

Manufacturing a future

Factories recruit tomorrow's workforce

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Second Chance student, Dylan Kading, receives instruction from Dawn Tabat, chief operating officer of Generac Power Systems.

Since early 2009, many manufacturers in the metro Milwaukee area have had a significant rebound in orders and profitability, as customers throughout the country and around the globe replenished supplies and renewed their appetite for industrial projects and consumer goods.

The increase in business and related hiring has unveiled a long-standing problem for many in the manufacturing sector – the difficulty in finding young workers who are interested in working in the manufacturing field and have the necessary skills to do so.

The difficulty in finding young workers interested in the manufacturing sector, paired with the aging manufacturing workforce (according to the 2009 U.S. Census, the average Wisconsin worker employed in the manufacturing sector is slightly older than 43 years old), creates a long-term problem for many manufacturers in the region.

“With the growth we have projected and the aging workforce, there’s a huge gap,” said Steven Dyer, president and chief executive officer of Nashotah-based Dickten Masch Plastics. “(Manufacturers) have jobs that exist, and they can’t fill them.”

The problem is not new.

Waukesha-based Generac Power Systems Inc. had significant challenges finding employees when it built a new facility in Jefferson in 1996 and needed to hire more than 200 people.

“We were starting a manufacturing plant for our consumer products line, which was very intensive manufacturing – a vertically integrated manufacturing process, not just straight assembly,” said Dawn Tabat, the company’s chief operating officer, who was head of human resources at the time. “Generac has a minimum requirement of a high school diploma. For any job (with the company), you need to have at least a diploma. We were shocked at how many candidates were coming in, who looked like reasonable candidates, but didn’t have a high school diploma.”

Many other major manufacturers in metro Milwaukee have long noted the difficulty in finding young workers interested and qualified in working in the manufacturing field.

Instead of bemoaning their difficulty, many of these manufacturers are creating relationships with school districts, superintendents, teachers, guidance counselors and even parents – both to change their perceptions about careers in the manufacturing field and to help develop curriculum that will better prepare students for manufacturing-related jobs.

“We came to the realization that we needed to change the perception of manufacturing from a fallback (career) to being a career path choice,” said Dyer, who is also chairman of the Waukesha Business Alliance’s Manufacturing Alliance, a group of manufacturers in Waukesha County dedicated to promoting their industry. “As an alliance, we have been working for a year to create synergies, bring (educators) in and coordinate with them. We’ve never treated these educators as the resource that we need to.”

Model for success

The most evolved model for developing and training a next generation of manufacturing and skilled trades employees is Second Chance Partners for Education, a Pewaukee-based nonprofit that has been in operation for 10 years. Second Chance operates eight alternative high schools, each based inside a manufacturing facility. Eighty-eight students are enrolled in the program this school year.

Second Chance partners with school districts to identify credit deficient students. When students complete its program, they graduate from their home high school and receive the same diploma as their peers.

The Second Chance program was started in 2000. It was inspired by the difficulty that Generac had finding workers when it was opening its facility in Jefferson. That facility was sold in 1998, when the company sold its portable products division.

After speaking with several area school districts about their struggles to reach at-risk students, Tabat was convinced there had to be a better way.

Second Chance students attend school for two hours a day and spend the remaining six hours working on the factory floor in a variety of roles, where they are able to apply lessons they learn in the classroom to the manufacturing environment.

Each alternative high school (which Second Chance calls an educational center) is supported by four or five businesses, where students go to work after their classroom time is finished. Its educational centers are now located in Waukesha, Milwaukee, Walworth and Racine counties.

The Second Chance program is designed for high school students who have disengaged from the traditional high school curriculum and are credit-deficient and at risk of not graduating with their peers, said Stephanie Borowski, executive director.

“These are bright kids who have disengaged. They’re usually hands-on learners or tinkerers who historically would have been industrial arts kids,” she said. “This is not a (typical) alternative high school program. These are not expelled students. They have to be drug free for the entire 21 months of the program.”

“This always has been not a work program, but one focused on academics and making sure an at-risk student population has a true second chance and a genuine commitment to get a diploma,” Tabat said. “We have so many students that are invisible students who sit and take up space, but don’t engage and participate. These kids could end up being non-contributors to the social fabric. They need to get engaged.”

Students are paid for their time, both in the classroom and while they’re working on the shop floor. Average pay for students is \$7.40 per hour, and all students put in 40 hours per week.

Second Chance boasts a 90-percent graduation rate and a 98-percent attendance rate. Students are motivated to attend through the program’s policy on unexcused absences. If a student has an unexcused absence, they are docked a week’s worth of pay for their classroom time, Borowski said.

The Second Chance curriculum covers topics such as blueprint reading, math for the trades, high-performance manufacturing, financial literacy and work with computer design programs such as AutoCAD and Pro/E. Although a full-time teacher works with the students in the classroom, numerous industry experts help teach specific courses or pieces of classes.

“By being within a business, subject matter experts can come into the class,” Borowski said. “An engineer might teach them about blueprints or using AutoCAD. Some of our kids go on to two- or four-year engineering programs because of the connections they made in the Second Chance program.”

