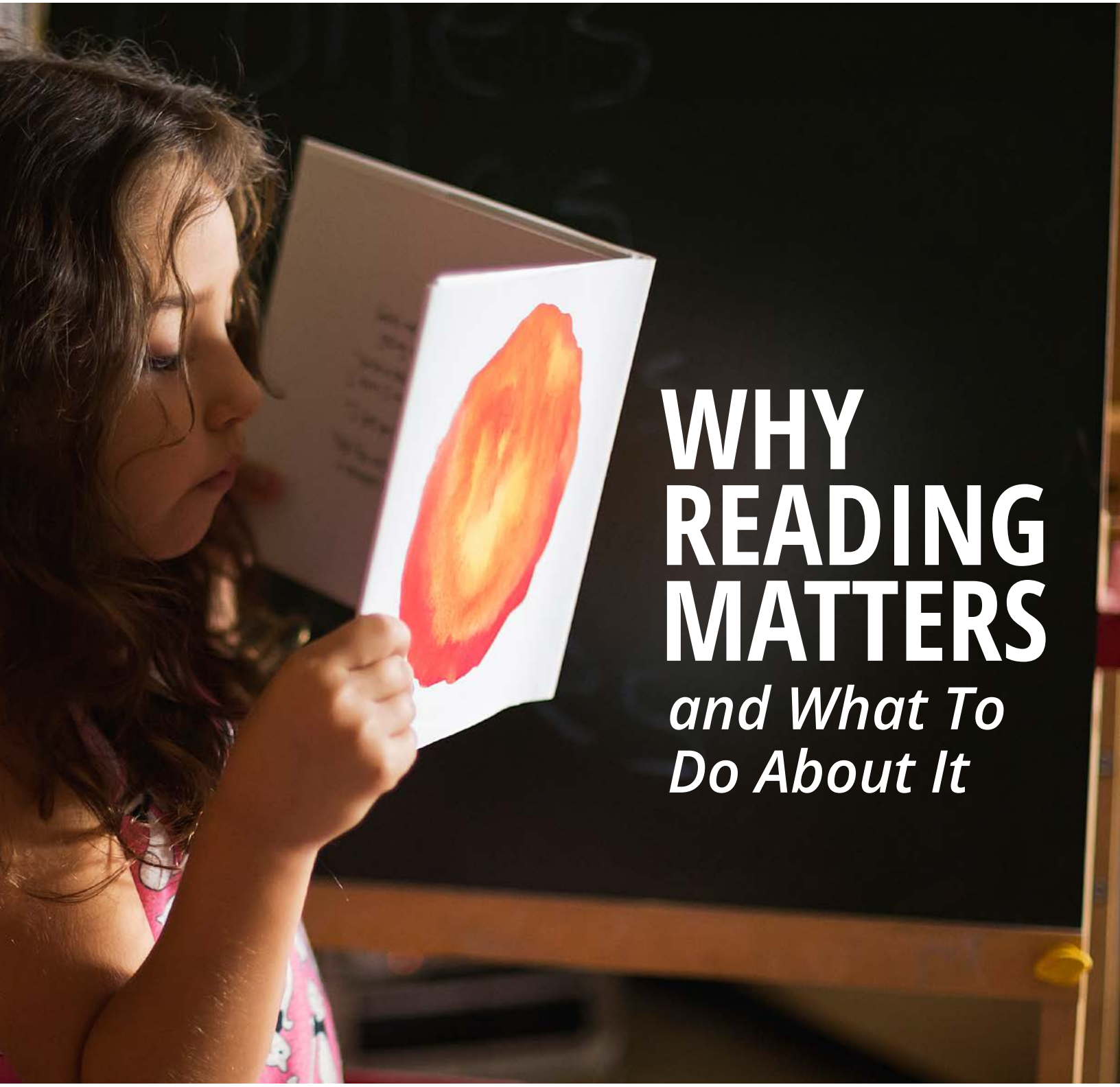
Business Roundtable℠

More Than Leaders. Leadership.



WHY READING MATTERS *and What To Do About It*

A CEO ACTION PLAN

To Support Improved U.S. Literacy Rates

DECEMBER 2016

More Than Leaders. Leadership.

Business Roundtable is an association of chief executive officers of leading U.S. companies working to promote sound public policy and a thriving U.S. economy.

Business Roundtable CEO members lead U.S. companies with $7 trillion in annual revenues and nearly 16 million employees. Business Roundtable member companies comprise nearly one-fifth of the total market capitalization of U.S. stock markets and invest $129 billion annually in research and development — equal to 70 percent of U.S. private R&D spending. Our companies pay more than $222 billion in dividends to shareholders and generate more than $495 billion in sales for small and medium-sized businesses annually. Business Roundtable companies give more than $8 billion a year in combined charitable contributions.

Established in 1972, Business Roundtable applies the expertise and experience of its CEO members to the major issues facing the nation. Through research and advocacy, Business Roundtable promotes policies to improve U.S. competitiveness, strengthen the economy and spur job creation.

Please visit us at www.brt.org, check us out on Facebook and LinkedIn, and follow us on Twitter.

WHY READING MATTERS

and What To Do About It

A CEO Action Plan
To Support Improved
U.S. Literacy Rates

Business Roundtable | December 2016

Contents

Executive Summary

Close the Skills Gap by Improving Early Reading

U.S. companies are experiencing a very real "skills gap" — one that will become even more acute as the economy continues to grow, strengthen and add jobs over the next 15 years. More than 90 percent of Business Roundtable CEOs report that current skills shortages present a problem for their company or industry, and they predict greater demand for more highly educated workers over the next decade. Economists agree, predicting a shortfall of 5 million workers with postsecondary education and training by 2020 if current trends continue.

A focus on improving third grade reading proficiency offers a uniquely powerful lever to address many aspects of the skills gap over the long term. Students who develop strong reading skills at an early age are much more likely to graduate from high school and seek postsecondary education and training. In addition, research consistently shows that reading itself is one of the most commonly and intensively used skills among all types of jobs across the entire U.S. economy, including jobs that require no education or training beyond high school. In fact, the economic returns from reading proficiently are higher in the United States than in nearly every other developed country.

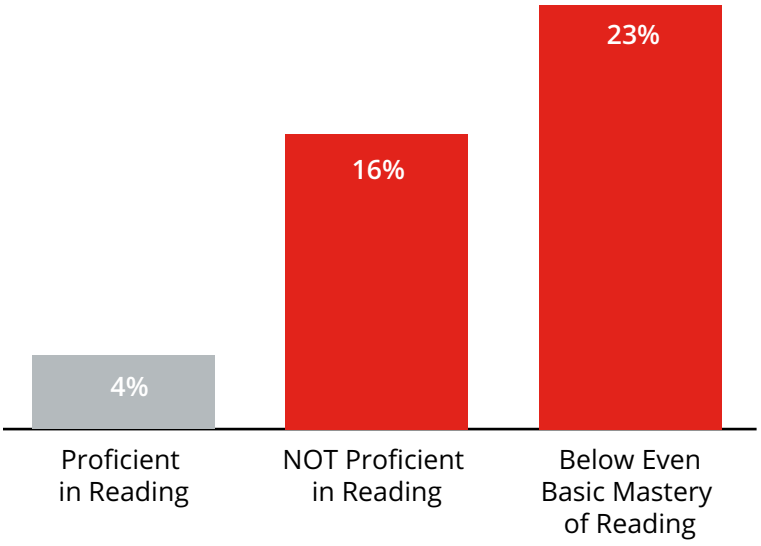
Moreover, reading bolsters other skills that are in high demand. For example, students need especially strong reading skills to acquire knowledge in the fields of science, technology, engineering and math (STEM), and workers in STEM jobs must have advanced literacy skills to read and communicate about scientific and technical topics. Reading also plays a key role in the development of so-called "soft skills," such as critical analysis and effective communications.

Despite the overwhelming evidence that reading skills are foundational to success in work and life, only about one in three American students demonstrates reading proficiency on national assessments of educational progress in fourth and eighth grade. The numbers are even more troubling for low-income students and students of color. Only about one in five black, Hispanic and lower-income students demonstrates reading proficiency by fourth grade.

Students who cannot read proficiently by the end of third grade very rarely catch up in later grades. They face mounting negative consequences as they grow older. For example, third graders who are not proficient in reading are four times more likely to leave school without a diploma than those with proficient reading skills. Those with the worst reading skills — third graders who have not mastered even a basic level of reading — are nearly six times as likely to drop out.

Third Grade Reading Predicts High School Drop Out

Percentage of Third Graders Not Graduating High School by Age 19, by Third Grade Reading Proficiency



Source: Donald J. Hernandez, "Double Jeopardy: How Third Grade Reading Skills and Poverty Influence High School Graduation," Annie E. Casey Foundation, 2014. "Below even basic mastery" is a subset of "not proficient."

The United States has made some progress in improving reading, but the gains are too small and the pace too slow. At the current rate of progress, it will take nearly 30 years before *even half* of American fourth graders read at a proficient level. Meanwhile, reading scores for American 15-year-olds have remained flat on international assessments, while many other countries have improved, pulling further ahead or catching up with the United States in providing a critical source of educational capital that fuels long-term economic growth.

Six State Policy Steps To Ensure Reading Proficiency by Third Grade

To address this critical problem and make sure all students develop the kind of reading proficiency necessary in today's economy, state leaders should consider a six-step policy agenda to create an aligned, coherent system of effective literacy instruction and support for their youngest students. That system should begin with publicly funded prekindergarten (pre-K) programs — which primarily serve 4-year-olds but sometimes include 3-year-olds — and extend through third grade. The focus should be on ensuring that children have strong early literacy skills as they enter kindergarten, then systematically building on that foundation to help all students achieve reading proficiency by the end of third grade.

Each state is in a different place in implementing policies to address reading and literacy, and each state's unique context will dictate the specific nature and timing of additional policy steps. Business Roundtable offers this policy blueprint in the hopes that it can inform important ongoing policy conversations at the state level.

1. **Expand Access to High-Quality Pre-K Learning Opportunities.** An extensive body of rigorous research demonstrates that high-quality, publicly funded pre-K programs — delivered at scale to thousands of children — can significantly improve student readiness for kindergarten and success in school. Moreover, states and cities around the country have demonstrated it is possible to provide effective public pre-K programs at sustainable costs that offer significant short-term and long-term returns on investment.

2. **Offer High-Quality Full-Day Kindergarten that Ensures a Successful Transition to Elementary School.** Research shows that students who participate in high-quality full-day kindergarten will experience substantial literacy gains. The benefits students get from high-quality pre-K programs will continue in their early elementary grades when their K–3 classrooms offer effective curriculum and instruction that intentionally build on learning gains from high-quality full-day pre-K and kindergarten programs.

3. **Use Student Assessments and Data Systems To Track Student Progress.** Regularly assessing student progress enables pre-K and K–3 teachers to identify reading problems early enough to intervene effectively, plan and adjust their teaching according to how well the class is responding to reading instruction, and inform parents about how children are progressing. Including assessment results in secure data systems can provide parents and other stakeholders with reports on how students are meeting reading expectations over time and how to improve the state's policies and programs.

4. **Equip Educators in Pre-K–Grade 3 To Help Students Become Strong Readers.** Teachers in pre-K through third grade must be equipped with a firm understanding of how young students develop literacy skills, along with proven strategies to ensure reading proficiency and engage families as partners. Principals also need expertise in the same areas to lead schoolwide efforts to ensure reading proficiency by the end of third grade.

5. **Require Systematic Interventions for Struggling Readers in Grades K–3.** Even in classrooms in which students benefit from a strong curriculum and skilled teaching, some students will need more intensive instruction to keep up with grade-level expectations for reading. States should consider implementing policies that require school districts to provide interventions and supports when students fall behind in reading and to notify and involve parents at the earliest opportunity.

6. **Coordinate Governance of Pre-K and Grades K–3 To Promote Efficiency and Maximize Impact.** Improving educational opportunities for young readers cannot happen without strong state-level leadership, administration and oversight — in other words, effective and accountable governance of programs and services that support early literacy development and reading.

How CEOs Can Play a Powerful Role

- **Commit Your Company.** Put your name and the name of your company behind the effort to implement statewide policies and programs focused on increasing literacy and reading from pre-K through third grade.

- **Enlist Other Business Leaders.** Reach out to other CEOs and business leaders in your state to gauge interest and enlist partners, using this report to make the case for action.

