

EDUCATION WEEK

Published Online: February 10, 2009

Published in Print: February 11, 2009

Career Skills Said to Get Short Shift

U.S. Seen Lagging in Melding Preparation for College, Work

By **Scott J. Cech**

In education and workforce-training circles, there's a sentiment one hears so often that it's become something of a mantra: Students must graduate from high school prepared for both college and work.

But amid the clarion calls for "college for all" and the clamor for more-rigorous academics, the "work" part of that imperative tends to get drowned out, business and industry groups say, to the point that high-wage jobs not requiring a bachelor's degree often go unfilled.

"Industry after industry is going after high-skilled labor[ers] and cannot find them," said Robert T. Jones, who was an assistant U.S. secretary of labor in the administrations of Presidents Ronald Reagan and George H.W. Bush and is now the president of Education and Workforce Policy, an Alexandria, Va.-based consulting company. Even in the current recession, he said, many skilled manufacturing and technician jobs—such as for welders and electricians—go begging.

"The old voc ed is gone," Mr. Jones said, referring to the practice of tracking students into separate vocational and academic courses of study, "but we haven't replaced it with the idea that people need to be in a core curriculum for the jobs that are there. We need new learning models and academies."

In his call for melding academics and training, Mr. Jones was preaching to the choir: a small group of career-minded educators and industry representatives that convened in LaSalle, Ill., late last fall for the International Seminar on Occupational Education.

"It's not an either-or; it's not 'academics for some people and CTE for others,'" agreed another attendee, Janet B. Bray, the executive director of the Association for Career and Technical Education, also based in Alexandria, Va., using the shorthand for such education. "We have to find the right balance."

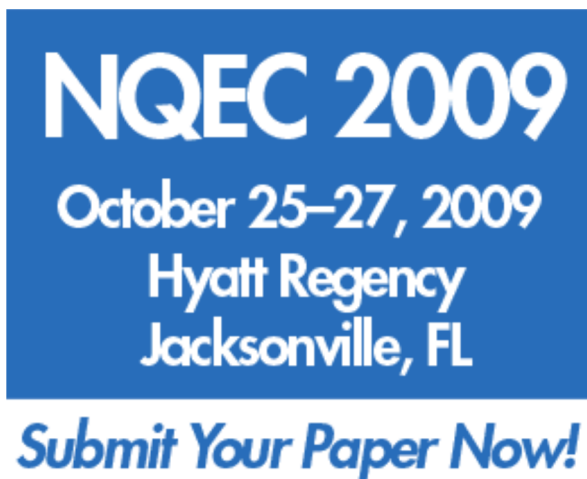
Mutual Reinforcement

Ms. Bray, Mr. Jones, and others at the seminar insisted that they don't want career training to dilute academic excellence. But is it feasible to simultaneously prepare students for university-level academics and for jobs requiring only a high school diploma or a narrow postsecondary certification without sacrificing either academic rigor or real-world applicability?

Whether that can happen on a mass scale remains an open question.

But experts point to examples showing that high-caliber academics and highly relevant job-skills training can strengthen each other, not only coexist.

[← Back to Story](#)



NQEC 2009
 October 25–27, 2009
 Hyatt Regency
 Jacksonville, FL
Submit Your Paper Now!

Ms. Bray thinks some of the zero-sum thinking—pitting academics against CTE, instead of finding ways to integrate them—stems from outdated notions of what career education is and what it's for.

Back in the old days of vocational education, she said, "it used to be very job-specific—we taught somebody to be an auto mechanic."

In CTE classes, by contrast, she said, "most of the jobs we are training students for in 2014 don't exist today." As a result, she said, career and technical education emphasizes lifelong learning and so-called 21st-century skills: critical-thinking, communication, technological, and analytical skills.

"Everybody wants to do STEM," Ms. Bray told the gathering in Illinois, referring to science, technology, engineering, and mathematics. American students' proficiency in those fields, which are judged by many policymakers to be of the highest strategic importance, lags on international assessments.

"CTE and STEM are basically one [and] the same," Ms. Bray said. "Science and math are well and good, but unless you're going to be a math teacher, if you don't know how to apply it, it's no good."

