of-school time and community partnerships

Early reading proficiency scores are determined not just by school practices, but also by what happens outside of school. In a 2005 longitudinal study, Schacter and Jo found that "during the summer vacation children who are economically disadvantaged experience declines in reading achievement, while middle- and high-income children improve" (p. 158). The authors found that high-interest activities involving reading for young children after school and over the summer can prevent reading loss and sometimes even result in reading gains.

These programs are often offered by community organizations, libraries, and summer camps. Strong partnerships between school districts and out-of-school-time programs can ensure collaboration in reaching district goals and program development in areas of need. Districts can also reach out to families to encourage reading in the home, access to reading materials, library visits, and enrollment in out-of-school-time programs that align with district goals.

Looking to the future

These recommendations are drawn from nationwide data and a patchwork of excellent studies and meta-analyses. However, there aren't enough case studies of districtwide reading reform that demonstrate a thorough system of evaluation, thoughtful reform efforts, and demonstrated success, which would help identify patterns of successful data-driven reform. Most case studies are driven by the promotion of particular products or services, and most quantitative studies contain data on just a small slice of reading reform. The field would greatly benefit from additional case studies of districts that have demonstrated positive outcomes as a result of changes to policy and practice that go beyond the adoption of a particular program.

Early reading proficiency can serve as a useful leading indicator for academic success in the later grades. Districts that can effectively evaluate early reading proficiency as a leading indicator will be taking an important step toward large-scale reform through data-driven decision making.

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