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August 20, 2008

Written testimony submitted to the Senate Finance Higher Education Subcommittee

Chairman Zaffirini and Senators,

I am Michael Bettersworth representing Texas State Technical College System as the Associate Vice Chancellor for Technology Advancement. First of all, I want to bring you greetings from our Chancellor, Bill Segura, and express his regrets that he could not be here personally due to a previous commitment. We appreciate the opportunity to show you some distressing workforce education supply trends affecting the competitiveness of Texas employers and steps TSTC is taking to better address these critical needs.

Technical post-secondary education is declining in Texas two-year colleges at a time when industry demand for skilled labor is steadily increasing. The demand for a skilled workforce is outpacing our supply, resulting in high-paying jobs going unfilled.

Today, I will provide the committee three examples of how TSTC is evolving to meet employer demand with greater efficiency, responsiveness and economic return on the state's investment in post-secondary technical education. These include: (1) repackaging programs into smaller skills mastery certificates; (2) expanding corporate training and developing partnerships with community colleges throughout the state; and (3) exploring methods to restructure TSTC funding based on workforce demand and economic return to the State of Texas.

DECLINE OF TECHNICAL TRAINING

In September 2007, Texas State Technical College published a brief highlighting a dramatic 9.8% decline in technical contact hours throughout the state's two-year colleges. The volume of technical training provided by Texas public colleges declined 8,994,765 contact hours from FY 2004 to 2006, erasing gains over the previous seven years and retreating to pre-1998 levels.

In April 2008, these findings were presented to members of the Texas Association of College Technical Educators. An estimated 25% of attendees from throughout the state's two-year colleges indicated they planned to close or consolidate one or more technical programs within the next 24 months. Further reductions in base-year technical contact hours are expected to magnify this trend.

SHIFTING ROLE OF TEXAS TWO-YEAR COLLEGES

A more detailed analysis indicates that the role of Texas two-year colleges has dramatically shifted in the last eight years. From 2001 to 2006, the number one award issued by Texas two-year colleges was a Certificate. Certificates are primarily workforce oriented. Through 2004, the second most predominate award was an Associate of Applied Science—also workforce related. However, in 2007

the most common award issued by Texas colleges was the Core Curriculum Completer (up 348% from 2001). Associate of Arts degrees were up 93% and AAS degrees fell to fourth (up only 17%). *In effect, the role of Texas two-year colleges has shifted from one predominately focused on workforce preparation to one now focused on academic transfer.*

While the number of awards declined in information technology, precision production and engineering technology, academic awards increased by ~~266~~ 166%, mostly in liberal arts/sciences and general humanities.

Supply-demand economics would suggest the decline in technical contact hours and the shift away from workforce-oriented awards are the result of reduced employer demand from graduates of these programs. In fact, the opposite is true. The demand for these skilled graduates far exceeds the supply in many cases. As a result, we find employers hiring students before they complete technical programs—exacerbating the technical contact hour decline.

EXAMPLES OF TSTC CHANGE

In order to thrive in such a market, Texas State Technical College is making several significant operational and strategic changes, including:

1) **Skills Mastery.** While maintaining traditional certificate and degree offerings, TSTC is repackaging programs into modules based on "skills mastery." Skills mastery certificates focus on specific areas of expertise defined by industry. Rather than traditional semester-based programs and courses, skills mastery certificates are offered in condensed schedules. This structure offers more flexibility for students, improves retention and completion rates and responds to industry needs in a more timely manner.

2) **College Partnerships**. As some Texas colleges consider closing or consolidating technical programs, Texas State Technical College is expanding formal partnerships to ensure that regional employers have access to workforce education. TSTC has hired a former community college president to help nurture and expand partnerships with other colleges and fulfill our statewide mandate to provide responsive workforce training. In addition, the TSTC Corporate College is expanding capabilities and resources to better provide custom training directly to business and industry.

