

WANTED: Brains to Train

Firms court and school a new breed of skilled worker

BY BETTY JOYCE NASH

Jared Sherrow powered up his future even before he graduated from high school. Sherrow opted for a new earn-and-learn deal that is schooling him for a career at Santee Cooper, the state-owned electric and water utility in South Carolina.

"I really wasn't interested in going to a four-year college," he says. "I was interested in going to tech, but I didn't know what I wanted to do." Santee Cooper recruited Sherrow in 2007 to replenish its dwindling supply of plant technicians.

And Santee Cooper's job crunch reverberates through other industries, too, where trained and intelligent technicians appear endangered. Utilities and high-tech industrial firms worry about who'll run and fix the machines, weld the seams, and fit the pipes. The South Carolina Employment Security Commission projects that by 2014, jobs for plumbers, pipefitters, steamfitters, and avionics technicians will grow by 20 percent.

More than half of the nation's aging utility workers will be eligible to retire over the next decade, and that leaves firms like Santee Cooper scrambling to lure high school students like Sherrow.

Image Problem

Tech experts partly blame media for the dearth of skilled labor. Few pipefitters or engineering technicians show up on TV, they say, and so students aren't lining up for those jobs. Ambitious parents inadvertently add to the problem as they press students to earn a bachelor's degree instead of a technical one. Some blame that on manufacturing phobia.

This skilled labor gap may reflect beliefs of previous generations, say educators and corporate recruiters. As low-skilled manufacturing enterprises (like textiles) dwindled in South Carolina, parents and guidance counselors channeled students to four-year colleges. While soft-skilled liberal arts majors can't qualify for technical jobs, their flexible skills might allow them to weather a manufacturing layoff better than a technician. Employers, notes labor economist Orgul Ozturk, read the college degree as a signal of a general ability to learn.

Fallout from the labor shortage occupies Chris Lang day in and day out in her work as dean for industrial and engineering technology at Trident Technical College in Charleston. Certainly there is that fear of manufacturing losses, she says. More than likely, though, students are uninformed about alternative careers. Firms get frustrated because they can't hire enough people, she says. Sometimes they can't even muster up enough students willing to train or apprentice to be machinists or pipefitters, to name two examples.

Wages, Lang insists, are not the problem.

"In South Carolina, students who graduate from technical programs often make more than people who have graduated from college," she says, adding that the focus on the four-year degree has been at the expense of careers in skilled trades. "If they [students] are never told about these possibilities, they are just not going to know. I think a lot of it is the perception," Lang says. If the parents don't work in a factory themselves, "they look down on that job."



Instructor Ron Yancey of Cheraw, S.C., left, trains Northeastern Technical College students on specialized machine tools used in products like cell phones, computers, and other electronic components.

PHOTOGRAPHY: ADVANCEMENT OFFICE, NORTHEASTERN TECHNICAL COLLEGE

Maybe the message is hitting home: Automotive, machinist, heating and air-conditioning technician enrollments bumped up at Trident in the fall of 2007.

These jobs are not those of previous decades, but ones that require more brain power, say people who work in tech schools, like Cushman Phillips. He directs training at Orangeburg-Calhoun Tech in Orangeburg, S.C. "In today's world, a computer-controlled system with thousands of parts that all talk to each other — the people who maintain and troubleshoot those are in high demand," he says. These are not jobs you can train a monkey to do, he notes, because they

require a good head and a capable pair of hands.

Stocking the Pond

Santee Cooper stocks its own pond. Recruiting efforts, says senior employee relations representative Wendy Cruce, will overcome what she calls a "generational mindset."

In 2007, the utility cranked up "Power Associates," the competitive work and study scholarship Jared Sherrow received. Technical education, they tell parents of qualified students, can forge careers with Santee Cooper.

"I think a lot of students and parents don't realize the value in these

technical careers," Cruce says. "When Jared finishes his program, there's a good chance he will be earning a lot more than his high school friends right off the bat."

Expansion and retirements have created chronic job openings at Santee Cooper. But these jobs have changed over the past 30 years. Auxiliary operators used to be trained on the job. Not anymore — it's too technical.

"They are on the floor, as well as the unit operators who monitor everything on computers," Cruce says. Those positions, incidentally, bring in \$40,000 to \$50,000 annually — to start. By contrast, a teacher (with a bachelor's degree) starts at about

Plugging Holes in the Labor Market

Markets may manage the supply and demand of labor over the long haul, but hiring decisions don't happen in a vacuum, so short-term labor imbalances may linger.

"These days, with the economy and jobs and technology changing so quickly, getting enough workers trained is hard," says Orgul Ozturk, who is from Turkey. She teaches economics at the University of South Carolina. "If the global world was truly global, there would be no such shortage, at least not as severe," she says. "Most countries, like Turkey, have an excess of skilled labor."

Immigration could move workers into vacant jobs if policy allowed — there's a worldwide labor surplus in less developed countries. But U.S. immigration policies currently restrict a worldwide matchup of jobs to workers, although special visas exist in some fields. (See the fall 2002 issue of *Region Focus*.)

Imperfect information about opportunities impedes the flow of labor to some occupations. Many students seem unaware of or uninterested in these opportunities, and it's hard to say why. People who seek qualified candidates or study the problem suspect it may have something to do with the obsession with the four-year degree, information asymmetries, and even inadequate high school math and science preparation.

But increasing the quantity and quality of specialized labor over the long term is a tricky proposition, with accurate labor forecasts difficult to come by. Even the Bureau of Labor Statistics projects out to only 2016, with caveats about the changing economy.

