

Nevada Library to Offer Manufacturing Certification

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With the help of a Library Services Technology Act (LSTA) Innovation Program grant awarded in February, the Carson City Library (CCL), NV, will become the first library in the country to offer an entry-level certificate for workers entering careers in advanced manufacturing. The funding covers the cost of a Manufacturing Technician Level 1 (MT1) certified instructor within the library, as well as two instructors at the nearby Carson City campus of Western Nevada College (WNC). The courses will run concurrently at both institutions.

The certification program emerged from CCL's collaboration with WNC and the Carson City School District on Nevada's Working Capital, a nonprofit initiative developed to encourage local manufacturing. The partnership was formed in 2014, after a meeting of community stakeholders convened in June by the Governor's Office of Economic Development. At the time, Governor Brian Sandoval was in the process of negotiating with Tesla Motors to bring its new "Gigafactory"—a massive manufacturing plant for the lithium ion batteries used in the company's luxury electric cars—to northwestern Nevada. An uptick in industry would be good for the state, which had been working to move away from a tourist- and hospitality-centered economy toward a more robust base, but Nevada needed more skilled workers to pull it off.

In October, Tesla agreed to locate its factory near Reno. As deputy library director Tammy Westergard described it, at that point "the impact of Tesla coming, and how Nevada's workforce wasn't ready for it, got very real." Westergard saw an opportunity for the library to move community growth forward, and approached the Manufacturing Skills Institute (MSI), the educational affiliate of the Virginia Manufacturer's Association (VMA), to suggest that MSI bring the MT1 certification program to Carson City.

CCL applied for the grant in November, and in January, Westergard and library director Sena Loyd appeared before the State of Nevada Council on Libraries and Literacy to successfully defend their proposal. The CCL library foundation and library gift fund matched the LSTA grant with \$20,000 in cash to buy the more powerful computers needed to run the 3-D computer-aided design (CAD) software SolidWorks, and NWC purchased the SolidWorks licenses for the first year. As a full partner, MSI provided the costs of instructor training in kind. The program is expected to start in July.

BUILDING A NEW WORKFORCE

The certificate program originated as a result of a study conducted by VMA in 2006 examining the future of skilled trades. Among other findings, the study revealed that with the recent infusion of 21st-century technology, job definitions did not reflect the competencies necessary for modern manufacturing roles. Industry experts identified a series of 12 critical skills that would cross all occupations and sectors of manufacturing, and which could be used to document a person's work-readiness.



Nevada Manufacturers Association Executive Director Ray Bacon endorsing City library officials' announcement of the MT1 program.
Photo by Cathleen Allison

A Level 1 manufacturing technician typically operates precision machinery, and usually needs to use some combination of CAD skills, computer-controlled machine programming, precision measurement, process and machine troubleshooting, problem-solving, machine maintenance, and use of diagnostic and statistical tools. The MT1 certificate demonstrates mastery of core competencies in math and measurement, spatial reasoning and manufacturing technology, and business acumen and quality.

Jobs supported by the MT1 are considered middle-skill occupations, which require more than a high school diploma but less than a four-year degree, explained Katherine De Rosear, MSI director of workforce and partnership development. Upward of 65 percent of all employment openings in manufacturing now fall into that category. “That’s the reason that MT1 has become so important,” DeRosear told *LJ*. “It documents those critical skills beyond the high school diploma, yet you don’t have to pursue a degree pathway in order to obtain them.”

MT1 covers “common skill sets that are necessary, whether you’re making circuit boards or batteries or valves or whatever,” added Westergard. “It’s competency in nine different areas that have to do with basic understanding of applied mathematics, natural science, understanding how electricity moves, volume, those kinds of things.”

The certification is currently offered in Virginia, West Virginia, Florida, and now Nevada, and more than 2,000 people have been assessed using its metrics. MSI does not send trainers out into communities; instead, DeRosear said, “We build the capacity at the community level, through the existing network of workforce assets. That’s what made the Carson City Library so unique, that Tammy found us in her online research and reached out to us to find out what it would take for the library to become an assessment center and have a certified trainer.”