3) **Value-Based Funding**. Texas State Technical College credit enrollment grew by nearly 22% over the last six years; however, contact hours, the basis for TSTC appropriations, declined by 7.9%. Clearly, TSTC cannot hope to grow itself out of this problem based on traditional educational models. Contact hour funding causes institutions to focus on headcount and distracts from the goal of providing students with the knowledge and skills they need to compete and succeed in a career. Where contact hour funding rewards volume, TSTC is now exploring a new funding model based on the true economic value added by education. The goal is to empower the institution to focus on student successes and better respond to the critical workforce needs facing the State of Texas. (TSTC will provide a full report on this effort when the funding model is completed.)

Globalization, demographic shifts and technological advancements are challenging established ways of doing business. A region's ability to compete and thrive in today's global economy is deeply rooted in education's response to emerging economic and workforce dynamics. Texas State Technical College is taking steps to ensure that Texas employers continue to have the highly skilled workforce and training resources they need to remain competitive and grow in the years to come.

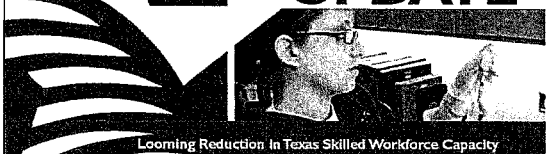
Texas State Technical College System™

Items to be addressed **today**

- Technical Education Trends
- Three Examples of TSTC Actions:
  1) Skills Mastery Certificates
  2) Extending Partnerships
  3) Value-Based Funding

A Unique Institution

TSTC Legislative **UPDATE**



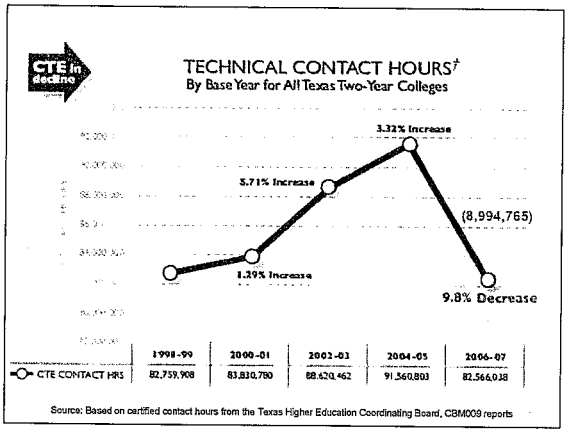
Looming Reduction in Texas Skilled Workforce Capacity

A GROWING SKILLED WORKER SHORTAGE CURRENTLY THREATENS TEXAS AND MUCH OF THE NATION. It is critical that Texas increase enrollment and graduation rates and improve retention and academic performance. While gains are being made in these areas, a recent 9.8% decline in technical contact hours throughout Texas warrants new concern and stands to further reduce Texas' skilled workforce capacity.

New technologies and advancements are resulting in dramatic productivity gains across industries and shifting the required skills needed by employers. As a result, the number of jobs requiring technical courses or courses at the levels. Unless this trend dramatically reverses in the current base year, colleges will face significant reductions in career and technical education (CTE) funding next biennium. These reductions will result in program closures and staff reductions at many Texas colleges. It is very difficult, time consuming, and expensive for colleges to restart a program once it has been shuttered.

The K-12 pipeline into college and career and technical programs is not sufficient to maintain these important critical programs. As a result, the state is poised to lose invaluable training and education capacity at a time of increasing need, and colleges will be less able to respond to new workforce needs yet unknown. "We are seeing high school technical programs go out the window," said Bruce Mabrito of Southwest Research Institute in San Antonio. "We are concerned. We are worried."

Texas has a wealth of highly regarded technical degree and certificate programs within Texas State Technical Colleges, the Lamar Technical Institute

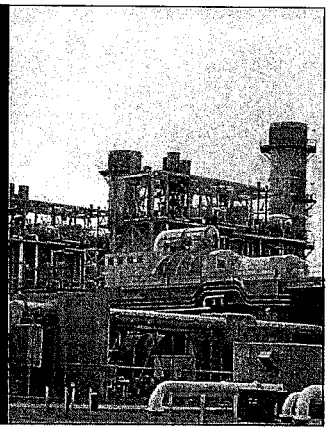


The number of jobs requiring technical training is growing at five times the rate of other occupations.

