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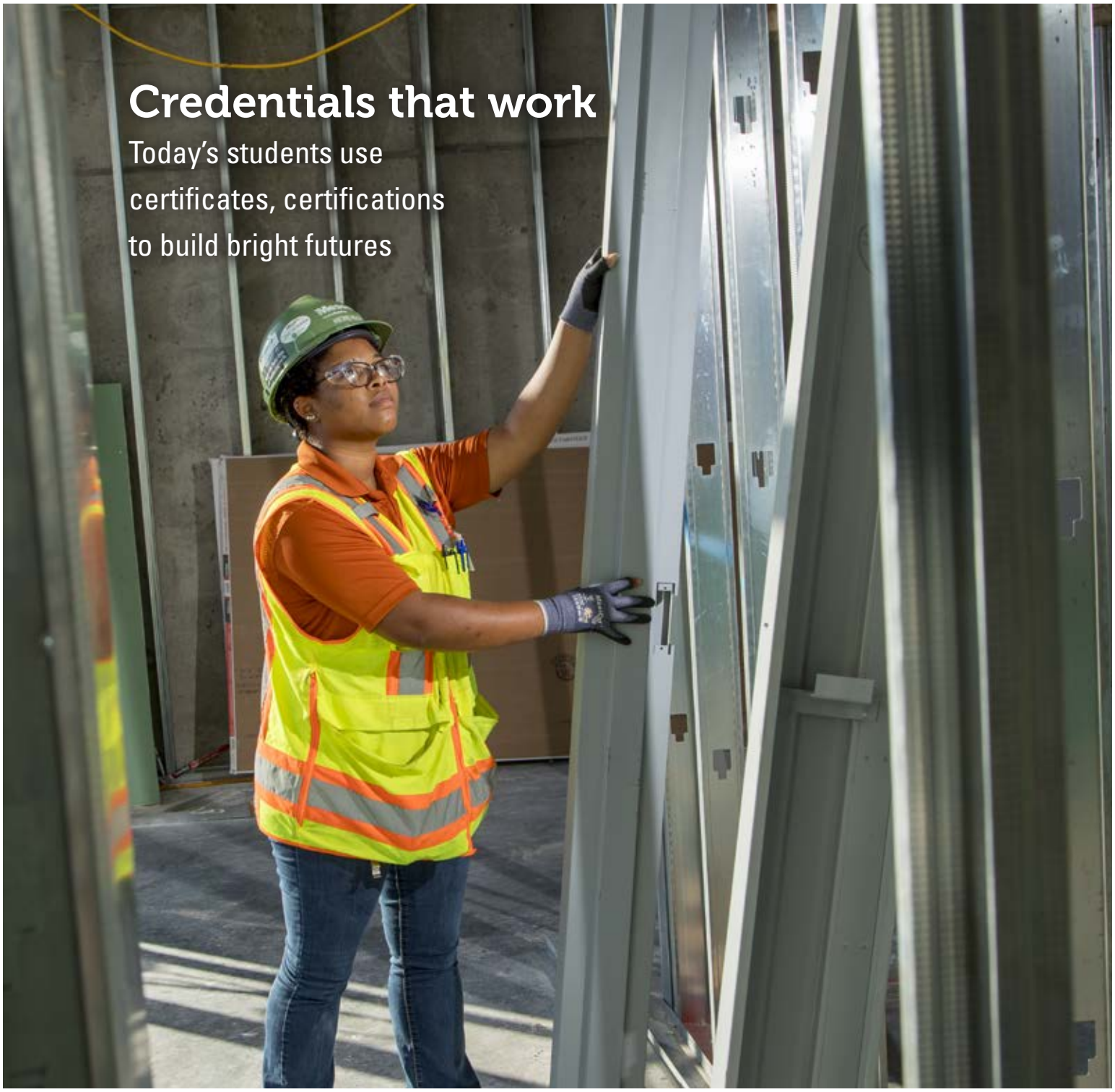

Credentials that work

Today's students use certificates, certifications to build bright futures

INSIDE

On the cover: Messer Construction Co. employee Antonye Weathers, 27, does interior framing work at a hospital construction site in Louisville, Kentucky. Weathers was hired in 2018, in part because of skills she developed through Kentuckiana Builds, a six-week certification program administered by the Louisville Urban League. She's completed her construction apprenticeship and is now a Level 3 master.

Editor's note: The stories in this issue of Focus were reported and written by Bob Caylor, a journalist with more than 30 years of experience at newspapers in Minnesota, Ohio, and Indiana. At the News-Sentinel in Fort Wayne, Indiana, he was an award-winning columnist and editorial writer and reported extensively on business and environmental issues. He is now a writer and photographer for Easterseals Arc of Northeast Indiana, as well as a freelance journalist and book editor.

PRESIDENT'S MESSAGE

In Kentuckiana, 3 pathways: building, coding, manufacturing

Michigan college launches health care careers — stat!

Minnesota program shows students that plastic is fantastic

If you're of a certain age — or if you just haven't thought much lately about career preparation — you likely hold a simple, two-track view. Let's call it an either-or view: Blue collar or white. Working with your hands or with your head. College-educated or … not.

For most of the 20th century, even most of the postwar period, this two-track approach was workable, even generally correct. Most Americans quite accurately saw themselves as destined for one of two career paths: ***Either*** pursue a college degree (typically a bachelor's) ***or*** learn a trade.

These days, though — as in just about everything, it seems — the norms no longer apply. The "either-or" approach to education and training is still clear and simple, of course; easily understood. But it's just so patently wrong now. Not just morally wrong because of the inherently unjust sorting mechanism it creates, but ***factually*** wrong. It's just incorrect.

The simple fact is, careers don't work like this anymore. A tiny fraction of today's workers hold jobs that resemble the blue-collar jobs your parents might've held. Technology is too pervasive, the need for higher-level skills such as communication, teamwork and critical thinking too strong, for any job not to require some type of college-level learning. And so career prep can no longer be adequately defined by the "college" or "no-college" choice.

These days, then, between those two clear, narrow career tracks of old, what emerges is a vast gray area, a fluid, ever-expanding workspace that includes everyone from coders in Cupertino to health aides in Hattiesburg. A growing number of jobs in this huge in-between space — secure and satisfying jobs — can be had by those who earn a non-degree credential such as a certificate or an industry-recognized certification.

