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Pipe dreams, reality

Apprenticeships give student plumbers on-the-job training

By Lisa Petrillo

STAFF WRITER

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With his supervisor gone up a 10-foot ladder, it was up to trainee Josh Kottas on the ground to wield the power tools, alone, on the \$18 million construction site.

Kottas grabbed a Sawzall, shouted up to his supervisor, "I'm going to cut 2 inches off that pipe," and took a deep breath as he guided the blade through the metal pipe.

With the pipe cut cleanly, Kottas then installed the trimmed section like a shiny piece of an Erector Set and connected the row of toilets in the North County Regional Education Center, under construction in San Marcos.

When the supervisor climbed down to check the work, Kottas passed one of the thousands of unwritten tests in an education process that is among the oldest on Earth: the apprenticeship.

"There's no better way to learn than putting hands on pipe," said David Otterstein of the United Association of Plumbers and Steamfitters union, which sponsors the apprenticeship training, along with the state of California, through the San Diego Community College District.

This is how the future plumbers of America are made – paid, on-the-job



NANCEE E. LEWIS / Union-Tribune
William Valley, a third-year apprentice pipe fitter, welded pipe at a training center in an industrial stretch of East San Diego. The apprentices learn under the supervision of experienced journeymen by day and with five years of classroom learning by night.

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training supervised by experienced journeymen by day, combined with five years of 1,000 hours of classroom learning by night. Graduates earn college degrees and can make as much as \$44 an hour plus solid benefits and full pensions.

Much has changed in the way the workers who build America, from its toilets to skyscrapers, are trained. But perhaps the biggest effect on the future work force is the undeniable gravity of age: As baby boomer blue-collar workers reach retirement age, some experts worry there won't be enough skilled workers like Kottas training to replace them.

Sue Schurman, president of the National Labor College outside Washington, D.C., blames the potential shortage in the decline of U.S. trade unions, which once supplied much of the trainees and the training in the construction industry.

And she said as the nation has shifted from a manufacturing-based economy into an information-based one, the push toward white-collar careers and away from vocational education has siphoned off the talent pool for the trades.



NANCEE E. LEWIS / Union-Tribune
Instructor Rick Condon showed apprentices Mark Turner (left) and Adam Laufenberg how to use welding equipment as part of a program sponsored by the United Association of Plumbers and Steamfitters union.

In San Diego County, Randall Barnes, associate dean of work force and economic development and apprenticeship programs for the San Diego Community College District, is already seeing a shortage of students willing to train in trades such as sheet metal and air conditioning.

Of the estimated 100,000 students in the San Diego Community College District, Barnes estimates that only about 2 percent, some 2,000 students, are enrolled in the district's 25 trade programs. Many of the programs, such as the plumbing and pipe fitting apprenticeships, also offer the benefit of an associate's degree.

Barnes spends a lot of time trying to recruit.

"I tell people these are jobs that can't be sent offshore (to low-wage foreign sites). There will never be a shortage of demand. You get paid while you're in school," he said.

Schurman of the Labor College, an accredited college, is betting the future lies in cross-training, combining the career paths of white-collar and blue-collar workers. The college has launched new programs to help trade workers translate their skills into college degrees. While many California community colleges, including San Diego's, already do that on the associate's degree level, the Labor College wants to take it up a notch and offer bachelor's and even master's degree programs in trade-related fields.

"That way, it won't be an either/or proposition to go into the trades or to

get a college degree," Schurman said.

'Not glamorous'

Otterstein, of the plumbers and steamfitters union, became a plumber like his father, and his father's father and his great-grandfather. Now he is the business representative of a union investing \$18 million a year statewide in training the next generation of plumbers, pipe fitters and steamfitters. Their labor covers most things fluid-related in construction from sinks to nuclear power plants.

Statewide job projections for the pipe trades show healthy growth of up to 17 percent over the next 10 years. In San Diego County alone, pipe trade workers are expected to grow from 73,000 in 2000 to 84,000 by 2008.

But Otterstein worries about labor shortages. His union no longer has the massive waiting lists for its apprenticeship training and he acknowledges a career in pipe isn't for everyone.

"It's not glamorous," he said.

Journeyman plumber Ron Attig stood on the bare concrete floor of the San Marcos construction site where he was working while supervising apprentice plumber Kottas, both of them covered in construction dust while the wind blew in from the open walls of the unfinished building.

"You are not clean," Attig added, wearing a big grin that also showed the dirt of who was the boss and instructor.

Job security attracted Cameron McIntire of Oceanside to the pipe trades apprenticeship, he said. "We will always need water, and wherever there's water, there's pipes, and wherever they need pipes, they'll need me."

During a break in class at the pipe trades training center in an industrial stretch of Federal Boulevard in East San Diego, McIntire and dozens of men in jeans, overalls, coveralls and dusty work boots hustled to the vending machines for chips and candy that would serve as dinner to many who had already put in a full day's work.

Two to three nights a week, apprentices take classes from 5:30 to 8:30 for a total of 216 hours per year over five years. All had to pass math and language competency classes given by the San Diego Community College District to get into the program, and they have to fulfill the classroom requirements, which includes passing state-qualifying tests. The prize is journeyman status, which can mean earning upwards of \$40 per hour plus benefits.

But first they have to finish the more than 1,000 hours in night school, longer than it takes for some other professions. And with plumbing, there's a lot more math.

Mark Turner, 41, is one of the older apprentice pipe fitters enrolled. He is a former musician whose tried traditional college and prefers the trade training.

"In college, you do a lot of things that don't have anything to do with life outside class. Here you're learning from people who have gotten their

hands dirty," Turner said.

Their instructors keep them up on the technology that is transforming the trade, such as the three-dimensional computer-generated building specs and the knowledge of how to build clean rooms for San Diego's burgeoning biotechnology industry.

But generally the classroom training is the basic understanding of the physics of the flow of liquid.

The mostly male students heft thick textbooks, they take tests on electrodes and fusion and reverse polarity and tensile strength. They practice their welding. They memorize the building code, and they absorb the lessons of instructors such as Ed Avila, a former senior building inspector for the city of San Diego, who tells of their responsibility to the public welfare.

"Look at history, at all the epidemics and outbreaks of the world – cholera, E coli, and how it spreads. It's about the pipes," Avila said.

For apprentices like McIntire, who dreams one day of chucking all this pipe for a career in law, does all this work in the field make a difference?

"If you flush your toilet and it explodes, you'll notice the difference," McIntire said.

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