



Building the Workforce of Tomorrow



GE Foundation

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Stating the Case

Jobs are plentiful in the United States. In fact, we have more job openings than unemployed Americans for the first time in two decades. For those entering the workforce, the challenge they face is having the skills and credentials necessary to get one. Increasingly, the highest-paying jobs are reserved for those who have earned college degrees and certificates. Over the last decade, more than eight million new jobs were created in the United States for those who hold bachelor's degrees or higher.

The value of a college degree has never been greater, which makes it that much more important to put all students in a position to succeed. We know

that students in the top economic quintile are eight times more likely to get a bachelor's degree than students from the lowest income brackets. Not only is that unfair for our nation's underserved students, but it also threatens our country's economic competitiveness.

Simply ensuring that students attain degrees and jobs is no guarantee that they will be set for life. "When we start thinking about getting people ready for the workforce of the future, it's a fool's errand to say we're going to train them for a specific job. That day is over," said Joe Fuller, a professor at the Harvard Business School, while addressing a group of thought leaders at a May summit sponsored by CFES Brilliant Pathways and the GE Foundation.



The skills necessary to succeed in the future workforce will not be static – so the people filling those positions will need to continually grow.

Graduating from college is an important step in preparing for the jobs of tomorrow. Students can also benefit from:

- **The Essential Skills.** Academic knowledge is critical. But there is no stronger leading indicator of a student’s future success than their mastery of skills such as teamwork, leadership and agility. We call these the Essential Skills and employers are increasingly recognizing their importance.
- **Corporate-educational partnerships.** Schools and businesses need to work together to understand where the jobs of tomorrow will be. High-impact partnerships can expose students

to careers they never knew existed, and build pathways to career opportunities.

- **College pathway knowledge.** For many students, a college degree remains more a dream than a likely destination. The search alone – researching colleges, understanding the financial aid process, filling out an application – can be daunting. We must use approaches such as mentoring to help students see a clear path to college completion and beyond.

For nearly 30 years, CFES Brilliant Pathways has ensured that students from urban and rural areas, regardless of economic constraints, get to college and pursue careers after they graduate. When CFES began, simply getting students to college felt like a triumph. Now, we know success isn’t measured by how many students get to college, nor even how many graduate. We need to put students in a position to achieve lifetime success.

“We know how great the odds are for many students,” said Rick Dalton, CFES Brilliant Pathways’ president and CEO. “That means that we all need to get better every day in terms of how we deliver resources to our kids.”

The Essential Skills: Getting beyond technical achievements

Greg Muccio, the senior manager of talent acquisition at Southwest Airlines, is responsible for filling 8,000 positions a year. Every new hire, he said, needs to abide by the Southwest Way: To possess a warrior spirit, a service heart and a fun-loving attitude.

Each of those characteristics, he said, emerges directly from mastery of what we call the Essential Skills: A set of six habits and attributes that include agility, goal setting, leadership, networking, perseverance and teamwork.

As a result, Muccio urges his team to find employees who fit that mold. “I will always support you if you submit a candidate that is not necessarily a technical



Jessica Stokes, College MAP

fit in all areas," he tells them. "But you will not have a good day if you submit somebody who isn't a good Southwest fit."

Statistics from hiring managers show: Employees are far more likely to be fired because they have trouble communicating with others, solving problems or motivating themselves than because they fall short on some other ability. "The No. 1 cause for failed hires is an Essential Skills problem – not a technical issue," Harvard's Fuller said.