Recent research shows that these non-degree credentials bring significant benefits to the people who earn them — including a greater likelihood of employment (72 percent vs. 64 percent) and a chance for earnings increases of as much as 22 percent (among those who earned credentials taking between one and two years to complete).

These findings are more than merely enlightening; they can be transformational. Consider the fact that 99 million Americans — ***more than half*** of the nation's working-age population (ages 25-64) — hold no credential beyond the high school diploma. Think of the economic and societal progress that would be unleashed if even a fraction of this group took that next step and earned a certificate or certification.

As a nation, we need to unleash that progress. We need to show millions more adults how to navigate the gray area between the poles of "college" and "no college" and realize the tremendous promise hiding there.

This issue of Focus magazine represents one step toward that goal. In it, Lumina shines a spotlight on non-degree, workforce-relevant programs in three different geographic areas. The programs prepare adults for good careers in all types of fields, including construction, advanced manufacturing, health care, computer technology, and plastics engineering.

As always, the stories in this issue of Focus reflect the real-life trials and triumphs of today's students. For instance:

- You'll meet Louisville resident Kassie Evans, a 27-year-old mother who's worked since age 16, but who lost her job late last year at an appliance factory. After completing a short-term training program at the Kentucky Manufacturing Career Center, she now works in purchasing at another area manufacturer.
- You'll get to know Katie Stiver, a single mom in Michigan who's raising two kids and caring for her father, who suffers from dementia. Stiver attends Jackson College, working toward a certificate and a career as a licensed practical nurse.
- Finally, you'll meet Ayub Sidow, 34, who immigrated from Egypt in 2004, after his family fled horrific violence in their native Somalia. Sidow, who now lives in the Minneapolis area and works at a plastics manufacturing plant, attends an innovative program in plastics technology at Hennepin Technical College.

In addition to the material in this printed version of Focus, there's a wealth of additional information on our website, www.luminafoundation.org. There, Focus offers several extra features, including compelling videos of students and links to a wealth of related material.

No matter where you read or view it, all of the material in this issue is designed to highlight the power and promise of today's non-degree programs.

Whether on or off the "college track" — whatever that even means — it's time we recognize these programs for what they truly are: vibrant and increasingly viable pathways to a prosperous future.

Jamie P. Merisotis
President and CEO
Lumina Foundation

Hands-on programs give Kentuckiana students a leg up on good jobs

LOUISVILLE, Ky. — As this city climbed out of the 2008 Great Recession, KentuckianaWorks, its regional workforce-development agency, took a new approach to training employees for local businesses: It started teaching people specific skills and awarding them credentials showing that they were superior candidates for entry-level work.

These programs do more than coach the jobless on the soft skills of job hunting and interviewing. People who stick with the training earn valuable certifications that give employers confidence in new hires and cut their training time.

Kassie Evans, 27, checks inventory at KCC Manufacturing, a Louisville-based company that designs and makes products for the heating, ventilation, and air conditioning industry. In late 2018, after losing her job at an appliance-manufacturing firm, Evans came to KCC and became a certified production technician. She now works as a junior buyer, tracking and ordering parts.

Evans — here working with Jeff Schroering, KCC's purchasing manager — has high praise for those who helped train her at the Kentucky Manufacturing Career Center. "Everyone was extremely upbeat and positive and happy," she says. "It just really kind of motivated you to keep going and finish the program."

Its education programs in construction, manufacturing, and software development have paid off for students with higher wages in growing fields and a better shot at advancement. At the same time, employers now tap a new pool of prospective employees who arrive for job interviews with solid qualifications and a demonstrated work ethic.

This strategy to promote economic success one potential worker at a time is scoring noteworthy successes. In the year that ended June 30:

- One hundred seventeen people were placed in computer-programming jobs through Code Louisville at annual salaries averaging more than $45,000.
- Seventy-eight were placed in jobs through Kentuckiana Builds, the construction program, at an average wage of more than $15 an hour.
- Students earned 618 certificates through the agency's manufacturing program.

The education program in manufacturing began in 2013, when KentuckianaWorks established the Kentucky

Manufacturing Career Center. As KentuckianaWorks Executive Director Michael Gritton describes it, the need for such training became urgent when Louisville got unexpected good news early in the economic recovery.

First, Ford Motor Co. remained a strong employer.

"Louisville was lucky, because in the teeth of the recession, we were threatened with the loss of one of our two Ford plants," Gritton said. "Instead, Ford decided to keep it." He said the company spent almost $1 billion to improve production at the plant.

About the same time, when General Electric was trying to sell the GE Appliance factory here, the company invested hundreds of millions in the plant to make it more attractive to prospective buyers who could restore production that had been moved to other countries.

"All of the sudden, every supplier that had been expecting potential layoffs and closures started realizing that they needed to try to find people," Gritton said.

As the local and national economies continued to recover and create jobs, Gritton's agency launched the

As executive director of KentuckianaWorks, Michael Gritton has seen hundreds of real-life success stories play out in recent years, thanks to three programs under his agency's umbrella: Code Louisville, Kentuckiana Builds, and the Kentucky Manufacturing Career Center. Just through Code Louisville, the agency's software and web-development program, "we've helped train and place more than 400 people in a very demanding career field," Gritton says.

Sadiqa Reynolds, president and CEO of the Louisville Urban League, has high hopes that the Kentuckiana Builds program can boost the number of nonwhite workers holding construction jobs in her city. Since the program began in 2017, a sizable majority of those who have completed it are African-American.

Kentucky Manufacturing Career Center, which opened in May 2013.

Area job creation is robust. In fact, unemployment in Louisville was just 3.8 percent in August 2019. That's about half the unemployment rate that plagued the area when the career center opened, and it's well below what economists consider "full employment." But people are still coming to the program and still finding jobs through it — sometimes the best jobs they've ever had.

That's the case with 27-year-old Kassie Evans. Evans has worked since she was 16, including jobs at UPS, where she helped track and route packages, and GE Appliances, where she built dishwashers. Late in 2018, after losing her job at GE Appliances, she went through the three-week program at the career center. She learned to drive a forklift and use measuring tools. She earned certification in OSHA safety standards. She became a certified production technician.

It was inconvenient for her to arrange child care for her 3-year-old son, but she's glad she did. She found the classes helpful, even motivating.

"Every time you came in every morning, everyone was extremely upbeat and positive and happy, and it just really kind of motivated you to keep going and finish the program," she said.