Innovate America, U.S. Council on Competitiveness

"Within ten years more than 50% of our employees will be over 55."

Edward C. Trump
Plant Manager
Entergy, Marshall



"Over the next ten years, 26 of the top 30 fastest growing jobs will require some post-secondary education or training...The demand for skilled workers is outpacing supply, resulting in attractive, high-paying jobs going unfilled." Emily Stover De Rocco
Assistant Secretary of Labor for Education and Training

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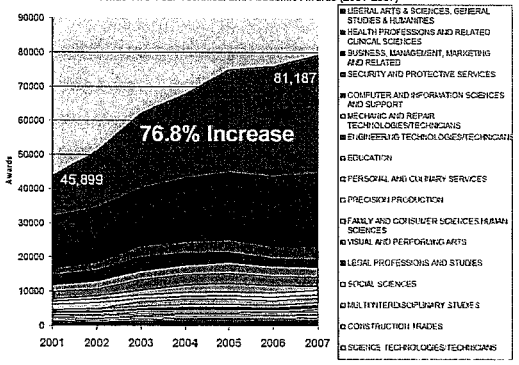
Assistant Secretary of Labor for Education and Training

Two-Year Awards Up

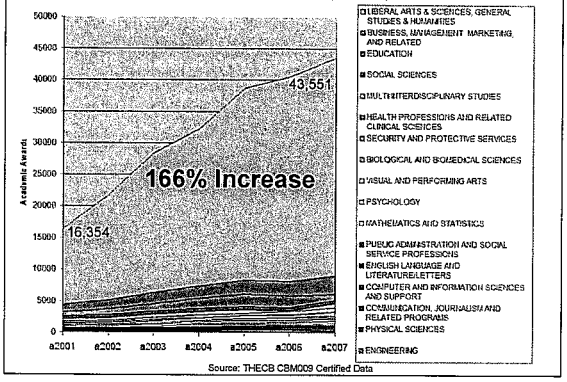
Texas Two-Year Technical and Academic Awards (2001-2007)



Source: THECB CBM009 Certified Data

Liberal Arts Awards Dramatically Increasing

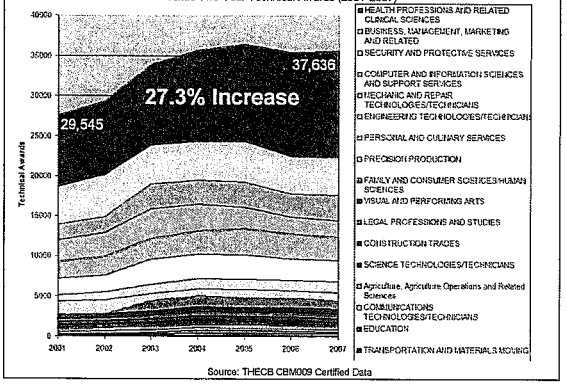
Texas Two-Year Academic Awards (2001-2007)



Source: THECB CBM009 Certified Data

Technical Awards Increasing at Lower Rate

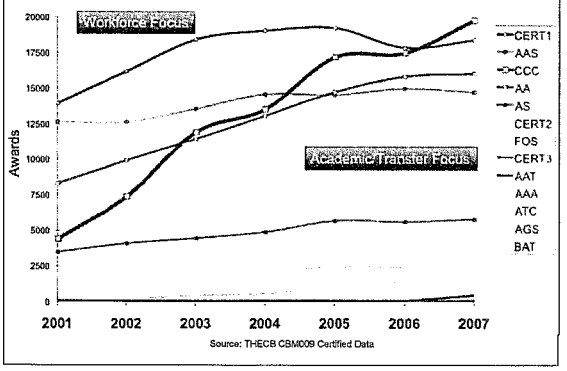
Texas Two-Year Technical Awards (2001-2007)