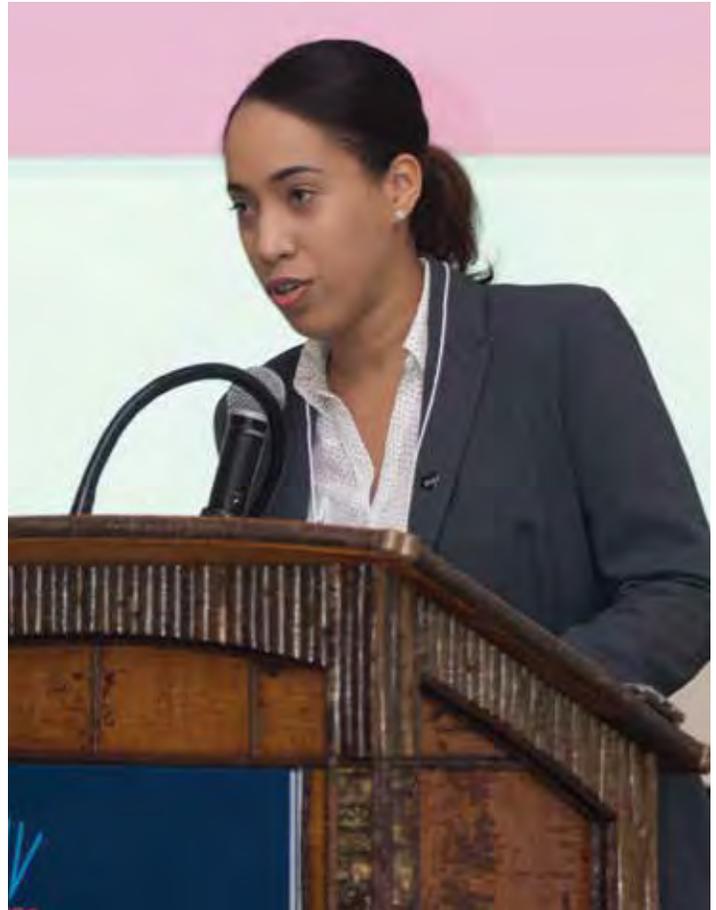
The cost of failure is more than wasted time. It threatens our nation's competitiveness. By 2020, the McKinsey Global Institute projects there will be a shortfall of 38 million to 40 million college-educated employees around the world – but a surplus of 90 million to 95 million low-skill workers.

By the time students get to college – or, worse, the workplace – it's too late to start cultivating these habits. The work needs to start at the grade-school level. "This has to get baked into the curricula of every topic," Fuller said.

The GE Foundation, a leader in developing the workforce of tomorrow and in bolstering STEM (science, technology, engineering and math) education, emphasizes the need to integrate foundational principles of math, science and literacy with skills such as perseverance and communications. "It's not just one content area that is going to lead to success," said Kelli Wells, executive director for education and skills at the GE Foundation. "It's not just about STEM. You also have to encourage those Essential Skills."

Booker Middle School in Sarasota, Florida embodies those GE Foundation values. LaShawn Frost, the school's principal, has worked with CFES Brilliant Pathways for six years and recognizes the importance of imbuing technical lessons with the Essential Skills.

"For us, college and career readiness is not just about preparing students for college and a career, it's teaching students how to engage in strategic



Shadey Trinidad, CFES Brilliant Pathways Alumni Network

thinking," Frost said. "We are preparing students for the real world by allowing them to understand the importance of working in teams. We are actually teaching every student to be a leader, every student to engage in the learning process."

While schools incorporate lessons on the Essential Skills into their curricula, it remains a challenge for employers to know which students have them, and which do not. Testing doesn't reflect a student's capability for leadership, and it isn't reflected on a transcript. On the other hand, it's easy for an employer to ascertain whether a job candidate has a college degree or a particular credential – and, as a result, the temptation remains for employers to measure candidates by this metric. Once the hard work of helping students gain these skills is accomplished, educators and businesses must come up with a way to measure them.

Assessment: A critical component

To build talent pipelines and test whether candidates are good fits, companies are developing internship programs and partnerships with schools that give them the ability to work with a potential employee before extending a job offer. At Southwest, Muccio said he's able to tell quickly whether or not an intern can cut it. "The ones that excel are the ones who can think for themselves, take the initiative, solve problems," he said.



Ted Cross, Thunderbird School of Global Management

Southwest has developed summer apprenticeship programs in four of its hub cities and a summer camp in Dallas that inspires high school-aged students about the possibilities of careers in aviation.

At GE, its long-running internship program for high school and college students is a proven route for the company to recruit talent: 60 percent of GE employees in its leadership program are former interns. With operations in more than 170 countries,

interns are vital to the company's future.

"We know students need help building pathways to all kinds of careers," said Wells, of the GE Foundation. "It's why we're working with both Brilliant Pathways and the Boston Celtics on our Brilliant Career Lab, which goes directly to middle school students to open their eyes to the jobs that await them and the skills they need to get there."

Businesses that recognize the value of the Essential Skills are also developing programs to impart those skills directly to students. Ernst & Young (EY) worked with CFES to develop a program called College MAP (Mentoring for Access & Persistence) where EY volunteers mentor groups of high school students.

College MAP students are taught the value of being on time, how to reply to an email and how to dress appropriately for a job interview. In many cases, it's their first experience learning how they'll be expected to conduct themselves in a professional setting.

