

$$(x^n)' = nx^{n-1}$$

FLORIDA CHAMBER

Foundation

ALIGNING MATH EDUCATION TO WORKFORCE NEEDS: INSIGHTS FROM FLORIDA'S EMPLOYERS

$$u_i = R_i i_i + \sum_{j=1}^{i-2} L_j \frac{d}{dt} \left(\frac{d}{dt} \right)^{i-j} u_i$$

$$\sqrt{n} \sum_{i=1}^n (x_i - y_i)$$

$$(A-B)^2$$

$$y = x^2$$

$$\operatorname{ctg} \alpha + \operatorname{ctg} \beta = \frac{\sin(\alpha + \beta)}{\sin \alpha \sin \beta}$$

$$\frac{\pi}{2} - \operatorname{ArcSin}(x)$$



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“Talent is quickly replacing the tax incentive as the most important economic development tool in the toolkit.”

MARK WILSON

President, Florida Chamber of
Commerce & Foundation

Executive Summary

TO SECURE FLORIDA'S POSITION as a top 10 global economy by 2030 (per the [**Florida 2030 Blueprint**](#)'s strategic plan) and build a workforce that meets the demands of an evolving job market, our talent pipeline must be proficient in both foundational and advanced math skills. Achieving this goal requires strong alignment between the needs of the business community and K-12 math education. This [**Aligning Math Education to Workforce Needs**](#) Report combines findings from statewide focus groups with business leaders, educators, and parents, alongside survey results from Florida's business community, to examine how K-12 math education aligns with workforce needs. This report is a complementary report to the [**Math Matters: Bridging Gaps for Florida's Future Workforce Report**](#).

Key insights include:

Our focus group respondents reported the following themes:

- Employers across industries emphasized the importance of math skills such as problem-solving, data analysis, and financial literacy as vital for workforce readiness.
- However, business leaders believe there are gaps between the skills being learned in schools and the skills those same business leaders report as required in the workplace.
- Further, both business leaders and some educators highlighted a lack of real-world applications in K-12 math education lesson plans and curriculum.
- Finally, both groups underscored the need for soft skills, including communication, teamwork, and critical thinking, to complement technical competencies, the same skills that were emphasized in the [**Florida Chamber Foundation's Workforce Needs 2.0 Report**](#).

Survey findings revealed:

- While math proficiency remains a priority, many business leaders face challenges in finding job candidates equipped with the necessary math skills.
- To reconcile this apparent need, business leader respondents expressed strong interest in collaborating with educational institutions to bridge this gap and in leveraging K-12 math performance data to better inform their internal workforce strategies.

"Math matters, so this research matters. The Florida Chamber Foundation's CDP Council implores Florida leaders to prioritize this issue. You'd be hard-pressed to find a job that doesn't require some level of math proficiency."

—David Odahowski, President & CEO, Edyth Bush Charitable Foundation, and Chair, Florida Chamber Foundation Community Development Partnership (CDP) Council

This report offers actionable insights to strengthen the connection between K-12 math education and workforce demands. **Recommendations include:**

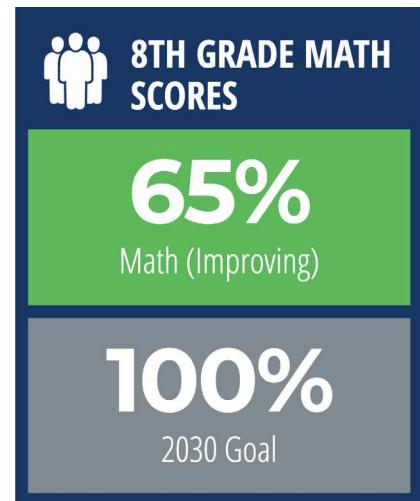
- Supplementing curriculum with practical “real world” applications.
- Early exposure to math-intensive careers.
- Enhanced industry-education partnerships to address resource disparities and improve workforce alignment.

Where are we now?

This research builds upon Florida Chamber Foundation’s ***Florida 2030 Blueprint*** “Talent Supply & Education Pillar” goals which are monitored via the TheFloridaScorecard.org and highlighted annually at the Florida Learners to Earners Workforce Solution Summit. Within the “Talent Supply & Education Pillar,” six “cradle to career” goals exist, each essential to the overall success of creating the world’s best workforce and growing Florida into a top 10 global economy by the year 2030. This ***Aligning Math Education to Workforce Needs Report*** addresses four of these goals:

1. 100% of Florida 8th graders read & perform math at or above grade level.
2. 95% of entering high school students graduate within four years.
3. More than 80% of Florida’s workforce has essential employability skills.
4. More than 60% of Floridians 25-64 have a high-value postsecondary certificate degree or training experience.

Currently, 65% of Florida’s 8th graders are proficient in their math courses, which falls short of our 100% goal (goal #1) and 89.7% of high schoolers graduate within four years (goal #2), which reflects improvement in recent years. Employers report deficiencies in the essential math skills in the workforce (goal #3). Florida’s attainment rate of a postsecondary degree or high value credential (goal #4) has increased to 55.1% (2023), up over half percentage point from 2022, showing that more Floridians are earning valuable credentials to be prepared for the workforce.



How do we move forward?

By improving math proficiency and fostering strategic employer collaborations, Florida can build a talent pipeline that not only meets the needs of today’s industries but also drives long-term economic prosperity for Florida. Business leaders who are interested in supporting the Chamber’s yearlong efforts tied to this work

can take leadership by joining one of the Florida Chamber Foundation advisory boards that address issues related to math education and employability skills: the Future of Work Advisory Board or the Business Alliance for Early Learning Advisory Board. Florida's leading businesses can also join our advisory group that provides thought leadership for all the Chamber Foundation's research projects, the Community Development Partnership Council.

The Future of Work Advisory Board helps ensure Florida's talent pipeline continues to meet the job demands of today and the future. Through strategic partnerships between employers, educational institutions, and policymakers, the initiative plays an essential role in strengthening Florida's talent pipeline, driving economic growth, and positioning the state as a national leader in workforce development. Visit <https://www.flchamber.com/futureofworkflorida> if you are interested in learning more or joining the Future of Work Advisory Board.

The Florida Chamber's Business Alliance for Early Learning Advisory Board focuses on identifying solutions to ensure our youngest learners are receiving high quality education from birth. To get involved and support their work to ensure that Florida's children are set on a path to success in every community, visit <https://www.flchamber.com/earlylearningfl/>

The Florida Chamber Foundation's research initiatives are powered by the Florida Community Development Partnership Council (CDPs), an elite group of thought leaders and funding partners with a vested interest in Florida's success. These forward-thinking individuals and organizations contribute their time, expertise, and resources to develop strategies that create measurable impacts across the state and support our research projects. As a 501(c)(3) charitable organization, the Foundation relies on the support of CDPs to advance its research mission under the Six Pillars.

