BY JESSICA PORTER

Construction Education Programs Target Niche Groups Of Young People

With the anticipated 1 million to 1.5 million skilled worker shortage expected by 2014, offering workforce development programs to current and future craft professionals is more important than ever. Despite the construction industry's rank near the top of the unemployment list—at 11.4 percent—it lost many skilled workers during the downturn and will see more retire during the rebound.

Many companies and organizations recognize the need for more skilled workers and are stepping up to the plate. Some of the largest and most well-known initiatives include GoBuild and the NCCER's Build Your Future campaign, both of which focus on awareness, promotion and job placement in the construction industry. Dig a little deeper, and it's clear many local programs are working toward the same goal.

MAKING AN IMPACT THROUGH MENTORING

The ACE Mentor Program is a nationwide effort to introduce high school students to architecture, construction and engineering. With affiliates in 35 states and Washington, D.C., the ACE Mentor Program is far reaching, with 8,000 students going through the program each year.

Reid Miller became head mentor of the ACE Mentor Program of Raleigh/Durham, Inc. in 2007. He later took on the role of affiliate executive director, which entails mentoring and fundraising in addition to maintaining his responsibilities as chief cost planner for Lend Lease, Inc., Charlotte, N.C.
"I had mentors in my life and people who taught me how to do things. Now it's my turn to give back," Miller says.
During his time with the ACE Mentor Program, Miller has expanded the program to three locations in the community,
YOUTH OUTREACH

each with eight mentors. He went from being unable to schedule a meeting with any high school representatives to having working relationships with all the career development professionals in local schools, allowing ACE to reach more students.

"Fewer and fewer people are finding these fields as ones they want to go into, so it’s good to give kids exposure about what they can expect," Miller says. "It’s really important to the construction industry to share what we know and get people interested. This gives us a way to get the best and the brightest involved in construction."

The program includes a two-hour session every other week for 14 weeks. About 60 students participate in each program, during which they work on a project chosen by mentors who represent many facets of construction. Projects involve working with subcontractors, developers, engineers and architects to paint the most realistic picture of what constructing a building truly entails.

This year, students designed a senior living community center that incorporated sustainable elements, such as a green roof and a garden. Though the community center is only conceptual, the location is real, which provides an opportunity to learn about the intricacies of prepping an existing site for construction.

Last year, the project involved building a complex shopping center with stores and a movie theater. Jose Torres, project manager for RMF Engineering, Raleigh, N.C., mentored the students about installing the building’s heating, cooling and domestic water services. He showed them how to distribute the electrical services to the site, as well as coordinate and design mechanical systems by collaborating with architects.

"It’s entertaining to explain engineering challenges because most people don’t see any obstacles in their ideas," Torres says. "The assumptions people with more experience take for granted have to be explained."

The program also helps Anne Seeley, mentor for two years and architectural intern with Raleigh-based Clark Nexsen, remember the essential aspects of her job that become routine over time. "It reminds me about all the interconnected components of building design and the importance of going back to all disciplines to make sure your design actually is integrated," she says.

In addition to working with the ACE Mentor Program, Seeley is a mentor at North Carolina State University. Many students she met through ACE go on to study a construction-related field at the university, where she continues to mentor them.

ACE mentor Emmanuel Yelverton, senior project engineer with Skanska, Durham, N.C., teaches students about the construction side of building by answering any questions they have about mechanical systems and the project site.

"A lot of kids don’t get an opportunity to work in construction and may not have a chance to see what goes on, so they obviously wouldn’t choose it as a career," Yelverton says. "I bring knowledge to the table and help them in their path."

The ACE Mentor Program prepares kids for continuing education in a construction-related industry more thoroughly than high school classes. "They get a phenomenal understanding of the field they want to go into," Miller says. "The kids that do it and go into design school come back and say they really knew what they were doing compared to the other kids."

However, about 40 percent of all students who begin the program realize the industry is not a good fit. "The ones that drop out are the ones that will save the most in college because they find out it’s not for them through this program," Miller says.

But 60 percent succeed, and some even return every year to build on their skills.

"It’s a great program and opportunity for us to introduce people to a profession that’s been around for as long as communities have been around," Torres says.

Adds Yelverton: "It gives them an opportunity to see how engineering, architecture and construction are all related and required to build a building. It gives them insight they wouldn’t otherwise have."

HANDS-ON TECHNOLOGY TRAINING

Associated Builders and Contractors’ (ABC) Greater Michigan Chapter has helped out with the annual Construction Technology Camp that takes place at Delta College since the event’s inception six years ago. The camp helps students ages 12 to 18 learn basic skills in wind and solar technology, automotive technology, welding, carpentry and machine tool/CAD.

"Many are younger than 18, so it’s a great opportunity to experience a skilled trade prior to determining their career direction," says Michelle Revette, director of education for the ABC Greater Michigan Chapter. "The camp gives kids the chance to learn a skilled trade and also to have experiences they can use in a career and everyday life."

