Are Your Students Ready?

SCHOLASTIC ADMINISTRATOR

See how some schools are preparing students now for the jobs of the future.

By Esther Shein

Two years ago, Dalton Bova Conti broke his back playing ice hockey. Although the injury sidelined him for a while, it had a silver lining: It spurred his interest in the medical field.

"Instead of being scared and being in the dark and not knowing what was wrong with my back," says the 17-year-old from St. Louis, "I wanted to learn more about what happened to me." So when Bova Conti's guidance counselor at Parkway South High School told him about a new program starting this school year that places seniors in hospital settings to learn firsthand about the field, he leaped at the chance to apply.

Bova Conti is setting himself on the right track while still in high school-and is fortunate to have an interest in a field projected to grow. In all, 20.5 million new jobs will be added to the U.S. economy between 2010 and 2020, according to the Bureau of Labor Statistics.

Among the sectors leading the way are health care (3.5 million new jobs), construction (1.4 million), education
(1.4 million), and computer and information technology (759,000).

Future biomedical engineers, masons, carpenters, and veterinary technicians should also find employment. While jobs that typically require postsecondary education are projected to grow faster than average, more than half of all careers will require only a high school diploma.

More high schools are recognizing the need to start training students in these areas early—and target those who may be at risk of dropping out or are not planning to go to college. Other high schools are partnering with local colleges in initiatives that let students earn up to two years of college credit before they graduate.

Early College High

The chance to leave high school with college credits in hand is being offered at the year-old Wake N.C. State STEM Early College High School, a small public school in Raleigh that is the result of a joint effort between the Wake County Public School System, North Carolina State University, and the N.C. New Schools Project. Over a five-year period students take college courses at NCSU, as well as the courses required to earn a high school diploma, says principal Robert Matheson.

"Early college is an opportunity for students to start taking college-level classes before a

typical senior would," he says. "There is no way a ninth grader can step on to N.C. State's campus and take coursework, so what we do is front-load the first two years." By 11th grade, students begin taking classes on N.C. State's campus, says Matheson; by senior year they're taking about two-thirds of their classes on campus. (The school opened in August 2011 and currently has 110 ninth- and tenth-grade students.)

During their fifth year, kids take all but one of their courses at N.C. State, leaving with a high school diploma and up to two years of college credit, which is transferable to most colleges and universities, says Matheson.

There is a price, though. "We don't have any athletic teams on campus, we don't have marching band or [a huge variety of] clubs." The school emphasizes a core curriculum of English, math, science, and social studies; it's a trade-off students and their parents have been willing to make.

What separates the early college high school from other STEM schools is that it layers in not only interdisciplinary pieces like engineering and math but humanities as well, which Matheson says is a critical component. "If you think about access to clean water, it's not only about the science of water or engineering a clear pipe; it's about legal, political, ethical, economic, social, and sustainability issues." So, for example, tenth graders will be looking at how to bring hydroelectric power to China by also studying world history and world literature.

"What kids are getting is this relevance because they are solving 21st-century problems," Matheson says.
The school also emphasizes project-based learning and teaching through Socratic seminars (led by kids and facilitated by teachers), as well as managing time and making ethical decisions, which, Matheson says, are skills kids will need for college and work.

Last year, there were 365 applicants for 55 slots. "When we recruit for kids in the middle schools, we are emphasizing underserved and underrepresented kids, like women in engineering." (N.C. State has a women in engineering program.) The school's population is 50-50 by gender and 70 percent nonwhite.

An interest in science and math and "a little bit in technology" is what drew Zipporiah Bush, 14, to the early college high school. "All the teachers are really good at what they do, and we have so many opportunities to do things other high schools don't," says the tenth grader, who hopes to go to N.C. State to study chemistry. "Instead of starting out as a freshman, I will be able to start as a junior if I complete all my courses. It's a great opportunity for me to expand and get ready for college and my career."

A Practical Education
First, sinthia dominguez started skipping school. Then, about three years ago, she dropped out.