To learn more about joining the CDP program and supporting the Foundation's research, visit <https://www.flchamber.com/cdp>.

Community Development Partnership Council



Holland & Knight



Publix



Introduction

MATHEMATICS EXTENDS WELL BEYOND the classroom; it serves as an important foundation for workforce readiness and Florida's economic future. As the demand for skilled talent accelerates across all of Florida's industries, gaps in K-12 math education can present significant challenges to sustaining the state's prosperity and the Florida Chamber Foundation's **Florida 2030 Blueprint** plan to be a top 10 global economy by 2030. Students who lack strong foundational math skills in middle and high school often face barriers in excelling in postsecondary education and the workforce, further widening the talent gap in key sectors essential to Florida's economy.

Recognizing the urgency of this issue, Florida's state leaders and policymakers have begun taking proactive steps to address these challenges. Notably, the Florida Chamber of Commerce strongly advocated for the passage of 2024 House Bill 1361 that expanded the New Worlds Reading Initiative to include the Florida Tutoring Advantage program, aiming to strengthen math achievement for pre-kindergarten through 5th grade students and lay the groundwork for long-term educational and economic success.

The Florida Chamber of Commerce Foundation (the Chamber Foundation) sought to learn perspectives on the role of K-12 math education and its significance for future career success. This report is the second in a two-part research study by the Chamber Foundation on the importance of math proficiency in ensuring Florida's future success. The first report was the **Math Matters: Bridging Gaps for Florida's Future Workforce Report** which is a quantitative assessment of math performance in K-12 end-of-course math exams, whereas this **Aligning Math Education to Workforce Needs Report** primarily captures the perspectives of business leaders, as well as educators and parents, on the role and state of math proficiency in Florida and necessary math skills for various industries.



*This report is a call to action. While **65% of Florida's eighth graders are math proficient**, there's still ground to cover.*

Every percentage point represents a student's future and our region's economic strength.

Let's use these findings to drive collaboration among educators, business leaders, and policymakers—building a talent pipeline rooted in strong math skills to secure Florida's future."

— Bemetra Simmons, President & CEO, Tampa Bay Partnership



Focus Group Objectives

We explored the following topics with each group of participants:

- **Business Leaders:** We first conducted focus groups to examine how math skills are used in the workforce, gaps between education and industry needs, and opportunities for collaboration. A survey with a larger sample of business leaders further explored specific skills, assessments of the talent pipeline, and their interest in using research on students' math proficiency to benefit their organizations.
- **Educators:** Our focus groups addressed challenges in teaching math, relevance to career readiness, and professional development needs.
- **Parents:** Our focus groups concentrated on their perspectives about the importance of math in daily life, career pathways, and their ability to support their children's education.

These focus group discussions not only enriched the understanding of the connections between math proficiency and workforce success but also revealed additional questions for exploration. For example, the focus groups highlighted the need to assess business leaders' awareness of available education data and its utility in decision-making. Insights from these focus group sessions guided the development of a separate online survey for business leaders, contributing to a broader analysis of business leader perspectives on the role of Florida's math education in preparing the workforce. The focus group results are discussed in the first half of this report and the survey results are discussed in the second half of this report.



Survey Objectives

The survey was developed in response to the focus groups and collected data from a larger sample of business leaders. It examined the importance of different math-related skills and assessed employers' perceptions of gaps between what skills employers want and what they're getting from applicants. Survey questions also addressed barriers to career advancement due to math deficiencies, the role of assessing math proficiency in the hiring process, and training programs in addressing skill gaps. Additionally, the survey investigated how businesses engage with educational institutions and use data on K-12 math education to inform workforce decisions, as well as how businesses review research on K-12 math performance. Overall, the survey sought to gather insights on the alignment of math education with industry demands and support workforce development strategies.



Focus Group Results

Business Leaders

Key Findings

BUSINESS LEADERS ACROSS A VARIETY OF INDUSTRIES

Business leaders consistently emphasized the importance of math proficiency in the workforce. They identified key skills such as critical thinking, data analysis, and problem-solving as essential for job performance and career growth. Specific examples highlighted the role of precision math in fields like aviation and engineering, where tasks such as measuring to fractions of an inch ensure safety and efficiency. Similarly, entrepreneurs and business owners pointed to the value of basic accounting, budgeting, and financial literacy for operational success. These technical math skills are considered industry standards and are sometimes important for safety (for both employees and the customers) and can be tied to the overall longevity and financial health of the organization.

Despite the recognized importance of math, business leaders expressed concerns about a disconnect between K-12 math education and real-world workforce needs. Many observed that the current curriculum often prioritizes theoretical concepts and test preparation over practical, real-world applications. This disconnect leaves many graduates ill-prepared for industry-specific tasks, such as using measurement tools or interpreting data.

To address these gaps, business leader participants advocated for curriculum alignment and improvements that emphasize real-world applications of math. They suggested integrating project-based learning and industry-relevant examples, supported by partnerships with businesses to provide hands-on experiences. Business leaders also highlighted the importance of developing soft skills such as communication and teamwork alongside technical math skills. “If kids could see how math is used in real careers, like measuring an airplane wing or managing a business budget, they’d be more engaged,” one business leader in a focus group remarked.

Opportunities for collaboration between schools and businesses were another key theme. Business leaders proposed various partnership models, including career day events featuring experiential learning, donations of classroom tools and materials, and the establishment of mentorship and internship programs. However, they also acknowledged challenges, such as limited awareness among businesses and time constraints for both educators and employers. To overcome these barriers, one focus group participant recommended making career days more intentional by bringing students into their workplaces to see math in action.

Key Skills Identified as Essential for Job Performance and Career Growth

- Critical thinking
- Data analysis
- Problem-solving

“Supporting education, particularly in STEM fields, is not just a commitment—it’s a responsibility. At FPL, we recognize that fostering strong mathematical foundations helps build a talent pipeline that will drive innovation and sustainability in our industry and beyond.”

— Donald Kiselewski, Executive Director, External Affairs, Florida Power & Light Company

How is Math Connected to Career Advancement?

Business leaders emphasized a strong connection between math proficiency and workforce readiness, viewing it as a cornerstone of job performance and career advancement across their industries. **Business leaders pointed out that math proficiency serves as a gateway to high-demand career pathways**, including fields such as engineering, healthcare, and data analytics, as well as careers found in the Chamber Foundation's Top 30 High-Demand Careers (2032) Report. Beyond technical proficiency, business leaders also underscored the important role of essential non-technical skills related to math proficiency (often referred to as soft skills), such as collaboration on problems that require math proficiency and being able to communicate data and results to various audiences. These abilities are increasingly essential in leadership roles in the workplace that require interpreting complex data to make informed decisions, and are among the same soft skills cited in the Florida Chamber's Workforce Needs Study 2.0.