Hans K. Meeder, the president of the Meeder Consulting Group, a Columbia, Md.-based firm that analyzes education and workforce policy, told the group that, considering the background of most policymakers and school counselors, their ignorance of industry-ready education isn't surprising.

"For the people who have driven education policy, a four-year degree is all they've ever known," said Mr. Meeder, a former deputy assistant secretary in the U.S. Department of Education's office of vocational and adult education under President George W. Bush.

"What counseling there is is focused all around a four-year degree," he said. "There's this kind of perception that that's the one road to success."

Not that the seminar participants were anti-college, or yearning for the days of student tracking.

"It doesn't behoove us to distinguish between college-bound and noncollege-bound," Mr. Jones said. "This world we're walking into demands postsecondary [education]. Now we're only arguing about which road you take—two-year degrees, or something beyond."

Apprentices Abroad

The bright-line distinction between technical and academic education frankly puzzles many Europeans, said Burkhardt Sellin, a Berlin, Germany-based independent consultant and a former official at the European Union's European Center for the Development of Vocational Training, in Thessaloniki, Greece.

"You cannot go on with workers who only have technical knowledge," said Mr. Sellin. "You cannot have a situation where, 'You do all the dirty work, and you do the bright work.' You have to combine these things in another manner."

Such melding is common in Germany, said Udo O.J. Huff, a private consultant based in Whitmore Lake, Mich., who received his training in manufacturing, welding, and diesel-engine technology in that country.

"Companies require that the future engineers serve at least a two-year apprenticeship," he said. The idea, he added, is to ensure that they "at least get a sense" of what the actual manufacturing process involves.

Because more than a third of all young Germans enter such apprenticeship programs, secondary

schools ramp up their technical training to match, Mr. Huff said.

By contrast, he said, when training new workers in the United States for companies, he found that students were so inadequately prepared by their secondary schools that he had to start from scratch by setting up de facto apprenticeships.

"Bosch, Stihl, they're producing parts to tolerances of one one-thousandth of an inch," Mr. Huff said, referring to the German manufacturing companies. "You cannot get this done with someone just going on the job and learning."

James R. Stone, a professor and the director of the National Research Center for Career and Technical Education, at the University of Louisville in Kentucky, sees no hope that the United States will replicate the European model of an integrated secondary curriculum of academic and technical education, plus postsecondary apprenticeships.

"Culturally, that will never happen here," said Mr. Stone, who did not attend the LaSalle seminar.

Study Gauges Impact

But that's not to say that academics and technical education can never be successfully fused in high school.

In a study funded by the federal Education Department and conducted during the 2004-05 school year, Mr. Stone and his colleagues at the national CTE-research center—then located at the University of Minnesota-Twin Cities—set up a controlled experiment involving 131 CTE teachers around the country.

For the study, 57 CTE teachers were put in an experimental group and paired with math teachers in professional-development sessions that helped them—and by extension, their students—to identify core mathematical principles being applied in practical ways.

For example, said Donna Pearson, the center's associate director, CTE teachers had their students design and build a ramp up to a truck, then told them: "Guess what—this is the Pythagorean theorem. This is what you're doing in your math class."

On average, students who were in one of the 57 experimental CTE classrooms scored significantly higher on two widely used assessments than students who were in the 74 control CTE classrooms where CTE teachers were not exposed to math concepts in professional-development sessions.

But as anyone who conducts pedagogical research knows, Mr. Stone said, "teachers tend to drift back to what they were doing before. We were curious whether this had legs."

'Integration Can Work'

So researchers conducted a follow-up survey the following year, and were surprised to find that nearly three-quarters of the experimental CTE teachers were still using math concepts to teach CTE. They also found that two-thirds of the math teachers they worked with were using CTE examples to illustrate math concepts they were teaching.

Since then, Mr. Stone said, the research center has lent technical assistance on integrating math and CTE curricula to three states and two city school districts—none of which he could identify, because of confidentiality agreements.

Four of those five cases have showed results similar to the 2004-05 national study, he said, and the center is now investigating ways to integrate science and literacy skills into career and technical

education.

“Curriculum integration can work,” Ms. Pearson said, “and it can work very powerfully.”

Coverage of pathways to college and careers is underwritten in part by a grant from the Carnegie Corporation of New York.

Vol. 28, Issue 21, Pages 1,12-13