THE FUTURE OF WORK

The Retraining Paradox

Many Americans need jobs, or want better jobs, while employers have good jobs they can't fill. Matching them up is the tricky part.

By Ruth Graham

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When Nathan Kecy graduated from Plymouth State University in New Hampshire a decade ago with a bachelor's degree in communications, he found himself with about $10,000 in debt and few clear career options. He first found work as a door-to-door salesman ("a pyramid scheme," he recalls) and then in telemarketing. Finally he landed a job as an infrastructure specialist for Datamatic, a Texas-based water-meter-technology company. He was traveling across the country installing meters, making a decent salary. But he lost his job after the company restructured in 2012, he said, and soon he found that his skills weren't easily transferable to a new field; Datamatic's technology was proprietary, and his expertise in the company's installation program wasn't appealing to employers outside that particular industry. He tried going into business with a friend, but the relationship soured. By then he had a baby and a fiancée, and he felt stuck.

Now 32, Kecy is a few months away from finishing a six-month certificate program in advanced composites manufacturing at Great Bay Community College in Rochester, N.H. The program operates out of a satellite campus that opened in 2013, with aid from a Labor Department grant meant to help community colleges reach "trade displaced" workers who need help training for new careers. The unemployment rate in southern New Hampshire is low, less than 3 percent. At one state job fair last summer, just 350 people showed up for 1,200 available jobs. In Strafford County, where Rochester is located, the largest employers include the University of New Hampshire and Liberty Mutual, but also manufacturers like Turbocam and Contitech. Kecy's classmates include veterans, recent high-school graduates and older workers whose careers had reached dead ends. All of them are looking for hope and a decent paycheck by acquiring a new set of skills. "Within six months, I'm going to go from regular guy to working in the aerospace community," says Tommy Florentino, a disabled veteran with a background in construction and automotive manufacturing. He has friends who went to Boston College or Suffolk University, "and they're waiters and waitresses."

The college's 27,000-square-foot Advanced Technology and Academic Center is at the edge of a nondescript shopping center. The complex also houses a Dollar Tree, a J.C. Penney and a Kmart, where a banner out front reads, "Now hiring." Cashiers there earn

close to minimum wage. But Kecy expects to earn at least $16 an hour when he graduates and to move up quickly from there. Composites is a broad field in manufacturing, with applications including automotive parts, sporting goods and prosthetics, as well as in the locally prominent aerospace industry. The state's department of economic development bills its seacoast region as "the emerging composites region," and it points to Great Bay's program as a reason for more aerospace and defense businesses in particular to relocate there. "I've got some options, which is something I've never really experienced before," Kecy says.

There's a strange disconnect between two of the big narratives about the American blue-collar work force right now. In one story, there is a population of unemployed and underemployed working-class adults for whom well-paying work seems increasingly out of reach; their jobs have gone overseas or become automated, and they find themselves working retail, or not working at all. But an apparently conflicting story comes from American employers, which have been insisting for years that they have a hard time finding workers to fill many skilled blue-collar jobs. A 2015 report from the Manufacturing Institute, for example, found that seven in 10 manufacturing executives said they faced shortages of workers with adequate tech skills. A high proportion of existing skilled workers is also nearing retirement, which means a bigger gap is looming soon. By 2025, the report warned, two million jobs will be going unfilled. (Health care, also a big focus of retraining programs, is another rapidly expanding field.)

The tantalizing promise of government-funded job training is that it can bridge the gap between those narratives in a way that benefits individual workers, employers and the country as a whole. Hard-working Americans get good jobs, employers get skilled labor and the economy benefits from their mutual good fortune. The image of that virtuous cycle has made the promotion of training programs appealing for politicians on the left and the right. Hillary Clinton proposed retraining former coal-industry workers in new careers as part of a $30 billion package meant "to ensure that coal miners and their families get the benefits they've earned and respect they deserve." Even as Republicans have voted to cut funding for training in recent years, they have paid it lip service as a way to put Americans back to work.