Recommendations from Business Leaders

Building on their insights into the importance of math proficiency and its connection to workforce readiness, business leaders offered several actionable recommendations to bridge the gap between K-12 math education and industry needs. Their suggestions focused on supplementing the curriculum, stronger collaboration between schools and businesses, and equipping educators with the resources needed to prepare students for the demands of the modern workforce.



Rachel Ludwig (VP of Talent Development, Chamber Foundation), Tommy Crummy (Director of Marketing, Waste Management), Manny Perez (Dean of Engineering, Technology & Design), and DeAnna D. Thomas (Executive Director, Lake Technical College) discuss training the next generation of talent for essential high-tech infrastructure jobs at the 2024 Florida Chamber Foundation's Transportation, Growth and Infrastructure (TGI) Solution Summit.

REGISTER FOR THE 2025 TGI SOLUTION SUMMIT

To join the conversation of how STEM and high-tech jobs are tied to Florida's continued infrastructure growth, register for the 2025 TGI Solution Summit today.



1 Curriculum Adjustments. To make math education more relevant and engaging, business leaders advocated for the incorporation of practical applications directly tied to local industries. They emphasized the importance of moving beyond theoretical concepts to show students how math is used in real-world contexts. Additionally, they suggested promoting interdisciplinary learning approaches that connect math to other subjects, such as science, technology, and the arts, to highlight its broad utility and enhance student engagement.

2 Strengthening Partnerships Between Schools and Businesses. Business leaders highlighted the need for streamlined mechanisms that enable industry professionals to contribute resources and expertise to schools. They proposed the development of “matchmaking” systems to connect educators with local businesses, fostering mutually beneficial collaborations. These partnerships could include guest lectures, hands-on demonstrations, or industry professionals serving as mentors, helping students see firsthand how math skills are applied in various careers.

St. Lucie Public Schools (SLPS) and the Economic Development Council (EDC) of St. Lucie County have launched the Classrooms2Career (C2C) Initiative, a workforce development program designed to prepare K-12 students for career success. C2C integrates leadership training, career awareness, exploration, and hands-on experiences aligned with local industry needs.

Since its launch by Superintendent Dr. Jon R. Prince and St. Lucie EDC President Pete Tesch, the initiative has gained strong support from district leadership. Existing programs, including Xello for career planning, pre-apprenticeships, Play with Purpose for early learning, and annual Career Fairs for high school students, form the foundation of C2C. Efforts are underway to expand the initiative with an 8th Grade Experience, a K-12 Leadership component, enhancements to the Freshman Seminar course, and expanded counselor bus tours.



Students and parents interested in learning about the top 30 in-demand careers in their region can check out the Florida Chamber's resource on the Top 30 High-Demand Careers (2032)

TOP 30 HIGH-DEMAND CAREERS (2032)

SCAN TO LEARN MORE

QR code

“The St. Lucie EDC partnered with our local school district because workforce development starts in the classroom. Economic development councils and businesses across Florida can do the same—connecting students with real-world skills and career pathways.

Stronger partnerships today mean a more competitive workforce tomorrow.”

— Pete Tesch, President, Economic Development Council of St. Lucie County



By strengthening partnerships between education and industry, SLPS continues to lead in innovative approaches that prepare students for Florida's future workforce and adding value to local businesses and industry partners.

③ Encourage Early Exposure to Careers. To inspire students and help them understand the value of math in different fields, business leaders recommended organizing field trips, internships, and summer programs tied to math-intensive industries. By providing students with direct exposure to workplaces and career pathways that rely on math, these initiatives could make math education more meaningful and motivate students to pursue related opportunities.

The Northeast Florida Regional STEM2 Hub bridges the business and education sectors, fostering partnerships that prepare students for the future workforce. STEM2 Hub collaborates with companies like Wells Fargo, Florida Blue, RS&H, CSK, and other Florida Chamber members to integrate industry expertise into K-12 education through STEM initiatives and workforce programs. These efforts provide students with real-world experiences, mentorship, and career exploration while building a skilled talent pipeline for businesses. By embedding STEM in schools and afterschool programs, STEM2 Hub ensures students gain meaningful exposure to key industries, driving workforce readiness and regional economic growth.

Interested students and parents should check out the Future of Work Florida Career Spotlight Series for examples of careers and industries that use math everyday! These career examples require postsecondary Career and Technical Education—an alternative to the traditional 4-year college pathway—and are accessible via programs in the Florida College System and district technical colleges throughout Florida.

④ Support for Educators. Recognizing the pivotal role of teachers in shaping student success, business leaders suggested increasing support for educators through targeted professional development. Training programs could focus on teaching real-world math applications and integrating industry-specific examples into lessons. Additionally, they recommended equipping teachers with tools and resources, such as case studies or interactive activities, to help bridge the gap between classroom learning and practical applications.

FUTURE OF WORK FLORIDA

CAREER SPOTLIGHT SERIES

Scan to Access the Videos



Commercial Pilot



Firefighter Paramedic



Assistant Project Manager (Construction)



The Future of Work Florida initiative is launching the [Florida Chamber Industry Immersion for Career Influencers](#), to connect K-12 educators, counselors & post-secondary career advisors with businesses to raise awareness of high demand careers and essential skills. Business leaders who want to participate and inform Florida's educators are invited to or use the QR code below to learn more.

Florida Chamber Industry Immersion for Career Influencer Program

Equip educators, counselors & advisors to inspire & prepare students for careers in your field.



Career influencers participate in a series of virtual convenings culminating in an onsite experience.



Career influencers visit a local business, learn about the industry, high-demand careers & skills needed.



Career influencers connect with students to increase their understanding of high-demand careers, pathways & skills.



Businesses shape future talent by establishing relationships with key influencers in career exploration.

SCAN TO LEARN MORE



“I support legislation that equips educators with the tools they need to deliver high-quality mathematics instruction. By strengthening our teacher preparation programs, we are ensuring that every student has the opportunity to develop critical mathematical skills that are vital for success in today’s world.”

- Senator Alexis Calatayud, District 38

Perspectives from Parents and Educators

Parents and educators offered valuable insights into the challenges and opportunities within K-12 math education, emphasizing the importance of math proficiency for both academic and workforce readiness. While their perspectives stemmed from different roles, both groups highlighted a shared commitment to equipping students with the skills needed for success, echoing the views of business leaders.

