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

Preparing America's Future

The High School Symposium

April 4, 2002—Washington, D.C.

Excerpted

Preparing America's Future

The High School Symposium

April 4, 2002—Washington, D.C.

Excerpted

2003

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

This report was produced under U.S. Department of Education Contract No. ED-99-CO-0163 with DTI Associates, Inc. Scott Hess served as the contracting officer's technical representative. The views expressed herein do not necessarily represent the positions or policies of the U.S. Department of Education. No official endorsement by the U.S. Department of Education of any product, commodity, service or enterprise mentioned in this publication is intended or should be inferred.

U.S. Department of Education
Rod Paige
Secretary

Office of Vocational and Adult Education
Carol D'Amico
Assistant Secretary

February 2003

This report is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: U.S. Department of Education, Office of Vocational and Adult Education, *Preparing America's Future,* Washington, D.C., 2002.

To order copies of this report:
write to: ED Pubs, Education Publications Center, U.S. Department of Education, P.O. Box 1398, Jessup, MD 20794-1398;

or **fax** your request to: (301)470-1244;

or **e-mail** your request to: edpubs@inet.ed.gov;

or **call** in your request toll-free: 1-877-433-7827 (1-877-4-ED-PUBS). If 877 service is not yet available in your area, call 1-800-872-5327 (1-800-USA-LEARN). Those who use a telecommunications device for the deaf (TDD) or a teletypewriter (TTY), should call 1-800-437-0833;

or order **online** at: www.ed.gov/pubs/edpubs.html.

For a full text of each commissioned paper, visit OVAE's Web site at www.ed.gov/offices/OVAE/HS/commisspap.html. To view a webcast of the symposium, visit www.nccte.org and select the link "Professional Development Speaker Series." To learn more about OVAE's Preparing America's Future initiative, visit www.ed.gov/offices/OVAE/paf.html.

Contents

Message from Secretary Rod Paige v

Message from Assistant Secretary Carol D'Amico vii

Executive Summary ix

Challenges Facing Today's American High School 1

What Ails High Schools? How Should They Be Reformed? Is There a Federal Role?
Chester E. Finn Jr., Thomas B. Fordham Foundation 1

Achievement: High Schools in America 2001
Jan Somerville, National Association of System Heads and the Education Trust 3

The Missing Middle: Aligning Education and the Knowledge Economy
Anthony P. Carnevale and Donna M. Desrochers, Educational Testing Service 5

Preparing Students for High Achievement and Postsecondary Transitions 7

What Should Be the Federal Role in Supporting and Shaping Development of State Accountability Systems for Secondary School Achievement?
John H. Bishop, New York State School of Industrial and Labor Relations, Cornell University 7

Reconceptualizing Extra Help for High School Students in a High Standards Era
Robert Balfanz, James McPartland and Alta Shaw, Johns Hopkins University 9

What Role Can Dual Enrollment Programs Play in Easing the Transition between High School and Postsecondary Education?
Thomas R. Bailey, Katherine L. Hughes, and Melinda Mechur Karp, Teachers College, Columbia University 10

Beyond Empty Promises: Policies to Improve Transitions into College and Jobs
James E. Rosenbaum, Northwestern University 12

The Role of Career and Technical Education in High Schools 15

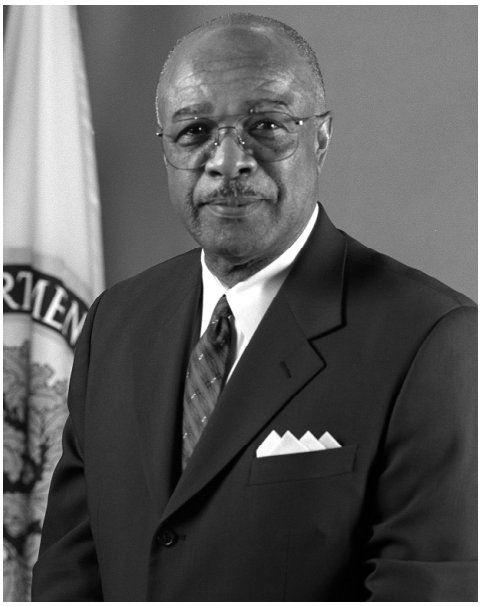
Raising the Achievement of Low-Performing Students: What Can High Schools Do?
Gene Bottoms, Southern Regional Education Board 15

The Role of Career and Technical Education in the American High School: A Student-Centered Analysis
Kenneth Gray, College of Education, Penn State University 17

Recommendations 19

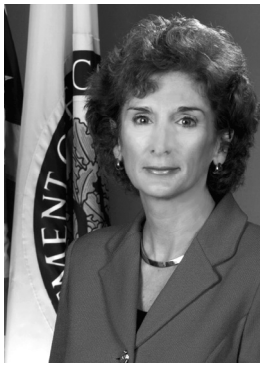
Endnotes 21

Acknowledgments 23



Rod Paige,
U.S. Secretary of Education

"We plan to apply 'No Child Left Behind' all the way up and down the line, to high schools and to postsecondary education. Accountability for student achievement, flexibility and local control, expanded parental support, and doing what works…the president's plan will require us to leave behind some of the old ideas and ways and think anew."



Carol D'Amico,
U.S. Assistant Secretary for
Vocational and Adult Education

February 2003

Dear Reader,

It has been said that America's interest in its high schools is tied to the fact that they are a microcosm of our society. High school is such a right of passage in America that we have dedicated television shows, movies and books to the state of high school education, from *The Blackboard Jungle* to "Boston Public."

Yet for all of the attention and concern we focus on our high schools, they still face considerable challenges. Test scores for American high school students lag behind those of other industrialized, and even some developing, nations. While close to 90 percent of high school graduates plan to obtain a four-year college degree, only about one in four actually do so. Probably most disconcerting of all is the fact that for all the effort our nation puts into educating our children, many still lack the most essential skills when they reach adulthood. As our population ages and more qualified individuals leave the workforce, our nation faces the possibility of a critical workforce shortage in the next 10 to 20 years. This could have long-term ramifications for our economy and for our security.

For the Office of Vocational and Adult Education (OVAE), it is essential to explore the roles that career and technical education in high schools may play in solving these problems. In doing so we must address the relationship between academic and vocational education and, using the principles of "No Child Left Behind," determine how we can contribute to the renewal of an outdated high school system. Also we must connect our high schools more seamlessly to our two-year and four-year colleges.

To assess the challenges facing today's high schools and take into consideration every possible action that could be used to address them, OVAE has launched the Preparing America's Future initiative. Through this effort the Department of Education is reaching out to high schools, community colleges and adult education programs for guidance in helping us to "think anew."

At the OVAE-sponsored Preparing America's Future: The High School Symposium, held in Washington, D.C., April 4, 2002, we were privileged to hear more than a dozen experts on high school education speak on the role of career and technical education, and high school, in readying our youths for success in life. We do not necessarily endorse all the conclusions presented by the authors in their papers. Our intent in presenting these excerpts is to help start an important national discussion. I invite you to read the full length versions on our Web site and to work with us in this critical task of helping America's high schools prepare her future.