In December 2018, she was hired as a receptionist at KCC Manufacturing. It didn't take her long to move onto the factory floor at that company, which builds custom mounts and adapters for large rooftop heating and cooling units. Three months after she started at KCC, she was promoted to a new role as a junior buyer, tracking and ordering parts. Her promotion boosted her pay to $19.25 an hour, up from $15.83 at GE Appliances. It lifted her above a subsistence wage.

Just as important, her new job has lifted her into a work environment she loves.

"It's totally a little family at work, everyone from the warehouse workers up to the president," she said. "They're all just so positive and always wanting to help, and they're understanding. … I've never been in a job before where I look forward to coming in every day."

The education program in construction, Kentuckiana Builds, is a six-week program with goals and credentials similar to those in the manufacturing program. It didn't start until 2017, in response to growing demand for workers in the construction business. Students who enroll in Kentuckiana Builds are certified in OSHA safety standards and basic construction skills such as using tools and reading blueprints.

The Louisville Urban League administers Kentuckiana Builds. League President and CEO Sadiqa Reynolds said she saw great opportunity in the program because she had noticed so few men or women of color at work on construction sites around the city. She is convinced that Kentuckiana Builds can change that — and early signs are promising. The League has attracted many nonwhite students to the program. In fact, a large majority of those who have completed it are black.

One of the biggest obstacles the program faced was getting construction firms to see the potential in program graduates, Reynolds said. The rigorous demands of the construction course helped her make that case.

Proof of commitment

"No. 1, you've got somebody who's shown up on time, ready to learn, ready to work, for six weeks. They've come in every day with no stipend. … You have people who in some cases have had to give up jobs in order to be able to take the training," Reynolds said.

Mike Ferguson, regional labor manager for Messer Construction, is a believer, thanks to his experience with students who've earned credentials through Kentuckiana Builds. His firm has hired 30 or so graduates of the program.

"The Kentuckiana Builds program really kind of tied into what we are doing," he said. It tied in closely enough that Messer considers Kentuckiana Builds a pre-apprenticeship program.

"Every craft worker who comes to work for us has to have the OSHA 10-hour certification and safety training, so Kentuckiana Builds covers that," Ferguson said. "The curriculum they use for their introductory program is the NCCER, the National Center for Construction Education and Research. All of our training programs — our labor, our carpentry, the regional trainings that we do, our craft-leadership programs — all of that is based on the NCCER curriculum."

One of Ferguson's hires from Kentuckiana Builds is 43-year-old Eric Allen. Allen, who was hired in 2018, is in the second year of an apprenticeship program as a general laborer.

Allen had worked some less-skilled construction jobs, ones that didn't require the depth of knowledge he has now. He worked in residential construction for a time, and he installed countertops in another job.

"There was a lot of new information" in the Kentuckiana Builds program, Allen said.

As a man who was in his 30s during the Great Recession, Allen is accustomed to hedging his employment bets.

Eric Allen, 43, is in the second year of an apprenticeship program as a general laborer for Messer Construction, which hired him in 2018. Though he had a fair amount of residential construction experience before entering the Kentuckiana Builds program, Allen says it's given him "a lot of new information."


ERIC ALLEN

He's worked in several manufacturing businesses, and he even obtained a barber's license during the agonizingly slow economic recovery. He still cuts hair on Saturdays and a couple of times during the week.

He said he feels the physical strain of his construction work, and he considers it a great opportunity for a younger person with more time to advance. But Ferguson is impressed with Allen's progress in his apprenticeship, and he told him that advancement could come on Allen's schedule, too.

You "have that opportunity to advance within the craft ranks so that you're not out there building the building with your body. You're leading others," Ferguson told him.

Two other Messer employees who came through Kentuckiana Builds already are rising in the company: Antonye Weathers and Gabriel Israel, both 27 and both hired in 2018. Both have completed their apprenticeships, and both have advanced to the third of eight ranks of employee classification, Ferguson said.

That third rank "means that you're a master, and you are well-versed in both the interior components, the

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Jack Perry Jr., 37, took all five 12-week courses offered through the Code Louisville program. He's thrilled with the training he got, calling the project-based instruction far more useful than what he got in his associate degree program in computer technology. "Every time I went through and started working on a new project, I would pick up more and more that's being done in the real world," Perry says.

Gabriel Israel, 27, works on a Messer construction site on Louisville's near-westside. Israel, a Kentuckiana Builds graduate who was hired in 2018 and is now a Level 3 master, has moved quickly up the ranks, and supervisors praise his drive and determination.

Ryan Clunie points out some blueprint details to Antonye Weathers as they and their Messer colleagues work to erect a new hospital building in Louisville. Clunie, a longtime foreman for Messer, serves as a mentor for workers who, like Weathers, join the company from the Kentuckiana Builds program.


Thermax
Thermax

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interior finishes and the exterior of the concrete construction," Ferguson explained.

"Both Gabriel and Antonye … have been recently promoted to a Level 3 master level. Through the trainings they're taking and the opportunities they have on site, they are really targeted to being moved into that Level 4 leadership position, probably sooner than most," he said. At that point, they would begin leading small crews.

Why are these two advancing so quickly? In the case of Israel, Ferguson noted his "drive and determination." On his own time, Israel studies specialized construction equipment, such as an aerial lift, to give himself an edge in learning to use it.

Ryan Clunie, who supervises Messer's new hires, pointed out Weathers' exceptional attention to detail. That helps her with interior work, such as installing fixtures and touching up defects in finishes.

In a way, Weathers and Israel are consumed by the construction techniques they've learned. Israel says he can no longer visit a friend's house, or even look around his own apartment, without seeing workmanship that disappoints him and details he'd like to improve.

Weathers, who is renting to own her home, doesn't have to imagine making improvements. Her work has also become her new hobby.

"I've taken out door frames. I've installed walls. I've built a closet. I plan on concreting the driveway. I want to fence in my backyard," she said. "Smaller things I've done: I've made a doghouse."

A program for programmers

Code Louisville, the KentuckianaWorks program that guides students in learning to create software such as web applications, differs in some ways from the construction and manufacturing programs. It was launched in 2013, not to fill demand for workers in an established industry, but to stimulate an emerging sector by training hundreds of people to work in the field.

"After the iPhone came out, and after we started coming out of the recession, every city in the Midwest and Mid-South woke up to the same realization at the same time. All these people are trying to build apps. All these companies are trying to innovate, and they can't find enough people to do software development," Gritton said.

Unlike many industrial trades, there's no national certification for software development or coding — nothing like the certified production technician in manufacturing or the NCCER certification in construction.