Relevance of Math in Everyday Life and Careers

Both parents and educators recognized math as a fundamental skill that extends beyond the classroom. Parents frequently emphasized its role in daily tasks like budgeting, general problem-solving, time management, and even self-enriching activities such as learning to play music. They also noted its importance for the future. Similarly, educators noted that math proficiency lays the groundwork for logical reasoning and data interpretation—**skills business leaders also identified as essential for job performance and career advancement.**

However, parents and some educators expressed concerns about a disconnect between math education and real-world applications, **similar to how business leaders recommended integrating industry-relevant examples into curriculum.** Parents and educators both believe that children will foster a deeper appreciation for math if they understand how it impacts their lives beyond the classroom. Parents noted that when talking about math at home their children often struggle to see how math relates to their future goals. Also, educators acknowledged that rigid curriculums and a focus on standardized testing limit opportunities to showcase math's practical relevance. For example, some teachers described a desire to engage in "backward design lesson planning" that begins with an understanding of their students' career aspirations, but time constraints make this difficult.

Providing parents with materials they can reference with their children at home (e.g., short video clips, websites, interactive career interest surveys) can help them lead conversations with their children about the connections between their math lessons and future career options. When children enter the classroom with a base-level understanding of how math connects to their career interests, their teachers may find it easier to incorporate classroom-to-career connections into lessons or homework assignments.

“Mathematics is the language of problem-solving and innovation. I am steadfast in my commitment to enhance math education through legislation by empowering teachers and, ultimately, providing students with the strong foundation they need to thrive in a competitive global economy.”

-Representative Susan Valdez, District 64



Shining Examples of Hands-on Math Learning

Some educators in our focus groups described creative strategies they use to connect math lessons to real-world applications, reinforcing the importance of making math relevant for students. For example, one 3rd grade teacher in Alachua County designed a lesson that simulated a trip to the grocery store, integrating budgeting and purchasing decisions into math problems. Another example came from an educator in Alachua County, where 5th grade students participated in a day-long visit to a simulated town called Junior Achievement of Alachua County's JA Biz Town. In this hands-on experience, students "worked" by operating banks, restaurants, local government, and public utilities, and this face-to-face experience was preceded by several classroom lessons that helped them establish an understanding of a free enterprise system, basic financial literacy, and the role of math in the workplace. The added benefit of this well-planned learning experience is youngsters are put in a position of responsibility and can foster soft skills that are also valued in the workplace. Finally, a teacher in Santa Rosa County described how she incorporates community-based projects in each of her 6th grade math curriculum units. For example, when a local business was building a new mini golf course at the local beach, the students engaged in a project where they identified building sites, calculated prices of materials, tracked expenses on spreadsheets, and used calculations of perimeter and area to design a possible course.

ACCESS YOUR RESOURCES

Parents are encouraged to sign up their children for a free online Xello account paid for by taxpayers via the Florida Department of Education (FDOE).



Xello is Florida's new official, K-12 career planning and work-based learning coordination provider, and more information can be found on the FDOE's website [here](#). K-12 students can build personalized profiles to display their interests, skills and abilities, take career matching assessments, and review career profiles to learn about different careers.

"The concerning pass rates in mathematics emphasize the need for robust support systems. Holland & Knight fully supports the suggestions outlined in this report, including providing better access to mentorship and tutoring services so students can excel academically and build a brighter future."

*- Mia McKown, Partner,
Holland & Knight*

Challenges in Supporting Math Education

Parents highlighted challenges in helping their children with math homework, citing differences in current teaching methods compared to their own school experiences. Many parents expressed a need for resources, such as workshops, guides or access to tutors, to better support their children's learning out of the classroom. As part of the Florida Tutoring Advantage program established by

House Bill 1361 (2024) and administered by the University of Florida Lastinger Center, specific Florida school districts have enrolled in a pilot program that began in January 2025 to enhance mathematics tutoring for some K-5 students.

Educators, on the other hand, identified disparities in teachers' abilities to implement available resources as a significant barrier to student success across schools. For example, some educators mentioned that their district gave teachers access to a variety of helpful resources but many educators, especially new teachers, lacked the proper training to effectively implement these resources.

These observations align with business leaders' concerns about resource and training inequities contributing to inconsistent math proficiency and workforce preparedness across communities.

Recommendations from Educators and Parents: Collaboration and Improvement

Collaboration between schools, families, and the broader community emerged as a key theme. Parents and educators both called for stronger partnerships to enhance math education and bridge the gap between classroom learning and workforce demands—***which mirrors business leaders' recommendation for fostering school-industry collaborations.*** Specific recommendations from parents and educators included:

1 Providing parents with tools and resources to support their children's math learning at home, such as access to new tutoring opportunities and creating awareness for the career-planning tool, Xello.

2 Offering professional development for educators focused on innovative teaching strategies and integrating real-world applications into the curriculum.

3 Engaging local industries at the local level to create mentorship opportunities, career days, and experiential learning programs that showcase the value of math in various fields, ***which was also proposed by business leaders.***

By addressing these shared concerns and leveraging opportunities for collaboration, business leaders, educators, and parents believe that Florida's K-12 math education is poised to better prepare students for academic and career success in an every-changing world.



Business Leaders Survey Results

TO ELUCIDATE WHAT MATTERS MOST TO BUSINESSES,

To highlight the key results and findings from the survey conducted with a larger sample of business leaders. Simply put, the findings are as follows: Employers highly value a range of math related skills but many report difficulty finding job candidates proficient in these skills. Math skills are needed for a range of roles within organizations, including those that exist across types of industry (administration and event planning, for example), technical roles, and leadership roles. That is probably why most of the math skills we asked business leaders about are deemed important or very important by almost all survey respondents—diverse roles in their organization apply these skills to their job-specific tasks.

Also, employers may benefit from enhanced methods to screen for talent during the hiring process to ensure candidates have the right math skills for the job. Finally, just over half of businesses surveyed report being currently engaged with the education sector. Notably, 85% of respondents expressed interest in research on what skills are being taught in math courses and student proficiency in these topics. This signals growing business-sector interest in understanding the educational pipeline and identifying ways to better align math instruction to workforce demands.

The Universal Importance of Math Skills

Employers emphasize that math skills are essential across a wide range of roles, reinforcing the importance of K-12 education in teaching students how to apply math to real-world scenarios. Survey results indicate that math proficiency is vital not only in traditionally math-intensive careers like Accountants and Engineers but also in less obvious roles such that exist across most organizations (regardless of industry) such as event management and administration. Notably, leadership positions were also frequently cited, underscoring the need for strong math skills among those aspiring to management and strategic decision-making roles. This highlights the broad relevance of math proficiency across professional contexts, particularly in organizational leadership and decision-making (**Figure 1**). In fact, business leaders reported that not having math proficiency can create barriers for employment such as lack of advancement opportunities (87%) and limitations in compensation (56%).