Carol D'Amico
Assistant Secretary for Vocational and Adult
Education

Executive Summary

Several national and international assessments have demonstrated that there has been little improvement in the performance of American high school students in recent decades. The Third International Mathematics and Science Study (TIMSS) ranks U.S. high school students 17th in the world in math and science proficiency. Similarly, the National Assessment of Educational Progress (NAEP) from the National Center for Education Statistics, shows U.S. students' performance in reading, math and science has been flat, or in the case of science only marginally improved, over the past three decades at the high school level. This lack of progress has occurred despite pronounced improvement at the elementary school level and modest improvement at the middle school level.

The challenges facing high schools are many, from mission confusion to outdated buildings and methods of teaching, to student perceptions that high school doesn't really count. Such were the opinions, among others, expressed at the Preparing America's Future: The High School Symposium, on April 4, 2002. Sponsored by the U.S. Department of Education, Office of Vocational and Adult Education (OVAE), the forum offered presenters and respondents the opportunity to make recommendations for federal involvement in three topics: Challenges Facing Today's American High School, Preparing Students for High Achievement and Postsecondary Transition, and the Role of Career and Technical Education in High Schools.

Challenges Facing Today's American High School

During the first panel discussion, while the presenters had differing views on how the institution of high school could be changed to be more effective, they all agreed students were not being challenged enough, regardless of their backgrounds. They also agreed that, because it is introducing more academic rigor and pushing students to try harder, the standards-based reform movement is a step in the right direction. Additionally, they noted that teachers need the training and skills to become more effective in helping students to reach those standards.

Panelists and respondents alike criticized today's high schools for being the same as high schools 40 or 50 years ago in so far as their curriculum mix, structure of the day and layout of the facilities. They pointed to the mixed results high schools have had adapting to societal changes, such as the Internet revolution.

Recommendations for the federal government's role in high schools included refining high school assessment to support "No Child Left Behind" and taking the bully pulpit to encourage experimentation with various high school models, curricula, teacher development programs and delivery systems.

Preparing Students for High Achievement and Postsecondary Transition

The second panel focused on the disconnect that can exist between high school, postsecondary education and success in the workplace. One point made was that while a majority of high school students intend to pursue college, about one-third actually go on to receive a four-year degree. The panel discussed the notion of "college for all," noting that not every student who enters college is really prepared to do so. There was some agreement that high school could be more effective at educating students about various postsecondary options and showing them what skills are needed for a variety of careers.

The biggest challenge raised with the "college for all" approach was that there are no clear directions or options for those students who fail to pursue a four-year degree. Panelists agreed that by encouraging high school students to pursue higher education without providing them the academic preparation to do college-level work, America has given students the "will" but not the "way" to succeed in college. As a result, they are left less prepared for the world of work.

Additionally, panelists noted that high school does not really prepare students for the level of academic effort they need to demonstrate in college. This is also true regarding preparation for the marketplace, which demands ever-increasing high levels of skill and knowledge in the most basic skills. The marketplace challenge is compounded by falling attendance in costly vocational programs. The high school experience many times does not provide students with the cognitive, decision-making and problem-solving skills they need to succeed in life. Panelists said that this leaves high schools with the challenge of undertaking reforms that promote academic improvement while addressing the issue of workforce preparedness. At the same time, high schools face myriad challenges, which range from teacher compensation to student remediation.

Panelists recommended external assessments to promote academic rigor and extra help to offset potential rises in the dropout rate for students who find it difficult to succeed. They also noted repeatedly that schools tend to respond to students after they fail, when it is more difficult to help them.

Suggestions for the federal government's role in better linking secondary education to postsecondary options included promoting experimentation with external assessment models as part of an extension of "No Child Left Behind," as well as conducting research with regard to the role of extra-help initiatives in context of the standards movement.

The Role of Career and Technical Education in High Schools

During the third and final discussion, presenters and respondents noted that one-third of high school students go to work following graduation. The panel explored the notion that Career and Technical Education (CTE) students are predominantly academically challenged. The group noted that one in four students are involved in some form of CTE concentration and that these students reflect the demographics of the general population. They also said that while CTE students enter high school with low scores, they graduate with test scores equal to those of academic students. They called CTE one possible way of dealing with dropout rates and cited the challenge it faces to increase its academic impact and better clarify its role with the standards movement.

Panelists suggested expanding the academic component of more traditional CTE programs. They also said that there is evidence to suggest that adding a career and technical focus to schools' academic tracks tends to provide students the focus they need to pursue the more difficult courses necessary to succeed in college and in their future careers. States that have an effective tie-in between colleges and CTE programs, they said, tend to have more successful high schools.

Panelists believe the federal government has played a constructive role in CTE and should continue to do so by pushing for improved academic and technical skills rigor.

Conclusion

This publication offers a collection of excerpts from each of the papers commissioned from some of the leading thinkers in the field of high school education policy and responses to those papers.

Challenges Facing Today's American High School

What Ails High Schools? How Should They Be Reformed? Is There a Federal Role?

Chester E. Finn Jr.
Thomas B. Fordham Foundation

It's nothing new to remark upon the troubled performance and ill-focused mission of American high schools....These ailments include seven elements:

First, mission confusion. Writing for the National Commission on the High School Senior Year, Michael C. Rubenstein put it well:

"[H]igh schools have periodically reacted to three major visions….The first vision….views *schools as social agents* whose mission is to produce well-rounded, literate citizens able and ready to advance the cause of democracy and civilization…. The second vision….views *schools first and foremost as academic institutions* whose mission is to prepare students for advanced learning in college and beyond…. The third vision….views schools *primarily as economic institutions*, whose mission is to prepare students for employment in an expanded economy."

Second, remediation. If the three R's and a decent ration of fundamental knowledge don't get solidly implanted during a student's first nine years of formal schooling, it becomes the high school's job.

Third is scale. Most U.S. high schools are simply too big, making them impersonal, anonymous places where it's easy for timid students to disappear, for troublemakers to elude responsibility, and for adults to view their youthful charges as numbers rather than individuals.

Fourth is pupil motivation. For many young people, high school is deeply boring—and how one does there doesn't much matter. So long as one puts in the time and accumulates the credits for that diploma, one's grades, class rank and extracurricular participation do not count for a lot in the real world, except for that small fraction of students aiming for highly selective colleges.

> "As Churchill once said of a bland dessert, 'This pudding has no theme.' We don't exaggerate much in saying that there is no real federal policy for high schools."
> – Chester E. Finn Jr.

Fifth is obsolete notions of teaching and learning. One reason that high school [may not engage some students] is that its instructional modes and technologies haven't changed in a century, though everything else in the world has changed.

Sixth, changing lives and career patterns. Our high schools were designed for a world that no longer exists for many American adolescents. When one cumulates the effects on them of popular culture—its basic institutional arrangements are sadly out of whack with the world these young people actually inhabit.

The presentations have been edited for length. For full papers, with citations, please visit www.ed.gov/offices/OVAE/HS/commisspap.html.

Seventh and finally is the proliferation of rival providers. Even without explicitly embracing a policy of school choice,

America has begun to provide teenagers and young adults with many ways of getting—and showing that they have—an education.

High schools are a stepchild of federal policy….marooned between Washington's focus on the early and middle grades and the major attention that Uncle Sam pays to college.

The soundest way to think of high schooling is preparation for adulthood….What does America want from its young adults? Three things above all:

First, that they possess the skills and knowledge that will make them independent, self-sufficient and productive members of our society, no matter what educational and vocational paths they later follow. Call it economic readiness.

