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Policy Information Perspective

The Mission of the High School

A New Consensus of the Purposes of Public Education?

by Paul E. Barton and Richard J. Coley

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Preface

As the mission of the high school is redefined and implemented to prepare all students to be both college- and career-ready, it is increasingly important that policymakers have access to comprehensive information on a variety of related issues. The stakes are high for society, for our economy, and for the students themselves. In this Policy Information Perspective, Paul E. Barton and Richard J. Coley discuss a variety of issues that need to be addressed as the mission of the high school is being transformed. They gather and present data and information that can be useful to people who are in the midst of discussions about reformulating this critical component of the public education system.

While Barton and Coley agree that preparing more students to be ready for college and other postsecondary education is necessary, they make a case for needing more knowledge of and understanding about what it means to tie high school curricula and standards to the varying and moving targets of college readiness that are set by a wide variety of higher education institutions. And while Barton and Coley also agree about the need to prepare today's students to be career ready, they note that there is much ambiguity and variation in the types of skills that are required in different jobs and careers, both today and even more so in the jobs of the future.

Barton and Coley call attention to the importance and supply of high school guidance personnel in helping students stay on track and navigate the critical pathways to college and careers. They also note the stagnation in the high school completion rate of the nation and how this situation will need to be addressed in efforts to restructure the mission of the high school.

That mission should be ambitious: to prepare all students for whatever paths they choose in their transition to adulthood — for jobs and careers, for postsecondary education and training, and for the lifelong learning that will be required for work now and in the future. In implementing this reformulated mission, policymakers need to be aware and take account of the considerable implications that any such reformulation of the mission of the U.S. high school may have for our nation.

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Introduction

Today's high schools face unprecedented challenges in preparing graduates for today's rapidly changing job market and for the variety of postsecondary experiences that the current economy is demanding. The mission of the U.S. high school has undergone many changes in its long history. A decade and a half ago, education reformers called to define the mission of the high school as the preparation of students to succeed in college. As that drumbeat grew louder, some voices called further for high schools to prepare students, once they are in college, to score sufficiently high on college placement tests to bypass remedial courses and enter credit courses. That mission has been expanded and further defined as the preparation of students for both "college and careers." Although the term "careers" was added, its meaning is vague, since the types of careers that require college-level academic preparation and the numbers of jobs they may represent are matters of some debate. Another increasingly recognized mission of the high school is to prepare individuals to be lifelong learners in a world where the nature of work will constantly change over individuals' lifetimes.

So far, this most recent goal for high schools outlines a course of study, at least for the subjects where college placement tests are given: mathematics and English Language Arts. This goal is reinforced by the "common core state standards" movement, which has found increasing adoption in the states under the effective leadership of a coalition of organizations. The Common Core State Standards (CCSS), which are for the stated purpose of preparing students to be college and career ready, so far address only mathematics and English Language Arts.[1] These common standards are an attempt to ensure that expectations for what students learn are consistent across all of the nation's schools.

The CCSS represent an understanding of what students should learn in high school to have success in college and careers. The standards are aligned with college and work expectations, not with the applied knowledge used in occupational training or with the types of jobs that are typically available to non-college graduates. Nor do the standards focus on the skills assessed by tests that measure the ability to apply mathematics in real workplace settings, such as the American College Testing (ACT®) Program's WorkKeys series, which is used by many employers in hiring decisions.

The focus on the two subject areas of mathematics and English Language Arts is strongly reinforced by test-based accountability programs that assess knowledge of mathematics and reading and that have goals for progress that must be met to avoid an array of sanctions. This increased pressure has the effect of defining the priorities for school systems, particularly in the early grades; potentially reducing the time devoted to the "harder" aspects of these two subjects; and limiting time devoted to subjects not tested that therefore do not expose schools to sanctions. This means all subjects other than reading and math.

With the overdue reauthorization of the Elementary and Secondary Education Act — the last amendments carrying the title of "No Child Left Behind" — the Obama Administration designed a "blueprint" for the next reauthorization, with the announced purpose of preparing students for college and careers. Major foundations supported this goal for high school education and, not surprisingly, think tanks steadily began to provide reports and pilot programs that further

[1] The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO).

the same objectives. Reinforcement of the goal comes from the criteria for state competition for recession stimulus funds targeted for education. These goals for education have been so broadly, systematically, and effectively pursued that one can conclude that the nation is well into the development of a new conventional wisdom — or a return to a very old one — about the purposes of public education and the high school.

A review of historical accounts of the purposes ascribed to the role of public education has not discovered the words "preparation for college and careers." This report is not intended to present a case for or against this new "movement," if it is appropriate to call it that, but to argue that redefining and redirecting the public education system is a hugely important task that merits deep thought and much examination, given its importance to society, democracy, and our economy.