85% of business leader survey respondents are interested in more research on math skills, student proficiency, and the talent pipeline.



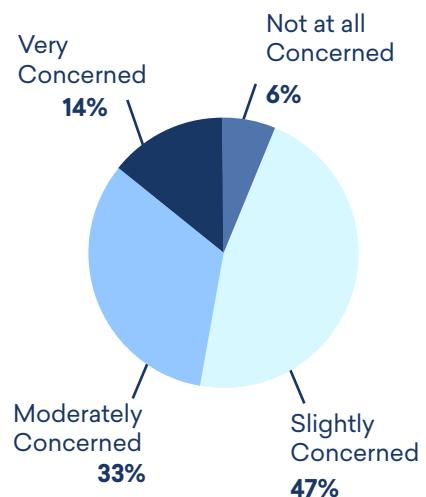
FIGURE 1: WORD CLOUD OF ROLES REQUIRING MATH PROFICIENCY IDENTIFIED BY BUSINESS LEADERS



Concerns About Applicants' Math Skills

Business leaders may struggle to find the right talent for their companies' open positions, as 94% of respondents indicated some level of concern with the math skills of prospective employees (ranging from slightly, moderately to very concerned; see **Figure 2**.) This issue with the skills gap contributes to why there are still unemployed Floridians even though in 2024 there were only 89 people looking for jobs for every 100 jobs looking for people—if the current talent pool does not have the right skillsets, there will continue to be a misalignment between open jobs and job seekers. These concerns are not entirely new, however, as 64% of business leaders expressed some level of concern with the math skills of their current employees, which suggests that on-the-job training or upskilling may be important.

FIGURE 2: EMPLOYERS' CONCERN WITH THE MATH SKILLS OF THEIR ORGANIZATION'S PROSPECTIVE EMPLOYEES.



Business leaders identified several specific math skills that they found important, but simultaneously report that these skills are difficult to find in prospective candidates (**Table 1**).

TABLE 1 – PERCENTAGE OF BUSINESS LEADERS RATING MATH SKILLS AS IMPORTANT OR VERY IMPORTANT AND CHALLENGING TO FIND IN JOB CANDIDATES.

Math Related Skill	Skill Rated as Important or Very Important	Agree or Strongly Agree it is Difficult to Find Proficient Candidates
Understanding, organizing, and analyzing data to make informed decisions and solve problems	97%	90%
Using problem solving to identify problems and develop logical solutions	95%	85%
Using a variety of strategies when solving a problem rather than relying on a single method	87%	87%
Clearly presenting data and findings in a way appropriate to the necessary audience	87%	87%
Knowing how to choose appropriate tools (calculator, ruler, software, etc.) to solve a problem	82%	49%
Persisting in solving challenging problems by trying different approaches and maintaining focus	82%	90%
Using mental math to add, subtract, multiply, and divide	77%	69%
Understanding mathematical skills as they relate to money and personal finances	77%	64%
Collaborating within a team to apply math concepts and solve problems	64%	62%
Memorizing and applying math formulas	33%	51%

The most sought-after skill noted in the survey was “Understanding, organizing, and analyzing data to make informed decisions and solve problems” (97% rated as Important or Very Important), but 90% of respondents agree that it is difficult to find candidates proficient in this skill (**Table 1**). One of the hardest skills to find was, “Persisting in solving challenging problems by trying different approaches and maintaining focus,” with 90% of respondents agreeing it is difficult to find in job candidates, despite 82% rating it as an Important or Very Important skill (**Table 1**).

In addition to the skills in **Table 1**, business leaders had the opportunity to identify, through open-ended responses, other important skills they have observed lacking in applicants and employees. The survey results revealed a number of

“Math is integral to the innovation, safety, and efficiency of Boeing’s products and processes, making it a cornerstone of the aerospace industry. Whether we are designing aircraft or managing operations, math proficiency fuels innovation and drives success!”

- Travis Sullivan, Vice President and General Manager, Boeing Distribution



skills gaps in math-related and cognitive competencies, from fundamental to advanced skills. Basic deficits included mental math, understanding fractions and decimals, and applying state taxes. Advanced skills were also highlighted, such as statistical analysis, return on investment (ROI) and net present value (NPV) calculations, trend analysis, GIS mapping, and managerial finance.

Broader cognitive and technical skills gaps were also cited as being deficient, including abstract thinking, logic, critical thinking, problem-solving with multiple variables, and proficiency with computer tools such as Excel, data management systems, and AR/VR devices. Also, a decline in the number of STEM graduates eligible for government security clearances, particularly women, was noted as a workforce challenge, further emphasizing the need to strengthen math education and workforce training for all.

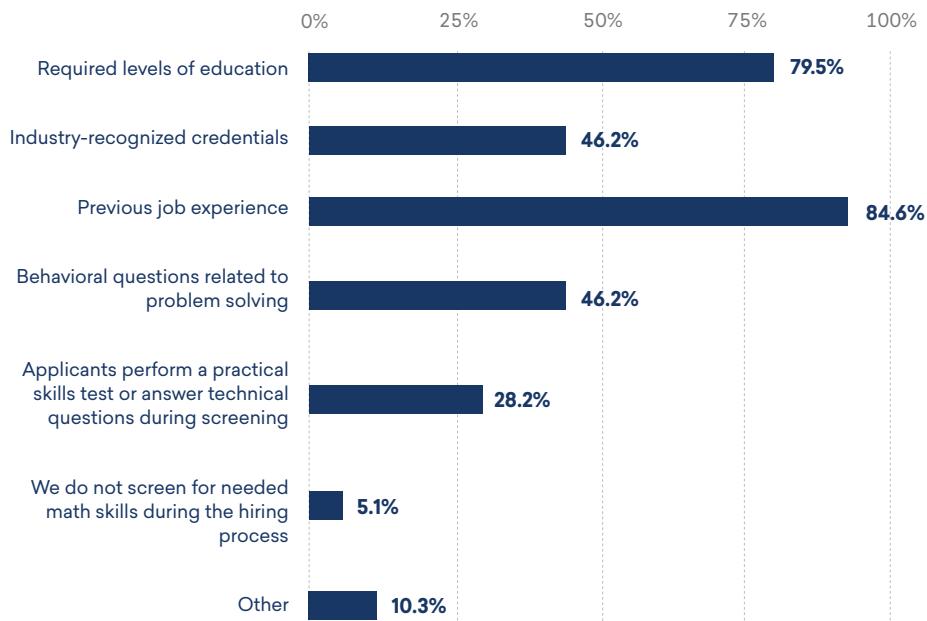
When specifically asked “What math skills do you wish students would be proficient in before they graduate high school?” business leaders emphasized the importance of both foundational and advanced math skills, reflecting the diverse needs of the modern workforce. Advanced skills such as algebra, geometry, trigonometry, and statistical analysis were cited as vital for career readiness, with some advocating for exposure to data analysis, datasets, and spreadsheet tools like Excel. Also, examples of connecting math concepts to real-world applications were cited such as modeling and financial projections. Overall, the responses reflect a strong need for high school students to master both practical, everyday math skills and higher-level concepts to be prepared for their transition into higher education and the workforce successfully.