Most important for northern Nevada, the program has the potential to produce a competent population that will be ready to go to work. As Mike Jackson, VP of product marketing at the Micromanipulator Company in Carson City, stated in MSI’s press release: “We really need a workforce we can pull from right now.”

PROFESSIONAL DEVELOPMENT AND MORE

In Carson City, certification can be earned at WNC, where MT1 coursework is embedded into a broader Automated Systems course and taught by one of two instructors provided by the LSTA grant. In this way, students finish the semester with a full course credit and are also prepared for the MT1 exam. But workers can also receive instruction through the library, where library director Sena Loyd will be the certified MT1 instructor. Certification requires 100 seat hours to prepare for the exam, and instructors can structure class hours over any length of time to suit students’ needs.

In addition to providing MT1 instruction, CCL will be installing SolidWorks—which Westergard described as state-of-the-art software “that makes AutoCAD look like a manual typewriter”—on the computers in the library’s nine-seat training hub. SolidWorks is used in engineering worldwide, and Westergard hopes that local companies will use the library as an affiliate for employees’ professional development, letting them practice software skills informally and off the clock. SolidWorks tutorials will be available through lynda.com.

To supplement SolidWorks, CCL will also bring in a 3-D printer and will offer demonstration programs of its real-life uses. Not only does Westergard envision this as a way of building momentum for Tesla’s arrival, “but also to help raise awareness about what other manufacturers are doing in our area. Because a lot of them are really sophisticated business concerns, and are doing great work, and—don’t forget—these are primary jobs. They help grow wealth in our community. These are not service jobs.”

SKILLS FOR ALL

Westergard feels these resources can reach all members of the community.

While the grant specifies that MT1 recipients be 18 or over, local high school students who attend WNC part-time as part of the Jump Start program can begin working toward the certification if they are 18 by the time they graduate.

CCL was one of eight libraries last year chosen by ALA to host the [Discover Tech: Engineers Make a World of Difference](#) traveling exhibit, and Westergard reported a huge response from young women interested in engineering. She will make sure, she said, that the MT1 is marketed to women as well. “We are absolutely going to drive it with emphasis and focus on attracting women and girls.... This does not know any bounds at all.”

In addition, CCL received a mini-LSTA grant to complement the MT1 program: \$5,000 for Minecraft in the library, to introduce children in grades 6–10 to manipulating images and working in a 3-D environment.

And instruction doesn’t necessarily end when the community’s job seekers receive their certification. “These folks who are going to get that MT1 just got a really valuable ticket,” said Westergard, “now what’s the next thing they’ve got to do? They need to go apply for a job. Well then, they need to write a cover letter, they need to have a resume...we already have all of that support. It’s such a great one-stop shop for supporting a person who is trying to level up their skills and move themselves forward. The public library is the absolute portal to it all.”

AMERICA’S NEW MIDDLE-CLASS JOBS

“Advanced manufacturing is not Lucy and Ethel’s chocolate line,” Westergard told *LJ*. “These are America’s new middle-class jobs.” The fact that candidates can work toward their certificates at the library, without the need to be enrolled at WNC, she offered, “creates access that is unconstrained and gives a person tons of opportunity, regardless of what their circumstances are.” The cost of the certification is \$300, but scholarships—provided through the LSTA grant for the program’s first year—are available.

DeRosears hopes that other libraries will consider offering the MT1, explaining, “You don’t have to have hundreds of thousands of dollars in proxy technology in order to demonstrate and learn the hands-on application of the competencies. It can be done in a library environment.”

She added, “Years ago I worked in the governor’s office on the implementation of...employment and training legislation. I thought at that time, as we were looking at how to build out a network of improved services for employers and job seekers, about the role of the library but never acted on it. So the fact that [Westergard], working within the library system, felt that connection, was for me just a breath of fresh air—to think about how we can leverage our existing resources in new and innovative ways. Often communities think about inventing new structures, new programs, new partners, when they don’t look to their existing aspects.”

The LSTA grant will run for a year, through June 30, 2016, and CCL’s library foundation is already planning its strategy to underwrite the cost of the program—about \$200,000 annually—with a mix of fundraising tools that include online marketing and creating sponsorship opportunities. But, Westergard pointed out, “The best way to sustain something like this is to do a good job the first time, because it speaks for itself.”