Source: THECB CBM009 Certified Data

Role of Two-Year Colleges has Changed

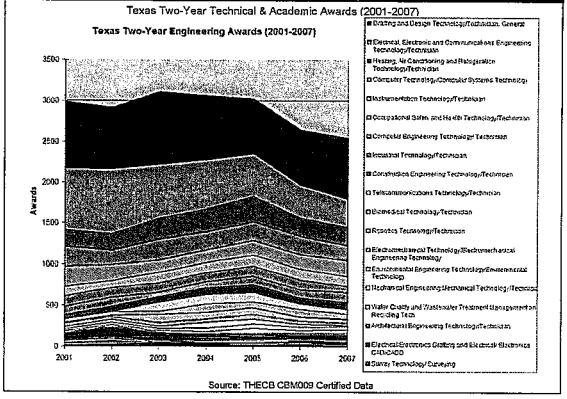
Texas Two-Year Technical and Academic Awards (2001-2007)



Source: THECB CBM009 Certified Data

CIP 15: Engineering Technologies/Technicians

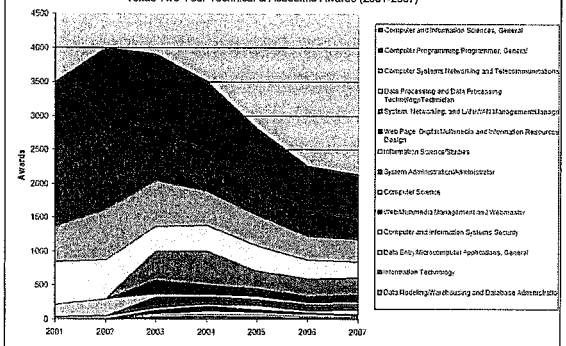
Texas Two-Year Technical & Academic Awards (2001-2007)



Source: THECB CBM009 Certified Data

CIP 11: Computer & Information Sciences

Texas Two-Year Technical & Academic Awards (2001-2007)



Source: THECB CBM009 Certified Data

"When the economy hits some natural barriers, it slows down, and one of those barriers is when the pool of workers begins to dry up. The lifeblood of the economy today is skilled workers."

John Challenger, CEO
Challenger, Gray & Christmas

Source: Isidore, C. (2007) Skilled worker shortage hurts U.S., Retrieved June 28, 2007, from CNNMoney.com

Items to be addressed **today**

- Technical Education Trends
- Three Examples of TSTC Actions:
  1) Skills Mastery Certificates
  2) Extending Partnerships
  3) Value-Based Funding

A Unique Institution

The Contact Hour Gap

	Fall 2001	Fall 2007	Percent Chg.
Total credit enrollment	10,112	12,295	+21.6%
Percent part-time students	36%	53%	+47.2%
Percent academically disadvantaged students	44%	64%	+45.5%
Average # of semester credit hours/student	11.3	9.3	-17.7%
Average # of contact hours/student	327	251	-23.2%
Average Class size (# of students)	17.15	14.84	-13.4%
Total Credit Funded Contact Hours	3,302,952	3,043,321	-7.9%

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Skills Mastery Certificates

Qualities		Benefits
Modularized curriculum	▶	Greater student flexibility
Clear path to careers	▶	Improved retention
Condensed schedules	▶	Improved completion
Industry defined skills	▶	Improved placement
Efficient use of resources	▶	Responds to market

A Unique Institution

Extending Partnerships

Objectives	Actions
Meeting employer demand	Corporate College
Filling the voids	Augment college offerings
Building pipelines	Dual enrollment & bridges
Regional economic development	East Williamson County Higher Education Center
Targeting growth industries	Texas Wind Power Institute

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Value-Based Funding

From	To
Funding volume	Funding value
Chasing enrollment	Focus on industry demand
Financial burden	Wise investment

A full report on this activity will be provided when the model is completed.

A Unique Institution

Texas State Technical College System –

... innovative, specialized, efficient

... producing skilled professionals in critical fields

... matching education with industry needs

... putting Texans to work for a stronger economy

Texas State Technical College System

THE WALL STREET JOURNAL.