Second, that they be ready to take their places as citizens, with decent knowledge of their government and community, some grounding in the history, governance, geography and culture of their nation, and a desire (and the requisite know-how) to participate constructively in adult society. Call it civic readiness.

Third, that they be good people, self-disciplined and ethical, honest and law-abiding, cooperative, confident, caring and optimistic. Call it personal readiness.

Is American society ready to give its regular high schools much stronger leverage over the civic formation of adolescents? Pay the dollar price? And risk the marginalizing of other institutions—from church to family to YMCA—that could result from an enlarged high school mission? No, American society is probably not ready to do so. It is, however, a suitable area for experimentation, and this may suggest a fruitful field for federal (and philanthropic) activity.

[T]he clear trend of state policy is to set exit requirements for academic and technical skills (economic readiness) that students must meet before receiving diplomas, and to enforce these via high-stakes tests.

There is early evidence from some states that these hopes are not fantasies, that after much grousing about "teaching to the test," "narrowing the curriculum" and "turning floors into ceilings," actual gains do result from this regimen, rich-poor achievement gaps do narrow and minority youngsters do better.

How might federal policies further the cause of standards-based, academics-centered renewal at the high school level?

First, set academic requirements for federal student aid. Second, better 12th-Grade NAEP scores. There is discouraging evidence that high school seniors don't take [this test] seriously because, once again, it doesn't "count" in their lives. Third, [develop] research and pilot programs geared to making high school more engaging for young people. Fourth, extend the logic of "no student left behind" to place greater attention on the high school years. Fifth, promote school choice, not just for the familiar reasons set forth on behalf of charter schools, vouchers and the like, but also as a promising form of dropout prevention and recovery.

Returning to the "macro" conception of high schools, i.e., as institutions that attend to personal and civic as well as academic and economic readiness, it's important for Washington to tread lightly…. But that does not mean Uncle Sam must be inert.

- [We must] explore more experimentation, research and evaluation, not just with government-sponsored programs but also the privately conceived sort.
- This kind of innovation—preparing

young people for life, including but not limited to economic readiness—might become the focus of the next generation of the Perkins Act and other traditional venues for federal vocational education policy.

- Washington should engage in orderly, creative thinking about its own civic and character-shaping programs outside of formal education.
- [We must] explore more choice policies. Given the strong views of families and communities on these matters, Washington is wiser to help create options rather than to impose mandates.
- [We must] examine the bully pulpit. Reengineering the high school needs changed attitudes and expectations at least as much as it calls for new structural arrangements. National leaders can do a great deal here: calling attention to problems, giving airtime to ideas, saying things that get journalists to write about them, rewarding innovators, fostering debate about options, creating "summits" to focus the minds of others on these issues.

This brief overview has argued that policy incoherence in the nation's capital with respect to high schools is representative of a broader national confusion about them. The latter is the real problem. Washington could contribute in various ways to its solution.

Achievement: High Schools in America 2001

Jan Somerville, National Association of System Heads and the Education Trust

Since the *Nation at Risk* report in the mid-1980s, there has been a flurry of activity at all levels, and some of that also in high schools. The achievement result, however, particularly if you look at our national barometer, the National Assessment of Educational Progress (NAEP), shows us that, in fact, achievement in American high schools has remained downright flat. A little bit up in math and science, and at the same time, heading down in reading and probably writing. But the question arises, "How much of that learning in a child's career has happened in high school?"

The message that we are seeing is perhaps because of the focus on the elementary schools in recent years, indeed, the learning growth in elementary and middle schools outpaces that of high schools, particularly if we look at reading and mathematics. Science is the one exception we see so far. But let's take a closer look.

The learning gains that are happening in high school have actually started to shrink in the 1990s. The nice thing about NAEP is that you can track learning over time and over the career of students. What this shows us is that we have actually made improvement at the elementary and middle grades in terms of learning gains. However, those are more than offset by the decline in reading gains in high school.

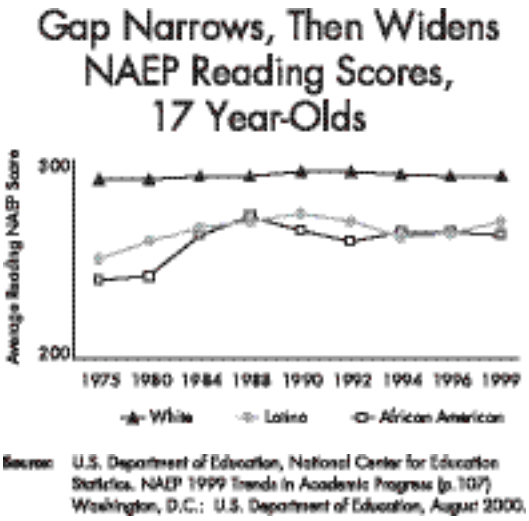
In the Third International Mathematics and Science Study (TIMSS) data, if you look at the United States and other countries that are getting similar results, we rank in the middle. Counter to the folklore, we start out quite well in the early grades. We are middlin' by the middle and low by the end.

Take mathematics and you see a somewhat similar picture. For many, many decades we discounted this data on the basis that we were "open access"….[W]e educated far more than any of the other countries, so they had a very selective slice. This is no longer true. The pace of progress of other nations of educating more students to high levels is accelerating as ours is declining.

Indeed, we have slipped, even in our graduation ranks. As you know, in the Education Trust we focus particularly on raising achievement for all groups, and closing the gaps among them. Fortunately at the state level the Elementary and Secondary Education Act reauthorization has said that how we do by the least of our students is the measure of a school's success.

Let's look again at NAEP.

What happened in the 1970s and the mid-1980s was that we were actually, in the case of reading, able to close the gap by almost half. Since that time, NAEP scores have been flat or actually declining a bit. When we look at mathematics we see a similar pattern, closing gaps by about a third, then staying flat.



[A]s we look at what happens to students two years after they left high school, the vast majority of them are in college. While we are still having policy debates about who should go, the students and their parents have determined it is essential that they participate in postsecondary training. They are, however, not well prepared. Many of them have not even completed the recommended high school curriculum to have a chance to succeed in college.

The Missing Middle: Aligning Education and the Knowledge Economy

Anthony P. Carnevale and Donna M. Desrochers, Educational Testing Service

As we begin the 21st century, our ability to produce and disseminate education will increasingly determine our nation's economic competitiveness as we shift from an industrial to an information economy. Education facilitates the current transition in two ways: First, the initial stock of education in individual nations determines growth potential in the new information economy.[1] Second, increases in a country's overall level of educational attainment causes corresponding increases in their overall rate of economic growth.[2,3]

Economic and demographic changes already underway will increase the need to align curricula with work requirements and to create stronger relationships between high schools and colleges, communities and employers. The U.S. workforce, whose size has increased by almost 40 percent over the past 20 years, will slow its growth by one-half over the next several decades in response to demographic changes. As the baby boomers with postsecondary education retire over the next 20 years, we will be hard pressed to produce a sufficient number of Americans with postsecondary education or training to meet our needs. Shortages of workers with some college-level skills could increase to more than 12 million by 2020, creating a growing need for youths with postsecondary education or training to replace college-educated retirees.[4] The realities of economic change have been in evidence for the past half century, as new job creation has been concentrated in "knowledge jobs" rather than production jobs or extraction jobs like farming and mining. Tracking the share of total employment shows that jobs in hospitals and classrooms have grown substantially, but white-collar office employment has grown the most—accounting for almost 40 percent of all jobs in 2000. The overall number and share of technology jobs also has grown, but they still do not represent a large share of all jobs.