- **Support Advocacy.** Connect with existing advocacy groups in your state that have the infrastructure to conduct intensive and ongoing work in support of the pre-K through third grade reading agenda. Consider providing financial support to influential state organizations or coalitions that make it a priority.

- **Lend Your Voice.** Advocacy organizations and coalitions can provide assistance in drafting editorials and letters in support of the pre-K through third grade reading agenda. With your name on it, even one well-placed opinion piece or letter can make a significant difference.

- **Encourage Employee Involvement.** Provide employees with incentives and opportunities to become directly involved — for example by matching funds when employees donate to help schools obtain literacy materials or by offering employees paid time to volunteer in pre-K programs or elementary school classrooms.

- **Leverage Philanthropic Investments.** Strategic philanthropic investments can bring some of the recommendations in this report to scale, with a focus on programs and practices with a strong evidence base in sound research.

- **Offer Expertise.** Make technical expertise available to states and other organizations implementing some of the strategies described above, such as efforts to build data systems that can track and report on students' progress in reading.

- **Participate in Leadership.** Some states convene public-private governance or advisory groups to help steer decisionmaking for pre-K through third grade programs and policies. CEOs can lend valuable leadership expertise and experience by participating in such structures, and they can work through them to ensure that states maintain a strong focus on literacy and reading proficiency.

- **Make the Business Case to Policymakers.** CEOs who meet personally with state policymakers can communicate the business case for this agenda and hand copies of this report directly to elected officials and their staff members.

I. The Problem

U.S. Companies Are Experiencing a Very Real "Skills Gap"

With the American economy continuing its recovery from the worst recession in more than 50 years, companies are deep into dealing with another challenge: Finding qualified candidates to fill job openings. Unfortunately, U.S. companies continue to confront — and anticipate — serious skills shortages.

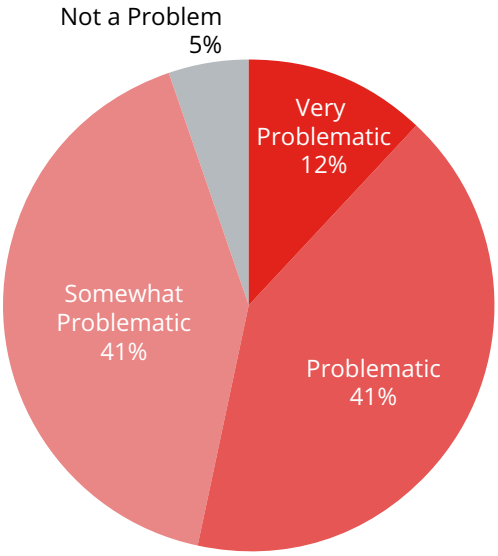
In a 2016 survey by Business Roundtable, nearly all CEOs reported that the skills gap is at least somewhat problematic for their companies.[1] When asked to project hiring needs over the next 10 years, CEOs who found the challenge a problem were five times more likely to anticipate increasing demand for workers with a bachelor's degree or higher than workers with a high school diploma or less.[2]

Expert projections confirm CEO concerns. According to the Georgetown University Center for Education and the Workforce, by 2020, total employment is expected to increase by almost 24 million to 165 million workers.[3] By that time, 65 percent of all jobs in the economy will require postsecondary education and training beyond high school.[4] If current educational trends continue, U.S. employers can expect a shortfall of 5 million workers with postsecondary education or training by 2020.[5]

The recent economic recession and recovery have only accelerated the demand for more highly educated workers. Consider:

- Of the 7.2 million jobs **lost in the recession,** 5.6 million (77 percent) had been held by workers who had a high school diploma or less.[6]
- Of the 11.6 million jobs **added during the recovery** over the past six years, 11.5 million (99 percent) have gone to workers who had at least some education or training beyond high school.[7]
- In contrast, only 80,000 of the jobs added by the recovery (1 percent) have gone to workers with a high school diploma or less.[8]

CEOs: Skills Shortage Is Problematic for American Companies



BRT Member CEOs: "To what extent do you consider skills shortages to be a significant problem for your company … in the United States?"

Source: Business Roundtable, "BRT 2016 Education and Workforce Survey," September 2016.

The skills gap, however, runs deeper than the actual degrees needed for the jobs of the future. Employers are facing greater shortages in certain high-demand areas, such as the science, technology, engineering and math (STEM) fields.[9] Moreover, they are concerned with a lack of broadly applicable "soft skills," such as critical analysis and communications.[10]

A focus on improving reading proficiency among America's young people can help address many aspects of the skills gap. The next sections show that:

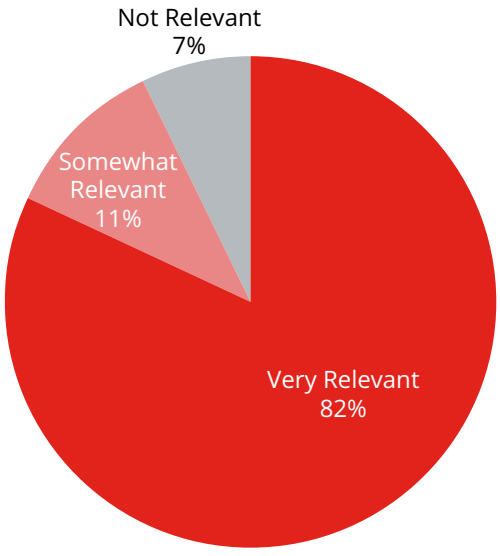
- Students who develop strong reading skills at an early age are much more likely to graduate from high school and seek postsecondary education and training.
- Reading is a key component of "soft skills," such as communications, and it bolsters analytical thinking.
- Students need especially strong reading skills to acquire knowledge in STEM fields, and workers in STEM jobs must have advanced literacy skills to read and communicate about scientific and technical topics.
- Just as important, research consistently shows that *reading itself* is one of the most commonly and intensively used skills among all types of jobs across the entire U.S. economy.

Reading Proficiency Lays an Essential Foundation for a Skilled Future Workforce

Reading is foundational to many jobs in today's economy, and it will be increasingly critical for the jobs that will fuel sustained economic growth. One international study of long-term economic trends among nations found that, along with math and science, "reading performance is strongly and significantly related to economic growth."[11]

U.S. companies fully recognize the need for strong reading and literacy skills. In the 2016 Business Roundtable survey, 93 percent of CEOs rated reading and writing as very or somewhat important for current job openings in their companies, and 42 percent of CEOs reported problems in finding qualified applicants with strong enough skills in those areas.[12]

CEOs: Reading and Writing Are Important for Available Jobs



BRT Member CEOs: "Please indicate relevance [of reading and writing] to current U.S. job openings in your company."

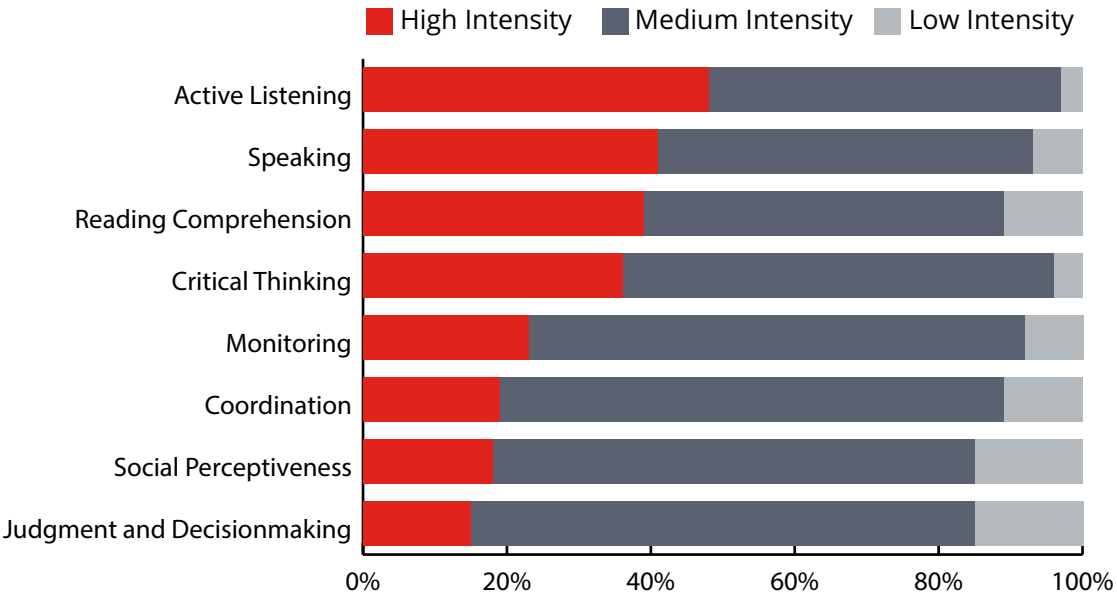
Source: Business Roundtable, "BRT 2016 Education and Workforce Survey," September 2016.

Other research backs up those survey data, consistently demonstrating the particular importance of reading proficiency and literacy skills for the vast majority of jobs across the U.S. economy. According to an analysis by economists at Georgetown University, reading comprehension ranks third in "high-intensity" use of broad skills across all occupations.[13] A 2016 study found that workers had to be able to understand relatively complex reading materials even in occupations that require no formal education beyond high school.[14]

Reading proficiency even plays a critical role in fields such as manufacturing that, in the past, were more associated with physical skills. A 2016 study found that 53 percent of manufacturing firms require advanced reading skills for core production jobs, a higher percentage than require advanced math or computing skills.[15] The same study found that, among manufacturing firms reporting difficulties in hiring, "reading skills are unexpectedly prominent as predictors of long-term [job] vacancies."[16]

Skills Most Highly Valued Throughout the Economy

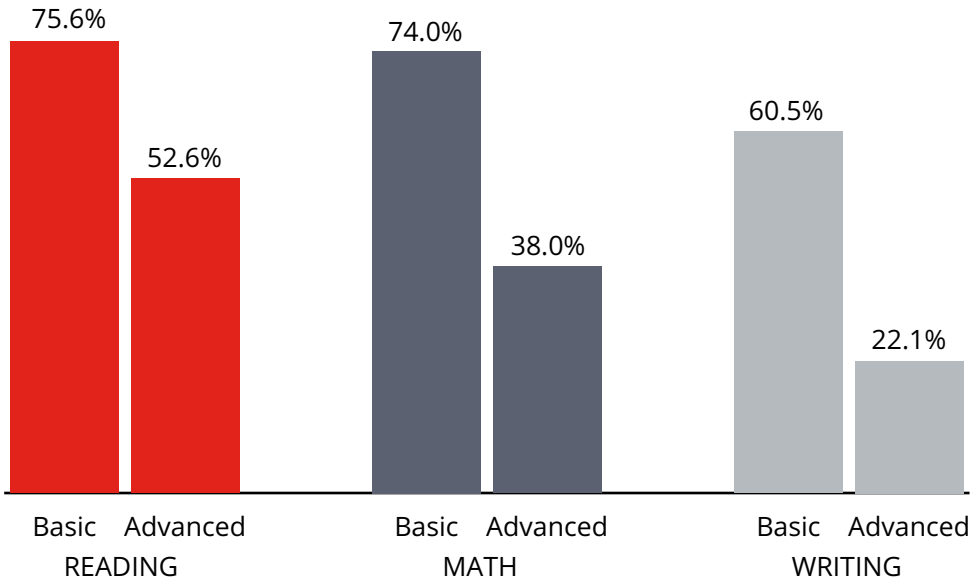
Percentage of Jobs, by Intensity of Skill Use



Source: Anthony P. Carnevale, Nicole Smith and Jeff Strohl, "Recovery: Job Growth and Education Requirements through 2020," Georgetown University Center on Education and the Workforce, June 2013, p. 27, Figure 8.

