

SKILLS

Pat Maloney examines parts before they are put on Boeing aircraft. Any primary processing defects, problems with the metal or even the smallest crack, Maloney is the one who needs to catch it.

His ten years as a Local 63 Machinist working for Boeing in Portland, OR, gave him the

skills that led to a comfortable, middle-class lifestyle.

In a few months, Maloney's son, James, will graduate from high school, but what he does after that is up in the air. James has his heart set on Humboldt State University in Arcata, CA.

He hopes a college educa-

tion will provide him with the same lifestyle that his dad's union job did. One problem: the nearly \$70,000 dollars it will cost.

"My son is an excellent student with a dad whose union job pays 30 percent higher than most. Yet we still can't afford to send him to a four-year university," says Maloney. "This is a train wreck for a family." But Pat and James refuse to quit.

For many American kids, attending a four-year college simply isn't an option. As tuition costs have skyrocketed and need-based student aid has cratered, students from low and middle-income families simply can't afford college. And the disconnect is growing.

Each decade, 30 million children enter high school, but only six million of them ever receive a college degree. For the remaining 24 million kids, a good, well-paying job should still be an option. Vocational and technical

Companies and workers nationwide rely on a network of community colleges and vocational schools to provide training. Increasing investment in skills training is crucial to keep American manufacturing strong.



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America's Edge, the ability to produce products like Cessna aircraft, Harley-Davidson motorcycles and the Boeing 787 Dreamliner, depends on workers with the training opportunities to stay a global leader in manufacturing. Above, Local 774 member Lissa Gardner works on a Cessna Caravan in Wichita, KS.

schools, apprenticeship programs, community college programs, high tech institutes – there are alternatives. Yet, public investment remains concentrated on colleges and universities.

“The only real alternative to going to school is to get a grunt job, a minimum-wage warehouse job where he’ll work just to survive,” says Maloney. “Even a two-year machine technology degree is costly. Working-class folks just can’t afford school, period.”

As the Maloney family struggles with college costs and a lack of viable alternatives, Portland’s manufactur-

ers will need 53,000 skilled workers in the next decade to replace retiring workers and fill new jobs. They are not alone. There’s a shortage of aerospace workers in Kansas



Local 63 member Pat Maloney of Portland, OR, right, worries about how to pay for college for his son, James. The cost of a four-year college education is increasingly beyond the reach of many American families.

and CNC machinists in Iowa, and that’s just the tip of the iceberg.

The Skills Crisis

The need for greater investment in skills training is urgent. The U.S. will face a skilled-worker shortage of eight million by 2010, increasing to roughly 14 million by 2020, according to the Bureau of Labor Statistics. Labor economists put that number even higher at 21 million.

It takes advanced skills to assemble a Harley-Davidson or a sophisticated military aircraft like the F-22 Raptor. But as the highly-skilled “baby



From left, Local 774 members Richard Juarez and Kameko Caldwell get on-the-job training on the Cessna Citation Sovereign door assembly by Crew Chief David Burgess, also of Local 774 in Wichita, KS.

boom” generation approaches retirement, workers with the skills to manufacture these products are quickly disappearing.

Workers and unions see the problem first hand every day. So do companies. A recent survey found 90 percent of America’s manufacturers report a moderate to severe shortage of skilled production employees. Significant labor shortages are expected for machinists, operating engineers, auto mechanics, medical technicians, carpenters, iron workers and welders.

“America’s skills gap isn’t a

crisis that lies over the horizon. It’s here,” says IAM International President Tom



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Buffenbarger. “You can have all the engineers and scientists in the world, but a design or plan means nothing unless you have the highly skilled, front-line workers to build the products.”

A Need for Alternatives

“Roughly 40 to 50 percent of current and future jobs fall into a broad middle-skills category, which describes jobs that require some significant post-secondary education, but not a

Technical and vocational schools provide crucial training for the next generation of workers, America’s children.

four-year degree,” says Professor Harry Holzer of Georgetown University, co-author of *America's Forgotten Middle-Skill Jobs: Education and Training Requirements in the Next Decade and Beyond*. “Individuals who have an associate degree are well compensated – comparable to a four-year degree. Right now the market is rewarding those with an associate degree or some form of post-secondary training certification.”

