



National School Boards Association

# LEADERSHIP Insider

July 2004  
www.nsba.org

PRACTICAL PERSPECTIVES ON SCHOOL LAW & POLICY

A Membership Benefit of NSBA National Affiliates

## Ready for Work

*Career and technical education, long a tradition in U.S. education, faces change at the federal level*

Over the past 20 years, vocational education has become synonymous with the Carl D. Perkins Vocational Education Act, the federal program that funds career and technical education in the public schools. But workplace preparation has always held a place—if not always a noble one—in the public schools.

In his proposals for an education system, Thomas Jefferson suggested a two-track design, with separate tracks for “the laboring and the learned.” In fact, early public schools focused heavily on preparing students for their futures in the workforce of American agriculture, industry, and domestic arts, with the pathways dependent upon race, gender, immigrant status, or geographic location.

By 1905, what is considered to have been the first “manual training” program had been established in an Oklahoma City high school. The program and its students were separated from the “regular” students and met in a basement.

In 1917, the federal government made its first foray into funding vocation education with the passage of the Smith-Hughes Act. And in 1956 Congress passed the National Defense Education Act

(NDEA), which authorized funds “exclusively for the training of . . . highly skilled technicians in recognized occupations requiring scientific knowledge in fields necessary for the national defense.”

Finally, in the early 1960s, a federal panel evaluated the state of vocational education in public education and found it lacking. The panel’s recommendations ultimately led to a new focus on the needs of the students, rather than those of specific professions, and Title V of the National Education Improvement Act of 1963 expanded the federal role in vocational education and increased its funding.

As “vocational” education evolved into “career and technical” education, the Carl D. Perkins Vocational Education Act of 1984 again increased federal funding of vocational instruction and more strongly emphasized the integration of academic and vocational curriculums. Today, the Association for Career and Technical Education (ACTE) calls career and technical education, or CTE, the best way to help “students . . . fulfill their working potential.”

### A Turning Point for Perkins

The Perkins Act, reauthorized with modifications since 1984, accounts for

about 10 percent of the funding for CTE programs and is again in the process of Congressional reauthorization.

In May, the Bush Administration issued “A Blueprint for Preparing America’s Future,” announcing a plan to improve the academic rigor of the Perkins Act. The new plan will also revise the system for providing grants to local school districts.

In addition, the administration’s budget for fiscal year 2005 calls for a cut in funding for Perkins by almost 25 percent from the \$1.3 billion appropriated this year to \$1 billion. NSBA opposes the funding cuts and is working on drafting recommendations for improving the Perkins Act.

The administration’s proposal, called the Secondary and Technical Education Excellence Act (SecTec), is designed to bring vocational education more in line with the rigorous achievement goals of the No Child Left Behind Act (NCLB), facilitate the transition from high school to postsecondary programs, and better coordinate career education with trends in the labor market. It would eliminate the existing stand-alone Tech-prep program

Under the plan, grants would be dis-

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*Leadership Insider*, is published six times annually by NSBA's National Education Policy Network and its Council of School Attorneys in cooperation with the National Affiliate Program.

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## About NSBA

The National School Boards Association is the nationwide advocacy organization for public school governance. NSBA's mission is to foster excellence and equity in public elementary and secondary education in the United States through local school board leadership. Founded in 1940, NSBA is a not-for-profit federation of state associations of school boards across the United States and the school boards of the District of Columbia, Hawai'i, and the U.S. Virgin Islands.

## About the National Affiliate Program

The National Affiliate Program extends NSBA's services directly to local school districts. School districts are eligible to join provided they are members in good standing of their state school boards association.

## About the National Education Policy Network

The National Education Policy Network (NEPN) helps foster better communication, understanding and management of local school districts through better policy-making. It offers access to a sample policy clearinghouse and current policy-related resources, as well as publications and tools to help districts keep their policy manuals well-organized and up-to-date.

## About the Council of School Attorneys

The Council of School Attorneys provides information and practical assistance to attorneys who represent public school districts. It offers legal education, specialized publications, and a forum for exchange of information, and it supports the legal advocacy efforts of the National School Boards Association.

tributed to states according to the existing formula, but states would also have the discretion to distribute federal funds to local partnerships—consisting of at least one school district and postsecondary institution—on a competitive basis or through a new formula established by states.