"It's very much a show-me business," Gritton said. "What Code Louisville has done is teach people how to do software coding and then require them to use their skills to build either websites or backend projects that can be demonstrated to employers. … We have people building portfolios basically — and that becomes their credential."

Gabriel Israel uses heavy machinery to move lumber at his building site. New gear doesn't intimidate Israel. In fact, supervisors say he uses his own time to study specialized construction equipment so he can quickly hone his ability to use it.


Messer

That difference in Code Louisville made all the difference for Jack Perry Jr., 37. He took five separate 12-week Code Louisville courses, exploring five different tracks of instruction. In each course, the bulk of the instruction is individual online study, reinforced with weekly classroom meetings.

When Perry started Code Louisville in January 2018, he was driving a forklift in a grocery warehouse. At the end of his second 12-week session, he landed a full-time job helping develop and maintain a system that tracks the care of residents in assisted-living facilities.

"My hours are much shorter, and I make more money than I did before," he said. And he enjoys building software much more than stacking pallets.

Before enrolling in Code Louisville, Perry was finishing an associate degree in computer information technology — and looking for a change. He found Code Louisville's project-based approach, which required him to build a portfolio of work, much more helpful than his associate degree studies.

"Every time I went through and started working on a new project, I would pick up more and more that's being done in the real world," Perry said. "It gives me, and I think everybody else, that experience of actually building something that you can demonstrate to somebody else, showcasing what you've learned and can do."

"The beautiful thing is we've helped train and place more than 400 people in a very demanding career field," Gritton said. "Most of those job placements have been with small and midsize companies. … You're trying to help people be able to jump on a moving train and be able to survive once they do it."

Code Louisville has just gone through a challenging transition. The grants that kept the program free for more than five years have run out. Now it's offered through a partnership with Jefferson Community and Technical College, which means students must pay tuition. They're still signing up.

Yana Dubina, 37, came to the United States from Ukraine five years ago. The youngest of her three children is now 3, and she's looking to broaden her skills and find a job.

In Ukraine, she said, "I had the technical background. I worked as engineer at oil and gas exploration, but not in the field. It's like in the scientific department." But she's found it hard to turn Ukrainian degrees and educational credentials into marketable qualifications in the United States.

Yana Dubina (right) explains her class project to Zachary Sales and other Code Louisville classmates during their once-a-week evening gathering. For Dubina, a 37-year-old native of Ukraine who came to the United States five years ago, Code Louisville is a first venture into American education — and it's working well for her.

Jonathon Young (right), 26, works on a project as fellow Code Louisville student Kaynon Martin (center) confers with volunteer mentor Adam Wilson. Young is convinced that additional training in computer programming will aid his success in an increasingly automated future. "People are scared of automation," Young says. "They're scared of robots taking our jobs. Why? Why? They're taking the jobs that nobody really wants."

Code Louisville is her first venture into American education, and she likes it. "It's very convenient program, because students can work independently, like with their own time, their own schedule at home, and we need to meet only once per week."

Although she did some design work with computers in Ukraine, she started Code Louisville from scratch. But because so much of the program is self-paced home study, she thinks she's keeping up with it.

Jonathon Young, 26, works at Louisville's Amazon warehouse in preventive maintenance. It's his job to monitor the condition of conveyors and other machinery and to spot worn components such as belts and bearings. If he does his job right, Amazon can schedule downtime to replace parts instead of being surprised by breakdowns that idle workers and disrupt the flow of merchandise. He likes the work and the attention to detail it requires, but he's looking to move up. He thinks learning more about programming will help.

Learning coding through Code Louisville is part of a career shift that began after he broke his left ankle on a construction site in 2017.

"Once that happened, and I started walking a little less normal, I said, 'Man, I've got to do something.' Once that spark lit, I took off," Young said.

He took his first Code Louisville session in August. He thinks the programming language he is learning will be valuable, but the real payoff from his study will be learning to think like a programmer. He calls it "computational thinking."

He expects that frame of mind to carry him into the future he wants to build for himself. "Once they teach us how to think like a programmer, we can learn and act like a programmer. … Once you get that confidence up, where the learning is going to click, it takes off from there," he said.

And he says the confidence he's building through Code Louisville is what he needs to build the future he wants.

"Automation is going to be king," Young said — and he's all for it. "People are scared of automation. They're scared of robots taking our jobs. Why? Why? They're taking the jobs that nobody really wants to do. Who wants to stand in a line and put stuff in a box for 10 hours a day?" ■

Katie Stiver, shown outside her home in Tecumseh, Michigan, with daughter Lyla, 7, and son Carter, 12, is well on her way toward earning a certificate from Jackson College and becoming a licensed practical nurse. She's spent years caring for patients with dementia — including her own father — but knows the credential will boost her prospects. "I just knew I had to climb that ladder," she says.

Michigan college's health care programs are proving to be a perfect prescription

JACKSON, Mich. — Katie Stiver, 34, spent a decade working in a long-term care facility, helping people with Alzheimer's disease and other forms of dementia. The care she provided was often the most fundamental: feeding, bathing, grooming. She thrived on the personal relationships she cultivated.

"They still have so much to give, and they still are people inside. And I feel like the memory forgets, but the heart just does not. And when you realize that … everything you do matters with them," she said.

In time, Stiver was promoted to activity director. But about the time she turned 30, she realized how much potential she was leaving untapped because she lacked a college-level credential. She missed providing direct care, and she knew she needed college to give her best to patients and their families. And her own family depends on her. She's a single mother with two children, and she cares for her father, who also has dementia.

"I just knew that I had to climb that ladder. I just didn't want to stand still anymore," she said. Stiver had a longer climb than most. She spent six months earning her GED. Two days after securing it, she began taking courses in math and English, prerequisites to her real goal: nursing.

Now she's at Jackson College, a community college about 80 miles west of Detroit, studying to become a licensed practical nurse. She can do that with a certificate, a credential that students can earn more quickly, at a lower cost, than an associate or bachelor's degree. This is her second semester; she expects to complete the certificate next semester and become a nurse.

"Eventually, I'd like to be able to travel — even overseas and do missionary work when my kids are older," Stiver said. "You can go anywhere. You can do anything you want. You can work with kids, work at a school, a hospital. And I know there's a big demand for it," said Stiver.

