

Manufacturing education for the next generation



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Paul Lane

By [Paul Lane](#) – Data Reporter, Buffalo Business First
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Nestled in an Orleans County village still struggling to come to grips with 21st-century desires is the training ground of what may be the next generation of manufacturing workers.

CNC Technical Solutions Inc. has trained hundreds of students since opening more than a decade ago in a nondescript building on East Center Street, just off Medina's quaint Main Street.

[John Nappa](#) opened the facility after a lifetime of working in manufacturing and engineering. He crafted every aspect of his training courses, work that could soon lead to an expansion as he looks to patent the training equipment he invented to guide students along.

Nappa founded CNC Engineering Solutions in 2001 as a support and technical training center.

Doing that specialty work exposed him to a skills gap that existed, so he shifted focus in 2007 and devised the training program that still exists, operated by a staff of 21 engineers, technicians and technical writers.

Nappa offers a handful of training programs out of a couple rooms in his office space.

The student body is a mix of teen students (CNC partners with area schools to offer training in their manufacturing programs) and 40- and 50-somethings sent by employers to modernize their skill sets.

“They can’t find them. They can’t buy them. So they’re trying to build them,” Nappa said of his clients, who send veteran workers for a training update.

Students work in small teams under the watch of an instructor. Nappa emphasizes collaboration on the manufacturing floor and maintains a 4-to-1 student-to-faculty ratio. They have to troubleshoot numerous real-world situations before they graduate from a 136-hour course.

“The guys come out of this program functional,” he said. “Once they get the general understanding, they can apply it to the specific industries.”

That understanding comes with the help of custom devices Nappa crafted, including a scale-model robotic offloading system meant to replicate the machinery on manufacturing floors.

Another creation replicates four autonomous systems, including sorting and quality-check components, working simultaneously through the manufacturing process.

Nappa and his instructors intentionally inject bugs into the systems, then leave students to diagnose and remedy them.

“We used to go into facilities to break million-dollar machines and try to fix them. The quality of the training really wasn’t there,” he said. “They’re going to have enough of an understanding (when students leave CNC) that they can handle it intelligently and not flail around.”

Nappa wants to do his part to help the manufacturing industry as a whole to stop flailing. Through a combination of economic factors, lack of continuing education and social stigma, the local manufacturing industry has been a segment of the economy with a lot of room for growth, he said.

“Manufacturing got a black eye” in the days post-Bethlehem Steel, he said, noting that numbers have increased slightly the past couple years. “It was the runner-up prize. A newer, more modern facility is like a hospital.”

Keeping up with improving conditions such as those has proven challenging for trainers nationwide.

That created a demand for the devices Nappa crafted in his workshop, some of which feature variable controls and other features that are valuable but difficult to replicate.

So Nappa has patents pending on several devices, which he said are marketable to community colleges and private technology institutes.

Once he’s able to begin manufacturing, he said he plans to bring on additional workers for that part of his operation. That could happen in the first part of 2019. He plans to add another advanced manufacturing training course as his student intake continues to grow. That benefits him and his business, of course, but the update that it gives to Western New York and its workforce is worth a lot more.

“There is such a strong need for competent workers. And that’s where we come in,” he said. “We are making people rethink what manufacturing is.”