For this to continue, a far-reaching national investment in the skill sets of our workers is required, including viable alternatives to a four-year degree.

“We need an aggressive, across-the-board effort to invest in our skills and our kids, which are America’s Edge,” says Buffenbarger. “We need to invest in apprenticeships, technical and vocational education and our community colleges. And we need to invest in high-tech manufacturing institutions where cutting-edge technology and new-age materials can be tested – and our kids can learn how to handle both.”

Dropping the Ball

Despite the clear crisis, the federal government looks the other way. Each year, over half a trillion dollars of local, state and federal monies is focused on students bound for, or in, college. Technical and vocational education, by contrast,

Clinton Talks “Skills”

As Sen. Hillary Clinton’s “Middle Class Express” toured Iowa last October, the 2008 presidential candidate focused on an issue most of the presidential field has brushed aside – viable alternatives for high school graduates who do not go to a four year college.

“Even though I’m 100 percent committed to encouraging and enabling more young Americans to go to college and graduate, the fact is, more young people do not go to college than do. In fact, it’s close to 60 percent that do not,” Clinton told an Iowa crowd.

“Apprenticeship programs that prepare specialty-skilled workers in manufacturing have decreased dramatically in number and size during the past 20 years, creating an urgent need for skilled workers, particularly in the trades and manufacturing,” said Clinton.

“Think about what builds America, what runs America, what keeps America going. It’s a lot of hardworking people. We should do more to give them training and apprenticeship programs.”

Clinton offered specific steps to improve America’s skills training. “For those who don’t attend college, or those in the workforce who need to update their skills, I’m going to provide \$500 million to support innovative on-the-job training and apprenticeship



Bill Burke, Page One Photography

Senator Hillary Clinton promises to reverse the decline in skills training with a major investment in apprenticeship and vocational training.

programs,” she said. She has also proposed strengthening community colleges and a new G.I. Bill of Rights for the 21st Century that would provide financial assistance to those who give four years of active-duty military service.

Clinton’s commitment to improving the skills of America’s workers is nothing new. She was a leading force behind the Non-Traditional Student Success Act, which made more college aid available to working adults who otherwise wouldn’t qualify for full Pell Grants. She has also adamantly opposed the Bush administration’s plan to dismantle the Carl D. Perkins Vocational and Technical program.



Photo by Randy Tobias

Apprentice programs require years of on-the-job training and thousands of hours of classroom instruction. George Light, right, instructs apprentice Jarrod Fawcett, both of Local 839, at Spirit AeroSystems in Wichita, KS.

receives less than two percent of that amount.

From the late 1980s to 2002, Labor Department funding for programs like the Job Training Partnership Act and the Workforce Investment Act saw a 33 percent decline, according to an analysis by The Workforce Alliance (TWA). And it's getting worse. Since 2002, President Bush proposed a cumulative \$2.17 billion in cuts to key job training and employment programs.

"President Bush's cuts to training programs move in the opposite direction of our international competitors, who are investing more in

workforce education to secure the world's best jobs," says Andy Van Kleunen, Executive Director of TWA. "Congress, particularly under its current leadership, resisted those cuts. But now we need to increase those investments before we lose any more ground."

Filling the Gap

The traditional path to a career in one of the skilled trades paired a young worker and a master craftsman. After years of training, the worker achieved the rank of Journeyman, a term that still conveys great accomplishment and expertise.

IAM Local 175 member Pam Kline has taken a five-year path to Journeyman status as an Electronic Maintenance Mechanic at Harley-Davidson's main assembly plant in York, PA.

Harley-Davidson, in cooperation with the IAM, operates one of the most successful apprentice programs in the U.S. It involves about 10,000 hours of training and two to three nights of classroom training each week.

Kline was one of only six applicants accepted into the apprentice class at York. "The training began almost immediately," said Kline.