The educational path Stiver is on at Jackson College is clearer than it used to be. In the fall of 2016, the college revamped its advising and created a system of "guided pathways" in broad fields of study. It's an effort to give students better direction toward degrees or non-degree credentials, and to strengthen the advising that helps them navigate those paths.

Early data are positive

Early results are encouraging. A study published last year by the Community College Research Center at Columbia University found that in the fall of 2016, 58 percent of first-term students at Jackson completed at least six credits, up from 35 percent the previous fall. In 2016, 36 percent of students successfully completed gateway math and English courses in their first year, compared with just 17 percent in 2015.

Kristin Spencer (left), who directs the certified medical assistant (CMA) program at Jackson College, confers with student Hope Ross. Ross, 20, has excelled in the program — so much so that she'll soon be serving as a volunteer teaching assistant.

Hope Ross was diagnosed at 18 months with rheumatoid arthritis and has spent countless hours in hospital care. Much of that care was provided by medical assistants — a fact that helped drive her career choice. "My dream is to work in the rheumatology clinic at (the University of Michigan) and take care of kids," Ross says. "I was once where they are sitting."

Shorter-term, non-degree credentials can qualify students for critical roles in health care, including licensed practical nurses and electronic medical records specialists.

Fitting traditional certificate and degree offerings into this guided pathways model may be easier in the health sciences than in other areas of study. Health care workers have long stair-stepped their way through progressively more demanding credentials; for example, from certified nursing assistant to licensed practical nurse to registered nurse — CNA to LPN to RN.

Kristin Spencer, who supervises most certificate programs in the health sciences at Jackson, said that little has changed fundamentally. Guided pathways haven't created a new slate of degrees and certificates at the school. But thinking of a student's time at Jackson as a path with many possible forks and destinations helps advisors, administrators, and faculty steer students in directions that give them the greatest flexibility.

"We were kind of already doing it," Spencer said. "Within the programs, we've had our sequence of courses that the students had to follow. Really all it took was in all the programs, looking at what our shared courses were so we could then make sure that we were putting those courses in that first semester. So, that way the students were able to explore and weren't wasting time if they switched programs."

In the certificate programs she supervises, that means taking courses in human biology and medical terminology in the first semester, "because those were courses that we all shared in the pathway. Then students could easily switch to another program if they wanted to," Spencer said.

Arranging courses that way helps prevent students from earning credits that don't count toward a specific certificate or degree. That's enormously valuable for students who want to shift direction after a semester or two.

That was the case for both Tessa Risner, 22, and Hope Ross, 20. They expect to complete the course work this semester to become certified medical assistants (CMA). Medical assistants are staff that patients often mistake for nurses. In doctors' offices, medical assistants are often the people who take a patient's vital signs, question them for preliminary histories and schedule their appointments.

Changing course – and courses

"This is my third change of program. I had started out set on being a teacher," said Risner. "Then I wanted to get into the medical field, looked into sonography, started the classes for that, didn't like it."

After Ross graduated from high school, she finished a course to become a certified nursing assistant. She

Since graduating from Jackson's CMA program in November 2017, Devin Bills, 38, has worked as a medical assistant in a family practice in Onsted, Michigan. She thrives on the work, saying it allows her to be an advocate. "I have a lot of complex patients," she says, "a lot of patients on Medicare, Medicaid, and they just have struggles. They just have certain issues that I can relate to or I can be empathetic with."

worked in a nursing home, briefly, as a CNA and was disappointed in some of the nursing she saw there.

"I was like, 'Well, we can't have nurses out here acting like that.' So I decided, 'I'm going to be the difference. I'm going to be the nurse who knows what she's doing, who is competent,'" Ross said.

"I started along the path" to nursing, she said. "I couldn't stand it. It was so slow. … They weren't hands-on. I'm a hands-on learner, so it was very hard for me to excel in a course that didn't quite fit me."

Spencer helped both Ross and Risner shift their goals to medical assisting. Spencer isn't formally an advisor — now called a "student success navigator" at Jackson. But because she supervises so many certificate programs, she talks with a lot of students about their education and career plans.

Medical assisting was an appealing alternative for Risner. In recent months, she has spent a lot of time in the hospital with a year-old niece who had an 11-hour surgery to repair a congenital defect in her skull and has been treated repeatedly for a stubborn post-surgical infection. That time in a hospital strengthened her resolve to work with patients.

For Ross, it was her own time in hospitals that made a career in patient care attractive. She was diagnosed with rheumatoid arthritis when she was 18 months old. Since then, she's spent many long days in treatment for that condition.

"It was interesting for me to learn that most of the people who have been taking care of me my whole life have been CMAs," she said.

"My dream is to work in the rheumatology clinic at (the University of Michigan) and take care of kids," she said. "I was once where they are sitting."

In the meantime, another opportunity is opening for Ross at Jackson College. Her performance in the medical assisting program has been strong enough that she will become a volunteer teaching assistant later this semester. Spencer said she hopes to make her a lab assistant after she graduates. That's a position Ross could coordinate with work as a CMA.

If you're not part of a practice that depends on medical assistants, it could be easy to underestimate their value. Terri Draper, an advisory board member to Jackson's medical assisting program, is the practice manager at Jonesville Health Care, about 20 miles southwest of Jackson College. Her practice employs 14 medical assistants.

Tessa Risner, 22, will soon complete the Jackson program and earn her certification as a medical assistant. Risner says the recent hospitalization of her year-old niece helped her dedicate herself to a career in direct patient care.

"They are mission critical to the thoroughness of the exam that the doctor's doing," Draper said. "They're also the gatekeeper to make sure that we stay on task, on time and don't miss anything. They are critical to information-gathering and making sure that I have that complete medical record. We would be in trouble without them in a practice nowadays."

Being a medical assistant also brings the personal rewards of direct patient care, said Jackson graduate Devin Bills. Bills, 38, is a medical assistant at Henry Ford Allegiance Family Medicine in Onsted, Michigan, thanks to a career change in her 30s. Her previous work, caring for people with developmental and physical disabilities, primed her for a career in health care.

"When I was 18 years old, I got a job working in group homes for adults with developmental disabilities and physical disabilities. So, some people didn't walk or talk or feed themselves — all the way up to people who were only part-time needing my help a couple of hours a day. And I did that for 16 years. … I was passing medication, taking people to doctor's appointments, using feeding tubes. I was exposed to the medical world through that," she said.

'The voice for my patients'

All of that set up Bills for her current job, one that she's held since graduating from Jackson's CMA program in November 2017. In that job, she embraces a particular role, one she considers deeply satisfying. She calls it "being the voice for my patients."