The plan focuses on career “technical education pathways.” Qualified career and technical education programs would have to have “an articulated sequence of courses” beginning in high school and including “challenging academic classes and technical course work.”

Students in these pathways would end up with “an industry-recognized certification, associate or baccalaureate degree, or certificate of completion from a registered apprenticeship.”

Participating high schools would have

to encourage students to complete four years of English, three and a-half years of social science, and three years of math and science.

The proposal calls for performance targets to be negotiated by the states and the education secretary. Performance would be measured by student scores on the reading and math state assessments mandated by NCLB, high school graduation, and successful transition to either postsecondary programs, employment, or the military.

States would be given new authority to set performance goals and to establish a system of rewards and sanctions for local partnerships.

States that accept Perkins funding would be required to administer the National Assessment of Educational Progress in reading and math to 12th-graders.

## ACTE: WHERE WE STAND ON THE PROPOSED LEGISLATION

On June 3, 2004, House Education and the Workforce Committee Republican leaders introduced H.R. 4496, the Vocational and Technical Education for the Future Act, to reauthorize the Carl D. Perkins Vocational and Technical Education Act of 1998.

While the bill contains some provisions and details that cause concern, ACTE is optimistic that it does not call for the number of dramatic shifts that have been proposed by the Bush Administration. The bill maintains much of the current law and holds some positive improvements.

Broad themes in the bill include ensuring that students are engaged in “rigorous and challenging” academic and technical education and that states develop model sequences of courses to facilitate student progression from secondary to postsecondary education and into careers.

The House proposal would authorize the legislation through FY 2010, for a total of six years instead of the current five. The most significant structural change is the repeal of Title II of the 1998 law, the Tech Prep program. This would eliminate the separate funding stream for Tech Prep programs and merge the funding into the Basic State Grant, something ACTE opposes due to the potential loss of funding, structure, and innovation.

More positive structural changes

include a section on local accountability that did not exist in the 1998 law, the separation of performance indicators for secondary and postsecondary programs, and changes to the current incentive plan program to reward states for strong performance in career and technical education.

The bill also maintains the performance indicator related to technical skill attainment that was threatened by the Administration's bill, and maintains a strong focus on career information and career and academic counseling.

Concerns include reductions in state and local administrative funding and state maintenance of effort requirements; the continued use of terminology inconsistent with the field of career and technical education, such as the phrase “vocational education” instead of “career and technical education”; and the prescriptive nature of some of the provisions, including those related to professional development. ACTE is also examining language in the bill related to sequences of courses and new secondary accountability measures to determine the full practical ramifications of proposed changes.

For up-to-date information and the latest resources related to the Perkins reauthorization, visit ACTE's website at [www.acteonline.org/policy/legislative\\_issues/carl\\_perkins.cfm](http://www.acteonline.org/policy/legislative_issues/carl_perkins.cfm).

Organizations representing vocational education have praised aspects of the administration's proposals on reauthorizing the Perkins Act—and raised some concerns, particularly over the plan to cut funding and consolidate it into a block grant to states.

While the House of Representatives has been moving ahead with its own legislation, the odds that this Congress will finish reauthorizing the Perkins Act seem long. Still, the same issues are likely to be at stake whenever Congress does take up the matter.

### Elsewhere in This Issue

Whether or not the legislation moves now, there are plenty of reasons for school boards and administrators to focus some attention on their CTE programs.

In the following article, Paul Weckstein of the Center for Law and Education explains how the kind of vocational education already required by the current Perkins Act is more important than ever as schools confront NCLB's academic achievement mandates.

Gene Bottoms, senior vice president of the Southern Regional Education Board, highlights the group's recent findings about what successful career and technical programs share in common. You'll find that article on page 4.

On page 6, a board member and the

technology director from Ohio's Butler Technology and Career Development Schools offer some suggestions to board members for improving their vocational education programs and for working with

their communities as well.