It's perhaps not surprising, though, that so much of the working class gravitated in the last election to Donald Trump, whose rhetoric about displaced workers was very different: blunt (if unrealistic) promises to stop old careers from disappearing, to "bring back our jobs." In its zeal for retraining, the federal government's approach to the problem has become increasingly byzantine, a dizzying constellation of programs to help struggling workers prepare for new careers. Some of them are intended for employees laid off en masse when their jobs went overseas, and others are for those who are simply unemployed and underqualified for well-paying work. In the 2009 fiscal year, the Government Accountability Office counted 47 different federal training-related programs administered by nine agencies, numbers Republicans have since used to argue that many of the programs were redundant. In his 2012 State of the Union address, even President Obama criticized the "maze of confusing training programs" unemployed workers had to navigate to get help. The Workforce Innovation and Opportunity Act,

signed into law in 2014 with bipartisan support, was designed in part to streamline the government's approach.

Critics also say that job training is costly and too often ineffective. Take the primary federal effort specifically aimed at workers affected by global trade, the Labor Department's Trade Adjustment Assistance program. Through T.A.A., qualified workers can receive free retraining, typically through a community-college program like Great Bay's. The program is generous, spending more than $11,500 on each person who participated in retraining in the 2015 fiscal year. But it serves relatively few people, and recent analysis has shown iffy results: A 2012 evaluation prepared for the Labor Department found that while 85 percent of those who went through T.A.A.-funded training eventually received a certificate or degree, only 37 percent of them were working in that field four years later. (The program was later amended to include more individualized support.)

All too often, skeptics say, publicly funded training programs are a sop to well-connected companies who want taxpayers to foot the bill to train their workers. Critics also point at research suggesting that on-the-job training by employers themselves has been declining in recent years. But it simply doesn't make economic sense for most employers to do all of their own training anymore. In part, this is because of technology: Jobs in advanced manufacturing and health care require intense technological instruction, usually accompanied by classroom time. At the same time, standardization means employers often poach skilled workers from one another, which discourages them from investing a lot of time and money in training their own workers. "It's unrealistic today to think of traditional, very idiosyncratic manufacturing jobs where you're going to walk in, get a job, get trained in a bunch of very specific skills, and they'll hold onto you for decades," says Lawrence Katz, an economist at Harvard University. "That's just not the trajectory of employment anymore."

After completing the certificate program in April, Kecy will have specializations in "nondestructive testing" and "bonding and finishing," skills that set him up for specific positions that local employers have been struggling to fill. The simplest description of composites manufacturing is that it is the process of putting two materials together; adobe, for example, is a composite of straw and mud. "Advanced" composites manufacturing typically involves adding high-tech resin to woven fibers. The strong, lightweight finished products are replacing metal in many manufacturing areas, including aerospace. Great Bay students further specialize in areas like quality inspection or resin-transfer molding; the goal is that when they graduate, they are ready for high-end entry-level jobs. Advanced manufacturing in general is a strong industry in New England; a recent analysis by Deloitte and the New England Council found that in 2012, 59 percent of the region's 641,000 manufacturing jobs were "advanced."

With his certificate, Kecy is confident that he will find a job locally, and he's probably right. Great Bay's composites program was developed in a close relationship with Safran Aerospace Composites and Albany Engineered Composites, two companies that opened a shared plant in Rochester in 2014. Safran helped develop the program's curriculum and stays in touch about which specializations the company will be needing in the coming months. It guarantees interviews to all graduates of the program and has hired about 30 of the more than 170 participants so far. Over all, more than half the program's graduates have been hired by five large local manufacturers, according to its director, Debra Mattson.

That level of coordination with local industry, ideally touching on everything from curriculum to recruitment, is now seen by policy experts as a crucial dividing line between programs that work and those that don't. The federal government now emphasizes this kind of "demand driven" training in part to ensure that workers aren't being retrained with new skills as obsolete as their old ones. "A good sign is if the program was co-developed with the firm," says Mark Muro, a senior fellow at the Brookings Institution's Metropolitan Policy Program. "One of the fundamental problems is training divorced from labor-market dynamics — people being trained without the presence of jobs they could actually arrive in." (The Nordic countries, which spend more on job training in general, have a strong record in developing training with input from both industry and labor.) The evidence in the United States for demand-driven training is promising so far. A 2010 study of three such programs found that enrollees were earning almost 30 percent more than a control group two years after they began the program and were significantly more likely to be employed.

The Great Bay program has relationships with Safran, A.E.C. and other area employers, including BAE Systems, Turbocam International and the gun manufacturer Sig Sauer, which recently landed a $580 million contract with the Army. The program is short by design, and new cohorts start three times a year to ensure a steady stream of graduates for local employers. "Industry is dying for bodies, just dying for skilled workers," says Will Arvelo, Great Bay's president. "They can't wait two years."