"I was hanging out with bad people who were a bad influence," recalls Dominguez, of Albuquerque, New Mexico. She went to Mexico for a while and started working, but really wanted to return to the States. The stipulation from her guardian was that she would not only have to go back to school but do well. Dominguez learned from a cousin about ACE Leadership High School, in Albuquerque, which offers courses in architecture, construction, and engineering. She enrolled a year ago as a senior in the evening reengagement program.

"I love this school. I could not compare it to any other school," she says. "The teachers can help you more because it's smaller." Dominguez is considering attending Central New Mexico Community College after graduation and possibly becoming a cosmetologist.

"Without ACE, I would probably be doing nothing, not even working," she says. "I would probably be on drugs."

Now entering its third year, ACE has 285 students and expects to grow to 430 in two years, says Tony Monfiletto, principal and executive director of ACE and the New Mexico Center for School Leadership, Networking and Redesign. The students range in age from 14 to 24; one-third of them are enrolled in the evening program, which starts at 4 p.m. "If they dropped out of high school and want to earn a high school diploma and a pre-apprenticeship certificate, they come at night," Monfiletto says. The certificate qualifies them for a union or corporate apprenticeship.

"Most schools have an elective program or track within a school, where you take a few classes like drafting or CAD or an electronics class or carpentry," he says. "We don't offer any of those." Instead, courses emphasize looking at English via project management, or the history of architecture, aligning with its partnership with Associated General Contractors, the association of commercial builders in New Mexico.

"They helped us design a curriculum that reflects what's going on in the industry so it's not out of a textbook," says Monfiletto. That's valuable, he says, because the companies they work with "aren't looking for narrowly trained, narrowly skilled workers. They're looking for adaptive, problem-solving workers, kids who can think and solve problems."

The majority of ACE's students come to the school having previously dropped out or failed a grade elsewhere. The school came about after discussions with contractors from the association who described to Monfiletto and co-founder Tori Stephens-Shauger the need for highly qualified workers. Monfiletto says that "aligned very well with what we thought good education looks like." The industry's problem was, he says, "our opportunity for a whole generation of kids who were bored to death at school."

The school has a waiting list. "There's no shortage of dropouts in Albuquerque. The need is extreme," says Monfiletto. All projects include elements of the three disciplines, so students learn to think like an engineer, an architect, and a construction worker.

ACE has a job-placement program with several companies. Its students are "at the top of the pile when it comes to employment," Monfiletto says. The school also has a relationship with the University of New Mexico and its engineering program.

Joel Hernandez, a sophomore, says he is planning to become an engineer after college and wants to work for the Air Force, developing new aircraft. He says he likes having the benefit of working with architects and engineers while he's still in high school: "It will get me ahead of the others."

Real-World School

Unlike most districts, the parkway School District in St. Louis, which serves 18,000 students, did not have individual career or technology centers at its four comprehensive high schools and one alternative high school. Students who were interested in a career in health or sciences, about 13 percent of those surveyed, had to go to a technical school.

About two years ago, the Special School District of St. Louis County approached Parkway with the idea of expanding its health sciences program "because of the industry outlook and need, and also just to reach more students," says Jennifer Stanfill, career and technical education coordinator at Parkway's Instructional Services Center.

The result is a unique one-year Health Sciences Academy course that combines both class time and on-site learning at a local hospital. Students, says Stanfill, "have an

opportunity to talk with physical therapists and nurses and doctors and radiologists [so they can] learn what they do and don't like before they spend money on college courses."

One of the perks of the program, she adds, is that students can receive college credit at both a community college and the University of Central Missouri, allowing them to transfer to other institutions to fulfill degree requirements.

A lot of students are placed at the Barnes-Jewish West County Hospital, in downtown St. Louis, says Stanfill. "When we talk about infectious diseases, the hospital will allow students to come down and observe some of their work. They are partnering with us in a way that's relevant to the students."

The application to the program asks students to write a brief essay on why they are interested in the course and what they hope to gain from it.

Dalton Bova Conti, the student whose injury inspired him to develop an interest in the health field, says the program will help him "get a head start" in either athletic training or rehabilitative care. Because of the program, he says, "I have more life experience in the medical field, and I can use that to my advantage when I apply to college."

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