The Essential Skills

"These are not 'soft' skills. And we shouldn't call them 'noncognitive,'" Rick Dalton told educators and business leaders at a national conference three years ago. "They're the Essential Skills, and to call them anything else diminishes their value at a time when our students need them more than ever."

The trend has caught on. Joseph Fuller of Harvard Business School and many of his colleagues no longer refer to them as 'soft,' but call them the Essential Skills, as does Kelli Wells of the GE Foundation. And the 50 participants at the Workforce of Tomorrow summit specifically identified the Essential Skills as a key ingredient in preparing workers for 21st century jobs.

CFES has trademarked the term, Essential Skills™, and identified six Essential Skills (goal setting, teamwork, leadership, agility, perseverance and networking). CFES works with educators and students to strengthen and develop these skills through a set of strategic activities, including service projects, student expos and other interactive and engaging exercises.



Kelli Wells, GE Foundation

Partnerships: Bridging the business-education divide

Work-based learning opportunities will play an increasingly important role in preparing students to take future jobs, Harvard's Fuller said. Traditionally, educators and business leaders have had trouble communicating with each other: Educators often bristle at the notion of turning out automatons, and businesses frequently grouse that educators don't work quickly enough to provide what they need. With millions of jobs threatening to go unfilled, though, the two groups need to get to the table – and quickly. "Business leaders and educators have got to understand they're working toward a collective outcome," Harvard's Fuller said.



Kris Duffy, SUNY Adirondack

What will those partnerships look like? In the best scenarios, businesses illuminate where the future jobs will be, and colleges adjust the skills they teach and the courses they offer to reflect that.

Health care, one of the fastest-growing industries in the U.S., is fertile ground for partnerships. John Fortune, a trauma surgeon at the University of Vermont Medical Center, said that health care needs are likely to grow by as much 22 percent in the next eight years.

In response, UVM is building a partnership between the six hospitals in the University of Vermont's Health Network and several community colleges. "We are going to blur the lines between work and school," said Cynthia Belliveau, UVM's dean of continuing education, who expects the partnership to create jobs in medicine, public health and allied health.

That kind of targeted collaboration is most likely to succeed, said J.D. LaRock, CEO of the

Commonwealth Corporation in Massachusetts. "These new enterprises can't do everything," he said. "It's very hard to develop excellence in a key domain if you're trying to do 30 things."

The Commonwealth Corporation works directly with students, employers and educators in an effort to build the state's economy. "We believe that programs have to be co-designed with employers," LaRock said. Commonwealth is building such an effort with three critical employers – GE, MassMutual and Partners Health Care.

"Work experience is crucial in developing skills that are needed to enhance the future workforce," said Sal Fernandez, president and CEO of the STEM Happens Network. "Integrated STEM opportunities through connecting science, technology, engineering and mathematics education provide students the opportunity to make sense of the world around them."

Opening the door wider: Giving marginalized populations greater access

While employers may struggle to find workers, it doesn't mean we lack the population to fill those jobs. It means, in many cases, that the population isn't getting the skills and training needed to compete for that work.

It's a problem highlighted by Enrico Moretti's "The New Geography of Jobs," which points to the lack of opportunities students have in underserved regions where they can't see a clear pathway to success – and, as a result, they don't take the steps necessary to achieve it.

Steve Tyrell, president of North Country Community College, said that while 22 percent of high school graduates in New York State elect not to go to college, that number is close to 50 percent in rural, northern New York.

One answer, Tyrell and others suggested, is to build flexible education models to attract a wider



*Rick Dalton, CFES
Brilliant Pathways*

range of students. After all, said SUNY Adirondack President Kristine Duffy, "The system was built to serve white males in their late teens – a population that accounts for a small fraction of the overall college population today." The system no longer works for many non-traditional students who have rich work experiences that could contribute to college credit.

Educators say it's crucial to build programs that are not just hands-on, but demonstrate clear career pathways for first generation college students who are not raised in an atmosphere where college is an expectation and often don't understand its importance.

Annette Hammond, superintendent of the 400-student Gilbertsville-Mt. Upton School District in Central New York, said she often finds the promise of a paycheck today blinds students from working toward a higher-skill job in the future. "A lot of really capable kids that have been accepted to college tell me they can make more money working the pipeline in Pennsylvania or Ohio," she said. "But what happens when you're 40 and your body is tired of working on the pipeline?"