Many Manufacturing Jobs Demand Strong Reading Skills

Percentage of Manufacturing Firms that Demand Certain Skills for Core Production Jobs



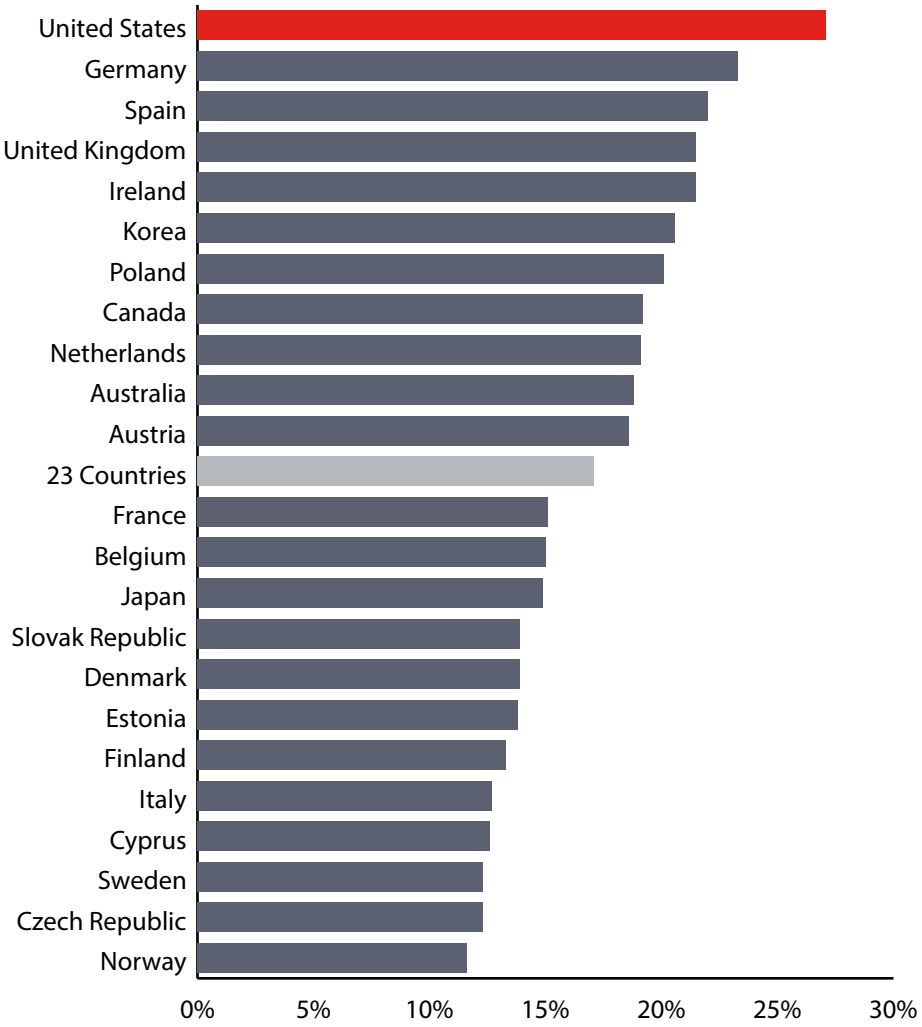
Source: Andrew Weaver and Paul Osterman, "Skill Demands and Mismatch in U.S. Manufacturing," *ILR Review,* July 2016, Table 1.

In fact, reading proficiency seems to play an especially important role in U.S. jobs compared with jobs in many other countries. Out of 22 developed nations participating in a 2012 study, the United States ranked second in the proportion of workers who need to read frequently in their jobs.[17] Researchers also identified a strong link between use of reading on the job and worker productivity.[18]

The benefits go both ways. A 2016 study using the same data found that, in the United States, increasing one's literacy score by about 50 points (out of 500) leads to a 12 percent boost in wages among 16- to 64-year-olds.[19] Those returns are even greater for American workers of "prime age," from 35 to 54 years old, who see a 27 percent boost in wages from a similar increase in literacy, a higher rate of return than in any other country studied.[20]

Wage Returns to Reading Literacy Skills for Workers Ages 35–54

Wage Increase Per One Standard Deviation Increase in Literacy Score (about 50 Points on 500-Point Scale)



Source: Eric A. Hanushek et al., "Returns to Skills Around the World," *European Economic Review,* Volume 73, 2015, Table A.3.

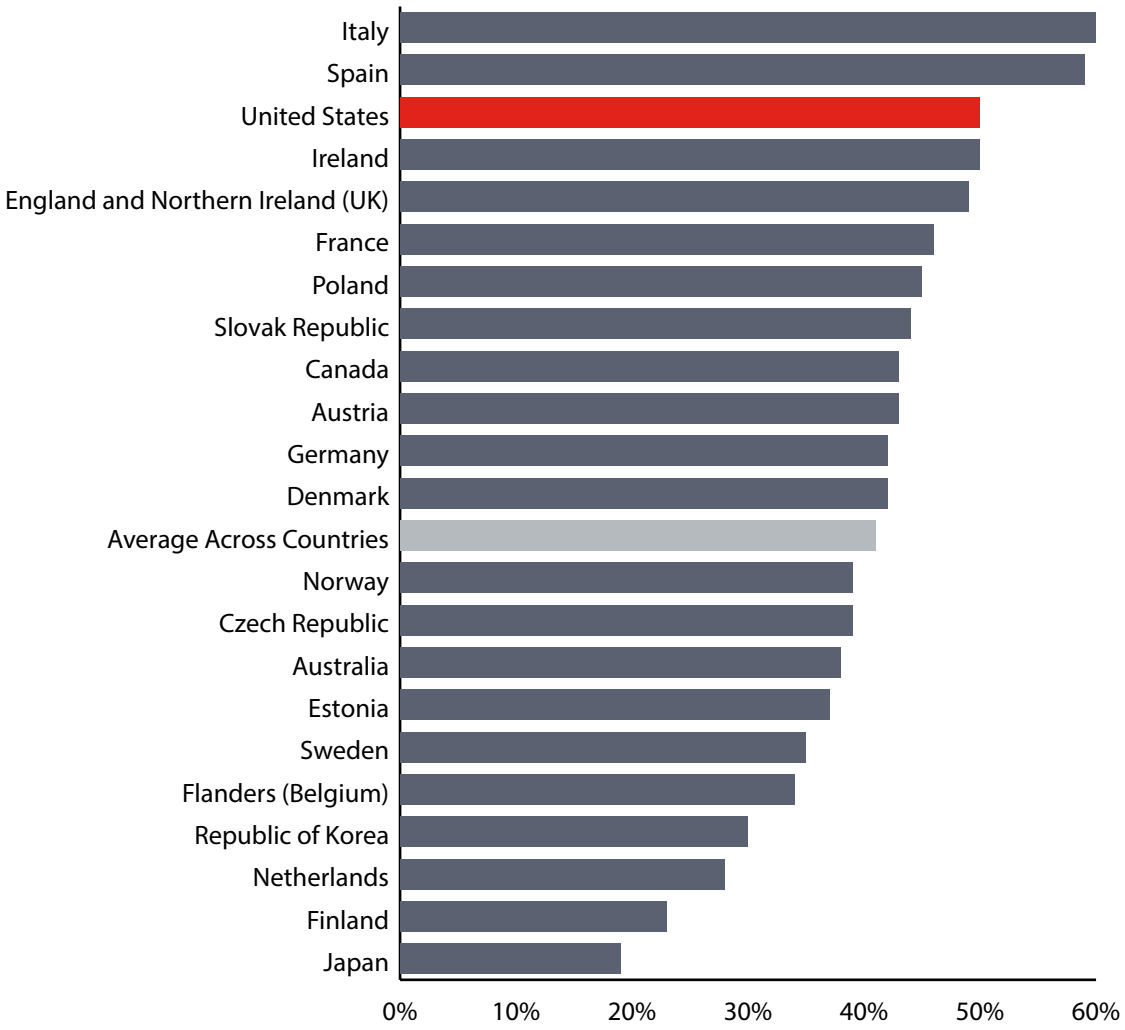
Even beyond its direct importance to on-the-job tasks, reading proficiency is that rare skill that contributes to many other competencies increasingly valued by U.S. companies. Students need strong reading skills to obtain degrees and training to qualify for jobs in STEM fields, and employees need strong reading skills to comprehend technical information once they are in those jobs.[21]

Research also shows that reading proficiency contributes to sought-after "soft skills" in key ways, especially the broad communications skills so central to a growing number of U.S. jobs.[22] One recent study of 1,890 identical twins found that early gains in reading proficiency predict higher intelligence as early as late adolescence. "Children who don't receive enough assistance in learning to read may also be missing out on the important, intelligence-boosting properties of literacy," the researchers concluded.[23]

Yet, despite the particular importance of reading in the U.S. job sector, American adults rank low in actual literacy skills internationally.[24] On a recent assessment of adult skills in 22 developed countries, fully one half of U.S. millennials (adults ages 16–34) failed to demonstrate a proficient level of literacy, a higher failure rate than in all other countries but Italy and Spain. In contrast, less than a quarter of millennials in the highest-performing countries, such as Finland and Japan, failed to demonstrate proficiency in literacy.[25]

Millennials Scoring *Below* a Minimum Standard in Reading Literacy

Percentage of Millennials Scoring Below Level 3 in Literacy



Source: Educational Testing Service, "America's Skills Challenge: Millennials and the Future," 2015. Based on the Organisation for Economic Co-operation and Development's Programme for the International Assessment of Adult Competencies (PIAAC). "Millennials" defined as adults ages 16–34. "Minimum standard" defined as Level 3 on PIAAC.

Unfortunately, U.S. students often leave high school unaware of today's job demands, including the need for high-level literacy skills. In a survey conducted last year, one in three high school graduates who had recently entered the workforce reported experiencing at least some gaps in their ability to read and understand complicated materials on the job.[26]

Employers and institutions of higher education often provide remedial training to address the skills gap. In fact, the proportion of employers reporting that they ask high school graduate employees to get additional education or training to make up skills gaps in reading, writing or math increased from 42 percent in 2004 to 61 percent in 2015.[27] And among first-time college-going students, 28 percent of those entering two-year institutions must take a remedial English/reading course, while 11 percent of those entering four-year colleges must do so.[28] One recent analysis estimates that college-going students and their families spend close to $1.3 billion annually in out-of-pocket costs for remedial courses in English/reading and in math.[29]

U.S. companies are well aware of, and fully support, the training and retraining of the current workforce to address critical skills gaps. But remedial training on the job — and costly remedial coursework in college — cannot be the sole solution to how the United States stays competitive in the global economy. Students should enter institutions of higher education and the workforce with the reading and literacy skills they need to succeed.

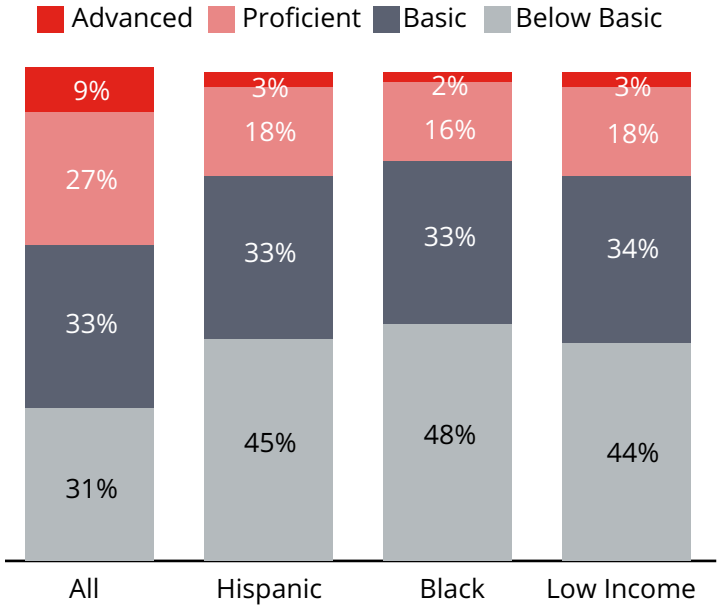
Reading Proficiency Begins with the Youngest Students

Decades of research make clear that ensuring that all students develop the reading and literacy skills needed in the knowledge- and technology-driven economy must begin early. However, the numbers clearly demonstrate that the United States is missing the mark. Consider the results of recent assessments:

- According to the 2015 ACT college and career readiness report, nationally only 26 percent of high school students met college readiness benchmarks in all four subjects: English, reading, math and science. One out of three students (34 percent) met *none* of those benchmarks.[30]
- On the 2015 National Assessment of Educational Progress (NAEP), only about one in three eighth graders (34 percent) scored at the proficient or advanced level in reading.[31] Similarly, only 36 percent of fourth graders — again, about one in three — were proficient in reading. (Congressionally mandated and overseen by the U.S. Department of Education, NAEP is the largest ongoing project to measure and report on what U.S. students know and are able to do in various school subjects.)
- The numbers are even more troubling for low-income students and students of color. Only 18 percent of black fourth graders, 21 percent of Hispanic fourth graders and 21 percent of lower-income fourth graders — who are eligible for the National School Lunch Program — demonstrated proficiency in reading on the 2015 NAEP assessment.[32]

Reading Achievement on 2015 National Assessment of Educational Progress

Percentage of Fourth Graders



Source: U.S. Department of Education, "2015 NAEP Mathematics & Reading Assessments," www.nationsreportcard.gov/reading_math_2015/#reading?grade=4. "Low income" defined as eligible for the National School Lunch Program.