Screening for Talent

When asked how their organization screens for necessary math skills during the hiring process, over three-quarters of business leader respondents (80%) indicated that the job’s “Required levels of education” are used (**Figure 3**). However, over half of respondents indicated that applicants and new employees only sometimes (54%) or rarely (5%) have the math skills that they expect from the level of education on their resume. This suggests a potential disconnect between the educational qualifications listed on resumes and the actual math proficiency demonstrated by candidates. It highlights the need for more robust methods of assessing math skills during the hiring process, beyond relying solely on broadly defined educational credentials, to ensure that applicants possess the practical competencies required for their roles. Screening methods such as industry-recognized credentials or practical skills tests may be a better way to ensure that the most important math skills needed are evident in applications. Forty-six percent and 28%, respectively, report using these as screening tools in the hiring process (**Figure 3**).



FIGURE 3: METHODS ORGANIZATIONS USE TO SCREEN FOR MATH SKILLS IN THE HIRING PROCESS.



Past Versus Future

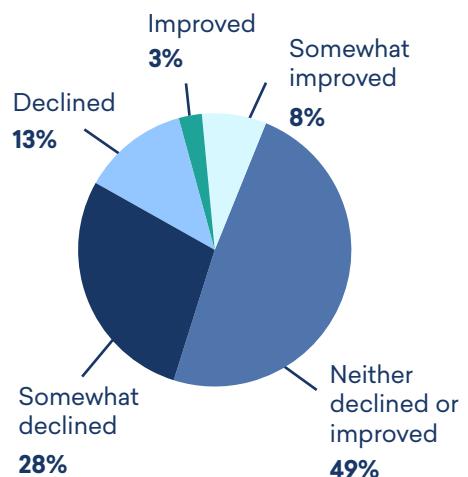
Employers were asked to compare applicants from the last five years, to what they anticipate in applicants in the next five years.

The findings from **Figure 4** and **Figure 5** reveal that employers are more positive about the future than reflecting on the recent past, as over one-fourth expect there to be improvements in math proficiency among job seekers in the next five years (**Figure 5**). This is promising, as only 11% of employers believed that they had seen improvements in applicants' math proficiency over the last five years (**Figure 4**). Business leaders are likely aware of the ongoing efforts to create policies to enhance Florida's education system, and the growing opportunities for businesses to become engaged with the education sector to influence the learning outcomes and opportunities for students.

Businesses and Education Sector Collaboration

The survey also investigated how businesses engage with educational institutions and if business leaders review or consider K-12 math proficiency data to inform their workforce strategies. Fifty-six percent of respondents indicated that their business engaged with educational institutions related to math education and/or future career pathways, with 15% of businesses reporting engagement with just postsecondary institutions, 8% reported engagement just at the secondary education level, and 33% reporting engagement at both education levels.

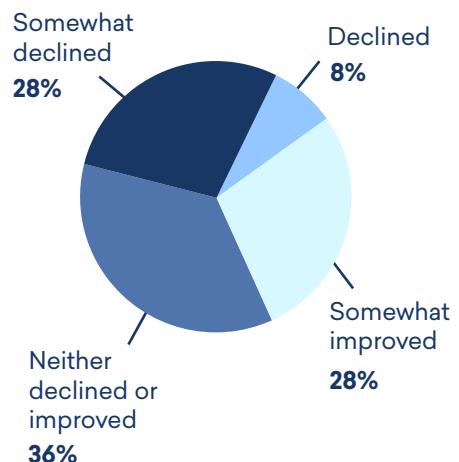
FIGURE 4: BUSINESS LEADERS' PERCEPTIONS OF CHANGES IN MATH PROFICIENCY AMONG JOB APPLICANTS AND NEW EMPLOYEES OVER THE PAST FIVE YEARS.



Among the 44% of respondents who are not currently engaged with educational institutions, half of those reported that they want to be engaged.

Some businesses that are already engaged indicated a wide range of activities with different educational institutions, emphasizing ongoing collaboration to support math education and career readiness at multiple levels. Many businesses partner with local schools, colleges, and universities to provide resources, opportunities, and training, such as financial literacy programs, STEM initiatives, and workforce training. Specific partnerships include mentoring and tutoring, creating school-run bank branches, sponsoring events, and supporting programs like Project Lead the Way and Girls Who Code. Some business leader respondents highlighted involvement with business groups, technical colleges, and professional networks that connect students to career pathways. A few respondents also noted direct teaching roles, board memberships, or offering tuition incentives for employees. Overall, these engagements reflect a shared commitment to fostering math proficiency and workforce readiness through collaborative efforts with educational institutions.

FIGURE 5: BUSINESS LEADERS' ANTICIPATED CHANGES IN MATH PROFICIENCY AMONG JOB APPLICANTS AND NEW EMPLOYEES OVER THE NEXT FIVE YEARS.



Florida Chamber Members Spotlight



Florida Power & Light

FPL is deeply committed to fostering STEM education through an array of impactful community programs and initiatives. The company offers transformational classroom makeover grants that support technology and innovation in schools, as well as grants for educators to encourage peer-to-peer learning of leading practices in STEM instruction. FPL supports robotics through investments in student robotics teams and regional competitions; the "Drones in School" initiative to enhance students' technical skills with drone technology; and Electrathon America, where high school students learn STEM principles as they design, build, and race electric vehicles. From literacy programs for new learners to college and workforce readiness initiatives, FPL is committed to inspiring and educating future generations.

Boeing



Boeing's Destination Moon program, launched in partnership with Brevard Public Schools, engages over 750 fifth and sixth graders from 44 elementary schools in a yearlong STEM challenge focused on lunar exploration. Since its 2018 pilot, students have developed solutions to space-related problems using robotics, coding, and engineering design, building critical thinking and problem-solving skills. Teams present their work to judges from Boeing, the school district, and the aerospace industry, giving students real-world exposure to careers in a field vital to Florida's growing aerospace workforce.