August 13, 2008

OPINION

For Most People, College Is a Waste of Time

By CHARLES MURRAY

August 13, 2008; Page A17

Imagine that America had no system of post-secondary education, and you were a member of a task force assigned to create one from scratch. One of your colleagues submits this proposal:

First, we will set up a single goal to represent educational success, which will take four years to achieve no matter what is being taught. We will attach an economic reward to it that seldom has anything to do with what has been learned. We will urge large numbers of people who do not possess adequate ability to try to achieve the goal, wait until they have spent a lot of time and money, and then deny it to them. We will stigmatize everyone who doesn't meet the goal. We will call the goal a "BA."

You would conclude that your colleague was cruel, not to say insane. But that's the system we have in place.

Finding a better way should be easy. The BA acquired its current inflated status by accident. Advanced skills for people with brains really did get more valuable over the course of the 20th century, but the acquisition of those skills got conflated with the existing system of colleges, which had evolved the BA for completely different purposes.

Outside a handful of majors -- engineering and some of the sciences -- a bachelor's degree tells an employer nothing except that the applicant has a certain amount of intellectual ability and perseverance. Even a degree in a vocational major like business administration can mean anything from a solid base of knowledge to four years of barely remembered gut courses.

The solution is not better degrees, but no degrees. Young people entering the job market should have a known, trusted measure of their qualifications they can carry into job interviews. That measure should express what they know, not where they learned it or how long it took them. They need a certification, not a degree.

The model is the CPA exam that qualifies certified public accountants. The same test is used nationwide. It is thorough -- four sections, timed, totaling 14 hours. A passing score indicates authentic competence (the pass rate is below 50%). Actual scores are reported in addition to pass/fail, so that employers can assess where the applicant falls in the distribution of accounting competence. You may have learned accounting at an anonymous online university, but your CPA score gives you a way to show employers you're a stronger applicant than someone from an Ivy League school.

The merits of a CPA-like certification exam apply to any college major for which the BA is now used as a job qualification. To name just some of them: criminal justice, social work, public administration and the many separate majors under the headings of business, computer science and education. Such majors accounted for almost two-thirds of the bachelor's degrees conferred in 2005. For that matter, certification tests can be used for purely academic disciplines. Why not present graduate schools with certifications in microbiology or economics -- and who cares if the applicants passed the exam after studying in the local public library?

Certification tests need not undermine the incentives to get a traditional liberal-arts education. If professional and graduate schools want students who have acquired one, all they need do is require certification scores in

the appropriate disciplines. Students facing such requirements are likely to get a much better liberal education than even our most elite schools require now.

Certification tests will not get rid of the problems associated with differences in intellectual ability: People with high intellectual ability will still have an edge. Graduates of prestigious colleges will still, on average, have higher certification scores than people who have taken online courses -- just because prestigious colleges attract intellectually talented applicants.

But that's irrelevant to the larger issue. Under a certification system, four years is not required, residence is not required, expensive tuitions are not required, and a degree is not required. Equal educational opportunity means, among other things, creating a society in which it's what you know that makes the difference. Substituting certifications for degrees would be a big step in that direction.

The incentives are right. Certification tests would provide all employers with valuable, trustworthy information about job applicants. They would benefit young people who cannot or do not want to attend a traditional four-year college. They would be welcomed by the growing post-secondary online educational industry, which cannot offer the halo effect of a BA from a traditional college, but can realistically promise their students good training for a certification test -- as good as they are likely to get at a traditional college, for a lot less money and in a lot less time.

Certification tests would disadvantage just one set of people: Students who have gotten into well-known traditional schools, but who are coasting through their years in college and would score poorly on a certification test. Disadvantaging them is an outcome devoutly to be wished.

No technical barriers stand in the way of evolving toward a system where certification tests would replace the BA. Hundreds of certification tests already exist, for everything from building code inspectors to advanced medical specialties. The problem is a shortage of tests that are nationally accepted, like the CPA exam.

But when so many of the players would benefit, a market opportunity exists. If a high-profile testing company such as the Educational Testing Service were to reach a strategic decision to create definitive certification tests, it could coordinate with major employers, professional groups and nontraditional universities to make its tests the gold standard. A handful of key decisions could produce a tipping effect. Imagine if Microsoft announced it would henceforth require scores on a certain battery of certification tests from all of its programming applicants. Scores on that battery would acquire instant credibility for programming job applicants throughout the industry.