Such results might suggest that middle and high schools need to do a better job helping students "catch up" in reading — and many work hard to do so. However, by that time it is too late for too many students. The research is clear that the longer a student stays behind in reading, the more difficult it is for that student to catch up, even with intensive support.

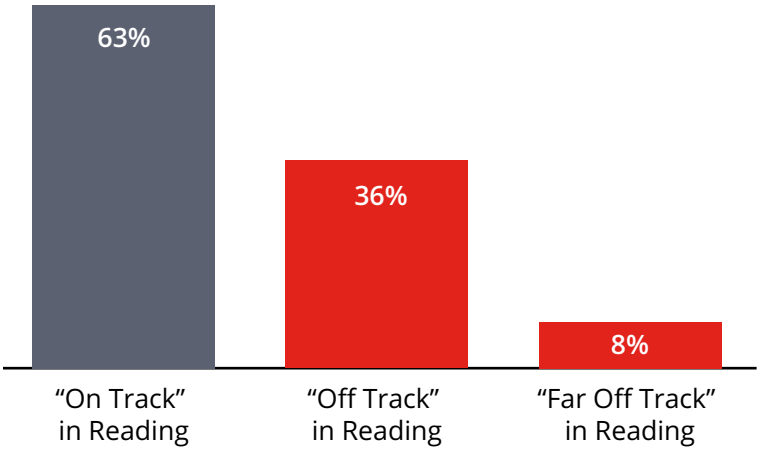
By fourth grade, students are increasingly expected to "read to learn," applying the literacy skills they should have developed in earlier years to acquire new facts and knowledge across the curriculum.[33] In other words, reading becomes a critical source of educational "capital" to invest in further learning. With each succeeding grade level, students with strong reading skills profit from that invested capital by acquiring richer vocabulary and new content knowledge, which in turn improves their ability to comprehend more difficult written materials in later grades. Those with poor reading skills fall further and further behind in school.

Research clearly establishes that students who do not read well by the end of third grade face serious negative consequences over the long term, severely limiting their educational and economic opportunities. Several recent studies by researchers at ACT found that *fewer than 10 percent* of fourth graders with poor basic reading skills ever catch up by the end of middle school, and fewer than 10 percent who are behind at the end of middle school ever catch up in high school.[34]

Another recent study found that students who do not read proficiently by the end of third grade are four times more likely to leave school without a diploma than those with proficient reading skills in third grade. Third graders with the worst reading skills — those who had not mastered even a basic level of reading — are nearly six times as likely to drop out. In fact, students who are not proficient in reading as third graders go on to make up nearly two-thirds (63 percent) of students who fail to graduate on time from high school.[35]

Few Struggling Readers Catch Up after Fourth Grade

Percentage of Fourth Graders Who Meet Eighth Grade Reading Benchmark, by Fourth Grade Reading Performance



Source: Chrys Dougherty, Linda Hiserote and Teresa Shaw, "Catching Up to College and Career Readiness in Kentucky," ACT, May 2014. "Off track" defined as one standard deviation below level of reading performance that would place students on track to meet college- and career-ready benchmarks on the ACT exam by the end of high school. "Far off track" defined as two standard deviations below that level.

Recent research also shows that early reading skills have an impact on college attendance. A study by researchers at the University of Chicago found that ninth graders who had been reading "on grade level"[36] as third graders were three times more likely to go on to college than those who had not been reading at grade level in third grade.[37]

The United States Must Accelerate Progress in Reading

The United States is making some progress in addressing this challenge, but the gains are too small and the pace too slow. For example, the percentage of fourth graders reading proficiently on NAEP increased from 31 percent in 2005 to 36 percent in 2015.[38] However, at that rate of progress it would take nearly 30 years before *even half* of American fourth graders could read at a proficient level.

A recent analysis also reveals some progress being made among students entering kindergarten. As measured by assessments in reading and math, the gap in kindergarten readiness between high-income and low-income students narrowed appreciably between 1998 and 2010. However, at the current rate of gap narrowing, the researchers estimated erasing the gap entirely would take 60 to 110 years.[39]

Finally, while the United States has made some headway in international assessments of reading among elementary school students,[40] the literacy skills of older U.S. students have been flat for more than a decade. On the 2012 Programme for International Student Assessment (PISA), American 15-year-olds performed only at the average level among developed nations, a level of performance unchanged since 2000. (PISA is an international study that measures and reports on the knowledge and skills of 15-year-olds in participating countries every three years. It is overseen by the Organisation for Economic Co-operation and Development, or OECD.)

While U.S. results stagnated, many other countries improved their students' reading performance on PISA. Germany and Japan pulled significantly ahead of the United States between 2000 and 2012. Hungary, Israel, Portugal, Latvia and Poland came from behind to catch up with the United States, and Poland's performance improved enough to surpass America by a wide margin. While their reading scores were still significantly behind the United States, Turkey and the Russian Federation improved steadily enough to cut America's lead in half between 2003 and 2012.[41]

What Is Reading Proficiency, and How Do Students Develop It?

Decades of research have provided a scientific basis for understanding how to help students develop reading proficiency. The seeds are planted well before students arrive in kindergarten, as young children develop strong oral language skills, understand the value of print and some rules of printed text, learn to identify letters, and begin to gain phonemic awareness — the ability to recognize and work with smaller pieces of spoken words.

As they move into kindergarten and early elementary grades, students build their phonemic awareness and begin to decode words by connecting letters and sounds with help from phonics instruction. They eventually move from sounding out single-syllable and multisyllable words to reading extended texts with sentences and paragraphs. As students begin to recognize an increasing number of words on sight, they also develop "reading fluency" — the ability to read at an appropriate pace with accuracy and expression. Reading fluency, in turn, lays the groundwork for comprehension, freeing up brainpower to understand and think about the meaning of written materials. By third grade, students should be able to apply some common comprehension strategies independently during reading.

However, comprehension will begin to break down after third grade unless students also have developed a rich vocabulary and broad factual and conceptual background knowledge. This breakdown occurs because the mechanics of sounding out text alone will not enable students to understand the meaning of written materials across the curriculum. Research shows that some instruction in a small set of reading comprehension strategies can help with understanding, but a fourth grader who can sound out words and even apply some comprehension strategies will still struggle to understand a grade-appropriate book about Mars if the student lacks science-relevant vocabulary and basic conceptual knowledge about space and planets.

This breakdown is apparent in fourth grade National Assessment of Educational Progress scores. About two-thirds of American fourth graders can use text to locate information and make simple inferences, but only about one-third can integrate and interpret multiple age-appropriate texts and use information from texts to draw conclusions and make evaluations.

Therefore, from prekindergarten through third grade, students must also develop a rich vocabulary and learn facts and concepts about the natural and social world, even as they learn the skills necessary to decode written text. Skilled teachers accomplish that by incorporating content-based texts into reading time (especially during "read alouds," during which teachers read aloud and discuss texts with students) and by making sufficient time for learning about the world in other subject areas, such as science and math (see the sidebar, "Make Room for Early Math and Science: The Roots of STEM that Reinforce Reading").

II. Policy Agenda: Six Steps To Ensure Reading Proficiency by Third Grade

To make sure that all students develop the kind of reading proficiency necessary in today's economy, state leaders must put in place a comprehensive policy agenda to create an aligned, coherent system of effective literacy instruction and support from prekindergarten (pre-K) through third grade. Such a system will help children develop strong early literacy skills prior to kindergarten and then systematically build on those skills as students advance through the early grades. It will involve families at each step, identify reading problems early enough to address them and provide additional support any time a student needs it.

Although 36 states have passed some kind of legislation to address reading by third grade, most address only some of the policy areas necessary to create a coherent system, and many focus only on intervention with little attention to early prevention. Such piecemeal efforts might have some impact, but they cannot ensure that all students graduate from third grade able to read proficiently. Accordingly, the following policy actions are not meant to be taken in isolation or a few here and there; rather, effective literacy policy will include each step. Such a coordinated approach is needed to reach the goal.

*1. Expand Access to **High-Quality Pre-K** Learning Opportunities*

High-quality pre-K programs are the foundation upon which a comprehensive system of literacy development should be built. Without this foundation, too many children enter elementary school already lagging behind in skills that predict reading proficiently in later grades.[42]

Several meta-analyses that examine pre-K impact across a large number of research studies have found significant positive effects for participants.[43] For example, a 2013 study published in the *Journal of Economic Perspectives* found that, looking across 84 separate studies, the average impact of pre-K on student learning was equal to nearly half of the racial achievement gap in kindergarten.[44]

An extensive body of rigorous research demonstrates that high-quality, publicly funded pre-K programs — delivered at scale to thousands of children — can significantly improve student readiness for kindergarten and success in school.[45] For example, studies based on sophisticated quasi-experimental methods have found positive results for public pre-K programs in states and cities, such as the following:

- Georgia's public pre-K program had large impacts on children's early reading skills, including phonemic awareness, letter-word identification and letter knowledge.[46]
- In Tulsa, Oklahoma, the statewide public pre-K program put participants six to eight months ahead of their peers on tests of literacy development, with the biggest impact on letter-word identification.[47]
- In both West Virginia and Arkansas, participation in statewide public pre-K programs increased vocabulary growth by about 30 percent (equivalent to an additional three months of learning) and more than doubled understanding of print concepts.[48]
- Participation in the public pre-K program in New Mexico had substantial positive impacts on children's vocabulary, phonological awareness and understanding of print concepts.[49]
- The citywide public pre-K program in Boston yielded significant impacts on students' language and literacy skills as they were entering kindergarten, with especially large gains in early reading skills.[50]

Research further shows that children who participate in publicly funded pre-K programs continue to experience benefits in later elementary grades.[51] For example:

- In Michigan, children in a public pre-K program for at-risk 4-year-olds were more likely to pass statewide fourth grade reading tests than demographically similar students who had not participated.[52]
- Participation in New Jersey's Abbott pre-K program increased students' achievement on the statewide fourth and fifth grade language arts and literacy assessments.[53]
- Participation in North Carolina's pre-K program had a positive impact on third grade reading achievement equivalent to about two to four months of extra instruction.[54]
- Washington state's Early Childhood Education and Assistance program had a positive effect on third, fourth and fifth grade reading achievement.[55]

"Reading proficiently by third grade requires starting before third, second and even first grade. We must start with high-quality pre-K to lay the foundations for achieving that goal, ensuring a future skilled workforce for our knowledge-driven global economy."

— Dr. Jim Goodnight, CEO, SAS

Finally, research has shown other benefits of attending high-quality public pre-K programs, including reduced chances of being placed in special education during elementary school, reduced chances of having to repeat a grade during elementary and middle school, and a greater chance of graduating from high school.[56] For example, a recent study found that North Carolina's pre-K program reduced special education placements in third grade by 32 percent.[57]

Although 42 states and the District of Columbia now offer some kind of public pre-K program, levels of access and participation vary widely.[58] Across all states, only 29 percent of 4-year-olds and 5 percent of 3-year-olds were enrolled in state-funded pre-K programs in 2014–15.[59] States should consider prioritizing investments in these programs to increase access for their eligible children.