RS&H



For RS&H, an architecture, engineering, and consulting firm, fostering math and STEM proficiency is central to its culture and future workforce development. The RS&H Elevate Fund prioritizes education and youth programs, supporting initiatives that provide hands-on STEM learning.

RS&H funds programs like the ACE Mentor Program of Northeast Florida, a no-cost, after-school program that connects high school students with experts from the design and construction industry; Communities in Schools of Jacksonville, which hosts 22 afterschool programs including FIRST LEGO League and Robotics with STEM2Hub; and Thrives Scholars, which helps high-achieving, underrepresented students get into and graduate from top colleges.

Beyond financial support, RS&H's employees also actively volunteer in mentorship and hands-on initiatives, such as local MATHCOUNTS competitions; STEM programming for the Girl Scouts; and last year, the firm hosted a dozen Thrives Scholars at its Jacksonville headquarters to tour projects ranging from transportation to corporate buildings and interior design. By combining financial support with active employee involvement, RS&H remains committed to bridging the gap between education and industry, ensuring students are equipped with the skills needed for future success.

Business leaders who want to get more involved with their local education communities can take advantage of and join one of the regional [Education and Industry Consortiums](#) led by the Florida Chamber's Community Development Partner and goal leader, [CareerSource Florida](#).

What's Next for Promoting Businesses' Awareness of Math Proficiency?

One-third of the business leader survey respondents indicated that they are currently aware of how Florida's K-12 students are performing on state math assessments, 49% indicated they are "somewhat aware" and 18% indicated "no awareness." Florida business leaders do think this is important information for businesses to be aware of, as 62% of survey respondents indicated math assessment scores as valuable data (**Table 2**). However, there were other pieces of data that business leaders believe they should be aware of and apprised to, to support their long-term strategic goals (**Table 2**). The most important were the "skills being taught in math courses and aggregate student proficiency in these topics," which would allow business leaders to monitor if skills pipeline meets the current and future workforce demand. Business leaders are also highly interested in research on both early and later math experiences in the education system. This includes research on how advanced math course taking impacts students' future math proficiency, and research on how early academic challenges and interventions impact students' academic trajectories (**Table 2**).



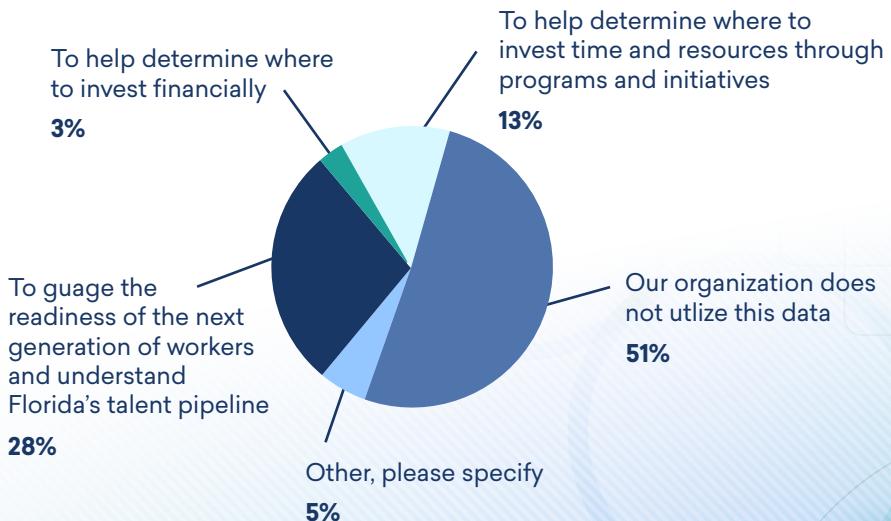
TABLE 2 – IMPORTANCE OF DATA RELATED TO FLORIDA STUDENTS’ MATH PROFICIENCY AS RATED BY BUSINESS LEADERS.

Data Related to Florida Students’ Math Proficiency	Data Rated as Important or Very Important
What skills are being taught in math courses, and student proficiency in these topics (on the aggregate)	85%
Research on how taking an advanced math course impacts a student’s future math proficiency	72%
Research on how early academic challenges impact a student’s academic and career trajectory	64%
Research on how early academic intervention impacts a student’s academic trajectory	64%
Current state math assessment scores	62%

Not all businesses, however, are necessarily equipped to utilize data and research related to K-12 math education to understand the current status of the future workforce. Over half (51%) of respondents indicated that their organization does not review data related to K-12 math (**Figure 6**). Among the other half that do review math data, over one-quarter (28%) indicated they are using this information to gauge the readiness of the next generation of workers to understand Florida’s talent pipeline, while other businesses are using this information to determine where to invest resources and for targeted hiring (**Figure 6**).

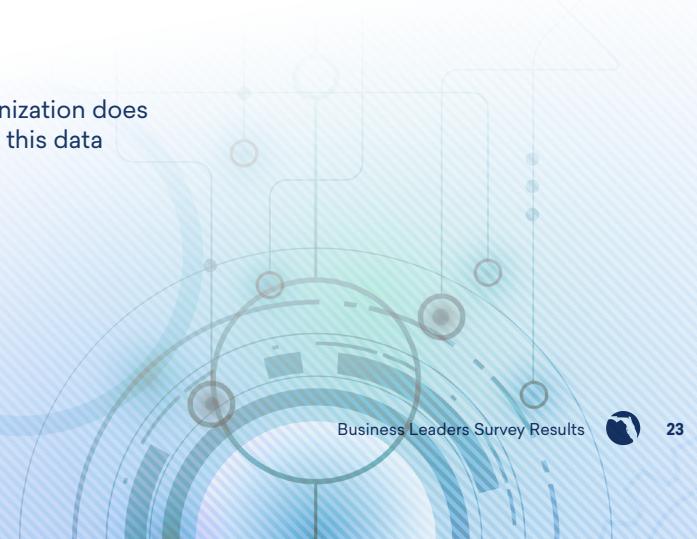
Importantly, there are opportunities for advancement and **many business leaders are interested in better understanding how K-12 math data related to Florida students’ math proficiency could be useful to their business**, with over two-thirds (69%) wanting information through a webinar, online tutorial, personal training, or a research report.

FIGURE 6: ORGANIZATIONS’ USE OF K-12 MATH EDUCATION DATA AS REPORTED BY BUSINESS LEADERS.



“The success of our communities and industries is directly tied to the opportunities we create for future generations. When businesses step up—offering mentorship, resources, and real-world learning experiences—we ensure that students are not just ready for the workforce, but ready to make a lasting impact.”