And, as always, *Leadership Insider* points to additional resources on the subject of this issue; see the box on page 8.  
—Karla Schultz

### NSBA: WHERE WE STAND ON THE PROPOSED LEGISLATION

**NSBA's advocacy staff continues to examine the Perkins legislation in detail, but a preliminary review of the proposed bill prompts several concerns.**

Specifically, NSBA is concerned about language that appears to mandate both a secondary and postsecondary sequence of courses, meaning students could need to take both secondary and postsecondary courses to be eligible for funding. While greater participation of vocational students in higher education is a laudable goal, mandating it could be problematic for the many rural areas that do not have higher education institutions nearby. This may not be the intention of the bill's sponsors, but it could be an unintended consequence.

A second issue of concern is what may be a double counting or two sets of standards for students. Vocational education students and programs will

have to comply with and be counted in calculating Adequate Yearly Progress under No Child Left Behind, and second there is a separate failure standard in the new Perkins proposal. This would result in students having two different standards to meet, and may be cumbersome for schools to implement.

There are positive aspects to the legislation as well. The limitation on the monies a state can use for administration of Perkins is reduced from 12 percent to 10 percent. While not a huge improvement, it is a step in the right direction.

NSBA's advocacy department looks forward to working with the committee to ensure that the final Perkins legislation takes into account the extraordinary job of public schools and does not unfairly punish or assess a double standard that will hurt innovative and successful vocational education classes.

## A Lever for Reform

### Does NCLB leave any place for vocational education?

By Paul Weckstein

The No Child Left Behind Act (NCLB) and related standards-based reforms are creating a sense of urgency to quickly boost the academic performance of lower-achieving students and schools to make sure they attain proficiency in the knowledge and skills identified in state standards. At its narrowest, this pressure can be distorted into preparing students for the test, rather than for real mastery of the underlying knowledge and skills.

But even when this approach is viewed more broadly, a serious question arises: Does the magnitude of this academic task really leave any room for vocational education?

The answer is a resounding yes. Not

only is there room for vocational education, there is an affirmative need for it as a key vehicle for academic achievement. But this is subject to two big "ifs": *only if* we conceive of academic mastery as something quite different from grim drill narrowly aimed at test score gains, and *only if* we finally discard the outdated notion of vocational education as narrow occupational training for specific jobs.

As of this writing, it seems the only way Congress is likely to finalize a bill this year is by avoiding a major rewrite of current law. Paradoxically, the likelihood of sticking with the status quo under Perkins creates a breathing space for real change in vocational education and, more broadly, in high schools.

But real change depends on making full

use of what the act already requires: providing students with "strong experience in and understanding all aspects of an industry" as a lever for high school reform and academic improvement. The act requires that this "all aspects of an industry" (AAI) approach be reflected in local and state Perkins plans, local uses of funds, and personnel development activities.

The AAI emphasis—together with the related requirements in Perkins for integrating academic and vocational education, enabling students to meet academic achievement standards, ensuring successful participation for special populations, and participatory planning—addresses both big "ifs."

### Redefining the Academic Path

To address the first big "if," we need to look at what we know about the kind of teaching that produces dramatic gains in student achievement—gains reflected in both test scores and real understanding. A

See Reform on page 7

# Making High Schools Work

## What school boards can do to link high-quality career and technical instruction to broader high school reform

By Gene Bottoms

The Southern Regional Education Board and 30 state departments of education are joined in a consortium aimed at linking high-quality, high-demand career and technical studies to broader high school reform. The High Schools That Work (HSTW) initiative involves more than 1,000 schools across the nation, including comprehensive high schools, vocational centers, and specialized schools.

All of these schools have pledged to implement key practices designed to improve school structure, curriculum, and instruction in order to raise the achievement of career-oriented students who plan to go to work, enter the military, or attend community, technical, or open-admission four-year colleges after high school graduation. (See the sidebar for a list of key practices.)

HSTW schools are challenged to “keep their eyes on the prize”—the reward that comes from getting more career-oriented students to complete a career/technical concentration with a foundation of rigorous academic courses and be able to read, write, and use mathematics and science as tools for success in postsecondary studies and careers.

### Successful Schools

High schools that succeed in raising the achievement of career-oriented students have these characteristics:

- **Students take rigorous academic and career/technical courses in fields where qualified employees are in demand.** Teachers use instructional methods that integrate academic and technical studies to show the value of learning and to engage students in using academic content and skills to complete challenging assignments. This means requiring much more than memorizing facts and learning procedures.