"I have a lot of complex patients, a lot of patients on Medicare, Medicaid, and they just have struggles. They just have certain issues that I can relate to or I can be empathetic with," Bills said. "And I have a lot of patients who are like, 'It's so easy for me to talk to you,' and 'I feel like you really listen. I feel like you're hearing what I'm saying.' And that just really makes me feel good about what I'm doing. I can go back and tell my provider, 'The patient said this or that. I kind of picked up on something when we talked about this.'"

With its array of health care certificates, Jackson offers several opportunities for a student to begin a promising career without years of study or tens of thousands of dollars in tuition. One example is phlebotomy, the techniques for drawing blood. In one semester, three classes and 10 credits, a student can earn a credential called a "skill set" in phlebotomy.

Rio Beaty, 26, has tried her hand in many courses of study — journalism, Spanish, culinary science and anthropology.

"I want to get into the medical field," she said, and so far, phlebotomy appeals to her. "It's hands-on. It's fast-paced, and obviously, there are jobs in this field."

She thinks it's likely she'll use phlebotomy as a first step toward a more advanced credential in health care. "Maybe a medical assistant or something like that," she said.

Jackson College phlebotomy student Rio Beaty (left) gets some hands-on assistance from instructor Carrie Sharp. Beaty has tried her hand in many courses of study in the past, but she's eager to get into the health care field. She thinks phlebotomy will likely be the first step toward a more advanced credential in health care.

Tara Sims eases a classmate's mind as she prepares him for a blood draw — all part of her training toward earning the phlebotomy skill set at Jackson. Sims is already looking beyond phlebotomy and is considering enrolling in the college's EKG technician courses.

Liz Snell is one of two student success navigators who advise Jackson's students in health sciences. Because she works exclusively with students in health care programs, she says, she has expertise that enables her to work productively with her students. "I'm seeing the same students all the time," Snell says. "We're becoming a one-stop shop."

Tara Sims, 35, says she's working to earn the phlebotomy skill set as a chance to break into health care — a field where jobs are secure.

"This was something that I didn't necessarily have to take the extended years of schooling for it, but I could still be in the medical setting," she said. "Somebody is always going to be sick. You're always going to need medical help; that's something that's never going to go out of style."

Sims already sees herself adding another skill-set credential after phlebotomy. She'd like to enroll in EKG technician courses next semester. In one more semester, with three more courses totaling nine credits, she could add that to her developing portfolio of medical skills.

Liz Snell is one of two student success navigators who advise health science students at Jackson. Part of her job is to help students devise a Plan B or C for their education in case the original goal becomes unattainable or loses its appeal. That could mean becoming an LPN or a medical assistant if a student isn't accepted into the training program for registered nurses. Snell said the way advising has changed under the guided pathways model helps her do that. Early last year, she began working only with students in health sciences — in her case, 440 of them.

Because she knows course offerings and certificate and degree requirements in greater depth, she's better able to tell students about alternatives. "It allows us to become a subject-matter expert and know the intricacies that are coming down the pipeline as far as changes," Snell said.

Most important: She sees students more often. "I do think that moving to this model has allowed us to gain better relationships with our students, too," Snell said. "I'm seeing the same students all the time. … We're becoming a one-stop shop."

In the first semester, students are required to meet with their navigators three times. Snell likes to use these first meetings to help students think through their course selections and prospective careers. A part of that work is helping them think about how one credential could position them to pursue others.

For some students, stacking or extending credentials seems almost instinctive. Students studying to become LPNs have that instinct. Snell said she knows of only one student she advises who wants to stop at being an LPN.

That one student is certainly not Katie Stiver. Her family responsibilities and concerns about time and money aren't enough to stop her from becoming an RN. "I want my bachelor's (in nursing)," Stiver said. "I don't know if I'll continue on. A lot of my friends say that I should, that I should go for my nurse practitioner, but I don't know if I see that in my future."

Of course, no one knows what the future holds, and Stiver may change her mind. After all, she's already shown how she feels about untapped potential. ■

Minnesota program is all about plastics – but the careers are rock solid

BROOKLYN PARK, Minn. — Today, Matthew Ellickson admits it unprompted: When he was a teenager, he goofed off in school. He didn't think he could make it into a four-year degree program.

"I started going to the tech school because I figured, 'You know what? I'm not a very smart kid, I didn't get good grades. Maybe I can go to a tech school and get a vocational degree.' It really opened my eyes up to the fact that I could succeed in college. I did really well in that school, and I built my confidence up from there and my experience and education in an industry, and it opened my eyes up."

Quality control worker Muylang Aing, 34, examines a part made at Donatelle, a medical device manufacturing firm near Minneapolis. Aing, a Cambodian immigrant who's lived in the United States since 2005, is also a student in the plastics engineering technology program at Hennepin Technical College.

That school was Hennepin Technical College, in this northern suburb of Minneapolis. The gateway to higher education that Ellickson found there was the school's plastics engineering technology program.

It was the first academic step in his climb toward the executive position he now holds at Boston Scientific. As director of process engineering at the company's plant in nearby Arden Hills, it's Ellickson's job to supervise how new products are moved into production at the facility, which employs about 2,000.

For decades, the plastics industry has been big business around Minneapolis and St. Paul. Thousands work in plastics manufacturing there, with a concentration in firms that make medical devices and components. Historically, plastics manufacturing meant molding the material by one of two processes: injection or extrusion. (Injection molding pumps semi-liquid plastic into a mold so that it hardens into that shape. In extrusion molding, the plastic is forced through an opening and takes that shape — for example, a rod, hose, or tube.) Those methods still dominate, but these days many more complex processes are used. And for almost 50 years, the plastics engineering technology program at Hennepin Tech has grown right along with the industry.

The program has had strong, consistent support from the region's plastics businesses. In return, the school has provided industry with a steady stream of highly trained workers. Hennepin Tech students can't earn an associate degree dedicated to plastic technology. But they can meld a series of non-degree credentials into a framework of expertise strong enough to launch a good career in the industry.

Dan Ralph, 65, has run Hennepin's plastics program since 1986. He's also a graduate — one of the original students when the program began in 1972. He said that in the beginning, it was boosted by financial support from founders and executives of area companies, including Medtronic, Honeywell, and Anchor Plastics.

"They decided that the plastics program wasn't going to be just about injection molding or extrusion molding. It's going to be about ***all*** of the processes. We ended up being the best-equipped plastics program in the United States, and probably at least in the top three today," Ralph said.

