

Why Adult Learners Are the Supply Chain's Ultimate Renewable Resource



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CRITICAL FOR HIGHER ED TO HELP ADULT LEARNERS PREPARE TO FILL THESE ROLES AND CLOSE THE TALENT GAP.

Very quickly, just-in-time logistics went from a treasured tenet of lean manufacturing to the scrutinized subject of its own value analysis. It was March 2020. A stormy sequence of pandemic-induced shutdowns and lockdowns had begun. The once seamless process of procuring many modern-life staples would soon be challenged. Delays and other difficulties set in. Shortages affected raw materials and the finished products that depended on them, from timber to toilet paper. Waits for some appliances reached half a year.

Semiconductors — and the countless electronics they make possible — epitomized the vexing, double-edged nature of the problem. Many consumers were stuck at home and flush with stimulus cash to burn. Virtual learning and working (for those fortunate enough to hold such jobs) further accelerated residential spending.

The pandemic had created unparalleled demand home improvement. At the same time, people sought ways to

remain connected to the outside world. From freezers and microwaves to cameras and video cards, microchips were a macro-sized factor in overstretched global supply chains. In 2021, the global industry managed to produce approximately 150 semiconductors per person. Yet the imbalance between supply and demand taxed the U.S. economy to the tune of \$240 billion that year.

Geopolitical tensions piled onto the problem. The U.S. may be the birthplace of semiconductors, but much of their production has gone far afield. When it comes to other kinds of commodities, the simple pull of a policy lever might go a long way in reshoring production. But microelectronics are complex components. They depend on their own intricate supply chains. (Beginning ironically with silica-rich U.S. quartz.)

COVID-19 and diplomatic rows that could threaten access to Asian production have prompted policymakers and economists to rethink things. Cheaper production of critical resources has its own costs. Insulating the country against global shortages requires an abundance of domestic strategy.

The CHIPS and Science Act of 2022 set out to do just that. This investment promises to improve and expand U.S. semiconductor manufacturing, fortifying our supply chain and bolstering our nation's security. Thankfully, the Act includes education and Workforce Development among its appropriations. However, we must recognize that funding is only one factor. The biggest one? Skilled workers. After all, the Act may create hundreds of thousands of rewarding jobs. But who is going to fill them?

Consider that there are nearly 5 million non-employed people who want a job but are not counted among the unemployed (another 5.8 million). Yet according to the U.S. Chamber of Commerce, for every 100 open jobs, there are only 68 workers. Demographic projections are also troubling. They show that the traditional source of college students — recent high school graduates — will enter a period of persistent decline in 2025, adding to the downward pressure on enrollment trends.

What this means is that adult learners are our best bet for sourcing talent for these new semiconductor careers. Today, they might be sidelined or stuck in low-paying or go-nowhere jobs. Tomorrow, with equitable access to new career pathways, they can be part of the latest American comeback story. Just as we look to the unlimited potential of renewable resources to solve the energy crisis, we must look to employees already in the workforce or striving to return there.

An equitable and economically viable path forward calls for cross-sector collaboration and new strategies. Adult learners must be at the center of them. The good news is that the industry is already responding. For example, in partnership with CAEL, the SEMI Foundation launched a Career Exploration Platform about a month before the passage of the CHIPS Act. The site creates an inclusive, relatable and welcoming experience. It offers interactive experiences such as skills and interest inventories. These match users to career and educational opportunities. The pathways are as diverse as whom they are designed to serve. They integrate internships, apprenticeships, certification and higher-level educational courses that develop competencies needed for career success.

And there's more: Intel plans to provide \$50 million in grant funding to more than 80 Ohio colleges, universities and technical educators. Over the next ten years, this will create programs that accelerate workforce needs for the two new chip factories it is building in the state. Funding priorities include the development of reskilling and upskilling programs, from certifications to degrees.

Education-industry partnerships are also part of a \$1.8 billion semiconductor investment in the Wichita region. It will produce some 2,000 new jobs and a 1-million-square-foot manufacturing facility. The expansion is part of a longer-term growth strategy. It includes collaboration with the Workforce Alliance of South Central Kansas, a CAEL member. All the state's university and technical colleges, which include several additional CAEL members, are involved.

The pandemic and geopolitical turmoil have created acute problems that threaten to become a crisis. Because our daily lives now rely so heavily on semiconductors, these problems can't be overlooked. But we should see this as a great opportunity. We have the chance to create longer-term strategic solutions that align educators and employers. Bolstering the semiconductor supply chain — and indeed all growth areas of our economy — requires a focus on education and Workforce Development, meeting at the point where these ecosystems will always intersect: adult learners.



Jeannie has extensive expertise in the design and implementation of accelerated postsecondary programs and in a wide range of other strategies to support adult learners. Other areas of expertise include adult learner personas, adult learner barriers/challenges, and advocating and making the business case for PLA. Jeannie is also a subject matter expert in membership organization sustainability and growth, and understands the marketing element that membership organizations must consider when communicating value propositions to members.

Learn more at cael.org



Link Learning and Work

Recognizing that adult learners are the backbone of the U.S. economy, CAEL helps forge a clear, viable connection between education and career success, providing solutions that promote sustainable and equitable economic growth. CAEL opens doors to opportunity in collaboration with workforce and economic developers; postsecondary educators; employers and industry groups; and foundations and other mission-aligned organizations. By engaging with these stakeholders, CAEL fosters a culture of innovative, lifelong learning that helps individuals and their communities thrive. A national membership organization established in 1974, CAEL is Diversity, Equity, and Inclusion Workplace™ certified and is a part of Strada Collaborative, a mission-driven nonprofit. Learn more at cael.org and stradacollaborative.org.