Beyond expanding access, policymakers should ensure that public pre-K programs are of sufficiently high quality to deliver consistent benefits. Researchers have identified important, measurable dimensions of pre-K quality. Children make greater gains in literacy and other important developmental areas when teachers interact with them in ways that are consistently supportive, instructive and stimulating.[60] That is more likely to happen when:

- Programs use an evidence-based curriculum with backing from research;
- Teachers receive ongoing support and coaching;
- Policymakers institute a systematic program to monitor and improve quality;
- Child-teacher ratios are kept to a maximum of 10:1; and
- Teachers hold a college degree with a specialization in early child development.[61]

Research shows that higher-quality programs have larger, more lasting impacts on student outcomes.[62] Conversely, poor- or low-quality programs often have no impact and can even have a negative impact.[63] Unfortunately, too many pre-K programs fail to provide consistently the kind of high-quality learning experiences that secure benefits for children and ensure a good return on investment for communities and taxpayers. Large-scale studies of existing state pre-K programs have found that only a minority provide consistently excellent quality.[64]

Example of Recent "Return on Investment" Analysis for Public Pre-K Programs

Benefit-Cost Summary Statistics Per Participant

BENEFITS TO:

Taxpayers	$11,868	Benefit to cost ratio	$5.05
Participants	$17,779	Benefits minus costs	$29,044
Others	$8,063	Chance the program will produce benefits greater than the costs	92%
Indirect	($2,038)		
Total benefits	$36,212		
Net program cost	($7,168)		
Benefits minus cost	$29,044		

Source: Washington State Institute for Public Policy, "State and district early childhood education programs," updated July 2016. All dollars are expressed in the base year chosen for the analysis, 2015. See www.wsipp.wa.gov/BenefitCost for methodology and technical documentation.

High-quality programs generally cost more than lower-quality programs, but economists have estimated that they deliver favorable cost-benefit returns to communities and states. A 2016 analysis by the Washington State Institute for Public Policy estimates that high-quality pre-K can deliver $5 in long-range economic benefits for every $1 spent.[65]

Studies have documented short-term cost savings as well. For example, researchers estimate that North Carolina's pre-K program created a net savings of $358 dollars for every third grade student in the state due to a significant reduction in special education placements.[66] Similarly, researchers estimated that Michigan's pre-K program saves taxpayers about $11 million annually due to lower rates of grade retention among early elementary school students.[67]

*2. Offer **High-Quality Full-Day Kindergarten** that Ensures a Successful Transition to Elementary School*

Students will experience lasting benefits from high-quality pre-K programs when their K–3 classrooms offer effective curriculum and instruction that intentionally build on learning gains from pre-K. Multiple studies have found longer-lasting impacts for pre-K students who later attended elementary schools that intentionally aligned pre-K through third grade programs to maintain the focus and high quality of the pre-K experience.[68]

That alignment begins with access to high-quality full-day kindergarten. An experimental study of Indiana's grant program to expand access to full-day kindergarten found that participation had a substantial positive impact on literacy skills at the end of the kindergarten year. While students in general benefitted, assignment to full-day kindergarten had an especially large impact for Hispanic students and students with low literacy skills. In fact, the impact for Hispanic students was large enough to close the Hispanic-white literacy gap in kindergarten by 70 percent.[69]

> ***"Access to quality education at an early age is foundational for a child's success throughout life. Across the country, we can help by offering full-day kindergarten programs that ensure that young children have strong literacy skills as they transition to elementary school."***
>
> — Lynn Good,
> CEO, Duke Energy

Despite such evidence, only 13 states and the District of Columbia require school districts to offer full-day kindergarten.[70] Among the rest, some states provide incentives to promote it. For example, Nebraska requires districts to offer half-day kindergarten but permits districts to offer full-day programs while providing full funding for those that do; today, more than 80 percent of Nebraska's kindergartners enroll in a full-day program.[71]

On the other hand, 12 states still allow school districts to charge parents tuition if they opt to send their children to full-day rather than half-day kindergarten, creating a disincentive and potentially limiting access for low-income students.[72] As a result of inconsistent policies, the proportion of kindergartners enrolled in full-day programs ranges from less than 60 percent in some states to more than 90 percent in others.[73] Moreover, definitions of "full day" can vary widely across states. Only 27 states define full-day kindergarten as providing as many hours as first grade.[74]

As with pre-K programs, the quality of the kindergarten program matters as much as access, particularly when it comes to the kind of instruction students receive. A recent national study found a consistently positive effect from exposing all kindergarten students to advanced reading content as opposed to basic content. Yet, on average, kindergarten teachers taught basic reading content 18 days per month (or nearly every school day) compared with only 11 days per month on advanced reading content.[75]

Encouragingly, another recent study found increasing emphasis on more advanced reading instruction among kindergarten teachers between 1998 and 2010. Less encouraging: That study also documented a decrease in time spent on subjects such as science, art and music, which could prevent students from developing the kind of broad content and background knowledge necessary for reading comprehension in later grades.[76]

Make Room for Early Math and Science: The Roots of STEM that Reinforce Reading

The business community understands that students must also develop math and science knowledge, beginning in elementary school, since such learning builds early interest in and progress toward careers in science, technology, engineering and math (STEM) fields. Moreover, like early reading skills, research confirms that early math skills are highly predictive of later educational, workforce and economic outcomes.

In a surprising twist, research also indicates that developing early math and science skills from pre-K through third grade actually supports the development of strong reading skills. For example, one study found that math skills at entry to kindergarten were just as predictive of reading skills by eighth grade as were early reading skills.[77] Moreover, research has consistently shown that students must learn basic vocabulary, facts and concepts about science during pre-K through third grade to comprehend and learn from texts in science as they progress through later grades.

Unfortunately, math and science get much less attention during early grades. One study found that pre-K students spent 14 percent of classroom time on language and literacy but only 6 percent and 7 percent of time on math and science, respectively; by kindergarten, language and literacy instruction took up 28 percent of class time, while math occupied 11 percent and science only 3 percent.[78] A 2012 national survey of teachers revealed that, across grades K–3, teachers spent 89 minutes of instruction per day on reading

and language arts but only 54 minutes on math and 19 minutes on science.[79] Further, a study published in 2016 revealed that time spent on science actually *decreased* significantly in kindergarten classrooms from 1998 to 2010.[80]

That trend must be reversed — not only to ensure that students develop the building blocks of STEM, but also because STEM supports later reading development after students have learned to decode text. Reading experts say that kindergarten teachers, for example, are spending much more time on certain early reading skills, such as phonemic awareness, than research suggests is strictly necessary.[81] (Like sleep for the body, phonemic awareness is essential for development of early reading skills, but it need not, and should not, take up most of the available time in a day.) That time could be devoted to increasing vocabulary and content knowledge, including scientific facts and concepts, without which students will fail to comprehend reading materials about science in later grades, even when they can sound out the words.

To create more time for science, schools and districts can consider concept-oriented reading instruction, which blends content learning and reading instruction. For example, research shows that students whose teachers use the IDEAS model — a two-hour block of integrated science and literacy instruction that replaces the traditional literacy block — outpace their peers in both reading and science.[82]

Similarly, research in early mathematics suggests that teachers consistently underestimate young children's ability to grapple with and understand math content. A 2016 study found that although all kindergarten students benefit from more advanced math content, teachers continue to spend more time on lower-level content.[83] Pre-K curricula emphasizing mathematical learning produce gains in math knowledge and skills that predict later success in school.[84]

Finally, research shows that too many early grade teachers lack academic preparation in math and science and how to teach those subjects. State policymakers can upgrade standards for recruitment, preparation and certification of elementary teachers to be sure they can help students develop early interest, knowledge and skills in these foundational STEM subjects.[85]

3. Use ***Student Assessments and Data Systems*** To Track Student Progress

States cannot ensure that all students can read proficiently by the end of third grade unless they provide all teachers with the tools to evaluate student progress early, often and accurately. Regularly assessing student progress enables pre-K and K–3 teachers to identify reading problems early enough to intervene effectively, plan and adjust their teaching according to how well the class is responding to reading instruction, and inform parents about how their children are progressing.

Traditional paper-and-pencil testing is only one way to assess reading progress. In fact, most assessments of reading progress for students in pre-K through third grade use other kinds of activities and instruments that are shorter in duration and naturally embedded in day-to-day classroom activities. For example, many assessment activities in early grades rely on teacher observations, verbal interactions with students, or reading-related games and flashcards.

A comprehensive assessment system includes a range of assessment types so that educators always have the right measurement tool for the right purpose, including the following:

- **Screening.** An expert panel convened by the U.S. Department of Education recommended screening all K–3 students for potential reading problems at the beginning of the year and again in the middle of the year.[86] Screening relies on very brief, low-cost activities to assess specific skills that predict later success in reading. For example, during kindergarten and the beginning of first grade, experts recommend screening for problems with phonemic awareness — the ability to identify and manipulate individual sounds in spoken words.[87]

- **Diagnosis.** Teachers use more in-depth diagnostic assessments to understand the exact nature of a student's reading difficulty. These assessments pinpoint exactly where learning has broken down so teachers can plan individualized interventions to help the student catch up.

- **Progress Monitoring and Formative Assessment.** Teachers use these assessments to monitor the progress of all students over the course of the year so they can continue to identify learning difficulties and adjust instruction for the class and groups within the class.

- **Outcome or Summative Assessment.** Summative assessments are typically given near the end of the year to understand whether students have met grade-level learning standards. Results of these assessments — which resemble typical tests as students get older — are more often used for higher-level evaluation and accountability. Some states now use summative assessments as one way students can demonstrate they have met reading requirements for promotion to fourth grade.

"As technology has come to dominate not only our professional lives but also our personal and creative endeavors, reading and reading comprehension have become even more critical to our technological future. We have gotten to the point where STEM and the humanities are inextricably linked. Reading provides the tools needed to truly understand STEM subjects, and there can be no STEM-based advances without the creative thinking reading ignites."

— Mike Gregoire,
CEO, CA Technologies

State policymakers should require public pre-K programs and school districts to implement appropriate assessment activities each year as students progress through the education system. Policymakers should provide programs and districts with the flexibility to choose specific assessment strategies but ensure quality control by identifying or offering research-backed assessments that are aligned with state standards for learning.

For example, under its 3rd Grade Reading Guarantee, Ohio requires all school districts to administer a screening for reading difficulties in the beginning of the year for all K–3 students. Districts may choose to purchase commercial assessments from a state-approved list or use free assessment tools provided by the state.[88]

Too few states take such an approach now. According to the organization New America, only about half of the states require that publicly funded pre-K programs use an assessment of a child's learning and development that includes early literacy along with other key areas. Many of those states, but not all, also provide recommendations for choosing assessments.[89] A study by ACT published in March 2016 reported that about half of the states made some kind of provision for early screening assessment in kindergarten through second grade. However, many of those states provided only guidance or optional tools, with far fewer making sure that teachers administer screening assessments every year.[90]

The past several years have seen one promising development in early assessment. With significant support from the federal government, many states are developing or adopting kindergarten entry assessments (KEAs). KEAs are usually given to students within the first two months of school to measure their skills and

knowledge as they enter K–12 education. The results can be used to identify gaps in early literacy, plan instruction and provide additional support according to student needs, inform and engage parents, and provide information back to pre-K programs.

According to a 2015 report by New America, 14 states have begun to administer a KEA, and more than 20 additional states were working to develop one.[91] A 50-state scan published by the Education Commission of the States (ECS) in July 2016 identified 32 states with some kind of law or regulation requiring assessment at kindergarten entry.[92] Some additional states, such as California, have developed KEAs that districts may administer voluntarily. However, these new KEAs will be valuable only if the results are used and shared. A 2016 study by the U.S. Department of Education of four states that recently implemented KEAs found that results often were not being used by teachers to plan instruction, not being discussed with parents and not being shared with pre-K providers.[93]

Finally, few states have made serious efforts to ensure access to and use of other types of assessments in primary grades. According to the 2015 report by New America, fewer than 10 states even made recommendations about formative literacy assessments in grades K–3.[94]

One bright spot: Nine states and the District of Columbia have stepped up to take leadership in this area by joining research partners in a consortium led by North Carolina to develop a state-of-the-art K–3 formative assessment system that includes literacy and reading. The system will use a KEA to generate a student profile of learning that begins in kindergarten and continues through third grade, will make actionable information available to teachers and parents regarding children's progress, and will contribute data to the longitudinal data systems in each state.[95]

As with the states in the North Carolina-led consortium, policymakers should ensure that assessment results are incorporated into state longitudinal data systems along with other important information about early learning and educational experiences. Longitudinal data systems that securely link early childhood data with K–12 data can help policymakers understand whether investments in policies and programs are getting the results intended, identify best practices for replication, provide information to K–3 teachers to tailor curriculum and instruction, and provide feedback to pre-K programs on how well they are preparing children for success in elementary school.[96]

The most comprehensive data systems will collect information not only from state-funded pre-K programs but also from the wide range of programs that serve young children and families and then connect all of that information with K–12 data systems. However, Pennsylvania is the only state currently able to link child-level data securely across multiple early childhood programs and then connect all of that information with its student-level K–12 longitudinal data system.[97] Through Pennsylvania's Early Learning Network, stakeholders can now access reports that provide trends over time in how children are progressing through different early childhood programs into kindergarten and through third grade.[98]

*4. Equip **Educators** in Pre-K–Grade 3 To Help Students Become Strong Readers*

Research shows that skilled teachers are the key in-school ingredient for students' literacy development. Knowledge about how to teach reading is an important and specific specialty within education based on decades of scientific research, a specialty that cannot be learned on the job or through trial and error.