- David Sweeney, President & CEO, RS&H and Florida Chamber Board of Directors Chair-elect



Conclusion

THE FINDINGS OF THIS REPORT HIGHLIGHT the important role of math proficiency in preparing Florida's workforce for a dynamic and competitive economy. Across focus groups and survey responses, business leaders, educators, and parents underscored the importance of math skills for both foundational and advanced roles. From general, to technical, to leadership positions, math proficiency was consistently identified as essential for job performance, problem-solving, and decision-making. However, significant gaps remain between the skills taught in K-12 classrooms and the practical applications demanded by the workforce.

The results reveal areas of misalignment, such as the overemphasis in K-12 education on theoretical concepts and classroom curriculums that don't emphasize real-world proficiency, which can leave graduates unprepared for industry-specific challenges. Business leaders expressed concerns about the lack of workforce readiness, with many identifying gaps in problem-solving, data analysis, and financial literacy among job candidates. Similarly, all groups (business leaders, educators, and parents) highlighted the need for additional access to resources, greater focus on real-world applications, and stronger connections between math concepts and career pathways.

Despite these challenges, opportunities for progress are evident. Business leaders expressed a willingness to partner with educational institutions to strengthen math education through initiatives like mentorship programs, internships, and project-based learning. Survey results also indicate business leaders' interest in using K-12 math data to better understand the talent pipeline and align education with workforce demands. By fostering collaboration between businesses, schools, and families, Florida can equip educators with tools to teach practical math skills and inspire students to excel in math-intensive careers.

Moving forward, a coordinated effort is needed to bridge the gap between math education and workforce expectations. This includes increasing business engagement in education, leveraging data to guide strategic decisions, and advocating for curriculum reforms. By prioritizing math proficiency, Florida has the potential to cultivate a talent pipeline that not only meets the demands of today's industries, but also fuels long-term economic prosperity for Florida towards a top 10 global economy.

Thought leaders and businesses that want to share their expertise to shape future research on this topic and all research areas of the Florida Chamber Foundation should contact Dr. Keith Richard at krichard@flchamber.com to learn more about joining the Community Development Partnership Council or visit <https://www.flchamber.com/cdp>.



Organizations and leaders with interest in helping identify solutions and advocating for Florida's youngest learners are encouraged to visit <https://www.flchamber.com/earlylearningfl/> to learn more about the Chamber Foundation's Business Alliance for Early Learning Advisory Board. Organizations and leaders that are interested in supporting the education to workforce talent pipeline among Florida's secondary and postsecondary students can find more information at <https://www.flchamber.com/futureofworkflorida> to learn about joining the Chamber Foundation's Future of Work Advisory Board.

Thank you to Our Community Development Partnership Council Who Are Uniting Florida Businesses for Good and Powering [TheFloridaScorecard.org!](https://TheFloridaScorecard.org)



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INTERESTED IN JOINING THESE COMPANIES?

Contact Dr. Keith Richard, Vice President, Florida Chamber Foundation at krichard@flchamber.com or visit flchamber.com/cdp



KEITH RICHARD

Vice President, Florida Chamber Foundation



Appendices

Appendix A

THIS REPORT DRAWS FROM QUALITATIVE INSIGHTS

gathered through a series of focus groups with parents, educators, and business leaders, supplemented by an online survey exclusively for business leaders. The focus group sessions were designed to explore the perceptions, experiences, and recommendations of key stakeholders regarding the alignment of K-12 math education with workforce needs.

Overview of Focus Groups

Nine virtual focus group sessions were conducted between July and September 2024. The sessions provided a platform for in-depth discussions, engaging 47 participants from across Florida. Our focus groups were designed as open, hour-long discussions, with targeted questions for each group to ensure relevance.

Each focus group was tailored to its audience, encouraging candid discussions about math education's role in preparing students for future careers.

Recruitment and Participation

Focus group participants were recruited through a mix of public outreach and targeted invitations. Channels included presentations at events, email communications, partner newsletters, and direct invitations to Florida Chamber members. This approach ensured representation from diverse geographic and professional backgrounds, adding depth to the findings. Participants included:

- **Business Leaders:** Representing a wide range of industries, from aviation and healthcare to banking and engineering, highlighting the applicability of math skills across the workforce.
- **Educators:** Representing diverse roles, including math teachers, principals, curriculum specialists, and math coaches, as well as all grade levels (K-12 and adult education).
- **Parents:** With children in elementary, middle, and high schools, ensuring a broad perspective across the educational pipeline.

Appendix B

Overview of Business Leader Survey

THE BUSINESS LEADER SURVEY AIMED TO EXPLORE

The alignment of math skills with workforce needs and the challenges businesses face in ensuring employee proficiency. It included a mix of question formats, such as open-ended responses, closed-ended multiple-choice questions, and rating scales to assess the importance of specific math skills, agreement with statements, and levels of concern about math proficiency.

Recruitment and Participation

The survey was sent only to business leaders and we did not also seek the perspective of educators and parents for the survey. Fifty-one respondents completed the survey, but some results cited in this report are percentages based on a fewer number of respondents as not all respondents answered every question.

The 51 survey respondents represent a diverse array of industries and regions, reflecting a broad cross-section of perspectives on workforce readiness and math education. The highest represented sectors include Professional/ Scientific/ and Technical Services, Educational Services, and Other Services (Except Public Administration), which together account for a significant portion of respondents (42%). Additional representation spans key industries such as Manufacturing, Finance and Insurance, and Public Administration, and these three sectors represent 24% of respondents. Transportation and Warehousing, Information Services, and Construction are also represented but to a lesser extent. Finally, there were one to two respondents for each of the following sectors: Healthcare and Social Assistance, Arts/ Entertainment and Recreation, Agriculture/ Forestry/ Fishing and Hunting, Utilities, Real Estate Rental and Leasing, Management of Companies, and Accommodation and Food Services. This wide-ranging representation underscores the relevance of math proficiency for workforce readiness across Florida's economy.

Respondents represent a range of professional roles, from leadership positions to technical experts. Notable titles include Presidents and CEOs, Vice Presidents, Directors, and Executive-level roles such as Chief Talent Officer, Chief Financial Officer, and Chief of Staff. Many respondents also represent specialized functions, including Technology Advisors, Product Quality Supervisors, Planning Analysts, and Community and Business Liaisons. The inclusion of roles like Managing Principals, Development Directors, and Regional Bank Managers further highlights the breadth of expertise among participants. This diversity underscores the perspectives of leaders shaping Florida's workforce and education landscape.

NOTES

NOTES

“ Florida’s future workforce is sitting in our classrooms today. Ensuring students master math and problem-solving skills is vital to closing the talent gap and securing Florida’s economic future. ”

Mark Wilson

President, Florida Chamber of Commerce & Foundation

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