- **Teachers are committed to providing extra help for students in meeting higher standards.** When schools upgrade the curriculum, they must offer programs to help students meet higher expectations.

- **Mentors guide and advise students and their families in exploring educational and career options beyond high**

**school.** A caring adult at the school can help students and their parents see the need to set educational and career goals, complete a program of study aligned with the goals, and review progress at least once a year.

- **School leaders and teachers agree on what it takes to ensure high standards.** Teachers need to understand what constitutes good teaching and how to help struggling students become independent learners. School leaders create a climate of continuous improvement and provide support for faculty and students in reaching higher levels of achievement.

- **Transition programs prepare students to move from the middle grades to high school and from high school to postsecondary education and careers.** These programs provide a safety net for students who risk failing or dropping out as they take the next big step.

### Successful Students

In a recent study of two groups of schools with students of similar racial, ethnic, and socioeconomic backgrounds, we found that schools making the most headway in implementing the HSTW key practices had students who performed at significantly higher levels on tests of academic achievement than students at schools that had done the least to implement the design.

We discovered that career-oriented students—both white and African-American—at high-implementation schools scored significantly higher on reading, mathematics, and science exams than similar students at low-implementation schools. (The exams were keyed to the National Assessment of Educational Progress, or NAEP.)

Two-thirds of students from high-implementation schools met the HSTW performance goals in reading and math, compared to about half of students at the other group of schools. Fifty-seven percent of students from high-implementation schools met the science goal, compared with 42 percent at schools that had only partially carried out the improvement plan.

Achievement gaps persist between white and African-American students. However, the percentages of white and

African-American students meeting the performance goals in reading, mathematics and science on the NAEP-based exams are much higher at high-implementation schools than at the other group of schools.

For example, 25 percent more African-American students at high-implementation schools met the reading performance goal compared to African-American students at the other group of schools. In mathematics, 23 percent more African-Americans met the goal at high-implementation schools compared to African-Americans at the other group of schools.

### Improving Achievement

Schools that do the best job of improving school structure, curriculum, and instruction stand out from the crowd in student achievement. What accounts for this success? For one thing, more students at high-implementation schools complete a challenging academic core.

HSTW’s recommended academic curriculum includes four credits in college-preparatory/honors English; four credits in mathematics, including Algebra I, geometry, and Algebra II; three credits in college-preparatory-level science (four credits at schools with block schedules); and mathematics in the 12th grade.

In addition, students in these schools complete more career/technical credits and are required to use academic knowledge and skills in doing difficult assignments. They also:

- Participate in meaningful work-based learning experiences with on-site mentors

### KEY PRACTICES FOR RAISING STUDENT ACHIEVEMENT

The High Schools That Work consortium has identified the following key practices:

- High expectations
- Quality career/technical studies
- Rigorous academic studies
- A challenging program of study
- Quality work-based learning
- Teachers working together
- Students actively engaged
- Quality guidance
- Extra help
- Continuous improvement.

who give job-specific instructions and emphasize strong academic skills, good work habits and effective customer relations.

- Receive an intensive emphasis on reading and writing for learning across the curriculum that requires them to think about what they read, interpret what they read, and draw conclusions.

- Receive an intensive emphasis on math that includes solving real-world problems, completing challenging assignments, working in groups to complete assignments, using graphing calculators, and explaining solutions orally.

- Receive strong experiences in science, taking four years of more demanding science courses, engaging in hands-on learning experiences in laboratories, having more opportunities to see the connections between what they are learning and real-life scientific problems, having in-class opportunities to learn from other students, and making greater use of literacy skills to deepen their understanding of science content.

These students are expected to perform at high levels in the classroom. Their teachers make lessons meaningful and challenging and give students extra help in meeting tough standards. At many schools, this help is available before, during, and after school—as well as in the evening, on weekends, and during the summer.

These students also participate with their parents and school advisers in planning challenging programs of study designed to support their goals for further education and careers.

And finally, they benefit from a climate of continuous improvement in which school leaders and teachers evaluate progress and focus on helping every student learn.