Michael Erwin, president of Menomonee Falls-based Tailored Label Products Inc., has had one of the Second Chance classrooms in his company for almost four years. To date, the company has one full-time employee who has graduated from the program. It will add another full-time worker when he graduates from the program this May.

“Our workforce is in buckets – those in their 20s, 40s and those nearing 60,” Erwin said. “The wave for the next skill set needed to be stepped up. And we’re growing. We had a 15 percent increase in employment last year.”

Erwin likened the program to professional baseball’s minor league system.

“(Students) have two years of experience before they even graduate from high school,” he said. “They’ve matured a bit and gotten some direction, and we’ve vetted out which ones are worth investing in.”

Successful, proven model

The Second Chance program has been a success. Many of its graduates are either working in manufacturing operations or have gone on to college or technical school, and it is quickly expanding to other markets.

In January, Second Chance opened a new educational center inside Create-A-Pack in Oconomowoc. This fall, it hopes to open new educational centers in the Green Bay, Racine/Kenosha, and Appleton/Oshkosh markets.

“The idea is we’re trying to be an educational model of success within the state of Wisconsin and potentially a national model,” Borowski said.

Borowski began working full time with Second Chance about two and one-half years ago. She was previously Generac’s vice president of human resources and worked directly with Tabat.

“This was Dawn’s idea. I helped execute it,” Borowski said. “I’m here to grow the program to where it should be – an educational option that can be and should be repeated throughout the state and potentially through the country.”

Students in the Second Chance program frequently rediscover an interest in learning after they enter the program, Borowski said, and catch up with their grade levels on academics and many even surpass them.

“We often find that students will start behind their peer group, but they’ll leapfrog their peer group because of the mentoring and the 21-month program of true work/life experience,” she said. “When they graduate, they have six credits in the Wisconsin technical school system, a two-year youth apprenticeship certificate, the references of their mentors and businesses they’ve worked in, and some will have opportunities to continue with some of those businesses.”

“Once these students get engaged, they blossom,” Tabat said. “It doesn’t take long for these students to be part of something they become proud of. This is radical education reform – a new and dynamic way for teachers to instruct students in real world applications.”

New connections

The Waukesha Business Alliance’s Manufacturing Alliance, many of whose members participate in the Second Chance program, is also making strides at creating new connections with many of the school districts in Waukesha County to change their impressions about manufacturing and help tailor classroom curriculum to better prepare workers for careers in manufacturing.

“There are a lot of companies in this (situation) in this area,” Dyer said. “I’m competing with Mexico, India and China. It’s a global stage now and we need to find ways as a community to be competitive. It will take more collaboration as we go forward than what has been typified as the American way, with trade secrets and strategic advantage. We produce more now than we have at any other point in our history, with fewer people and with massive productivity gains. We’ll have to accelerate that to remain competitive.”

Over the last year, the Manufacturing Alliance has held numerous tours of its members' facilities for superintendents, guidance counselors and teachers, to help show them what modern manufacturing looks like and tell them that careers in manufacturing can pay family-supporting wages.

"We've begun to open a dialogue and bring an awareness (to educators) that manufacturing is alive and critical to supporting our way of life," Dyer said. "There is a need for workers, and they can raise a family, have a retirement plan and health insurance. The stuff that went to China and Mexico is the stuff you can't raise a family on. That's not the kind of jobs we're talking about."

Todd Gray, superintendent with the Waukesha School District, has been one of the most receptive to the Manufacturing Alliance's input, Dyer said. After taking tours of several facilities and several meetings with members of the alliance, the district has made changes to several industrial arts classes and is planning more for the future.

"We're a community-minded school district, and manufacturing concerns are part of our community," Gray said. "I've toured a number of facilities and it's not the same old manufacturing. It's high tech and there is a lot of robotics. I'm seeing that people who will excel will need good communication and math skills and will need to be able to work with other people in teams on a daily basis."

Amy Lange, the district's career and technology education coordinator, said the district made subtle changes to several classes this year, including more steps in the design process in industrial arts programs, for example, and will add two new courses at Waukesha North High School for next year.

"One of them will be on materials and the manufacturing process," Lange said. "It will be an introduction to all of the materials and processes in manufacturing. An emphasis needs to be on lean manufacturing."

Waukesha North also will offer an industrial math class, which will be co-taught by a math and technical education teacher, Lange said. The course will teach algebra, geometry, some trigonometry, roots and powers, and will include lessons on reading calipers and precision tolerance gauges.

The district is working to create an advisory committee, in which members of the business community will be able to look at its curriculum and give advice on potential changes.

"We're hoping to have that running by this spring," Lange said. "We'll have businesses look at the curriculum, what we're missing, and give us feedback."

The district also is considering creating a charter or magnet high school that would focus on technical education and trade-related curriculum, Gray said.

"We'd like to look at that option," he said. "We have a number of these classes in place already. The curriculum is applicable to a potential charter or magnet school."

Dyer said Dickten Masch Plastics and the other members of the Manufacturing Alliance are excited about the prospect of students graduating from high school who are familiar with the terminology and concepts used in modern manufacturing.

"If a kid can understand what a value stream map looks like, and if they can focus on value-added work, and we don't have to teach that concept, that will be a game changer for us," he said. "The fact that this awareness has been raised and tangible talk is happening is incredibly encouraging. These are the programs that businesses can get behind and get involved in funding."