Strong industry support

That support from industry has never wavered. Hennepin Tech's cooperation with plastics manufacturers ensures that students' learning stays relevant — and marketable.

At Hennepin Tech, a student who earns one certificate automatically gets a head start toward another. Suppose a student earns an injection-molding occupational certificate with five classes totaling 18 credit hours. With that year of part-time school, he or she has gained certified expertise ranging from the chemistry of plastics to quality control. Follow up with three classes (12 hours), and the student can add an occupational certificate in extrusion molding to the portfolio. That makes 30 credit

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Matthew Ellickson, director of process engineering at a Boston Scientific plant in Arden Hills, Minnesota, holds a bachelor's degree and three master's degrees, including an MBA. He got his start — and his first job at Boston Scientific — through the plastics program at Hennepin Tech.

Dan Ralph (right), here working in the lab with student Ayub Sidow, has directed Hennepin Tech's plastics program for 33 years. The 65-year-old Ralph is also a Hennepin graduate, having been part of the first class that formed when the plastics program launched in 1972.

Plastics manufacturing has been life-changing for Kenya-born Steward Sirueri, here enjoying some family time with his wife Edina and their children, 5-year-old Smalling Osiemo and 1-year-old twins Isla and Ava Osiemo. Sirueri runs an extruder at Boston Scientific's Maple Grove plant; his wife, 27, is an assembler at Teleflex, another medical device manufacturer.


TRUCK
bright starts

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hours, only six hours short of the most demanding certificate available in the program, called a diploma.

For years, representatives of the plastics industry have been on an advisory board maintained by the plastics program. About half of the board's 22 members work in the plastics business. They use their direct knowledge of business trends to help guide the development of courses and certificates. In return, that helps the school maintain a 100 percent job-placement rate for graduates of the program.

The number of graduates — 24 earned a credential of some kind in the 2017-2018 school year — still falls far short of demand in the business, according to Dennis McNevin, an advisory board member and another early '70s graduate of Hennepin's plastics program. For years, he's sold manufacturing equipment to plastics companies.

"That's probably the single biggest complaint of any of my customers, is not being able to find the talent that they're looking for," McNevin said.

Ellickson discovered that demand 24 years ago as a student in the program. In 1995, while still attending Hennepin, he was hired as a production supervisor at Boston Scientific. It didn't take long for him and his classmates to see the program's potential benefits. "Every week, we'd have new postings up for new jobs at different companies," he recalled. "It gave you a lot of exposure to the industry and opened up a ton of possibilities for people."

Those plastics manufacturers attract many workers among the more than 200,000 immigrants who live in the region, many welcomed to the Twin Cities area through its long tradition of refugee resettlement. Many students in the program are immigrants, too.

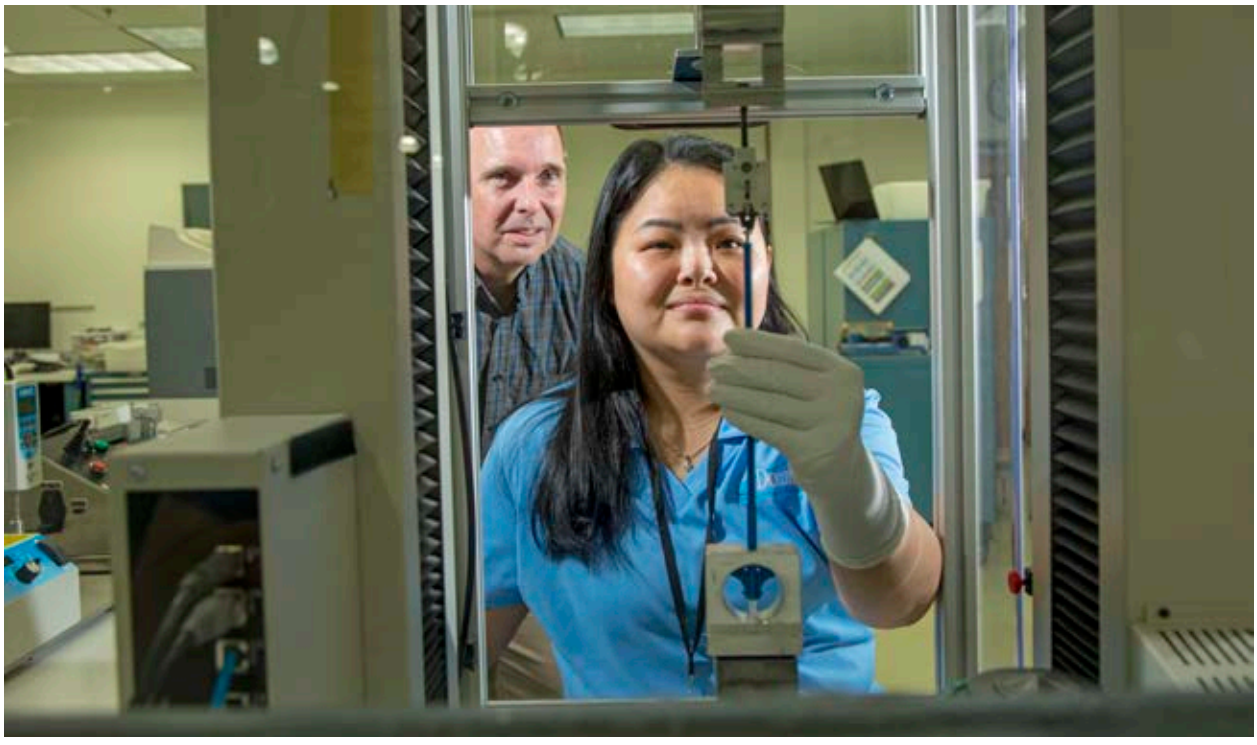
Steward Sirueri, 32, is a good example. He won an immigration lottery in 2016 and moved from his native Kenya to the Twin Cities. Three years ago in Kenya, he and his family lived in an apartment, and they shared a bathroom with the tenants of several other units. They had never owned an automobile. On a good day, he made about $60 from operating a cyber cafe and repairing computers. Now he drives a Buick Enclave. His family's apartment has its own bathroom and shower. His wife, Edina, 27, is an assembler at Teleflex, which also makes medical equipment. All told, it's a much better life for Sirueri and his young family.

"The income is steady, unlike back home," he said. "Over here, I can say it's way better than at home."