## Eight Steps For Boards

Experience with High Schools That Work has revealed some actions school board members can take to raise student achievement:

**1. Focus on high school graduation requirements.** All students should complete a rigorous academic core of English, mathematics, and science courses, plus an academic concentration, a modern career/technical major or additional high-level academic courses. Schools can align their academic standards with those of postsecondary institutions, upgrade their science laboratories, and/or organize new concentrations such as humanities or

mathematics/science.

**2. Ensure the technical literacy of career-oriented students.** The purpose of high school career/technical studies is to produce graduates who have the knowledge and skills to use technology in the workplace; to demonstrate understanding of technical concepts, principles, and procedures; to read, understand, and communicate in the language of a career field; and to use mathematical reasoning and understanding to solve problems in a career field.



**Schools that do the best job of improving school structure, curriculum, and instruction stand out from the crowd in student achievement.**



**3. Require that teachers uphold high standards and practice research-based instruction in the classroom.** Teachers may need to upgrade their content knowledge, incorporate more real-world problems and technology into their lesson plans, and learn new research-based strategies for building students' reading and writing skills.

**4. Establish a common understanding among teachers, students, and parents about the quality of work and the level of effort needed to be ready for postsecondary education and good jobs.** To be successful today, young people need to do a lot of reading, writing, and speaking. They need to redo work until it meets standards and do at least one hour of homework for every three hours they spend in the classroom. Schools can provide support for ninth-graders who are in danger of failing in high school.

**5. Help each school develop a guidance system that involves students and parents in setting and achieving goals for education and careers.** Each student should have an adviser at the school who takes a personal interest in his or her future. This person's job is to nudge and nurture the student to complete a tough academic core and a concentration.

**6. Prepare students to succeed in challenging high school courses.** Middle grades leaders and teachers are being increasingly active in ensuring that students can meet higher expectations in high school. High schools are reducing

failure and dropout rates by offering classes for entering ninth-graders over the summer and during the school year.

**7. Prevent students from wasting the senior year.** Fill the last year of high school with courses and activities that continue to prepare students for work and further education. Don't let them slack off! Work with local community colleges to administer their placement exams to all 11th-graders and use the results for students who do not pass as a wake-up call about the hurdles that lie ahead and the

courses they may need to take during the senior year to help them pass those exams.

**8. Build alliances with local colleges and major employers who will award postsecondary credits for high school academic and technical courses.** Many students stay interested in school and get ahead of the game by taking courses that count double—once for high school graduation, and once for college credit.

Schools in the High Schools That Work initiative are raising student achievement by implementing proven practices to upgrade the educational experiences of career-oriented students. School board members are encouraged to look at the results from successful schools and adopt the key practices in their own districts as part of the broader school reform effort.

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*For information about HSTW, visit [www.sreb.org/programs/hstw/hstwindex.asp](http://www.sreb.org/programs/hstw/hstwindex.asp).*

*The study described in this article is explained in detail in a new publication from the Southern Regional Education Board, Linking Career/Technical Studies to Broader High School Reform Works: A Comparison of 50 High Schools That More Deeply Implemented the High Schools That Work Design with 50 That Did Not.*

# Not by Academics Alone

## Taking action to ensure students' economic success

By Mike Oler and Robert Summers

**A**cademics are necessary but no longer sufficient for economic success. Academics get you a ticket to the game, but to play on the field of economic life, students need more.

Specifically, students need a wide variety of strong skills:

- **Academic skills.** Many careers today require academic skills that are more challenging than college entrance requirements.

- **Technical skills.** Technical skills increasingly are the prerequisite for entry into high-wage careers.

- **Career-development skills.** Unique skills and knowledge are required to choose a career on the basis of individual interests and strengths, to prepare an education plan to achieve success in that career, and to combat gender-biased stereotypes in the workplace.

- **Work and family skills.** These skills develop healthy nutrition and wellness habits, manage personal financial resources, and balance the pressures of work and family life.

- **Employability skills.** Work ethic, ability to work in a team, and problem solving often determine workplace success.

High-quality career and technical education (CTE) programs, supported by high-quality academic courses, develop all of these skills. But how do school board members know if their district's CTE programs are delivering relevant, competitive knowledge and skills? How do boards work with district administration to establish clear expectations for more than just college prep academics, especially in the face of No Child Left Behind?

