

High-Quality Early Learning: BUILDING THE STEM PIPELINE FOR THE FINANCIAL & IT INDUSTRIES



The ability of the nation's financial and information technology (IT) services industries to keep our country competitive rests on the caliber of its workforce – especially workers who:

- ▶ *Specialize in science, technology, engineering, and math (STEM) disciplines - at all levels, from entry-level accountants to CFOs and from computer programmers to CIOs.*
- ▶ *Are well-prepared in terms of their core academic knowledge along with executive functioning skills such as critical thinking, persistence, problem-solving, collaboration and creativity.*
- ▶ *Represent the best and brightest minds that bring unique perspectives to create meaningful solutions for the world's most pressing challenges.*
- ▶ *Come from a deep and diverse talent pool.*

Our nation is not on track to deliver the skilled workforce the financial and IT services industry needs. The lack of STEM-qualified workers is especially acute. A successful financial and technology company needs talent, innovation and diversity among its workers, and the workforce needs a direct pipeline to jobs in order for the nation to remain globally competitive. The financial services industry is projected to have the largest employment growth of any U.S. industry, creating more than 10 million job openings between 2010 and 2020, of which more than half will be new positions.¹ Even though 94 percent of STEM jobs by 2020 will require post secondary education, currently only 60 percent of working age adults have that level of education.² Students are leaving high school without the basic math knowledge to handle college math courses: fewer than half of students taking the ACT exam meet the college-readiness benchmark in math.³

While most industry efforts to build a skilled workforce address older students, a comprehensive solution requires starting

“Quality preschool math instruction serves as a foundation for later learning and contributes to addressing long-term, systemic inequities in educational outcomes.”

– **Jim Oliff**, Chairman, **CME Group Foundation**



education much earlier in life. High-quality early childhood education lays the foundation for a future workforce that has the STEM skills and other qualities the finance and IT industries need. For this reason, companies need to support efforts to help children start on the path to success well before they enter kindergarten.

The first five years of life are a unique period of brain growth when it develops 700 synapses—the neural connections that support later learning and behaviors—every second.⁴ This pace of development is never replicated. Because this early stage is so critical, the achievement gap between advantaged and disadvantaged children shows up as early as nine months

“We must begin very early with our children to give them the skills and tools they need to be successful.”

– **John Veihmeyer**, Chairman and CEO, **KPMG**

old.⁵ Children can be 18 months behind by the time they enter kindergarten, with significant gaps for both math and reading.⁶ Children who are not kindergarten ready are less likely to read well by grade three, and those children are less likely to graduate from high school, making it almost impossible to have a fully productive career.⁷

Research demonstrates that high-quality early childhood education—which by definition contains early math and science instruction—can address all of the workforce characteristics described above. It specifically addresses math achievement—as Science magazine concludes, “Preschool children’s knowledge of mathematics predicts their later school success into elementary and even high school. Further, it predicts later reading achievement even better than early reading skills.”⁸ It also builds behavior traits—perseverance, problem-solving, patience—that help children

“The focus on quality early education before kindergarten has a measurable positive impact on children’s future success in school and life. If we hesitate to make the investment in early education, by the time at-risk children reach third and fourth grade, they often can’t do math or read at grade level. Bridging the achievement gap is more difficult and expensive once it is created.”

– **Eva Blum**, executive vice president and director of Community Affairs for **PNC Bank**, and chair and president of the **PNC Foundation**.

Corporate Leadership

The **CME Group Foundation** supports an Early Math Initiative program, enabling young children from Chicago’s low-income communities to become math-proficient at the appropriate grade and/or developmental level.

make good choices and become productive employees, including in STEM fields. Because of these impacts, Nobel Laureate James Heckman has estimated a return on investment for quality early education for disadvantaged students of up to 10:1.⁹

Math and science instruction for young children is play – but play with a purpose. Children can have fun learning early math concepts of more and less; geometric shapes; and basic scientific processes such as gathering data, hypothesis testing and reporting results in bar graphs and pie charts. Young children are naturally curious – and reaching them at this stage teaches them they can be scientists before they might incorporate any message that math is hard or science is not for them.

The bottom line is that the future of the financial and IT services industries and our nation’s economy depends on our success at ensuring our children are prepared for the rigors of college and the workforce. We must start early to put our nation’s children on the right path and lay the foundation for a highly-skilled future workforce who are being educated and trained for successful 21st century technology jobs.

Take Action

- ▶ **Join ReadyNation!** There are no costs or meetings, only a willingness to consider invitations to speak out, with our support.
- ▶ **Speak to policymakers and/or the media.** We prepare remarks.
- ▶ **Support local early education programs in your community.** Visit www.ReadyNation.org/Ready2Go for ideas.

WHO WE ARE

ReadyNation is the nation’s preeminent business leader organization working to strengthen business through better policies for children and youth. It operates under the umbrella of the non-profit Council for A Strong America. Our more than 1,100 members educate policymakers and the public about effective investments that will help business compete in today’s global marketplace by helping children get on the right track to succeed in school and in life. Our members have contributed to victories for children at the federal level and in dozens of states.

We invite anyone from a business or business organization to join. There are no membership fees, financial obligations, or formal meetings. Our staff support our members to take action, making the best use of their time. **Go to www.ReadyNation.org/join-us**

For full research references, visit our website.

Add your voice.

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