> "Economic and demographic changes already underway will increase the need to align curricula… to create stronger relationships between high schools and colleges, communities, and employers."
> – Anthony P. Carnevale

Wage trends also suggest an increase in demand for skilled labor. Among prime-age women, earnings at all levels of education attainment have risen, but the earnings of those at the top of the education ladder have risen the most. The earnings of prime-age men with at least a bachelor's degree also have increased, but at a slightly slower rate.

In contrast, the earnings of men with some college or less have declined as adjusted for inflation.

The increasing divide between those with skills at the "some college" level and those with skills typical of people with high school diplomas or less education has increased income dispersion in the United States to the point where we have surpassed Great Britain as the nation with the widest income differences among the world's advanced economies.

To meet our growing skill needs, the relationship between education and work requirements must be strengthened, beginning with a stronger focus on the "missing middle" in education policy: the years when academic and applied learning overlap between the completion of occupational or professional training.

The demand for specific vocational skills has been augmented by a growing need for general skills including reasoning abilities, general problem-solving skills and behavioral skills. Cognitive styles, such as how workers handle success and failure on the job, also are important in determining success on the job. And while general skills are becoming increasingly important, occupational and professional competencies are still needed to complement these more general skills.

The missing middle in American education and training policy has gradually come to light in response to the diverse needs that have emerged among adolescents and young adults over the past 20 years. In general, these needs tend to arise in different ways among the most and least educationally advantaged and among the majority of students caught in the middle of their high school class.

Our ability to move the majority of high school students into the most rigorous curriculum is a remarkable achievement. But part of what's missing, starting in the middle years of the K-16 pipeline, is a curriculum that matches up with the diverse educational and career needs of young adults. In particular, we are still hard at work trying to develop curricula that: (1) integrate academic competencies into applied and vocational pedagogies, especially in high schools; (2) align the content of the core academic curriculum that now dominates in secondary schools with the more applied curricula that now dominate postsecondary education and training; and (3) align academic curricula more closely to the competencies people actually use on the job once they finish their initial education, including cognitive reasoning abilities and "soft skills" such as problem solving, interpersonal skills and positive cognitive styles that are important in career success.

RESPONSES

Respondents were asked to comment on the panelists' presentations. The following are summaries of those responses.

Susan Sclafani,
U.S. Department of Education
Sclafani noted that wonderful programs and alternatives to high school are often available to students only after they have failed and not before. She also agreed with the panelists that high schools do not have a clear mission. She noted that it is essential in this multimedia age that high schools go beyond traditional methods of teaching and embrace new ways of reaching students. Ways to affect change include promoting research and experimentation, identifying community-based examples that work and sharing what has been learned.

Beth Buehlmann,
Center for Workforce Preparation
U.S. Chamber of Commerce
Buehlmann noted that in the age of the Internet and MTV, schools need to adapt to the way today's students learn if the United States is to compete globally. She observed that schools should have incentives to keep students connected. She added that teacher quality is important from the business perspective. And, most notably, teachers across the board need to be better prepared.

Bill East,
National Association of State Directors of Special Education
East noted that the reports paid very little attention to students with disabilities. He underscored the need to help all students, including those with disabilities and minorities who have different ways of learning. He agreed that technology is underutilized in schools and attributed it to the fact that people do not know how to use it. He added that the federal government should take a leadership role in promoting experimentation, and that schools do not need hundreds of promising practices but instead research-based, proven practices.

Preparing Students for High Achievement and Postsecondary Transitions

What Should Be the Federal Role in Supporting and Shaping Development of State Accountability Systems for Secondary School Achievement?

John H. Bishop,
New York State School of Industrial and Labor Relations, Cornell University

In the 1960s, U.S. participation rates in secondary education were the highest in the world. This is no longer true. According to the OECD data...enrollment rates of 16- and 17-year-olds in Australia, Belgium, Canada, Denmark, Finland, France, Germany, Japan, Korea, the Netherlands, Norway and Sweden all exceed U.S enrollment rates by 10 percentage points or more. Graduation rates are also higher in these countries.

The rate at which U.S. students learn new skills clearly decelerates during secondary school. Gains on the TIMSS math and science assessments from fourth to eighth grade are smaller for the United States. than any other country. How do students who lead the world in fourth grade get transformed into cellar dwellers at the end of upper secondary school?

Systems that hold high schools accountable for student learning are particularly difficult to design for five reasons. First, high schools have multiple goals. Second, measuring achievement in core academic subjects is more difficult for high school students than for elementary school students. The third difficulty is that high school tests measure the cumulative result of ten to twelve years of schooling not just what has been learned since the student entered high school. The fourth difficulty is that when a test is not part of a course's grade or important to the student in some other way, many high school students fail to put much effort into answering all the questions correctly and completely. The fifth problem in holding schools accountable is the low quality and low standards of many of the high school tests used in accountability systems.

> "Moderate stakes for everyone should be the objective not high stakes for the few."
> – John H. Bishop

"No Child Left Behind" tries to prevent this problem from arising by adding a provision to the Elementary and Secondary Education Act rules on state standards and assessment. The law requires that a state's academic standards include challenging student academic achievement standards that are aligned with the state's academic content standards.

Minimum competency exam (MCE) high school graduation requirements are the most common way that states make students accountable for learning. Studies of the effect of MCEs have found that they increase college attendance and post high school earnings but have little effect on test score gains during high school and lower the probability that low GPA students get a high school diploma. A number of states appear to be following a strategy of driving their educational systems to higher standards by periodically revising their MCE in order to set progressively higher minimum standards.

MCEs create a "high stakes for a few" students system": state tests determine or influence receipt of diplomas or promotion to the next grade, but only a small minority of students are really at risk of being retained or being denied diplomas. One benefit of "high stakes for a few" is that it focuses school efforts on helping the most poorly prepared students.

"Moderate stakes for everyone" should be the objective not high stakes for a few. A number of ideas for generating moderate rewards for learning are described below. While states with no MCE have the greatest need to implement these approaches, these proposals can improve motivation and student culture in MCE states as well.

1) Make the consequences of doing poorly on state tests less draconian. Retention should be reserved for only the most egregious cases and only after extra time remediation efforts have been tried and failed.

2) The administration should push for a big expansion in the number of students taking advanced placement (AP) and international baccalaureate (IB) courses and examinations.

3) Graduated rewards for doing well on state tests should be offered. The rewards should not be large amounts of money for exceeding a cutoff [score]. They should be graduated and based on absolute performance not performance relative to the other students in the school. All of these ideas have already been implemented by a few states. Additional states should implement these policies.

4) America's premier high stakes tests, the SAT I and ACT, are not comprehensive measures of learning during high school. The energy that students devote to cracking them would be better spent reading widely and learning to write coherently, to think scientifically, to analyze and appreciate great literature and to develop fluency in a foreign language.

5) End-of-course exams (EOCEs) should be the core of accountability for high school students. The regression analysis of state NAEP test scores and dropout rates summarized in section three of this paper found that end-of-course exams had more positive effects on learning and retention than high stakes MCEs and the no or low stakes end-of-grade exams.