About the Summit

Six years ago, CFES began partnering with the GE Foundation to sponsor a summit annually that gathered education, business and philanthropy leaders to exchange ideas and learn from each other. At this daylong summit, held at the CFES headquarters in Essex, N.Y., leaders have frank conversations about what it will take to ensure our kids are in the best position to succeed not just in school but in life.

The summit isn't just about inspiring good ideas and lofty thoughts. Every year, participants walk away from the summit ready to take action – and

participants are positioned to make that happen. In addition to panels that provide participants the opportunity to share their ideas on the summit topic, each person participates in a table group that shares action steps.

This year, CFES and the GE Foundation welcomed presidents and deans from 10 colleges, leaders from organizations including Apple, the Boston Celtics, Oracle, EY, PricewaterhouseCoopers, Marathon Health, NEA Foundation and Southwest Airlines, a half dozen school superintendents, and more.

Hammond understands, though, that many students simply don't have the vision to know what could be available for them. "We're trying to link up with the health care system near us, because we recognize there's going to be such a need in those areas," she said. "My students don't have a sense of what there is beyond a nurse or a doctor."

Her experience highlights the importance of pathway development in areas with limited 21st century jobs. "College and career readiness is about ensuring that all students are successful," said Kelli Wells. "When students plan for their future, we need them to go beyond just thinking about a college major. We want them to think about, 'What careers will be waiting for me? What am I interested in doing? And what do I need to know to get there?'"

Next Steps in Building the Workforce of Tomorrow

With as many as 20 million high-paying jobs threatening to go unfilled over the next decade because of a lack of qualified candidates, our nation's economic competitiveness depends on finding ways to ensure that more students attain college degrees and that they have the skills to not only land jobs when they graduate, but the ability to continually adapt to new needs.

These strategies, which emerged from the Summit, can help us build the workforce of tomorrow:

- 1. Increase the number of comprehensive school/business partnerships.** We have exemplary partnership models—like those developed by GE,

Joe Fuller

Harvard Business School's Joe Fuller offered these insights at the summit:

- Employers are unnecessarily raising the educational bar for candidates. Many jobs are becoming harder to fill because employers are requiring a four-year degree when all they really need is a two-year degree: The unemployment rate for new college graduates is just 1.5 percent, and targeting the most in-demand pool to fill those jobs is a losing proposition.
- We have a crisis with male participation in the workforce. Millions of men in their prime working age are idle, for reasons including disability and substance use. Marginalized populations must be mobilized to sustain the economic viability of the United States.
- Technology isn't destroying jobs, it's creating them. Technology is a disruptive force that constantly requires workers to re-train themselves. At the same time, though, it's opening new opportunities at a high rate.

- Listening to educators try to speak to employers can be like listening to two people who speak different languages – frustrating. Employers view those conversations with anxiety because they just want to say what they need, and they hear, 'We're already doing that.' Both sides need to establish goals and work in concert to reach them.



Joe Fuller

EY and Southwest Airlines—that are taking steps to build the workforce of tomorrow. Clearly, we need more of these high-impact partnerships, and this means that we must enlist more business and corporations that will partner with schools to provide mentors, internships, speakers, apprenticeships, job shadowing and help students build the Essential Skills.

2. Develop tools to build and measure the Essential Skills. Throughout the summit, participants spoke about the need for today’s youth to develop and strengthen the Essential Skills. There was much chatter about the transformative value of the Essential Skills. We agreed that successful young people possess competencies that have the ability to move them to and through college and into 21st century jobs. In addition to creating school-business partnerships (noted in Action Step #1) and building pathway knowledge, our challenge is finding the best practices to develop the Essential Skills. We recommend also creating apps and online resources that can help students strengthen and develop the Essential Skills.

It’s not enough to teach the Essential Skills,

we also must find ways to assess how well our students pick them up. Likewise, employers need to assess whether job candidates have acquired the Essential Skills, and young people—the workforce of the future—will benefit from evidence of their Essential Skills development.

3. Elevate individuals from communities that are suffering from diminishing jobs and low average wages. These are often rural communities, like those described by college president Steve Tyrell and school superintendent Annette Hammond, whose residents are at risk of falling further behind as the unprecedented redistribution of jobs and wealth in the United States widens inequalities. Not only is there an opportunity gap, but also a resource gap that defines these struggling communities.

We need to ensure that the young people in these communities are exposed to ongoing college and career readiness activities. Philanthropies, businesses and nonprofits need to be especially aware of and respond to a generation of youth that is being forgotten. It will be difficult but we must redirect already scarce resources to children in these desperately underserved communities.





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