Therefore, teachers in pre-K through third grade need to be equipped with a firm understanding of how young students develop as readers, from becoming aware of and manipulating different sounds within spoken words to decoding written language to developing fluency and using reading comprehension

strategies. Teachers also need to understand the critical role of vocabulary and background knowledge, which students must develop alongside the mechanics of reading during pre-K through third grade and without which students will not be able to comprehend the meaning of written words even when they can sound them out. Moreover, teachers must be able to identify, implement and act on results of the multiple kinds of student assessment tools described in the previous section.

> ***"It's critical that we provide educators with the training and guidance they need to help students become strong readers early on. This can only come about through meaningful partnership among teachers, principals, policymakers and parents working together to make early childhood literacy a priority. It is critical that teachers have access to high-quality development opportunities to help these important educators continue to learn throughout their careers as reading instruction evolves. This partnership among educators, legislators and parents will help create positive future outcomes, not only for our children, but also for our country and society as a whole."***
>
> — Hal Yoh,
> CEO, Day & Zimmerman

Finally, educators need to know how to engage families in the development of literacy and reading skills. Research shows that home support pays the biggest dividends when educators equip parents and caregivers with engaging, enjoyable activities that focus on specific literacy skills at each stage of development, such as phonemic awareness, phonics and fluency.[99] For example, research has shown that a program called Fast Start, in which parents supplement in-school lessons with a simple and engaging 10- to 15-minute daily reading activity, has been shown to double the rate at which low-income first graders develop word recognition and reading fluency.[100] Unfortunately, few teacher preparation programs equip teachers with the knowledge and skills to engage parents as effective partners in literacy development.[101]

Policymakers must take action to guarantee all pre-K through third grade teachers have the preparation and qualifications to help students become strong readers. They can do that by ensuring that initial teacher preparation and certification is grounded in state standards for student learning that reflect the best scientific evidence about how children become proficient readers along a developmental continuum from pre-K through third grade. And they can make sure all teachers have access to high-quality professional development throughout their careers as the scientific evidence about reading instruction continues to evolve.

According to a 2015 report by the National Council on Teacher Quality (NCTQ), 18 states now require elementary-level teaching candidates to pass a thorough test of their knowledge about how to teach reading. Of the rest, 12 states require candidates to pass what NCTQ deems an insufficient test of reading instruction, and four merely include elements of scientifically based instruction in their teacher preparation standards. According to NCTQ, California leads the states in having a strong focus on ensuring that elementary teachers are ready to teach reading and literacy skills.[102]

NCTQ's Ratings of State Policies on Elementary Teacher Preparation in Reading Instruction

Goal Components

(The factors considered in determining the states' rating for the goal.)

1. The state should require that new elementary teachers pass a rigorous test of reading instruction in order to attain licensure. The design of the test should ensure that prospective teachers cannot pass without knowing the five instructional components shown by scientifically based reading research to be essential to teaching children to read.
2. The state should require that teacher preparation programs prepare candidates in the science of reading instruction.
3. The state should ensure that all elementary teachers are sufficiently prepared for the ways that college- and career-readiness standards affect instruction of all subject areas. Specifically,
   - The state should require that all new elementary teachers are prepared to incorporate complex texts and academic language into instruction.
   - The state should ensure that all new elementary teachers are prepared to incorporate literacy skills as an integral part of every subject.
   - The state should ensure that all new elementary teachers are prepared to support struggling readers.

How States are Faring in Elementary Teacher Preparation in Reading Instruction

1 Best Practice State
California

3 States Meet Goal
Florida, Minnesota, North Carolina

13 States Nearly Meet Goal
Alabama, Connecticut, Indiana, Massachusetts, Mississippi, New Hampshire, New Mexico, New York, Ohio, Oklahoma, Virginia, West Virginia, Wisconsin

6 States Partly Meet Goal
Arkansas, Colorado, Idaho, South Carolina⬆, Tennessee⬇, Texas

13 States Meet a Small Part of Goal
Arizona, Delaware, Georgia, Illinois, Louisiana, Maryland, Michigan, Missouri, Oregon, Pennsylvania, Utah, Vermont, Washington

15 States Do Not Meet Goal
Alaska, District of Columbia, Hawaii, Iowa, Kansas, Kentucky, Maine, Montana, Nebraska, Nevada, New Jersey, North Dakota, Rhode Island, South Dakota, Wyoming

Progress on this Goal Since 2013:

⬆ : 1 ⟷ : 49 ⬇ : 1

Source: National Council on Teacher Quality, *2015 State Teacher Policy Yearbook,* 2015, pp. 9–12.

States also can require or encourage teachers in early grades to obtain a license that spans pre-K through an early elementary grade, rather than a license that does not connect pre-K with elementary teaching or a license that encompasses larger K–12 grade spans. For example, Pennsylvania eliminated its broad K–6 elementary teaching license and developed a pre-K–grade 4 license. To offer the new license, teacher preparation programs had to require more coursework in early language and literacy development, as well as early childhood development.[103]

In terms of ongoing professional development, research suggests that it is most effective when it is tied to student assessment data and embedded in teachers' day-to-day work, offering numerous opportunities to practice new strategies, collaborate with peers and obtain feedback from experts. One-on-one coaching can be a particularly powerful tool for improving teachers' knowledge and skills in literacy instruction in pre-K and early elementary grades. For example, a longitudinal study of one coaching program for K–2 teachers found that it increased students' annual reading gains by 32 percent by the third year of implementation.[104]

Professional development also should include opportunities to create smooth transitions for students, particularly at kindergarten entry. One recent study found that students better sustained learning gains from pre-K into elementary school when teachers from both engaged in collaborative professional development to create continuity and avoid repetition.[105] The federal Every Student Succeeds Act of 2015

provides flexibility for school districts to use federal dollars to support exactly this kind of collaborative professional development focused on improving readiness and successful transitions from pre-K to kindergarten.[106]

Finally, school principals must also have knowledge of early education and literacy development to lead schoolwide efforts to ensure that all students can read proficiently by the end of third grade. Many elementary school principals currently lack experience in early childhood development and education, including early literacy development, inhibiting their ability to support high-quality reading instruction in the early grades.[107] Indeed, some evidence suggests principals sometimes assign less-effective teachers to the early elementary grades where standardized tests do not determine school accountability ratings.[108]

States should require principal preparation to include study of early literacy development and provide current principals with professional development to better understand early education, literacy development and effective reading instruction. For example, in 2010 Illinois passed legislation to reform principal preparation comprehensively, including requirements for incoming principals to understand early literacy development and instruction. The law replaced the state's K–12 principal license with a pre-K–grade 12 license, required that principal preparation programs include early childhood content and field experiences, and incorporated early learning content in a new certification exam.[109]

*5. Require **Systematic Interventions** for Struggling Readers in Grades K–3*

Even in classrooms in which students benefit from a strong curriculum and skilled teaching, some students will need more intensive instruction to keep up with grade-level expectations for reading.[110] Research has demonstrated that temporarily providing more intensive, small-group instruction to students who fall below benchmarks on screening assessments can help them catch up and prevent them from developing serious reading problems over time. As a start, effective in-class interventions focus on up to three discrete but important reading skills and take place three to five times per week for 20 or 40 minutes, depending on grade level and student needs.[111]

When those supports fail, schools need to provide students with more intensive reading assistance in the classroom, often including daily one-on-one and small-group instruction.[112] Because these students are at especially high risk for falling seriously behind in reading, schools and districts sometimes provide for additional tutoring outside of school hours or over the summer, which research has demonstrated to have positive effects for students.[113]

States have increasingly become involved in recommending or requiring interventions for students who fall behind in important reading skills during kindergarten through third grade. A report published by ECS in December 2014 identified 33 states that required or recommended that districts offer some intervention for struggling readers in early grades.[114] Some states required specific interventions while others provided a list of recommended strategies from which districts could choose.[115] However, too few of these states required parents to be notified and involved when students fall behind and need interventions in reading. According to the same ECS study, only 25 states required formal notification of parents when students were identified as struggling with reading.[116]

Over the past 15 years, a dozen states have passed laws that incorporate interventions into a broader package of policies that also require students to read proficiently by grade 3 to be promoted to fourth grade. Many of these laws have been inspired by and modeled on Florida's third grade reading policy

signed into law by then-Governor Jeb Bush in 2002. Sometimes called "third grade reading laws" or "third grade reading guarantees," these laws require the following policies in addition to a requirement that students demonstrate reading proficiency for promotion to fourth grade:

- Early annual screening and intervention for students in grades K–3;
- Parent notification when students demonstrate reading difficulty at any point, along with a description of interventions that will be offered and advice on home activities to support reading development;
- Additional ways that students can demonstrate reading proficiency if they fail to meet expectations on the third grade state test, such as alternative assessments or portfolios of classroom work;
- Appropriate exemptions to the retention policy for some groups of students; and
- More intensive interventions and academic support for students who are retained in third grade so those students are not just receiving more of the same.[117]

Critics of such laws point to a long history of education research showing that students who are retained in a grade are more likely to achieve at lower levels in later grades and are less likely to graduate from high school.[118] Proponents point out that such research is dated and examined only students who were retained based on subjective teacher recommendations, rather than examining newer Florida-type policies based on objective measures and requiring intensive interventions and support.[119]

> ***"We know that parents and teachers encounter students at varying points along the path to reading proficiency. There are clear benefits to meeting these students where they are and offering them the individualized attention they need to keep up, catch up when necessary and claim the reading skills they will need for a lifetime of learning."***
>
> — Terry Lundgren, CEO, Macy's

A small but growing body of sophisticated research studies suggests that such laws could have a positive impact for many students. For example, a study published by the National Bureau of Economic Research in 2015 found that Florida's policy had a large positive impact on reading and math performance in subsequent years, had no negative impact on high school graduation, and led to a substantial reduction in probability of being retained in later grades.[120]

State policymakers should examine the growing body of evidence on policy strategies that incorporate retention and make the best decision for their states. At the very least, if policymakers do adopt such a policy strategy, they should heed the evidence from Florida and ensure that it includes annual screening and early interventions beginning in kindergarten, parent notification and involvement at any point a child is identified as struggling in reading, appropriate exemptions for some groups of students, and intensive supports accompanying high-quality instruction for any student retained in third grade.[121]

*6. Coordinate **Governance of Pre-K and Grades K–3** To Promote Efficiency and Maximize Impact*

Improving educational opportunities for young readers cannot happen without strong state-level leadership, administration and oversight — in other words, effective and accountable governance of programs and services that support early development and literacy. However, in many states that governance structure is fragmented. Programs and services that support or foster literacy development among pre-K children have traditionally been administered by multiple state agencies, partly as a result of complex and fragmented federal and state funding streams. Then, when students move into kindergarten, the state education agency becomes the governing agency.

State leaders have begun to address this problem and create more cohesive governance in several kinds of ways.[122] Many states have worked to better coordinate governance, communication and data across agencies, some through the office of a high-ranking state leader. For example, Illinois created a Governor's Office of Early Childhood Development, which leads the state's initiatives to create an integrated system of high-quality early learning and development programs for children before they enter kindergarten.[123] In Colorado, the Office of the Lieutenant Governor has taken on a similar coordinating role.

"An effective pre-K through third grade system requires a cohesive governance structure to avoid 'silos' across agencies. With collaborative governance, students can achieve third grade reading proficiency and later success in college and career."