Local 839 members at Spirit AeroSystems are producing critical sections of the Boeing 787 Dreamliner. David Dalrymple, left, works with apprentice Rodney Nobles.

“Every day I worked alongside electricians with a mix of skills and experience that couldn’t be found anywhere else.”

Other apprentices in the program trained with Tool & Die Journeymen and Maintenance Machinists. Graduates are honored with a Journeyman card and certificates from the IAM, Harley-Davidson and the U.S. Department of Labor. The card is accepted nationwide as the equivalent of a post-secondary education.

“With this training, these workers can go anywhere,” said Doug Deverter,



Photo by Randy Tobias

Co-chairman of the Apprentice Committee at Harley-Davidson. “Anyone who has to change employers is carrying a card that is recognized across the country.” Nearly all graduates remain

with Harley-Davidson.

The program pays dividends for both employee and employer. Workers gain new skills and job satisfaction. Harley gains a highly-trained workforce. “The reality for the company is we get a much better product at the end of the day,” said Harley-Davidson Vice President and General Manager Fred Gates.

“I like my job, I like the challenges, the variety and never knowing what’s next. I have more job security and more job satisfaction. I’m lucky, I work for a good company and with a great bunch of guys,” said Kline, who proudly calls herself one of the guys. “We’re like family.”

Hire a Hero

In February of last year, President Buffenbarger joined Kansas Gov. Kathleen Sebelius, Ret. Maj. Gen. Matthew Caulfield, Spirit AeroSystems CEO Jeff Turner



Local 175 member Pam Kline of York, PA, center, completed a five-year Electronic Maintenance Mechanic apprentice program that included 10,000 hours of training and classroom instruction. With Kline at her graduation ceremony is Local 175 President Gordon Spangler, left, and Harley-Davidson VP and General Manager Fred Gates.



The “Hire a Hero” program matches veterans with civilian jobs. IAM President Tom Buffenbarger addresses a meeting of aerospace executives, civic and political leaders who pledged support for “Hire a Hero” in Wichita, KS.

and a host of others in Wichita to unveil the “Hire a Hero” program, which matches veterans with good-paying jobs in Kansas’ aircraft industry.

The Wichita area is home to more than 35,000 well-paying aerospace jobs, jobs that pay roughly \$62,000 a year and support an additional 2.9 Kansas jobs. A shortage of more than 5,000 skilled aerospace workers exists. With 40 percent of the state’s aviation manufacturing workforce set to retire in the next five years, the problem will grow.

The IAM represents more than 15,000 workers at Wichita’s five main aerospace manufacturers: Spirit Aero-Systems, Boeing Integrated Defense Systems, Bombardier Learjet, Cessna and Hawker/Beechcraft. Wichita’s aerospace companies, the IAM and “Hire a Hero” are

A tradition of passing on valuable skills, Journeyman Gary Kiehl, right, helped train Apprentice NC Spar Mill Machinist Dannielle Belcher, both members of Local 751-C in Auburn, WA. The IAM/Boeing apprentice program has been in operation since the 1930s.

developing a partnership with the Manufacturing Skills Standard Council (MSSC) so returning veterans can earn MSSC training certification.

“Everybody benefits from the ‘Hire a Hero’ program,” says Buffenbarger. “Providing veterans with an industry certification improves their chances of getting a good job and aerospace companies get the highly-skilled workers they desperately need.”

The “Hire a Hero” program isn’t the only groundbreaking effort to ensure Wichita remains at the forefront of aviation manufacturing.

Construction is set to begin on a \$40 million technical training facility at Jabara Airport. Students at the new Center for Aviation will receive hands-on training in general aviation manufacturing and aircraft and power plant mechanics with cutting-edge programs in Avionics, Robotics, Composites Manufacturing, Aircraft Completion, Aerostructures Technician and more.

“Wichita’s aerospace workers are among the most skilled workers in the world,” said IAM District 70 DBR Steve Rooney. “To keep our highly-skilled workforce, we must demand training programs, apprenticeships and technical education centers to train the next generation of workers.”