Reconceptualizing Extra Help for High School Students in a High Standards Era

Robert Balfanz, James McPartland and Alta Shaw, Johns Hopkins University

One of the aims of the standards and accountability movement is to make intellectually demanding course work in high school the norm.[5,6] Significant progress has been made toward this goal.

Expecting all students to engage in and succeed with challenging work in high school, however, places on high schools demands they have not been historically organized to face.

The notion that large numbers of students, at least in some high schools, might be in need of organized and sustained extra help and support to develop the reading and mathematical skills assumed by challenging high school level work is not part of the mission, organizational structure or culture of high schools. High school English teachers, for example, do not see themselves as reading teachers.

As the push for higher standards becomes institutionalized through raised promotion and graduation requirements, providing extra help to high school students moves from a need to a necessity.[7] In a growing number of districts, for example, passing algebra is becoming a requirement for promotion into the 10th grade.

All of these benefits, however, will be mitigated if requiring the passing of algebra in ninth grade or other efforts to raise standards leads to an increase in the dropout rate or makes the existing rate less likely to decline. Thus without substantial extra help, students who enter ninth grade multiple grade levels behind will face a high-risk proposition.

The extra help demands faced by high schools with high standards for all students, however, are not limited to entry-level courses or inner city students. The fact that, by some estimates, up to a quarter of entering college students need to take remedial math or reading classes,[8] and that a number of states have had to scale back or delay their proposed graduation exams because of high initial failure rates, indicates that a large gulf exists between current and desired levels of high school achievement nationwide.[9,10]

> "What is needed now is a sustained research, development and evaluation effort... to create a comprehensive and multifaceted approach to providing extra help in high school."
> – Robert Balfanz

Accordingly, there is a strong imperative to understand the extent and type of extra help high school students will need to thrive in a high-standards environment and to examine the current state of knowledge about the provision of effective extra help.

The specific types of skills and strategies most high school students in need of extra help lack vary by domain but share several features in common: they involve intermediate level skills (abilities that are the focus of a good middle school education) and more advanced reasoning strategies.

Overall, then, the majority of high school students in need of extra help with reading need support and direction to make the transition from beginning to expert readers.

A recent synthesis of existing research on mathematical learning by the National Research Council (NRC), as well as interviews with high school teachers, indicate that operating with rational numbers (fractions, decimals and percents) and integers (positive and negative numbers) are the two intermediate skill areas where entering high school students are most in need of extra help.[11]

Schools will need support to fund comprehensive extra help programs. This could, in part, be accomplished by directing a greater share of Title I funds to high schools or by having separate grant competitions for the development and implementation of effective extra help programs in reading and mathematics. The federal government also needs to be an advocate for providing extra help to high school students. Too often it is assumed that students cannot recover from poor elementary schooling and hence all reform efforts should be located in the early years. As the body of knowledge about providing effective extra help to high school students increases it needs to be widely disseminated to policymakers and the public.

What is needed now is a sustained research, development and evaluation effort which builds upon the emerging knowledge base to create a comprehensive and multifaceted approach to providing extra help in high school which ensures that all students can get the support they need to master standards-based course work.

What Role Can Dual Enrollment Programs Play in Easing the Transition between High School and Postsecondary Education?

Thomas R. Bailey, Katherine L. Hughes, and Melinda Mechur Karp
Teachers College, Columbia University

Research demonstrates clear economic benefits from continuing education beyond high school. Earning an associate's or particularly a bachelor's degree has large economic returns.

However, far fewer young people graduate from postsecondary school than those who state that they intend to do so. In 2000, 66 percent of high school graduates aged 25 to 29 had completed some college, but only 33 percent of graduates held a bachelor's degree.[12]

This slippage results from a variety of causes. Students may be unsure of how to apply for college or how to pay for it; they could be academically unprepared for higher education; or they may face what can be a frustrating task of balancing school and work while searching for a course of study that will place them in a meaningful career path.

Dual enrollment programs allow high school students to enroll in a college course prior to high school graduation, giving them first-hand exposure to the requirements of college-level work while gaining high school and college credits simultaneously. Traditionally, these programs have been reserved for high-achieving students.

Recently, however, some educators have argued that middle and even low-achieving students can benefit from dual enrollment programs. Some believe that underachieving students can actually perform at a much higher level; these students are just not motivated to do so because they are bored in class or see little relationship between their achievement in high

school and their future success.[13] Offering these students dual enrollment opportunities—academically rigorous and engaging courses—might promote hard work and high achievement. Thus the presumed challenge of dual enrollment courses is viewed as a way to motivate students to work harder than they would in a regular high school class. This is consistent with the popular view that a wide range of students responds well to high expectations.

These benefits are particularly important for vocational students. The increased emphasis on academics and standards has led to a de-emphasis on vocational course work in the high school. Such courses, particularly those that are lab-intensive and in need of regular updating, such as automotive technology, printing or welding, are being phased out in many high schools in favor of academic course work.[14]

"Only ten states have aligned their high school graduation and college admission requirements in English, and only two have done so in math."
– Thomas R. Bailey

The presence of well-developed vocational courses and labs at community and technical colleges means that dual enrollment can provide such options for students who may not have access to vocational education in their high school. The community college's traditional role as a provider of technical education makes such a partnership with high schools an ideal endeavor—students are able to take vocational courses, high schools can focus on creating curricula that enable all students to meet high academic standards, and two-year institutions are able to fill their technical classes and create a "pipeline" of future students.

In addition to encouraging the transition to college, dual enrollment can help students make the psychological transition. Frequently, students who do not persist in college cite nonacademic factors as reasons for dropping out: they are overwhelmed by the new institution, they are unfocused, or they had unrealistic expectations of the college experience.[15] Because many, though not all, dual enrollment programs include time on campus and exposure to the nonacademic side of college, it can serve as a demystifying experience for students, allowing them to acclimate to the college environment earlier.

As many dual enrollment programs are free to participating students, they serve as an inexpensive way for young people to earn college credits, thus lowering the long-term cost of a college degree.[16] The ability of students to accumulate college credits, in some cases up to almost a full year's worth, prior to entering college allows them to both shorten the time it takes to earn their degree and save significantly on the overall cost of their education.

Although community college and high school faculty and administrators are enthusiastic about dual enrollment, some state- and district-level officials and legislators are more skeptical. Much of the concern is focused around financing.

The minimal research available certainly indicates that participants and educators, both in high schools and community colleges, are enthusiastic about the strategy. Students do proceed on to college and have more success there than typical high school students, although this may reflect the characteristics of the dual enrollment students rather than the effects of the program. What we know so far is positive enough to warrant further experimentation and assessment.

Beyond Empty Promises: Policies to Improve Transitions into College and Jobs

James E. Rosenbaum,
Northwestern University

In the past two decades, jobs and colleges have dramatically changed their requirements, but these changes are often poorly understood, and the resulting misconceptions have led to misguided educational practices. Reviewing research evidence, we conclude that well-intentioned educators have encouraged misguided "college for all" policies which prevent students from: 1) getting crucial information about how they are doing; 2) seeing the full range of their desirable options; 3) assessing the appropriateness of these options and their likely outcomes; and 4) seeing what actions they can take to improve their career outcomes.

Without any public decision, American high schools have quietly adopted a new informal policy, what I've called the "college-for-all" policy.[17] The following sections present 12 misconceptions and research evidence about these misconceptions.