— Dr. Jim Goodnight, CEO, SAS

Some states have gone further, consolidating authority and accountability for multiple early childhood programs within one designated state agency, most often the state education agency or the human services agency. For example, in 2013, Michigan's governor created an Office of Great Start within the state Department of Education to oversee a wide range of early childhood programs — state pre-K, Head Start collaboration, the federal Child Care and Development Fund, and others — and link them with early elementary education. The office is charged with "ensuring that all children birth to age eight, especially those in highest need, have access to high-quality early learning and development programs and enter kindergarten prepared for success."[124]

Three states — Georgia, Massachusetts and Washington — have created entirely new state agencies to consolidate oversight of early childhood services and programs.[125] For example, Georgia's Department of Early Care and Learning administers the state's public pre-K program, licensing of child care centers and home-based child care, a statewide child care and parent services program, federal nutrition programs, and a statewide child care rating system. It also houses the state's office for Head Start collaboration and distributes federal funding to enhance the quality and availability of child care.[126]

III. How CEOs Can Take Action

Because of their unique credibility and influence, Business Roundtable CEOs can play a vital role in promoting a state policy agenda to ensure third grade reading proficiency.

- **Commit Your Company.** You can commit to putting your name and the name of your company behind the effort to implement statewide policies and programs focused on increasing literacy and reading from pre-K through third grade.

- **Enlist Other Business Leaders.** One CEO acting alone can be influential, but several acting in concert can be decisive. The first step is to reach out to other CEOs and business leaders in your state, using this report to make the case for action and then gauging interest and enlisting partners.

- **Support Advocacy.** CEOs can connect with existing state advocacy groups that have the infrastructure to conduct intensive and ongoing work in support of this policy agenda. That might be a business group, such as your state's Business Roundtable or Chamber of Commerce affiliate, or it might be a coalition of business, civic or other groups with a track record of influencing state policy. Some of these groups might already be promoting a pre-K through third grade literacy agenda; others might be persuaded to do so. Consider providing financial support to influential state organizations or coalitions that make it a priority.

- **Lend Your Voice.** Advocacy organizations and coalitions can provide assistance in drafting editorials and letters in support of the pre-K through third grade reading agenda. Given a CEO's unique ability to make a persuasive economic and business case for this policy agenda, even one well-placed opinion piece or letter can make a significant difference.

- **Encourage Employee Involvement.** CEOs can demonstrate commitment to the cause by providing employees incentives and opportunities to become directly involved. For example, your company could provide matching funds when employees donate to help schools obtain literacy- and reading-related supplies through websites such as Donors Choose. Some companies provide employees paid time to volunteer in pre-K programs or elementary school classrooms.

- **Leverage Philanthropic Investments.** CEOs can leverage philanthropic investments to scale some of the recommendations in this report, with a focus on programs and practices with a strong evidence base in sound research. For example, you can invest in proven organizations that provide high-quality training in reading to teachers and school leaders.[127] You can support development of high-quality reading assessment tools and data systems that track student progress in reading. You can also provide funds to support research studies that measure the effectiveness of reading programs and strategies being implemented in states or communities.

- **Offer Expertise.** CEOs can make technical expertise available that would help states and other organizations implement strategies described above. For example, your company could provide expertise in building state-level data systems that can track and report on students' progress in reading.

- **Participate in Leadership.** Some states convene public-private governance or advisory groups to help steer decisionmaking for pre-K through third grade programs and policies. CEOs can lend valuable leadership expertise and experience by participating in such structures, and they can work through them to ensure that states maintain a strong focus on literacy and reading proficiency.

- **Make the Business Case to Policymakers.** CEOs who meet personally with state policymakers can communicate the business case for this agenda and hand copies of this report directly to elected officials and their staff members.

Simply put, the involvement of CEOs can make all of the difference. This happened in Michigan in 2012, when a group of business leaders advocated to expand the state's public pre-K program. According to Matt Gillard, president and CEO of the state advocacy group Michigan's Children, "We had this great grassroots movement, but we didn't have business folks leading the charge." When business leaders lent their voices to support pre-K expansion, "they were able to get us over the finish line."[128]

Endnotes

1 Business Roundtable, "BRT 2016 Education and Workforce Survey," September 2016.

2 *Ibid.*

3 Anthony P. Carnevale, Nicole Smith and Jeff Strohl, "Recovery: Job Growth and Education Requirements through 2020," Georgetown University Center on Education and the Workforce, June 2013.

4 *Ibid.*

5 *Ibid.*

6 Anthony P. Carnevale, Tamara Jayasundera and Artem Gulish, "America's Divided Recovery: College Haves and Have-Nots," Georgetown University Center on Education and the Workforce, 2015.

7 *Ibid.*

8 *Ibid.*

9 Business Roundtable, "Closing America's Skills Gap: A Business Roundtable Vision and Action Plan," 2014.

10 Carnevale, Smith and Strohl, "Recovery: Job Growth and Education Requirements through 2020."

11 Eric A. Hanushek and Ludger Woessmann, "The Role of Cognitive Skills in Economic Development," *Journal of Economic Literature,* 2008.

12 Business Roundtable, "BRT 2016 Education and Workforce Survey."

13 Carnevale, Smith and Strohl, "Recovery: Job Growth and Education Requirements through 2020."

14 Hua Wei et al., "Career Readiness: An Analysis of Text Complexity for Occupational Reading Materials," *The Journal of Education Research,* Volume 109, Number 3, 2016.

15 Andrew Weaver and Paul Osterman, "Skill Demands and Mismatch in U.S. Manufacturing," *ILR Review,* July 2016.

16 *Ibid.*

17 Organisation for Economic Co-operation and Development, "Skills Outlook 2013 First Results from the Survey of Adult Skills," 2013. The United States ranked fourth in average use of reading on the job.

18 Organisation for Economic Co-operation and Development, "Skills Matter: Further Results from the Survey of Adult Skills," 2016.

19 *Ibid.*

20 Eric A. Hanushek et al., "Returns to Skills around the World: Evidence from PIAAC," *European Economic Review,* Volume 73, 2015. (Based on Appendix Table A.3.)

21 Pamela J. Hines, Brad Wible and Melissa McCartney, "Learning to Read, Reading to Learn," *Science,* Volume 328, April 2010.

22 Carnevale, Smith and Strohl, "Recovery: Job Growth and Education Requirements through 2020."

23 Stuart J. Ritchie et al., "Does Learning to Read Improve Intelligence? A Longitudinal Multivariate Analysis in Identical Twins from Age 7 to 16," *Child Development,* Volume 86, Issue 1, January/February 2015.

24 Organisation for Economic Co-operation and Development, "Skills Outlook 2013 First Results from the Survey of Adult Skills."

25 Educational Testing Service, "America's Skills Challenge: Millennials and the Future," 2015. This study examined performance of "millennials" — defined as adults ages 16–34 — on the same international survey of adult skills.

26 Achieve, "Rising to the Challenge: Are High School Graduates Prepared for College and Work?" 2015.

27 *Ibid.*

28 Xianglei Chen, "Remedial Coursetaking at U.S. Public 2- and 4-Year Institutions: Scope, Experiences, and Outcomes," U.S. Department of Education, September 2016.

29 Laura Jimenez et al., "Remedial Education: The Cost of Catching Up," Center for American Progress, September 2016.

30 ACT, "The Condition of College & Career Readiness 2015," 2015.

31 U.S. Department of Education, "2015 NAEP Mathematics & Reading Assessments," www.nationsreportcard.gov/reading_math_2015/#reading?grade=4.

32 *Ibid.*

33 Catherine E. Snow, M. Susan Burns and Peg Griffin, eds., "Preventing Reading Difficulties in Young Children," Washington, DC: National Academy Press, 1998, p. 207.

34 Chrys Dougherty, Linda Hiserote and Teresa Shaw, "Catching Up to College and Career Readiness in Kentucky," ACT, May 2014. The researchers followed Kentucky students whose reading skills were "far off track," defined as performing two standard deviations below a level of reading performance that would place students on track to meet college- and career-ready benchmarks on the ACT exam by the end of high school. About one in three fourth graders were far off track in reading among the more than 100,000 students the researchers tracked.

35 Donald J. Hernandez, "Double Jeopardy: How Third Grade Reading Skills and Poverty Influence High School Graduation," Annie E. Casey Foundation, 2014.

36 This study defined "on grade level" as scoring between the 25th and 75th national percentiles on the reading portion of the Iowa Test of Basic Skills.

37 Joy Lesnick et al., "Reading on Grade Level in Third Grade: How Is It Related to High School Performance and College Enrollment?" Chapin Hall at the University of Chicago, 2010.

38 U.S. Department of Education, "2015 NAEP Mathematics & Reading Assessments."

39 Sean F. Reardon and Ximena A. Portilla, "Recent Trends in Income, Racial, and Ethnic School Readiness Gaps at Kindergarten Entry," *AERA Open*, Volume 2, Number 3, July–September 2016.

40 Ina V.S. Mullis et al., "PIRLS 2011 International Results in Reading," International Study Center, Lynch School of Education, Boston University, 2012.

41 Based on the following three sources: (1) Organisation for Economic Co-operation and Development, "PISA 2012 Results: What Students Know and Can Do," revised edition, February 2014, Figure 1.4.5: "Multiple Comparisons of Reading Performance between 2000 and 2012," pp. 184–185, www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf; (2) U.S. Department of Education, National Center for Education Statistics, Table T4: "Average Scores and Changes in Average Scores of 15-Year-Old Students on PISA Reading Literacy Scale, by Education System: 2000, 2003, 2006, 2009, and 2012," http://nces.ed.gov/surveys/pisa/pisa2012/pisa2012highlights_6a_2.asp; (3) U.S. Department of Education, National Center for Education Statistics, Table R2: "Average Scores of 15-Year-Old Students on PISA Reading Literacy Scale, by Education System: 2012," http://nces.ed.gov/surveys/pisa/pisa2012/pisa2012highlights_5a.asp.

42 Greg J. Duncan and Katherine Magnuson, "The Nature and Impact of Early Achievement Skills, Attention, and Behavior Problems," in Greg J. Duncan and Richard J. Murnane, eds., *Whither Opportunity: Rising Inequality, Schools, and Children's Life Chances*, New York: Russell Sage Foundation, 2011.

43 For a recent summary, see Lynn A. Karoly and Anamarie Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs," RAND Corporation, 2016.

44 Greg J. Duncan and Katherine Magnuson, "Investing in Preschool Programs," *Journal of Economic Perspectives,* Volume 27, Number 2, Spring 2013.

45 For a recent summary, see Karoly and Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs."

46 Ellen S. Peisner-Feinberg et al., "Effects of Georgia's Pre-K Program on Children's School Readiness Skills: Findings from the 2012-2013 Evaluation Study," University of North Carolina Frank Porter Graham Child Development Center, March 2014.

47 William T. Gormley et al., "The Effects of Universal Pre-K on Cognitive Development," *Developmental Psychology,* Volume 31, Number 6, 2005.

48 Cynthia Lamy, W. Steven Barnett and Kwanghee Jung, "The Effects of West Virginia's Early Education Program on Young Children's School Readiness," National Institute for Early Education Research, December 2005.

49 Hustedt et al., "The New Mexico PreK Evaluation: Impacts from the Fourth Year (2008-9) of New Mexico's State-Funded PreK Program," National Institute for Early Education Research, November 2010.

50 Christina Weiland and Hirokazu Yoshikawa, "Impacts of a Prekindergarten Program on Children's Mathematics, Language, Literacy, Executive Function, and Emotional Skills," *Child Development,* Volume 84, Number 6, November/December 2013.

51 For a recent summary, see Karoly and Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs."

52 Zongpoing Xiang and Lawrence J. Schweinhart, "Effects Five Years Later: The Michigan School Readiness Program Evaluation Through Age 10," High/Scope Educational Research Foundation, 2002.

53 W. Steven Barnett et al., "Abbott Preschool Longitudinal Effects Study: Fifth Grade Follow-Up," National Institute for Early Education Research at Rutgers — The State University of New Jersey, March 2013. The program in question offers pre-K to all children in 31 of New Jersey's poorest urban communities, which together are home to about one-quarter of the state's children.

54 Helen F. Ladd, Clara G. Muschkin and Kenneth A. Dodge, "From Birth to School: Early Childhood Initiatives and Third Grade Outcomes in North Carolina," *Journal of Policy Analysis and Management,* Volume 33, Number 1, 2014.

55 N. Bania et al., "Outcome Evaluation of Washington State's Early Childhood Education and Assistance Program," Washington State Institute for Public Policy, 2015.

56 Karoly and Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs."

57 Clara G. Muschkin, Helen F. Ladd and Kenneth A. Dodge, "Impact of North Carolina's Early Childhood Initiatives on Special Education Placements in Third Grade," *Educational Evaluation and Policy Analysis,* Volume 37, Number 4, December 2015.