Partnership at Boeing

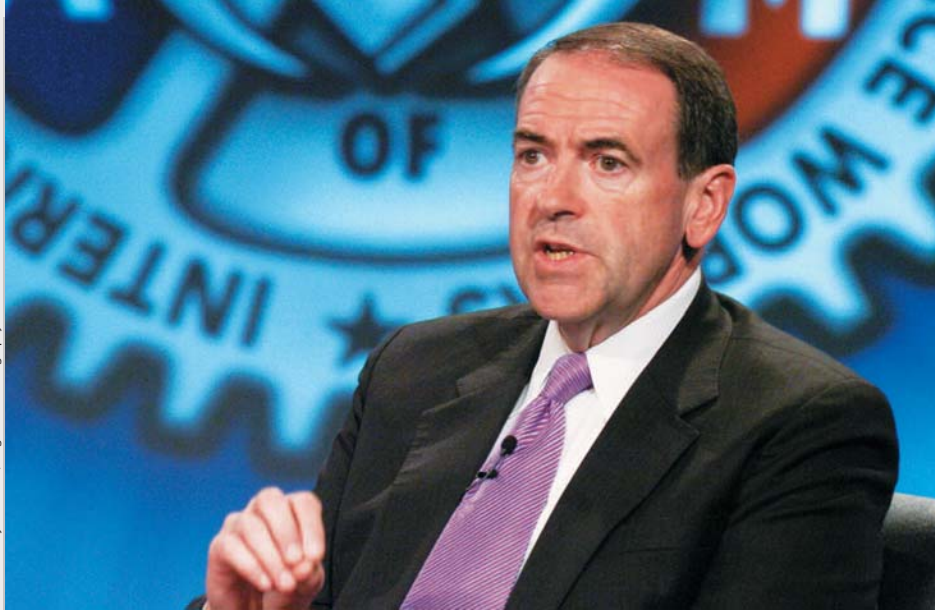
Record orders for Boeing's 787 Dreamliner, which uses advanced composite construction, has spurred a boom in training and education programs in the Puget Sound area of Washington state. Boeing and the IAM, home to a traditional apprentice program since the 1930s, have expanded the in-house program to include composites training and partnered with local community colleges and the University of Washington to develop programs in the new field of materials science.

Near Boeing's Everett facility, Edmonds Community College developed the state's only two-year materials science degree program. The program offers training in composites and other cutting-edge manufacturing materials for a variety of industries, including aerospace. A shorter nine-day Composites Technician Certificate program helps IAM District 751 members at Boeing upgrade their skills.

"With funding by the National Science Foundation, we're developing a National Resource Center for Materials Technology Education. We're not only training Puget Sound-area students for tomorrow's jobs, but we're providing a similar curriculum for community and technical colleges and vocational schools nationwide," said Mel Cossette, Director of the Materials Technology Education Program at Edmonds.

Boeing's traditional apprentice program, which has more than ten courses ranging from Tool and Die Maker to Machine Tool Maintenance Mechanic, is now part of the joint IAM/Boeing Quality Through Training Program (QTTP). The goal

Photo by Bill Burke, Page One Photography



Under former Arkansas Governor Mike Huckabee, state-level initiatives for skills training increased with the Career Pathways program and Workforce Improvement Grants.

Ensuring a Middle Class Lifestyle for Our Kids

Wrapping up a speech to the National Education Association in July 2007, Republican presidential candidate and former Arkansas Governor Mike Huckabee proclaimed, "I want to believe that the greatest generation is not necessarily the generation that has lived and is about to die, but that the greatest generation is the generation that is yet to be born."

It is a theme Huckabee has come back to many times on the campaign trail: Making sure today's kids will be able to lead the same middle-class lifestyle their parents did.

At the 2007 National IAM Staff Conference in Orlando, FL, Huckabee leveled with the delegates, "How many of you are living better today than you ever dreamed you would be living when you were a kid? My guess is every hand in this room would go

up. But if I ask, how many of you have confidence that your grandchildren will be living an even better life than you? My fear is nobody's hand would go up."