An educational world based on certification tests would be a better place in many ways, but the overarching benefit is that the line between college and noncollege competencies would be blurred. Hardly any jobs would still have the BA as a requirement for a shot at being hired. Opportunities would be wider and fairer, and the stigma of not having a BA would diminish.

Most important in an increasingly class-riven America: The demonstration of competency in business administration or European history would, appropriately, take on similarities to the demonstration of competency in cooking or welding. Our obsession with the BA has created a two-tiered entry to adulthood, anointing some for admission to the club and labeling the rest as second-best.

Here's the reality: Everyone in every occupation starts as an apprentice. Those who are good enough become journeymen. The best become master craftsmen. This is as true of business executives and history professors as of chefs and welders. Getting rid of the BA and replacing it with evidence of competence -- treating post-secondary education as apprenticeships for everyone -- is one way to help us to recognize that common bond.

Mr. Murray is the W.H. Brady Scholar at the American Enterprise Institute. This essay is adapted from his forthcoming book, "Real Education: Four Simple Truths for Bringing America's Schools Back to Reality" (Crown Forum).

THE WALL STREET JOURNAL.

CAREERS

Skilled Trades Seek Workers Contractors, Unions Try Web, Schools; A 'Dirty Jobs' Role

By ANTON TROIANOVSKI

Even as the economy slumps and unemployment rises, strong demand for power plants, oil refineries and export goods has many manufacturers and construction contractors scrambling to find enough skilled workers to plug current and future holes.

With the shortage of welders, pipe fitters and other high-demand workers likely to get worse as more of them reach retirement age, unions, construction contractors and other businesses are trying to figure out how to attract more young people to those fields.

By 2012, demand in fields like welding is expected to exceed supply.

Their challenge: overcoming the perception that blue-collar trades offer less status, money and chance for advancement than white-collar jobs, and that college is the best investment for everyone.

To highlight the benefits of a career in the skilled trades -- and, sometimes, the potential pitfalls of automatically opting for college -- unions and employers are turning to schools, the military, MySpace and even a 46-year-old former opera singer named Mike Rowe.

Mr. Rowe is the host of the Discovery Channel series "Dirty Jobs," which chronicles him tackling tasks ranging from alpaca shearing to steelworking. Mr. Rowe is in talks with Terex Corp., a Westport, Conn., maker of construction equipment, which has a two-year backlog of crane orders, thanks to strong overseas sales. Terex, which hired Mr. Rowe to appear at a trade show earlier this year, is hoping he can help it recruit young workers as the company's current work force ages.

"Attracting the best and brightest into the industry is a challenge; it's not happening," says Mike Bazinet, a spokesman for the company.

Mr. Rowe confirmed he is talking to Terex, but doesn't know what his specific role would be. It would likely involve extolling the virtues of manual labor, as he has done on his show since its debut three years ago. "We've made work the enemy," Mr. Rowe says. "Essentially we took the nobility and the necessity out of it and replaced it with this vague sense of drudgery."

Mr. Rowe has also spoken to employees of W.W. Grainger Inc., an industrial-supplies distributor. Jim Ryan, the chief executive of Grainger, says his company has no immediate plans to team up with Mr. Rowe but that it has spent about $400,000 over the past two years to fund technical-education programs around the country.

"In the last several years ... all of the benefits of a career in the trades have kind of gotten lost in the clutter of all the other career opportunities," Mr. Ryan said. "What the industry needs is to be much more aggressive in marketing and creating visibility."

Companies and unions don't dispute that college can be a wise investment, but they also say some unionized craft workers can earn more than the average college graduate, without the burden of student debt.

http://online.wsj.com/article/SB121910464115051361.html

"You earn while you learn," says Brian Couch, a young electrician, in a video posted on the Web sites YouTube and MySpace. "It's not like going to college where you go to school for five to eight years and have to work a part-time job."
[Mike Rowe]

That video and several others like it were developed by public-relations firm Pac/West Communications for Local 48 of the International Brotherhood of Electrical Workers and the National Electrical Contractors Association in Portland, Ore.