- Misconception 1: Counselors should advise all students to attend college.
- Misconception 2: All students should plan to get college degrees.
- Misconception 3: Students with college plans do not need to prepare for work.
- Misconception 4: Open admissions allow all students to enter college classes.
- Misconception 5: College plans lead to increased school effort.
- Misconception 6: High schools should focus on academic preparation, instead of warning students about their college prospects or providing other career options.
- Misconception 7: All good jobs require a college degree.
- Misconception 8: High school achievement is irrelevant to job outcomes.
- Misconception 9: Noncognitive behaviors in high school are irrelevant to job outcomes.
- Misconception 10: Vocational education is irrelevant to job outcomes.
- Misconception 11: High school teachers cannot help students get better jobs.
- Misconception 12: Society can wait to address students' employability until after high school.

> "The real goal should be to eliminate having youths face fast-food jobs and unemployment as their only options."
> – James E. Rosenbaum

There are rules that students and educators should know, but they probably don't. The new rules of college and the labor market can be summarized succinctly:

1) All students can attend college, but low-achieving students should be warned about remedial courses and their own likely prospects.

2) All students can plan to get a college degree, but, if they are unprepared, they must be willing to repeat high school courses in college, taking the extra time and effort in noncredit remedial courses, with higher risks of failure.

3) Even if students have college plans, they must still prepare for work. All career plans

should include multiple options, particularly for students who have poor likelihood of completing college.

4) Open admissions policies allow all students to enter college but not necessarily college credit classes.

5) College plans require increased school effort. If students delay their effort until they get to college, the delay will make degree completion take longer and be less likely.

6) Policies to improve college preparation do not remove the need to provide information about students' college prospects or to provide multiple options.

7) Many good jobs do not require a college degree, and high school graduates actually get such jobs.

Students can improve their chances of getting good jobs by:

1) Having better academic achievement.

2) Having better noncognitive behaviors.

3) Taking vocational courses.

4) Getting job placement help from teachers.

Additionally, students' employment prospects can best be improved before they leave high school.

This review indicates an urgent need for policy action. Effective policy proposals should provide three components.

1) Provide guidelines—information about college and the labor market—which tells students about desirable options and steps they can take to set clearer goals.

2) Provide useful evaluations—tests and ratings that provide usable information to

RESPONSES

Betsy Brand, American Youth Policy Forum

> "Instead of college for all…I would say postsecondary education for everybody at some point in their life."
> *– Betsy Brand*

Brand observed that we should provide students more personalized attention when it comes to their college and career plans. She observed that the message "college for all" should evolve to "postsecondary education for all, at some point in our lives." She stated that "No Child Left Behind" sends the correct message by not assuming low achieving students will always be low achieving students. Additionally, Brand noted that the benefits and issues surrounding dual enrollment need to be further explored.

> "Until you are able to attack the structure of the organization—the Henry Ford delivery model structure—you are not going to be able to accomplish some of the issues that are raised here, which is absolutely essential."
> *– John Ferrandino*

John Ferrandino, National Academy Foundation

Ferrandino emphasized the importance of federal investment in assessments that go beyond traditional curriculum structure toward interdisciplinary testing. He also suggested exploring various ways of licensing teachers as a means to effect change in school structures. Additionally, Ferrandino recommended more intervention at the elementary and middle school levels to offset problems in high school. Finally, he encouraged the administration to bring secondary education reform to the forefront, especially as it relates to urban high schools.

students, employers and colleges about students' strengths on diverse valued dimensions.

3) Provide trusted communication channels—channels that provide authoritative information about students' positive qualities to employers and colleges and provide authoritative information about college and labor market demands to students.

As the last societal institution attended by all youths, high schools must prepare all young people for adulthood.

The real goal should not be the unrealistic vision of everyone being a doctor, but the goal of eliminating the all-too-common outcome of having youths face fast-food jobs and unemployment as their only options. Many other good jobs are available.

Reform efforts require a prior realization that additional efforts are needed and a willingness to exert such efforts. The first step is to provide compelling reasons for why additional efforts are needed, and then some guidance about what those efforts might be.

The Role of Career and Technical Education in High Schools

Raising the Achievement of Low-Performing Students: What Can High Schools Do?

Gene Bottoms,
Southern Regional Education Board

Since 1987 the Southern Regional Education Board, in partnership with states, has used a comprehensive school reform design to improve the achievement of career-oriented high school students. At the outset of the High Schools That Work (HSTW) initiative, almost all career-oriented young people in the high schools we served were low performing. In many instances, the schools themselves could be considered low performing.

High Schools That Work has amassed information about the impact of certain school and classroom practices on the achievement of career-oriented students through its biennial assessment of graduating seniors at HSTW schools. National Assessment of Educational Progress-like exams in reading, mathematics and science and student surveys about their experiences in high school, conducted every two years since 1988, have enabled us to document the impact of recommended course-taking patterns and other practices on student achievement.

Our experiences with these schools over the past three years have allowed us to learn additional lessons about what is necessary to help our nation's most challenged high schools improve for all students. These lessons are:

- Achieving better alignment of federal and state initiatives for low-performing schools. Future federal legislation directed toward school improvement should require a common state and federal definition of "low performing" as a condition for receiving federal funds.

> "We find that students who take a solid academic core and either more academics or quality career or technical studies are the highest-achieving high school graduates."
> – Gene Bottoms

- Encouraging tougher graduation policies. The states that are making the most progress in raising student achievement and changing beliefs about students' capacity to learn are those that have adopted tougher graduation policies
- Encouraging an academic or career focus. Encouraging tougher graduation policies that get more students to finish a challenging academic core is certainly one step to improve the achievement of career-oriented students and the achievement of students in low-performing high schools.
- Requiring districts to align resources to support a reform design. Unless all resources—federal, state and local—are aligned toward the achievement of the improvement goals, schools will continue to grapple with how they can fund needed improvements.
- Building curriculum and instructional leadership capacity at the school level. Make support for leadership development programs a priority.

- Designating federal resources to support extra help and successful transition. Students can meet higher expectations if they are provided extra time and help to meet the demands of a challenging high school curriculum.
- Placing major emphasis on professional development as the key to school improvement. The success of any school-improvement effort is heavily dependent upon providing educators the professional development they need to implement new programs and practices.
- Making teacher preparation a high federal priority. Federal investment is needed to: 1) upgrade the academic foundation of career or technical teachers and 2) prepare and certify a new generation of teachers who know how to integrate academic standards into their curriculum and develop and use classroom assessments to evaluate students' academic and technical achievement.
- Investing in assessing student learning through career and technical courses. Completing a quality high school career and technical program can add value to academic achievement by advancing the technical literacy achievement of students.
- Supporting the creation of new career or technical schools with a priority on urban areas. Regardless of their setting, these schools must be adequately funded, held accountable for results, and have a site-based governing structure.

What are the conditions that improve the chances for success?

- Adopting graduation and accountability policies.
- Aligning district leadership, policies and resources to the chosen design.
- Focusing on curriculum, instruction and student achievement.
- Getting outside assistance.
- Assuring quality teachers and instruction.

What practices work in raising student achievement?

- Realizing a functional school mission.
- Having students complete a rigorous academic core and a concentration.
- Setting high expectations.
- Helping students meet the challenge.
- Rethinking the purpose of career or technical studies.
- Offering high quality structured work-site learning.
- Adopting a flexible schedule.
- Changing how teachers teach.
- Emphasizing literacy and mathematics across the curriculum.
- Providing guidance and advisement.
- Increasing parent involvement.
- Strengthening transitions.
- Using assessments to gather data and measure progress.