During Huckabee's ten years as Governor of Arkansas, he sought to advance the skills of its workers. Arkansas' Career Pathways program made it easier for low-income workers to go back to school and combine work and education over time to advance within particular industries. And Workforce Improvement Grants established new avenues of college financial aid for working adults who wanted to continue working while going back to school part-time.

"Every child should have the opportunity for a quality education that teaches the fundamental skills needed to compete in a global economy," says Huckabee.



Photo by Jim Levitt Photography

Rene Grenier, right, an NC Machine Repair Apprentice at Boeing, must complete years of on-the-job training by instructors such as Journeyman Wade Pitman. Both are members of Local 751-C.

of the four and five-year programs is still the same – to provide specialty-skilled workers for today and tomorrow’s manufacturing jobs. Students get on-the-job training with qualified instructors and extensive classroom instruction at nearby South Seattle Community College.

“Investing in training is a big commitment, but companies and governments at all levels have to step up,” said IAM District 751 President Tom Wroblewski. “Our skills are our future.”

States Take Charge

Rather than waiting for the federal government, states are taking matters into their own hands. In Iowa, local officials estimate there

will be roughly 150,000 more jobs than workers to fill them by 2012. The Iowa Jobs Training Program lets businesses work with their

local Iowa community college to assess training needs, determine funds availability and provide training to workers.

In California, community college students who earned a vocational degree or certificate saw their wages increase by more than \$20,000 three years after graduation. To provide more kids this opportunity, labor and working families are supporting Proposition 92, which would make community college more affordable by lowering fees and ensuring that future costs increase no more than cost of living.

“Some states are increasing apprenticeship and train-



Photo by Jim Levitt Photography

The IAM/Boeing apprentice program combines thousands of hours of classroom training, much of it through area community colleges, with hands-on instruction by Journeymen like Local 751-C’s Bob Brittingham, right, who is training Apprentice Industrial Electronics Maintenance Technician Tony Tang, left, of Local 751-F.

ing programs, but what we really need is a major initiative at the federal level. Our members must have the opportunity to learn the skills they need for tomorrow's jobs," said IAM Safety and Health Department Director Mike Flynn, who also administers the IAM's Apprentice and Scholarship programs. The IAM Scholarship program has been expanded to include scholarships for vocational education for IAM members and children of IAM members.

Photo by Jim Levitt Photography



Washington state made investments in training programs, such as this Composites Technician Certificate program at Edmonds Community College, that allow District 751 members, like Local-A's Brian Pearson, to upgrade their skills for work on the 787 Dreamliner.

Voters Support Training

Skills training leads to higher pay, improved benefits and greater job stability.

Studies show job training increases annual earnings from 10 to 156 percent. At the Wisconsin Regional Training Partnership, a non-profit association of more than 100 unions and employers, low-income Milwaukee residents saw an average wage increase of 33 percent after receiving manufacturing training and 89 percent of participants found jobs with employer-sponsored benefits.

Skills training also provides job security. "Workers with technical skills have greater job security than college graduates with general majors who lack technical skills," Bob Allsbrook, chief economist for Regions

Financial Corp, told *The Clarion-Ledger*. "One of the unusual things about this economy is the more skills and training you have, the more likely you'll have a job."

And, there is strong public support for more work-

force training. Eighty-seven percent of Americans favor job-training programs, according to TWA. Forty-one percent said they would be much more likely to vote for a presidential candidate who supports education and training so workers can land good-paying jobs.

A University of Maryland study found Americans would support increasing funding for job training by \$19 billion – a 263 percent increase over current funding levels.

By a 69 to 26 percent margin, Americans believe that investing in education

Vocational and high-tech training can provide viable alternatives for students who do not go on to four-year college programs.



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Voters will support skills training and other investments in education to ensure America retains its edge in manufacturing. Crew Chief Enrique Tellez, left, trains Linda Tran, both of Local 774, in the wing section of Cessna Citation's Sovereign line in Wichita, KS.