During the week, students learn how to change oil, build structures and weld—often for the first time. Projects include building sheds to donate to Habitat for Humanity, building children’s play centers and welding lawn ornaments to donate to the Make-A-Wish Foundation, making wind turbines, and building and racing e
Campers also go on outings, such as this year’s field trip to the Great Lakes Safety Training Center in Midland, Mich., where they learned about safety apparatuses and how to distinguish between a safe tool and an unsafe tool. They participated in a fire extinguisher simulator, learned how to properly attach a harness and how to climb a wall, as well as what it feels like to be in a confined space—all aspects they would face on a daily basis working in the construction industry.

The campers come from Michigan’s Great Lakes Bay Region and predominately are considered at-risk, so spending time with other people their age with similar interests has added benefits.

“Spending the week with experts, mentors and kids with similar backgrounds is a great part of the week,” Revette says. “They really value the time they spend learning from each other.”

These experiences keep students coming back for more. Because they only experience one craft per camp, many come repeatedly to experience every craft possible. Some even return after they turn 18 to serve as a volunteer mentor.

Keeping the camp exciting and informative each year is the job of passionate volunteers from the ABC Greater Michigan Chapter and other sponsors and partners. They come up with ideas for the projects students work on each year, provide sponsorships and scholarships, and help the students with any questions or concerns. A small committee is charged with hiring the instructors, determining the projects, acquiring materials and enrolling students.

Their efforts are paying off: This year, 60 students attended—up from 40 students in 2011—due to heavier promotion from all sponsors, including Delta College, ABC and the Midland County Educational

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Campers show off their mason jar lamps.

A volunteer gives a safety talk at MAGIC Camp.

Service Agency. Additionally, flyers were distributed to eighth grade students during local high school career days.

CRAFTING A MORE DIVERSE WORKFORCE

The Construction and Maintenance Education Foundation (CMEF)—an affiliate of the ABC Greater Houston Chapter—participates in an all-female MAGIC Camp each year to encourage diversity in the construction industry.

"MAGIC Camp lines up with our mission. We are dedicated to outreach into the school community and growing the industry," says CMEF Director of Education Anthony Saucier. "It falls in line with what we do in working with high schoolers and promoting construction as a career path."

Participants include girls from six school districts throughout the greater Houston area. The three-day camp begins with a welcome session for the campers to get to know each other and a safety talk about personal protective equipment. They also compete to see who can put their gear on the quickest.

Then, campers learn about hand and power tools and begin working on their first project. This year, they built and painted flower beds that were donated to the Glenic Park Agricultural Center (where the camp was held) to grow vegetables and spices for its culinary program. Past projects include making a bookcase, toolbox and shelves, for which they did the finishing, sanding and painting. They also work on smaller electrical projects, such as mason jar lamps and marshmallow blow guns.

This year, an all-female team of scaffolding builders came to speak to the girls about their trade, while other presenters covered welding and crane simulation.

"It's a hands-on, fun learning experience for the girls to explore basic construction fields and really get to know people," says CMEF Schools Program Director Steve Horton.

The girls also participated in various sessions. The first ("What Would You Do?") was an exercise in determining safe and unsafe working procedures. Another addressed the human resources aspect of working by teaching them how to apply for a job, including tips on how to interview and dress professionally.

Horton also spoke with campers about education opportunities, including craft training available through the CMEF and community colleges. The CMEF also sponsors a scholarship awarded during MAGIC Camp.

On the last day of camp, families and friends were invited to a lunch to see what the girls have worked on during the past few days.

"I was a little taken aback, but thrilled to see so many family members showed up this year to listen to their children talk about what they did," Horton says. "I really appreciated that interaction."

By the end of the camp, Horton says the campers go from "apprehension to aggression," meaning they assertively work on their projects and are confident in their work.

Many girls continue training after participating in the camp. Four years ago, one girl rode multiple buses and walked a mile to get to the camp from the other side of Houston. Her determination was apparent in her skills as well, and she now works in the construction industry after completing a welding program. Another camper participated in ABC's 2011 National Craft Championships, and another camper joined the industry after attending the camp and seeing construction work as her
way to self-sufficiency after growing up in a struggling single-parent family.

CMEF puts on the annual event with the help of the ABC Greater Houston Chapter and local member contractors, including Becon Construction Co., Inc. and Brand Energy and Infrastructure Services.

In addition to encouraging young people to join the industry via MAGIC Camp, CMEF held its 2012 Construction Expo at the Pasadena Municipal Fairgrounds. This was the first time the event was held in years due to economic conditions, and it attracted nearly 250 students from more than 19 local high schools.

"It gives students the opportunity to explore the many facets of the construction industry," Horton says. "They have a chance to speak with craft and college professionals and have one-on-one conversations about their futures."

Students tour the expo, which consists of vendors showing concrete finishing, personal protective equipment and safety gear, insulation, painting, scaffold building, electrical wiring, carpentry, pipefitting, and crane, excavator and instrumentation simulation. Students also participated in a drywall competition and two companies created a safe site for participants to learn how to weld.

"It's very beneficial for teachers, too, because they can get out and talk to craft professionals to see what is actually needed in local businesses and to learn about job opportunities," Horton says. "It's priceless for educators to get out and visit with professionals in the industry."

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