The effort to improve our nation's public high schools is our most challenging task. For 45 years, I have anticipated that high schools would get better as a result of reform efforts taking place in the early years of education. High schools, now, often undo the good work that was done in earlier grades. You fix high schools by focusing on high schools.

The Role of Career and Technical Education in the American High School: A Student-Centered Analysis

Kenneth Gray, College of Education, Penn State University

Career and technical education (CTE) is an elective program. Students can take a single course or a sequence of related courses. Students who take a sequence of three or more such courses in one occupational area are classified as CTE concentrators. Most (83 percent) CTE concentrators also complete an academic concentration as well.[18] Approximately 20 percent of all high school course work is in CTE.

Various points of view regarding the best role for high school CTE can be condensed into four main schools of thought or options. One is the role outlined by federal legislation, namely to provide an occupational sequence of courses that is integrated with rigorous academic course work as preparation for postsecondary pre-baccalaureate technical education or full-time employment. Another is the traditional CTE role of providing an occupational sequence of courses designed solely to prepare students for the transition from high school to full-time employment. Yet another is to retain CTE, not as a sequential occupational program of study but as unique courses or a strategy that provides an applied context for teaching academics.[19,20,21] The final school of thought is the option of eliminating high school CTE altogether in favor of a common academic program for all students.

> "Thus, the real issue is not whether high school or postsecondary technical education is the priority but how the two can be combined into an improved seamless system."
> – Kenneth Gray

The integrated career and technical education model ensures that no child will be left behind by, first, providing a sequence of occupational courses that keeps at-risk children in school and so that they make a successful transition from high school to work. Second, the model provides a relevant and effective education to students whose postsecondary goal is pre-baccalaureate technical education (60 percent go on to college; of these, 60 percent enroll in pre-baccalaureate programs). Finally, the occupational course sequence of the integrated model provides elective skill-building courses for the four-year college-bound high school students, particularly in the areas of telecommunications and business software manipulation.

CTE alone, without an integrated academic concentration, is effective as a dropout prevention and transition to full-time employment for at-risk youths, many of whom are also special education students. This benefit, however, is also achieved via the integrated model. At present it is common practice, for example, to have special needs students mainstream into integrated CTE occupational classes.

The applied CTE model was judged to be relevant and effective only for students whose goal is postsecondary technical education. Faced with taking the traditional academic program only or applied CTE, it is likely that some of these students would elect the applied program. But lacking a sequence of occupational courses and thus concrete educational experiences, it is unlikely this model would be either relevant or effective with at-risk youths.

Eliminating career and technical education altogether in favor of a common academic program for all students that can be best described as "college prep" for everyone. It is by far the least expensive option. Whereas college prep is the curriculum completed by about 70 percent of high school students, most teens and parents perceive it as relevant and effective.

If no student is to be left behind, then the needs of all students must be addressed. CTE is to some students what AP and honors courses are to others, namely an alternative to college prep that better address their post high school plans.

Without federal funds to leverage state and local funds, high-cost CTE programs will gradually disappear in the face of fiscal restraints at the local level. Thus, the first federal role in career and technical education is to provide funds that leverage state and local dollars to ensure career and technical education is available to those students who need it.

The second federal role is to use federal funds to leverage CTE program reform and improvement. Such efforts include broad-based clustered programs of study, mandatory work-based learning experiences, and review of CTE teacher licensure requirements and stronger articulation with postsecondary technical education, etc.

Finally, when considering high school CTE, it is important to observe that virtually every state that has a good postsecondary technical college system or community college system that endorses the technical education role also has viable high school systems. One does not prosper without the other. Thus, the real issue is not whether high school or postsecondary technical education is the priority but how the two can be combined into an improved seamless system.

RESPONSES

Milt Goldberg, National Alliance of Business

Goldberg emphasized the importance of utilizing data to determine direction and effectiveness. However, he noted that state systems are often organized in ways that make it difficult to produce changes. He observed that it is not what states require in curriculum, so much as how they are governed to administer elementary and secondary education and how that relates to higher education and community colleges.

> "The utilization of data, to help use determine effectiveness, is very important. It has been too infrequently a practice in American education."
> *– Milt Goldberg*

Phyllis Eisen, National Association of Manufacturers

Eisen said that businesses spend close to $100 billion a year on education and training, with about 50 percent of that going toward remedial education for workers. She pointed out that there have been discussions for a decade about how to prepare students with basic advanced skills, such as problem solving and interpersonal communication. She concluded that while research is always important, America already knows enough about these problems to begin doing something about them right now.

> "Being able to solve a problem or call a customer or make a report in a team, whether we want to call them basic advanced or basic skills, has been a topic of discussion for a decade."
> *– Phyllis Eisen*

Recommendations

During the course of the High School Symposium, the panelists and respondents discussed the following as possible next steps for helping America's high schools prepare for the future.

Better Define the High School Mission:

- The mission of high school is ill defined.
- Today's high school is too large, too broad in scope and caters to too many masters.
- The federal government can work with constituent groups to begin to define the mission of today's high school.
- While the federal government cannot mandate change in the structure of high school, it can use the bully pulpit to begin to effect change.
- The federal government can encourage experimentation with high school models, curricula, assessment, teacher training, etc. and provide funding to support those reforms that seem the most promising.

Create Better Links between Secondary and Postsecondary World:

- High school needs to "count" in the mind of students. It is not a place for students to bide their time until they can go to college to learn about an occupation.
- "College for all" (four-year programs) is not a realistic goal. More than two-thirds of high school graduates will eventually enter the job market without a four-year degree. Students need to learn cognitive, decision-making and problem-solving skills in high school in order to take advantages of academic and nonacademic opportunities in the postsecondary world.
- High schools and colleges should work to align their curriculum for logical transitions. Dual enrollment programs can help in this area.
- Adding a career-focus to high school curricula appears to lead to greater interest and success in postsecondary education. Experimentation in this area is suggested.
- There should be more efforts in high school to introduce students to the college environment early to learn what is expected of them in a postsecondary educational setting.

Better Define the Role of Assessment in High School:

- Assessment should be challenging and rigorous. It should push students to succeed. At the same time, there should be structures in place to help those students who need it, or drop out rates may rise.
- Assessment should be perceived as "counting." Failure to take assessment seriously should have ramifications for students.
- External assessment, like those used in other industrialized nations, should be looked at and experimented with in the United States.