He works at Boston Scientific, in the company's Maple Grove plant. He runs an extruder that makes medical-grade tubing.

"The first time I started working, I didn't know what these parts were for. So when our supervisor told us that these are medical devices for hospitals, and they are used by human beings. … I like that I am making something which is going to be used somewhere, maybe to save life or improve life," he said.

Ayub Sidow, 34, came to the United States in 2004 from Egypt. Sidow, who is from Somalia, spent four years in Egypt after his family fled violence in their home country. He's worked for Proto Labs for 12 years. He took the advice of co-workers who told him that



Muylang Aing, working with Donatelle Quality Manager Terry Bauerly, tests a part for its tensile and compression properties. Aing's connection to Hennepin Tech started when she became fascinated with the defects she saw in the parts at work. "I was always concerned," she recalls. "What is that? Where do all those defects come from? How was this plastic strained?"

Ayub Sidow, 34, examines a part in Hennepin Tech's massive plastics lab. Sidow, a Somalia-born immigrant from Egypt, took it to heart when co-workers at Proto Labs said he'd improve his chances for promotion by enrolling in the Hennepin program.

learning more about plastics at the college was the way to advance in the company. And he expects that the certificate he's working on at Hennepin will give him an edge in earning promotions.

"I come to school because I want to move up for injection molding," Sidow said. "One of my friends told me where he went to school and moved up to management. Gets more money."

Intrigued by the defects

Muylang Aing, 34, came to the United States from Cambodia in 2005. Her work at Donatelle, which also makes medical devices, got her interested in the college's plastics program.

When she started working in quality control at Donatelle, she was intrigued by patterns of defects she caught in pieces made by the company. "I was always concerned. What is that? Where do all those defects come from? How was this plastic strained? Why did it make this defect?" she said.

For example, she used to wonder about burns in plastic parts. "I always question myself, 'What is it that caused that, the burn mark? … Why do we always get a burn mark on that plastic part?' When I came here, I know (it's) because of the gas leaking in the mold," she said.

Not every student in the plastics program is an immigrant. Michael Thao, 23, didn't get involved in the medical aspects of plastics manufacturing until he started working for TE Connectivity, a company based in Switzerland, with two facilities in the Twin Cities area.

"I started as an operator — working on a line, assembling parts, and then I moved my way up to braider, and then I went to the extrusion department," he said. A braider is a machine that twists filaments together into a thicker strand.

"I only got interested in (learning more) after I moved into the extrusion department," he said. "Hands-on dealing with medical tubings every day is just — every day's a mystery. That's what I like about my job. You come in, you have a new job to run."

He's confident that his education will set him up for a better career in the plastics business. "Education is power to you. … The more you have, that's kind of like your skill set. Employers will look at that, and they would want to pay you a good amount of money to keep you," Thao said.

The Hennepin program developed in step with the regional plastics business. Like many industry clusters, there's no single, obvious reason that plastic manufacturers proliferate in the Twin Cities region. There's a chicken-or-egg aspect to it: Many locals simply say it's a great place to do business because there are a lot of plastic businesses here. Area firms train employees in similar processes and attract similar suppliers.

Treasa Springett, president at Donatelle, the company where Muylang Aing works, puts it this way: "Having a facility centrally located in the Twin Cities puts us in close proximity to some of the largest medical device manufacturers in the world. Engagements such as business reviews and technical meetings can be accomplished very efficiently," she said.

The history of Donatelle illustrates how the plastics cluster grew. Springett said the company was founded in 1967 as a tool-and-die shop. It branched out into injection-molded plastics in 1979. By 1993, its work was so heavily concentrated in plastics that it changed its name to Donatelle Plastics Inc., she said. It now employs about 400 people.

Through a tuition-reimbursement program, Donatelle pays for Aing's classes at Hennepin Tech, where she is in her third semester. Although the company recruits employees from many sources, Springett said that credentials from Hennepin are "certainly a plus."

The equipment connection

The plastics industry helps the Hennepin program in another tangible way: It provides a steady flow of updated equipment through donations or loans. Many of these gifts are machines that would cost the school $100,000 or more apiece. And it isn't just sentimental attachment that drives these donations, even though most are arranged by program alumni.

McNevin, who sells Toshiba injection molders, arranges for Toshiba to lend the program a new molder about every 18 months. "That benefits us, because when (students) get out in the industry, they've utilized some of our equipment. So a lot of times, they'll end up calling me and asking me about possibly purchasing, too," he said. The school's production lab also provides a spacious showroom where prospective customers can see a tool in action, or where a company can train workers on a new tool before it arrives.

"The industry has been very supportive," McNevin said. "It helps (businesses) if they can educate students to the degree that they need."

And everybody needs plastic, as Ralph has been preaching for decades.

"The thing about plastics is, we affect every major manufacturing process in the world. So if it's recreation, or construction, or electronics, we're making plastic parts for every major manufacturer," he said.

What plastics can really reshape, though, are the lives of students who find careers in the field. That's the experience of Ellickson, the executive at Boston Scientific, and it's the message he wants students to hear.

Since his first classes in making plastic, he's earned a bachelor's and three master's degrees, including an MBA. He's arranged the donation to the school of several expensive machines. And Ellickson frequently teaches a class at the college, supporting its mission with his own time and knowledge.

"I talk to my students in there now and say, 'What are your aspirations?' And they say, 'Well, I just want to be a tech.' And I say, 'You go to this program, you start here, you are going to grow and achieve so much more than you ever thought you could have,'" he said.

Hard to argue with someone like Ellickson — an admitted teenage goof-off who used the program to mold an impressive professional life. ■

Dan Ralph, here leading a class at Hennepin Tech, is a dedicated cheerleader for the program — and the industry it supports. "The thing about plastics is, we affect every major manufacturing process in the world," Ralph says. "So if it's recreation, or construction, or electronics, we're making plastic parts for every major manufacturer."

Michael Thao, 23, trains on Hennepin Tech's state-of-the-industry machines. He works at TE Connectivity, a Swiss firm with two plants in the Twin Cities area, and he's captivated by the work. "Hands-on dealing with medical tubings every day is just — every day's a mystery," Thao says.

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Lumina Foundation is an independent, private foundation in Indianapolis that is committed to making opportunities for learning beyond high school available to all. Lumina envisions a system that is easy to navigate, delivers fair results, and meets the nation's need for talent through a broad range of credentials. The foundation's goal is to prepare people for informed citizenship and for success in a global economy.

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