Photo by Randy Tobias

and training is a better way to grow the economy than cutting taxes, according to polling by the Feldman Group.

America's Edge

January 21, 2009 will be a watershed day for American

workers. After eight years of being pushed aside by an administration coddling corporate America, workers will have the chance to demand that the next president invest in them.

"In order to retain America's Edge, there must

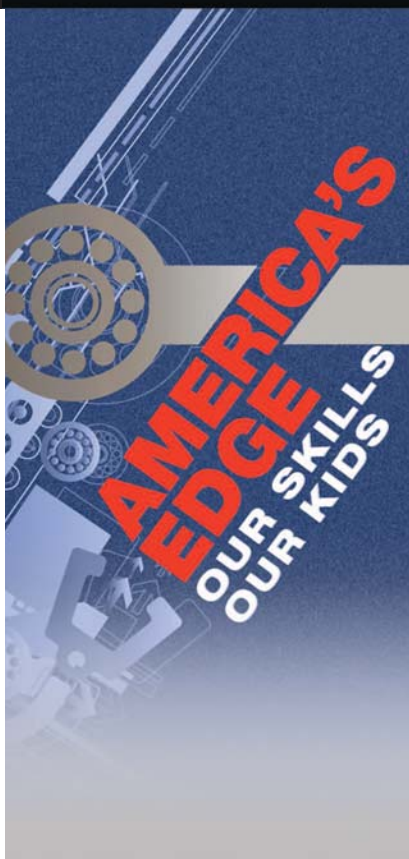
be a comprehensive national effort to re-emphasize technical and vocational classes in America's high schools, expand the availability of industrial technology and information technology courses in our community colleges and create high-tech institutes in each state that focus on 21st century manufacturing technologies and materials," says Buffenbarger. "We must demand no less from the next president and the next Congress."

Join the Fight!

Add your voice to the *America's Edge: Our Skills, Our Kids* campaign. The IAM will be running television ads in Iowa, New Hampshire and South Carolina to propel the skills issue into the national limelight.

You can join the fight by logging on to **www.AmericasEdge.TV**. Add your name to the America's Edge blackboard or post your own video.

Make sure America's kids have the skills and the jobs for the future.



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YES, I support sharpening America's Edge in the global economy.

America's Edge relies on our skills and our kids' abilities to learn and adapt to the ever-changing demands of tomorrow's workplaces. And it is time public investment flowed in their direction.

After signing this petition, your name will be added to [our blackboard](#).

SIGN HERE:



Labor economists predict that "a serious lack of skilled workers will begin in 2005 and grow to 5.3 million in 2010 and 21 million in 2020.

Share your Views on America's Edge

You can participate! Post your YouTube videos and tag them "americasedge". [See the Gallery](#)



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Voc-Ed Gets New Name and New Respect

By Reg Weaver, President
National Education Association

At first glance, Mark Maund's Virginia automotive services class fits preconceived images many have about vocational education: His students are working on cars and learning a trade.

But a closer look reveals the depth of knowledge his students acquire. In addition to learning about carburetors and braking systems, they learn computer technology, knowledge they'll need to work on high-end automobiles. They're also building their math and English skills and reinforcing other academic subjects.

At the end of the year, these students will have the foundation they need to pursue a fulfilling – and highly lucrative – career, plus an industry certification and 18 college credits.

This is voc-ed in the 21st century. Vocational education is now called career and technical education (CTE), and the word "career" underscores the focus on providing students with the opportunity to learn academic and technical skills, explore different career options and discover ways to balance life and work roles.

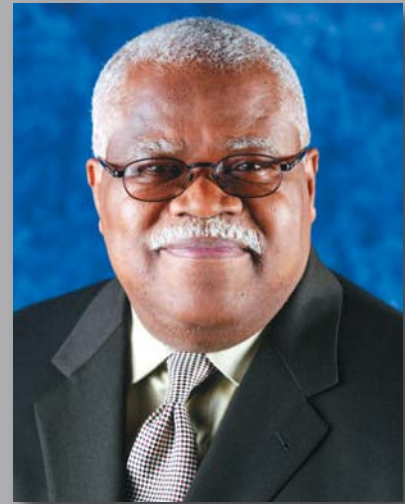
Career and technical education can be a lifeline for young people who may not be college-bound and are

seeking academic opportunities outside the sphere of college-prep courses. By arming them with skills they can actually use in the workplace, CTE programs help make learning meaningful and keep students engaged in high school.