Endnotes

1. Romer, Paul M. "Endogenous Technological Change." *Journal of Political Economy* 5, Part 2 (1990): 98.
2. Topel, Robert H. "Labor Markets and Economic Growth." Forthcoming in Orley Ashefelter and David Card, eds., *Handbook of Labor Economics.* Amsterdam, The Netherlands: Elsevier Science B.V., 1998.
3. Krueger, Alan B. and Mikael Lindahl. "Education for Growth in Sweden and the World." NBER *Working Paper* 7190. Cambridge, Mass. National Bureau of Economic Research, 1999.
4. Ellwood, David T. "The Sputtering Labor Force of the 21st Century: Can Social Policy Help?" In Alan B. Krueger and Robert Solow, eds., *The Roaring Nineties: Can Full Employment Be Sustained?* New York: The Russell Sage Foundation and the Century Foundation, 2001.
5. Achieve, Inc. "Standards: How High Is Enough?" *Achieve Policy Brief,* No. 3. 2001. Washington, D.C.: Author.
6. Committee for Economic Development. *Measuring What Matters: Using Assessment and Accountability to Improve Student Learning.* New York, N.Y.: Author.
7. Jacob, Brian A. 2001. "Getting Tough? The Impact of High School Graduation Exams." *Educational Evaluation and Policy Analysis,* No. 23: 99-121.
8. "A Closer Look at Remediation." *Community College Week,* 10 (1997): 8.
9. Jacob, Brian A. 2001. Op. cit., 99-121.
10. Olson, Lynn. "A Quiet Crisis: Unprepared for High Stakes." *Education Week,* Vol. 20 (2001): 1, 12, 14, 16-17.
11. Findell, Bradford, et al. *Adding It Up: Helping Children Learn Mathematics.* Washington, D.C.: National Academy Press, 2001.
12. U.S. Department of Education. National Center for Education Statistics (NCES). 2001. *The Condition of Education.* Washington, D.C.
13. Lords, Erik. "New Efforts at Community Colleges Focus on Underachieving Teens," *The Chronicle of Higher Education* (June 30, 2000): A45.
14. Rafn, Jeffrey H. 2002. "Dual Enrollments: The Northeast Wisconsin Technical College Experience." Presentation to the Community College Research Center, Teachers College, Columbia University.
15. Levitz, Randi, et al. *Increasing Student Retention.* San Francisco: Jossey Bass, 1985.
16. Orr, Margaret T. 2002. "Dual Enrollment: Developments, Trends and Impacts." Presentation to the Community College Research Center, Teachers College, Columbia University.

17. Jones, Stephanie A. and James E. Rosenbaum. "Interactions between High Schools and Labor Markets." *Handbook of the Sociology of Education.* New York: Plenum, 2000.

18. National Center for Education Statistics. (2001) *The 1998 High School Transcript Study Tabulations.* NCES 2001-498.

19. Bragg, Debra. (1997). "Grubb's Case for Compromise: Can 'Education through Occupation' Be More?" *Journal of Vocational Education Research,* 22(2), 115-122.

20. Grubb, Norton. (1997) "Not There Yet: Prospects and Problems for Education through Employment." *Journal of Vocational Education Research,* 22 (2), 77-94.

21. *Techniques.* (Nov.-Dec. 1996). "Where Is Vocational Education Headed?" Washington, D.C.: *American Vocational Association,* 24-29.

Acknowledgments

The U.S. Department of Education, Office of Vocational and Adult Education, wishes to thank the High School Symposium presenters and respondents for the time and deep consideration involved in preparing their papers.

Presenters

Thomas R. Bailey is the George and Abby O'Neill professor of economics and education in the Department of International and Transcultural Studies at Teachers College, Columbia University. He is also the director of both the Community College Research Center and the Institute on Education and the Economy. Bailey holds a Ph.D. in labor economics from MIT.

Robert Balfanz is an associate research scientist at the Center for Social Organization of Schools, Johns Hopkins University, and an associate director of the Talent Development High School program. Balfanz has 15 years of experience in the research, development, design and implementation of curricular and instructional reforms. Balfanz received his Ph.D. in education from the University of Chicago.

John H. Bishop is a member of the Department of Human Resource Studies at the New York State School of Industrial and Labor Relations, Cornell University. He is also executive director of the Educational Excellence Alliance, a consortium of more than 400 high schools studying ways to improve the way we educate our young people. Bishop earned his Ph.D. in economics at the University of Michigan.

James E. (Gene) Bottoms has served as director of the Southern Regional Education Board's High Schools That Work initiative to improve high schools for career-bound students since 1987. Previously, he served as executive director of the American Vocational Association and as director of educational improvement for the Georgia Department of Education.

Anthony P. Carnevale, vice president for public leadership at the Educational Testing Service, is an internationally recognized authority on education, training and employment. Previously, he served as vice president and director of human resource studies at the Committee for Economic Development. Carnevale received his Ph.D., with a concentration in public finance economics, from the Maxwell School at Syracuse University.

Chester E. Finn Jr. is a John M. Olin fellow at the Manhattan Institute and president of the Thomas B. Fordham Foundation. Finn is a fellow of the International Academy of Education, a distinguished visiting fellow at Stanford's Hoover Institution, and an adjunct fellow at the Hudson Institute. He holds a Ph.D in education policy from Harvard University.

Kenneth C. Gray is professor-in-charge of the Workforce Education and Development Program in the College of Education at Penn State University. Prior to joining the faculty at Penn State, he was the superintendent of the Vocational Technical High School System in Connecticut. Gray holds a Ph.D. in vocational technical education from Virginia Tech.

James E. Rosenbaum is professor of sociology, education and social policy at Northwestern University. He has researched the high school to work transition in the United States and Japan, and he is now conducting foundation-funded studies of the community college to

work transition. Rosenbaum earned his Ph.D. at Harvard University.

Janis Somerville is the director of the State K-16 Initiative for the National Association of System Heads (NASH)-Education Trust. She founded the Philadelphia Schools Collaborative, a joint venture of area foundations and the Philadelphia School District to restructure high schools and improve college access. Somerville holds an M.B.A. from Harvard.

Respondents

Betsy Brand is co-director of the American Youth Policy Forum, a nonprofit organization providing professional development to policymakers in the fields of education, career preparation and youth development. Prior to joining AYPF, Brand was president of Workforce Futures, Inc. and served as assistant secretary for vocational and adult education, U.S. Department of Education, for five years.

Beth B. Buehlmann is executive director of the Center for Workforce Preparation (CWP), a nonprofit affiliate of the U.S. Chamber of Commerce that helps member chambers develop strategies to remain competitive in the global economy. Buehlmann received her Ph.D. in higher education administration and M.S. from Illinois State University and her B.S. from Chicago State University.

Bill East is executive director of the National Association of State Directors of Special Education, which represents the directors from all 50 states and the federal jurisdictions. East served as state director of special education in Alabama from 1990 – 1998. East earned a doctorate in education from the University of Alabama.

Phyllis Eisen is vice president of the Manufacturing Institute of the National Association of Manufacturers and executive director of the Center for Workforce Success. Eisen earned her undergraduate degree at the University of Maryland and pursued graduate work at George Washington University and the University of Maryland.

John J. Ferrandino is president of the National Academy Foundation, which has expanded from 290 programs in 33 states to 528 programs in 40 states during his tenure. Before joining NAF, Ferrandino served as supervising superintendent of the K-12 division in New York City. He holds a Ph.D. from Fordham University.

Milton Goldberg is senior advisor at the National Alliance of Business as well as a distinguished senior fellow at the Education Commission of the States. He previously served as director of the Office of Research in the U.S. Department of Education. While Goldberg was executive director, the National Commission on Excellence in Education published *A Nation at Risk.*

Susan Sclafani is counselor to the U.S. secretary of education. Previously she was chief of staff for educational services in the Houston Independent School District as well as associate superintendent for district administration. Sclafani received her Ph.D. in educational administration from the University of Texas at Austin.

This publication is one in a series of briefs addressing topics and issues related to high school improvement and closing achievement gaps among students. For additional information on the Department's high school efforts under its Preparing America's Future Initiative, please visit http://www.ed.gov/offices/OVAE.