Understand the Supply Chain Crisis

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Covid's impact on the supply chain continues. The pandemic has disrupted nearly every aspect of the global supply chain and made all kinds of products harder to find. In turn, scarcity has caused the prices of many things to go higher as inflation remains stubbornly high.

Almost anything manufactured is in short supply. That includes everything from toilet paper to new cars. The disruptions go back to the beginning of the pandemic, when factories in Asia and Europe were forced to shut down and shipping companies cut their schedules.

First, demand for home goods spiked. Money that Americans once spent on experiences were redirected to things for their homes. The surge clogged the system for transporting

goods to the factories that needed them and finished products piled up because of a shortage of shipping containers.

Now, ports are struggling to keep up. In North America and Europe, where containers are arriving, the heavy influx of ships is overwhelming ports. With warehouses full, containers are piling up. The chaos in global shipping is likely to persist as a result of the massive traffic jam.

No one really knows when the crisis will end. Shortages and delays are likely to affect this year's Christmas and holiday shopping season, but what happens after that is unclear. Jerome Powell, the Federal Reserve chair, said he expects supply chain problems to persist "likely well into next year."

On a snowy afternoon a few weeks ago, Kecy and his classmates in his Fundamentals of Composites Manufacturing class were at work in the "clean room." The setting looked more like a science lab than a factory. A large cooler stacked with vacuum-sealed bags of thick fabric pieces stood in the corner, and work tables held clusters of metal tubes. The class instructor, Peter Dow, watched as two teams of students worked on a project they had been planning for several weeks: constructing a three-inch carbon-fiber tube with a finished exterior. Later they would have a chance to tweak their plans and try it all over again, a lesson in the manufacturing principle of "continuous improvement."

For all the ways in which technology has changed the manufacturing industry, one of the most striking to an outsider is the appearance of the work space itself. The students in the clean room wore white coats and safety glasses as they used hair dryers and refrigerant spray to fiddle with the sticky material. Outside their small work area, the facility's spotless manufacturing lab offered the capacity to build a product from start to finish: a huge, three-dimensional loom for weaving carbon fiber, a five-axis machining center, an automatic autoclave. Practically every piece of equipment seemed to feature a keyboard or touch screen.

But manufacturing's new high-tech, high-skill profile is also what makes it daunting for many older workers looking for new careers. The dilemma illustrates some of the broader challenges of retraining later in life. Kerri Uyeno, a 43-year-old single mother of three who graduated in the Great Bay program's first cohort in 2014, began working at Safran as a bonding operator three weeks after earning her certificate. It was such a happy ending that she featured prominently in early publicity materials for the program. But she had conflicts with her supervisors and lasted just over a year in the job before quitting. She didn't work again for six months; her house went into foreclosure. An administrator at Great Bay tried to persuade her to come back and work toward her associate degree, but the prospect was exhausting. "It was so hard to get through that six months to my certificate," she said, "I just didn't have it in me to get more schooling." Today she is an office manager at a flooring showroom nearby. She still exudes pride when she talks about earning her certificate, but she also calls the experience "one of the biggest heartbreaks I've ever gone through."

At 49, Dean Kandilakis is one of the oldest students in the program's current cohort. He has a master's degree in international relations, but he spent most of his career doing administrative work. "There's a really large learning curve for someone who's just re-entering from a different field," he said during a break from class. "It's been a very stressful time for me, because it's an adjustment in my identity as a human being." But he says it's worth it to feel as if he's finally becoming a specialist in something.

It can take enormous intellectual and emotional efforts to pursue retraining, especially for people who have been rattled by sudden job loss or depressed by declining career prospects. For all his grandiosity, Donald Trump's approach to working-class voters was characterized by relentless pessimism: dark visions of "poverty and heartache," warnings about Mexicans "taking our manufacturing jobs." Nostalgia, with its disdain for the present and mistrust of the future, is actually quite a gloomy sentiment. Job training, by contrast, makes the smaller-but-sunnier assurance that starting over is possible with help and time. It takes optimism on the part of both policy makers and workers. Back in the lab, Kandilakis's team had been having some difficulty with their tube; the material was too warm, and it was thickening too quickly as they molded it. "We're having some problems today," he said, but he didn't sound concerned. "Thankfully we'll have another run."

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