### What Boards Can Do

Here are some important steps every board can take to ensure that students have good career and technical programs at their schools:

#### 1. Make sure students have choices after graduation.

Students taking only college prep academics often fail to go to college or drop out after only a year or so. And a large percentage of students in high-quality CTE programs attend college. Indeed, according to the Florida Education and

Training Information System, the rate of college attendance by these students is often higher than the rate of attendance by typical high school graduates, and many students go to work and college at the same time.

Clearly, every student needs to have the choice of attending college, getting a good job, or both. This means all students should receive college-level academics and career and technical education that prepares them to be economically productive upon graduation. It means rejecting the myth that college-level academics and CTE are mutually exclusive.

#### 2. Expect high-quality curriculum.

Academic coursework aligned to college entrance requirements is a good start to a quality curriculum. But boards should also ensure that academic coursework not only prepares students for college-level work but also for the world of work.

Sometimes this means more advanced courses or additional courses will be needed.

Career and technical programming should be driven by standards as well. Career development curriculum, often infused into other K-12 courses, should be aligned to state or national career development standards. Special attention should be given to assuring that young women know that less traditional, high-paying careers are available to them.

Technical programs should be guided by the expectations of the business world, including skill standards, industry credentialing requirements, and local advisory committees. These committees can be a cornerstone of strong career and technical programs.

#### 3. Demand accountability.

Thanks to NCLB's report cards and accountability provisions, most school boards and communities are becoming more familiar with the status of their academic programs. NCLB has focused energy and attention on academic curriculum and instruction. In light of this new focus, school boards should also consider establishing accountability expectations that include reporting on student performance in the following areas:

- **Career development.** A good place to start is a measure such as the percent of students who can describe how to choose

a career objective and prepare an education plan to achieve that career. No career-development measure should require a student to actually choose a career; rather, the focus should be on the skills needed to make these choices throughout life.

- **Work and family studies.** Measures such as end-of-course exams can provide good information about the effectiveness of these programs. (The Butler Technology and Career Development Schools have developed a series of end-of-course exams aligned with the national standards. The exams were piloted in spring 2004.)

- **Technical programs.** Industry assessments, performance assessment results (proctored by business advisory committee members), and end-of-course assessments are all viable ways to ensure strong, business-valued programs.

By requiring the administration to report performance results for more than academics, the board can keep a strong focus on career and technical program quality.

#### 4. Support good programs.

Often, this is the tough part for boards of education; career and technical education is an expensive proposition. To support efforts to provide high quality CTE programs, school districts may need to partner with other schools, business, and higher education. Such partnerships can sometime be complex and confusing, but boards of education may find these ventures lead to positive results.

Ohio, for example, provides many school districts with CTE through regional career and technical school districts that work in cooperation with their associate schools. This approach requires that school boards join together to provide high-quality programs.

Boards must be prepared to spend money on technology and faculty. Just as you wouldn't expect a high-quality science class to be taught by a Spanish teacher in a lecture classroom, neither should a board expect career and technical education to be taught by out-of-field teachers in poor facilities.

#### 5. Support the Carl D. Perkins Vocational and Technical Education Act.

Every board member should take an active role in supporting the federal legislation that makes career and technical education possible nationally. The Perkins Act supports career and technical education in the same way NCLB Act supports academic education. Together, they support a strong, internationally

competitive education system for the United States.

#### 6. Communicate with community.

Boards of education can help inform parents and the public about the knowledge and skills young people need to be economically successful. It helps the public to know that academics are necessary but no longer sufficient. Parents need to be informed of the critical importance of both high-quality academics and high-quality career and technical education to their children's future success.

Board members are in a unique position to help shape the future economic success of their community's students. By assuring that students have college and work choices when they graduate, expecting

high-quality curriculum and demanding accountability for academic and career and technical performance from all students, and by supporting good programs and communicating with their community, boards of education can do their part to support students' economic success.