58 W. Steven Barnett et al., "The State of Preschool 2015: State Preschool Yearbook," National Institute for Early Education Research, 2016.

59 *Ibid.*

60 Robert C. Pianta, "Preschool Is School, Sometimes: Making Early Education Matter," *Education Next,* Winter 2007. See also Yoshikawa et al., "Investing in Our Future: The Evidence Base on Preschool Education," Society for Research in Child Development and Foundation for Child Development, October 2013.

61 Karoly and Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs." See also Laura Bornfreund et al., "From Crawling to Walking: Ranking States on Birth–3rd Grade Policies that Support Strong Readers," New America, November 2015.

62 Yoshikawa et al., "Investing in Our Future: The Evidence Base on Preschool Education."

63 Jim Minervino, "Lessons from Research and the Classroom: Implementing High-Quality Pre-K that Makes a Difference for Young Children," Bill & Melinda Gates Foundation, September 2014.

64 Yoshikawa et al., "Investing in Our Future: The Evidence Base on Preschool Education."

65 Washington State Institute for Public Policy, "State and District Early Childhood Education Programs," updated July 2016. Such return on investment estimates vary depending upon the population served and programs analyzed. For example, a 2016 study by the RAND Corporation found long-term cost-benefit estimates ranging between about $3 and $11 for a range of public pre-K programs. See Karoly and Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs."

66 Muschkin, Ladd and Dodge, "Impact of North Carolina's Early Childhood Initiatives on Special Education Placements in Third Grade."

67 Malofeeva et al., "Findings from the Michigan School Readiness Program 6 to 8 Follow Up Study," High/Scope Educational Research Foundation, October 2007.

68 Karoly and Auger, "Informing Investments in Preschool Quality and Access in Cincinnati: Evidence of Impacts and Economic Returns from National, State, and Local Preschool Programs." See also Kimber Bogard and Ruby Takanishi, "PK-3: An Aligned and Coordinated Approach to Education for Children 3 to 8 Years Old," *Social Policy Report,* Volume 19, Number 3, 2005; and Douglas H. Clements et al., "Longitudinal Evaluation of a Scale-Up Model for Teaching Mathematics with Trajectories and Technologies: Persistence of Effects in the Third Year," *American Educational Research Journal,* Volume 50, Number 4, 2013.

69 Chloe R. Gibbs, "Experimental Evidence on Early Intervention: The Impact of Full-Day Kindergarten," University of Virginia, 2014. Gibbs studied the impact of full-day kindergarten by analyzing results from five Indiana school districts that used random lotteries to assign entering students to either full-day or half-day kindergarten classrooms.

70 Emily Parker, Louisa Diffey and Bruce Atchison, "Full-Day Kindergarten: A Look across the States," Education Commission of the States, September 2016.

71 Education Week, "Map: Full-Day-Kindergarten Participation," January 2015, www.edweek.org/ew/qc/2015/map-full-day-kindergarten-participation.html.

72 Parker, Diffey and Atchison, "Full-Day Kindergarten: A Look across the States."

73 Education Week, "Map: Full-Day-Kindergarten Participation."

74 Parker, Diffey and Atchison, "Full-Day Kindergarten: A Look across the States."

75 Amy Claessens, Mimi Engel and F. Chris Curran, "Academic Content, Student Learning, and the Persistence of Preschool Effects," *American Educational Research Journal,* Volume 51, Number 2, April 2014. In this study, kindergarten students experienced consistent learning gains when they were exposed to advanced reading content (such as phonics instruction, reading aloud or silently, and working on reading comprehension) but no gains from basic content (such as alphabet recognition, writing letters of the alphabet or writing one's own name).

76 Daphna Bassok, Scott Latham and Anna Rorem, "Is Kindergarten the New First Grade?" *AERA Open*, Volume 1, Number 4, January–March 2016.

77 Duncan and Magnuson, "The Nature and Impact of Early Achievement Skills, Attention, and Behavior Problems."

78 La Paro et al., "Quality in Kindergarten Classrooms: Observational Evidence for the Need to Increase Children's Learning Opportunities in Early Education Classrooms," *Early Education and Development*, Volume 20, Number 4, 2009.

79 Eric R. Banilower et al., "Report of the 2012 National Survey of Science and Mathematics Education," Horizon Research, February 2013.

80 Bassok, Latham and Rorem, "Is Kindergarten the New First Grade?"

81 Nell K. Duke and Meghan K. Block, "Improving Reading in the Primary Grades," *The Future of Children*, Volume 22, Number 2, fall 2002.

82 Nell K. Duke et al., "Essential Elements of Fostering and Teaching Reading Comprehension," in S. Jay Samuels and Alan E. Farstrup, *What Research Has to Say about Reading Instruction, Fourth Edition*, Newark, Delaware: International Reading Association, 2011.

83 Mimi Engel et al., "Mathematics Content Coverage and Student Learning in Kindergarten," *Educational Researcher*, Volume 45, Number 5, 2016.

84 Greg J. Duncan et al., "Boosting School Readiness with Preschool Curricula," Irvine Network on Interventions in Development, 2015.

85 Diana Epstein and Raegan T. Miller, "Slow Off the Mark Elementary School Teachers and the Crisis in Science, Technology, Engineering, and Math Education," Center for American Progress, May 2011.

86 Russel Gersten et al., "Assisting Students Struggling with Reading: Response to Intervention and Multi-Tier Intervention for Reading in the Primary Grades," U.S. Department of Education Institute of Education Sciences, February 2009.

87 *Ibid.*

88 See http://education.ohio.gov/Topics/Early-Learning/Third-Grade-Reading-Guarantee.

89 Laura Bornfreund, "State Policies that Support Children's Literacy through a Coordinated and Connected PreK-3rd Grade Education," 2015.

90 Michelle Croft, "State Adoption and Implementation of K-2 Assessments," ACT, March 2016.

91 New America 50-state online map accompanying Bornfreund et al., "From Crawling to Walking: Ranking States on Birth–3rd Grade Policies that Support Strong Readers."

92 Alyssa Auck and Bruce Atchison, "50-State Comparison: K-3 Quality," Education Commission of the States, July 2016.

93 Shari Golan et al., "Case Studies of the Early Implementation of Kindergarten Readiness Assessments," U.S. Department of Education, August 2016. The four case study states were Maryland, Oregon, Pennsylvania and Washington.

94 New America 50-state online map accompanying Bornfreund et al., "From Crawling to Walking: Ranking States on Birth–3rd Grade Policies that Support Strong Readers."

95 K–3 Formative Assessment Consortium, "Overview of a Groundbreaking New Early Learning Project," 2015. Participating states include North Carolina (lead state), Arizona, Delaware, District of Columbia, Iowa, Maine, North Dakota, Oregon, Rhode Island and South Carolina. Research partners include BUILD, Child Trends and SRI.

96 Data Quality Campaign, "Roadmap for Early Childhood and K–12 Data Linkages," January 2016.

97 Early Childhood Data Collaborative, "2013 State of States' Early Childhood Data Systems," February 2014.

98 Data Quality Campaign, "Roadmap for Early Childhood and K–12 Data Linkages."

99 Jeanne R. Paratore, "Parents and Reading: What Teachers Should Know about How to Support Productive Home-School Environments," in S. Jay Samuels and Alan E. Farstrup, *What Research Has to Say about Reading Instruction, Fourth Edition*, Newark, Delaware: International Reading Association, 2011.

100 Timothy Rasinski and Bruce Stevenson, "The Effects of Fast Start Reading: A Fluency-Based Home Involvement Reading Program, on the Reading Achievement of Beginning Readers," *Reading Psychology*, Volume 26, Number 2, 2005. See also Timothy V. Rasinksi and S. Jay Samuels, "Reading Fluency: What It Is and What It Is Not," in S. Jay Samuels and Alan E. Farstrup, *What Research Has to Say about Reading Instruction, Fourth Edition*, Newark, Delaware: International Reading Association, 2011.

101 Paratore, "Parents and Reading: What Teachers Should Know about How to Support Productive Home-School Environments."

102 National Council on Teacher Quality, "2015 State Teacher Policy Yearbook," 2015.

103 National Governors Association, "A Governor's Guide to Early Literacy: Getting All Students Reading by Third Grade," October 2013.

104 Gina Biancarosa, Anthony S. Bryk and Emily R. Dexter, "Assessing the Value-Added Effects of Literacy Collaborative Professional Development on Student Learning," *The Elementary School Journal,* Volume 111, Number 1, 2010. "On average, children in participating schools in the first year of implementation made 16% larger learning gains than observed during the baseline no-treatment period. In the second year, children learned 28% more compared to the baseline data, and by the third year they had learned 32% more."

105 Jade M. Jenkins et al., "Do High-Quality Kindergarten and First Grade Classrooms Mitigate Preschool Fadeout?" Irvine Network on Interventions in Development, March 2016.

106 U.S. Department of Education, "Non-Regulatory Guidance for Title II, Part A: Building Systems of Support for Excellent Teaching and Leading," September 27, 2016. The Every Student Succeeds Act (ESSA) is bipartisan legislation passed by Congress to reauthorize the 50-year-old Elementary and Secondary Education Act of 1965, the federal government's most extensive law providing annual funding and support for elementary and secondary education. ESSA replaces the previous reauthorizing legislation, the No Child Left Behind Act of 2002.

107 Bornfreund et al., "From Crawling to Walking: Ranking States on Birth–3rd Grade Policies that Support Strong Readers."

108 Bornfreund 2011 cited in National Governors Association, "A Governor's Guide to Early Literacy: Getting All Students Reading by Third Grade," October 2013.

109 National Governors Association, "Leading for Early Success: Building School Principals' Capacity to Lead High-Quality Early Education," May 2013.

110 Russel Gersten et al., "Assisting Students Struggling with Reading: Response to Intervention and Multi-Tier Intervention for Reading in the Primary Grades."

111 *Ibid.*

112 *Ibid.*

113 Louis T. Mariano and Paco Martorell, "The Academic Effects of Summer Instruction and Retention in New York City," *Educational Evaluation and Policy Analysis,* Volume 23, Number 1, 2013.

114 Emily Workman, "Third Grade Reading Policies," Education Commission of the States, December 2014.

115 *Ibid.*

116 *Ibid.*

117 Foundation for Excellence in Education, "The Ability to Read Is the Gateway to Success," 2015.

118 Nailing Xia and Sheila Nataraj Kirby, "Retaining Students in Grade: A Literature Review of the Effects of Retention on Students' Academic and Nonacademic Outcomes," RAND Corporation, 2009.

119 Guido Schwerdt, Martin R. West and Marcus A. Winters, "The Effects of Test-Based Retention on Student Outcomes Over Time: Regression Discontinuity Evidence from Florida," National Bureau of Economic Research, August 2015.

120 *Ibid.*

121 States with such policies often exempt some groups of students who have a disability, some English language learners and some students who have been retained in previous grades. However, states should not automatically exempt all students who have a disability or who have an individual education plan (IEP). As the National Center for Learning Disabilities and the Learning Disabilities Association of America point out, "we know that many students with IEPs can meet reading standards. Even some students with reading disabilities can learn to read at grade level and move to fourth grade with appropriate services, instruction, and supports. … Therefore, students with disabilities, as a whole, should not be automatically exempt from these policies." See www.ncld.org/archives/action-center/what-we-ve-done/third-grade-reading-laws-their-impact-on-students-with-learning-attention-issues.

122 Elliot Regenstein and Katherine Lipper, "Framework for Choosing a State-Level Early Childhood Governance System," Build Initiative, May 2013.

123 See www.illinois.gov/gov/OECD/Pages/default.aspx.

124 See www.michigan.gov/mde/0,4615,7-140-63533---,00.html.

125 Regenstein and Lipper, "Framework for Choosing a State-Level Early Childhood Governance System."

126 See http://decal.ga.gov/Default.aspx.

127 As an example, Business Roundtable members are providing support to bring training to hundreds of teachers through the Success for All program, which has been shown by research to significantly improve students' reading proficiency. See Business Roundtable, "Investing in Results: How Business Roundtable Is Supporting Proven Education Reforms," October 2015.

128 Quoted in Marjorie Wechsler et al., "The Road to High-Quality Early Learning Lessons from the States," Learning Policy Institute, June 2016.

Printed on recycled paper

300 New Jersey Avenue, NW
Suite 800
Washington, DC 20001

Telephone 202.872.1260
Twitter @BizRoundtable
Website brt.org