The two groups have teamed up for the online campaign to encourage high-school graduates to consider an apprenticeship as an alternative to college. MySpace is owned by News Corp., which also owns Dow Jones & Co., publisher of The Wall Street Journal.

In many parts of the economy, there are too many workers, rather than too few. Since January, the U.S. has lost 463,000 jobs. Residential construction and manufacturers that rely primarily on the U.S. market have been hit especially hard.

But the energy industry is hard up for workers who, among other things, can make precision welds, fit pipes for pipelines and oil refineries, and understand the complex electrical wiring in modern power plants. Though the weak housing market has idled many workers who did similar jobs for home builders, their skills often aren't sharp enough to make the cut.

Dusty Henry, a 25-year-old electrician in Portland, Ore., who belongs to IBEW Local 48, says he earns $34 an hour working on renewable-energy projects while some of his friends who went to college are having a hard time finding jobs.

"I chose the path that I wanted to take...and learned as much as I could for that one thing," Mr. Henry said. "You go to college to kind of figure out what you want to do, but if you don't figure it out, you go out with debt and you still don't know."

In Indiana, where BP PLC is spending $3.8 billion to expand its Whiting refinery, demand for carpenters, electricians, pipe fitters and several other trades is expected to outstrip supply by 16% or more in the current quarter, according to construction-industry consulting and investment banking firm FMI Corp.

Such shortfalls are forcing some employers to delay projects and others to pay their workers higher wages or offer more overtime. Rich Mycka, a Highland, Ind., contractor whose specialty is managing heavy industrial jobs like upgrading factories and relining blast furnaces, says he can't find enough qualified project managers, construction managers and schedulers. And he expects the labor shortage to get worse as workers retire: Mr. Mycka says the average age of his 30 employees is close to 50.

Kevin Chavez, an Albuquerque, N.M., cement contractor who employs about 100 workers, says he has raised the wages for his skilled workers by 7% to 10% a year over the past 18 to 24 months. His unskilled workers haven't gotten a raise.

Skilled-labor shortages are likely to intensify in coming years as more workers retire and the economy picks up again. By 2012, FMI predicts, nationwide demand for electricians, masons and pipe fitters, if their numbers remain constant, will exceed supply by at least 5%. Regional and seasonal shortages are expected to be much steeper.

Between 1995 and 2005, the percentage of 18- to 24-year-olds in college rose to 39% to 35%. Manufacturers, contractors and unions don't dispute that college can be a wise investment, but they also say that unionized craft workers can earn more than the average college graduate.

Advanced Technology Services Inc., a Peoria, Ill., factory-maintenance company that employs 2,300 workers, organized a field trip to a factory for a local high school in April and is helping fund a training program for

high-school graduates at a cost of $1,500 per student. The program tutors them in a variety of skills. It is planning to host other high schools for visits in the coming year.

Michael Arndt, training director for the 300,000-member United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the U.S. and Canada, says a journeyman in his union -- someone who has graduated from an apprenticeship -- could earn about $30 an hour, or $1,050 for a 35-hour workweek. By comparison, median weekly earnings for workers 25 and older with only a bachelor's degree amounted to $999 in the second quarter of 2008, according to the Labor Department.

"To the extent that people are picking college, they're turning down construction," says Kenneth D. Simonson, chief economist for the Associated General Contractors of America, an Arlington, Va., trade group.

To encourage young people to think about a future in the building trades, Mr. Simonson's group has put together kits for elementary-school students that show, among other things, how to build a bridge out of popsicle sticks.

This month, Mr. Arndt's plumbers and pipe fitters union, launched a pilot program at one of its Washington state training centers offering an 18-week welding course to state National Guardsmen returning from the Middle East. Graduates will be admitted to the second year of the union's apprenticeship program. The union is also lobbying the Marines Corps to allow it to bring mobile welding training trailers to Camp Pendleton in California, so it can offer a similar program to soldiers there who are awaiting their discharge, according to retired Gen. Matthew Caulfield, a consultant to the United Association.