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*Robert Sommers is chief executive officer, Butler Technology and Career Development Schools, Fairfield Township, Ohio. He was formerly an associate director for career and technical education at the Ohio Department of Education.*

vocational education, while helping overcome its key dilemmas in an NCLB world. Specifically:

- **AAI provides real education for a lifetime, rather than training for a specific job.** Rapid economic, technological, and social changes in the labor market, in the skill and knowledge required for jobs, and in young peoples' career goals make obsolete the notion of finding a "permanent match" between students and jobs. As too many communities have learned the hard way, our new economy operates very differently. AAI gives students knowledge and experience that are more transferable over time, both within an industry and across industries.

- **AAI helps schools realize savings.** Once the quest for the perfect match between individual goals and a particular job is abandoned, schools need not purchase expensive but quickly obsolete training equipment to keep up with that outmoded approach to vocational education.

- **AAI provides a rich context for integrating academic and vocational education without dumbing down the academic side.** Limiting academics to the knowledge needed for one specific job comes at the expense of mastering the full range of knowledge and skills that the state has said, through its academic standards, that *all* students should learn.

- **AAI is a key safeguard against slotting different kids to fit into unequal futures.** A vocational program might train some students to become relatively low-skilled hospital aides, while different courses prepare others for college and medical school. That kind of model leaves some children behind. But an AAI program focuses on the health industry as a whole, with all students actively exploring the industry's many aspects.

- **AAI is an aid to high-school restructuring.** To increase personalization, student engagement, and academic coherence, many high schools are creating smaller learning communities, often built around discrete themes. One challenge is to make these smaller units real, rather than mere labels for different parts of a building. Using AAI to define the program and build the curriculum can provide the thematic integrity for subschools built around a broad but coherent industry theme, such as transportation, law and government, or health care.

Students also can learn all aspects of an industry through entrepreneurship and community development projects. This is

## REFORM

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substantial body of research shows that such gains are produced when teachers systematically engage students in "authentic learning" tasks that have three key qualities:

1. Students carry out "disciplined inquiry." They use facts, principles, and methods built by others to dig deeper into things and explain their own ideas. They explore central ideas and connections within and among disciplines, using the knowledge and methods of inquiry of those disciplines to build understanding. They use "elaborated" communication, in which ideas are explained, analyzed, and justified—not simply stated as opinions.

2. Students actually "construct knowledge." They don't simply echo back what they are taught; they use disciplined inquiry to discover things for themselves and put together information and ideas to arrive at new meanings and understandings. They explore, manipulate, interpret, and analyze ideas and information.

3. Their work has "value beyond school" and report cards. It deals with issues and problems that have real meaning outside of school—whether the meaning is social, personal, scientific, or aesthetic—and is shared with people outside the classroom.

How often have we heard students complain that they don't think their schoolwork is meaningful or relevant? Authentic achievement is what high-per-

forming adults do. In a high-performing science class, for example, students will tell you they learn to do what scientists do—design and carry out research to test theories and discover facts. Authentic achievement is also what young children do as they explore and learn to make sense of the world.

All this is worth keeping in mind as school districts develop strategies to comply with NCLB's mandates for use of scientifically-based and empirically-validated instructional strategies.

### Redefining the Vocational Path

The AAI approach is how Perkins aims to put authentic learning into practice in vocational education and address that second big "if." The law says students are supposed to gain "strong experience in and understanding of all aspects of an industry. Aspects of an industry include planning, management, finance, technical and production skills, underlying principles of technology, labor and community issues, and health, safety, and environmental issues."

This is not as foreign as some people may think. AAI builds on our long tradition of agricultural education, which is different from other forms of traditional vocational education. Rather than training farm workers to pick crops, agricultural education has long been rooted in learning all aspects of how to run a farm, including soil agronomy, animal husbandry, finance and accounting, and meteorology.

AAI provides a framework for preserving and enhancing the key strengths of

one way to develop skills that are needed in communities where the existing job market does not adequately support its residents.

### Building Bridges

Here's a three-part exercise to illustrate authentic achievement and vocational education and how they connect through AAI. Suppose students are asked to build a bridge.

**Part 1:** Imagine how a traditional vocational education class in welding or carpentry would approach this project. What would the students do? What would the teacher be looking for? How would the work be discussed, evaluated, and graded? Now look at our three criteria for authentic learning. How would you rate this project in terms of the three criteria? What level of academic achievement would the project help students develop in reading, writing, science, mathematics, and social studies?