This is vital for students at risk of dropping out. It is especially critical among our minority youth, half of whom will not finish high school with their peers. Our nation must get serious about addressing the dropout crisis in our country. Career and technical education will play an important role in this effort.

The National Education Association is serious. About a year ago, we announced a 12-point plan to reduce the dropout rate. Our plan calls for more emphasis on vocational and technical training, coordinating and integrating those programs with traditional academic courses.

Research proves that this is a winning strategy. A study conducted by the University of Michigan found that high-risk students are eight to ten times less likely to drop out in the 11th and 12th grades if they enroll in a career and technical program. The same study also reported that a



quality CTE program can reduce a school's dropout rate by as much as six percent. CTE students are less likely than general-track students to fail a course or to be absent.

We have to recognize and respect the fact that our children need choices. The ERIC Clearinghouse on Adult, Career and Vocational Education at Ohio State University estimates that millions of new jobs are opening for programmers and many more millions of positions are begging for skilled welders and machinists, electricians and plumbers, health care workers and repair people of all types.

Today, I believe our standard of living is at risk. We must seize the opportunity to offer more education options to more people. We must break down the barriers in our education system and keep engaging students while they are in high school. And we must ensure that every student is prepared and able to compete in the 21st century economy.

Skills Agenda Keeps America Second to None

By Edward J. McElroy, President
American Federation of Teachers

Today's economy is leaving countless American workers behind. Workers in many sectors have suffered a steady erosion of wages and benefits, coupled with the outsourcing or off-shoring of jobs that is only expected to continue. Although the United States' economy has been growing, the distribution of benefits is grossly inequitable, with the reversal of a two-century-old trend that saw each successive generation better off than the one that preceded it.

Many measures will be required to correct this situation, but greater investment in education and ongoing skills development is a key ingredient in any economic strategy.

Global competition has had obvious, far-reaching repercussions for the American economy and its workers. America's public schools have paid a price, as well. The claim that our schools are not adequately preparing students to compete in the global economy feeds into calls for school vouchers, privatization, and other faddish (and discredited) "reforms."

Unfortunately, the current administration's economic and education policies have further undermined America's ability to compete. This administration has proposed eliminating vocational and technical education programs – programs that have

been shown to reduce dropout rates and increase short – and medium – term earnings for students. It has made higher education more expensive and less accessible for students from low- and middle-income families. It has paid little attention to the need for skills training and upgrading for America's current workforce. And the No Child Left Behind Act, with its focus on testing above all else, has been a missed opportunity of monumental proportions.

The United States will not remain competitive in the global economy without significant changes in the way we prepare, train and retrain our workforce.

- America's public schools need to adapt curricula to help students master foundational skills as well as higher-order thinking, problem-solving, and critical thinking skills.
- We must develop education and training programs for students who do not immediately – or ever – go to college.
- We must make higher education relevant to the economic opportunities of the future – and more accessible and affordable to qualified students from all economic backgrounds.
- Workers must constantly upgrade their skills to keep



up with new technology, new knowledge and, in some cases, sometimes even altogether new industries.

The American Federation of Teachers has helped our members deal with these new challenges by negotiating – and, in some cases, providing – professional development to help them upgrade their skills.

We are also looking at an innovative program introduced by the British trade union movement, in which the union itself helps members identify their learning needs to keep their skills marketable and helps them access education and training.

The one constant throughout history has been change. The American workers – and American labor unions – have been a part of that change, adapting to meet evolving demands. We commend the International Association of Machinists for highlighting this critical issue and for working with the labor movement and its partners to promote much-needed changes.

We look forward to working with the IAM to advance a skills agenda that will keep America's workforce second to none.