That's because firms can alter, fairly quickly, the way they do business. This rapid change makes forecasting tough, according to Harvard University labor economist Richard Freeman. "Projections of future demands for

skills lack the reliability to guide policies on skill development," he writes in a 2006 National Bureau of Economic Research paper. The paper examines claims that the pending baby boomers' exit from the work force combined with the slow growth of U.S. labor will create a mega-gap. He also addresses whether public policies might sync supply with demand.

Historically, changes in technology or industrial output affected labor demand more than demographics, he writes. Economic forecasters shouldn't expect demand in those jobs vacated by boomers to create a labor shortage in those occupations. For instance, Freeman points out that in the 1950s and 1960s, analysts failed to "foresee the changing labor force behavior of women in response to improved employment opportunities and wages."

For boomers, excess labor meant worse earnings and employment compared to older workers. Another example comes from the high-tech boom, which opened jobs in the computer field only to be offshored to qualified overseas workers. Although U.S. firms might want to hire U.S. workers, they could go out of business if they do because willing workers abroad would do the same work for less.

While labor gaps can and will occur, the dramatic shortages attributed to the mass retirements of a generation are overplayed. "The employment and earnings of young workers depends more on macroeconomic conditions, wage setting institutions, and technological developments than on demography."

Freeman concludes that the market should be left alone to raise wages, if necessary, rather than for government to adopt policies that may keep labor costs low.

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\$30,000. And in a state where per-capita personal income ranks 47th at about \$29,700, it's a shame for good-paying jobs for young people to go begging.

Santee Cooper snared Sherrow, and over the summer of 2007, he helped troubleshoot machine problems, and earned an hourly wage of \$10. During the school year, he attends classes Mondays through Thursdays at Trident Technical College, and on Fridays (and weekends if there's an outage), he works at the plant. He's learned, among other skills, to read blueprints. Santee Cooper foots the bills and after two years in school, he'll work full-time if his grades and job performance hold.

Sixteen students applied to the program and four were selected in 2007. This year, Santee Cooper will take twice as many. The hardest sell, Cruce says, is parents who cherish the notion of that four-year degree. While Cruces sees plenty of liberal arts resumes, she says, "we simply can't hire them."

Sherrow spreads the word. "I have told younger kids I know that they need to put in for it because you learn, you get an education, and your foot in the door to a good company."

Monitoring the Gap

It's not just power plants that need people. Lang, the Trident Tech dean, says welding is hot. Two Charleston-area defense contractors "snap them up like crazy." And that's left construction and metalworking firms high and dry. Those and other companies also need machine tool operators, industrial electrical techs and "people who are multicrafted."

Two area firms, Alcoa and Bosch, offer full-fledged apprenticeships. Alcoa operates a smelting plant that employs 600 people. (An internal study by Alcoa indicated 65 percent of

its work force would be eligible to retire over the next decade.) Even if technology and productivity gains eliminate some of these positions, it would still require a lot of people to make up the difference.

The apprentice program responds to this need. These apprenticeships vary in length, and date from a 1930s-era program, and are registered with state labor departments. Alcoa students work a 40-hour week and then attend class for specific training. To sweeten incentives for these efforts, South Carolina legislators in 2007 approved a \$1,000 annual tax deduction for every new apprentice that participating employers enroll.

Louie Roberts, technical training specialist at Robert Bosch, said finding local talent for the firm's manufacturing operations proved difficult from the start, in 1974. "The attractiveness of the manufacturing sector is not as prevalent for the generations following the baby boomers," he says. Bosch counts on signing bonuses and on-site training as well as its apprenticeships.

Running Rabbits

It's one thing for a firm to recruit and train its own people, and another for the state to train workers. After all, who knows which specialty will pay off?

South Carolina has a growing aerospace industry as well as automotive plants and suppliers, among others. Ready S.C. trained 6,726 people last year. Ready S.C. is a project of the South Carolina Technical College System (SCTCS). Relocating firms contract with the state for training. The state foots the bill, but firms promise jobs at competitive wages and benefits.



Automotive tech students at Piedmont Technical College build a replica of a 1965 Cobra muscle car as a class project. Proceeds from the student-built car will be donated for scholarships.

Forecasting demand in the labor market is a murky business. But staying ahead of labor trends remains essential. "We also work closely with the work by the research universities in the state to see where research may take us to forecast these future opportunities for South Carolina," says Barry Russell, president of SCTCS. For instance, hydrogen fuel cell research may yield developments.

"We don't have the resources to run every rabbit we see, but in this case we have enough confidence for this to be developed in South Carolina that we have several colleges right now that develop curriculum modules," he says.

Santee Cooper, Alcoa, and Bosch are polishing the image of the trained worker. And the community colleges hammer away at the skilled labor shortage too. "I can tell you South Carolina is working to make sure that gap is as narrow as we can make it," Russell says. South Carolina, since 2005, has required schools to expose students to technical careers in addition to college options. Even in high school, students declare a major, a first step toward a career.

Jared Sherrow's decision was a no-brainer. "They said they were going to pay for me to go to school, and start me off making good money." **RF**

PHOTOGRAPH: PIEDMONT TECHNICAL COLLEGE

READINGS

Freeman, Richard. "Is a Great Labor Shortage Coming? Replacement Demand in the Global Economy." NBER Working Paper no. 12541, September 2006.

Veneri, Carolyn M. "Can Occupational Labor Shortages Be Identified Using Available Data?" *Monthly Labor Review*, March 1999, pp. 15-21.