**Part 2:** Next, compare the task of designing a bridge as described by leading researchers on authentic learning. They note that to design a bridge that is functional, safe, enduring, and aesthetically pleasing, an adult must draw on engineering, architecture, the natural sciences, and mathematics—and produce new knowledge to deal with factors as stress points and natural conditions that might threaten the bridge. How would an academic high school focused on high achievement approach this kind of lesson? How would this exercise compare with the vocational class, in terms of the three qualities of authentic learning and achievement? What level of academic skills would it require in comparison with the vocational class?

**Part 3:** Now consider how a vocational education program would approach this exercise if it were trying to meet the Perkins requirements for integrating academic and vocational education by giving students “strong experience and understanding in all aspects of an industry.”

A transportation or construction program with an AAI approach uses and expands on these disciplines and others to identify and address the issues in Parts 1 and 2 and more. For example, students might explore such matters as overall transportation patterns and needs in the area and the potential impact of changing those patterns; finance and regulatory issues; management of the design and construction process; organization of the design and construction work, including health and safety issues; and environmen-

tal impacts both during and after construction.

How does this approach rate in terms of authentic learning and academic mastery? With an AAI approach, vocational education suddenly jumps from being intellectually less rigorous than the more academically oriented classes to something that is richer, more challenging, and more “real world.”

### Steps School Boards Can Take

School boards can help, at the governance level, to make sure vocational education realizes its potential. Here are eight steps your board can take:

1. Check with district leaders whether your district's vocational programs provide students with strong understanding and experience in all aspects of an industry. This should be evident in the curriculum, instructional methods, student assessments, internships, and other learning experiences.

2. Look at your district's local Perkins plan. It should be a forum for working with teachers, students, parents, and others, to determine how the district will make effective vocational education happen. As the voice of the community, the board can help make this happen. The board also can encourage a participatory process for developing mechanisms for assessing the program's implementation and effectiveness in AAI terms.

3. Consider the AAI framework when asked to approve or review the design and implementation of theme-based schools or subunits at the high school level.

4. Serve as a community liaison to help schools, teachers, and students connect with employers and community organizations to create opportunities for teachers and students understand, learn, and experience all aspects of an industry.

5. Help make sure that board policy and district planning reinforce the idea that vocational programs should not become “poor stepchildren” as the district focuses on meeting academic standards but, rather, an important part of meeting the challenge.

6. Consider expanding the scope of local programs that can be supported under Perkins—such as a science and technology magnet program that has been thought of as geared toward high-achieving students. Understanding the AAI approach helps people can move beyond any negative academic connotations associated with the word “vocational.” And, the new program might be more attractive

to more students and encourage them to reach higher academically.

7. Provide resources for staff development, taking into account the need under Perkins for teachers and other staff to remain current with all aspects of an industry, and the need for vocational teachers to meet the NLCB teacher-qualification requirements if they are teaching academic subjects in a curriculum that successfully integrates academic and vocational learning.

8. Insist that your state's Perkins plan for ensuring that students get strong experience and understanding in AAI is real and provides the supports your district needs to make this all work.

A school district that is struggling to raise academic achievement among all student subgroups to meet “adequate yearly progress” under NCLB and state law should not overlook how its vocational programs can contribute to real academic progress among its high school students. A well-designed vocational program based on the AAI approach will be a rich experience for *all* students. And it might be a particularly promising way to succeed with those students our schools typically have found hardest to reach.

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### RESOURCES

The NSBA National Affiliate website, [www.nsba.org/na](http://www.nsba.org/na), links to more resources, such as:

- *A Blueprint for Preparing America's Future: The Carl D. Perkins Secondary and Technical Education Excellence Act of 2004*, U.S. Department of Education, 2004.

- Office of Vocational and Adult Education, U.S. Department of Education.

- *Investing in High School for the Future: Recommendations for Reauthorizing the Carl D. Perkins Vocational and Technical Education Act*, National Association of Secondary School Principals, 2003.

- *Title IX and Equal Opportunity in Vocational and Technical Education: A Promise Still Owed to the Nation's Young Women*, National Women's Law Center, 2002.