Because it is important to look at present developments with some perspective on the past, the report starts with a very brief historical sketch of the early beginnings of public education policy and the emergence of the high school. The section closes with the perspective of several scholars and how they see where we are headed in the "readiness" approach.

On the college readiness goal, the next section sets forth what can be gleaned about college placement tests, particularly at the community college level where some information is available. These placement tests, from a knowledge base standpoint, seem to have stayed under the radar, with interest spurred by the well-known Bridge Project that works to bring high school offerings in line with college requirements. Evidence shows that different colleges require different knowledge levels to place students into either remedial courses or credit courses.

Student readiness for college presents much to be concerned about, and this report in no way is an argument against the importance of college readiness. Clearly, too many students are not ready. And the costs of providing remedial education are great. It is hoped that this report's analysis of the limited information that is available about admissions requirements and placement tests will help efforts to increase college readiness, whether or not this becomes *the* goal of public education.

A comparable discussion follows on the knowledge and skills required for work. Little attention is being given this aspect of "readiness," and it has particular importance for the three out of five young adults who enter the workforce with neither four-year nor two-year college degrees. This section rounds up the state of knowledge about job demands and what employers need. Employers have more problems with applicants than their academic knowledge, and employer surveys have expressed these needs over many decades. It is important to look at present developments with some perspective on the past. Knowledge of math and science, for example, are always low on employers' lists. Even though different work settings clearly require different levels of competence in the subject matter taught in high school, employers continue to look for "soft" skills, such as interpersonal skills and the ability to show up on time. When employers say they want employees with better mathematical and reading ability, they typically mean the ability to apply knowledge and skills in workplace settings — factors measured in ACT's WorkKeys series.

Although the current focus is on high academic standards for traditional academic subjects, the strong presence of the more applied learning approach of Career and Technical Education

(CTE) is alive and well. This report provides a view of CTE and multiple path approaches, along with information on evaluations of its effectiveness. CTE integrates mathematics education within technical and occupational courses, establishing high standards with the expectation that such programs can qualify graduates for postsecondary education at some level. The larger concept is "multiple paths" to graduation. In this respect, CTE is at odds with the single-path focus of the present reform movement. Where the balance will come in the evolution of high school policy is hard to predict, and will likely vary from state to state and district to district.[2]

The sustained and narrow focus on reading and mathematics that guides the setting of state and national education goals and defines the purpose of high school raises some large and extremely important questions, including the following: What are the broad purposes of public education? What is left out of the curriculum that may be very important? What is the impact of this narrowed focus and curriculum on our democracy and on the education system in general? This report raises these questions and works to cast light on them.

The whole subject of the importance and supply of high school guidance counselors has been left out of school improvement and reform efforts. Although teachers also advise students and try to keep them on the right track, the time of teachers is limited, and they see students in only one subject. Counselors deal with individual students' problems that trouble teachers in the classroom, interface with students and their teachers *and* their parents, make referrals when students need more help than is available in school, and help students learn about college selection requirements, choose a college, and find financial aid. Counselors also receive all sorts of administrative assignments having nothing to do with counseling students, including the administration of testing programs required by test-based accountability programs. However, almost all states have too few counselors. Data, which are not even collected on student-counselor ratios for high school, consists of only one number for all grades. If the primary objective of high school is readiness for college, the goal of getting more students into college and into credit courses will be seriously hampered if the counseling situation is not improved. And when the problem of the too-low and stagnant rates of high school completion is tackled, little headway will be made without increasing the capability for more one-on-one attention.

Finally, the report points out that the new high school reform movement must deal with decades of stagnation in the high school completion rate. With respect to the goal of preparation for college and work, this non-completion problem is an important drag on that goal. Many dropouts are included in the number of students who enter open-enrollment colleges and take remedial courses, although the proportions are unknown. The best data available show a high school completion rate in 2006–2007 about the same as in 1990–1991 — about 73 percent overall. The rates are much lower for minority students, as has become well known. If high schools are restructured, the non-completion problem must be addressed.

[2] The "Pathways to Prosperity" project at Harvard has issued a report that calls for the creation of a system of career-focused pathways that span the last years of high school and at least one year of postsecondary education or training and lead to an industry-recognized credential. See William C. Symonds, Robert B. Schwartz, and Ronald Ferguson, *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*, Harvard Graduate School of Education, February 2011.

A Historical Sketch

From time to time in the United States, a consensus develops around the purpose and mission of public education, although that consensus usually accommodates much variation. Consensus on the purposes of the high school, as it was slowly added to the system around the middle of the 19th century, also has gone through periods of change, with central tendencies if not uniformity. What started very small and reached only a few became a school for all American youth.

In 1893, a dispute on what was to be taught to whom was settled, to a degree, by the Committee of Ten, a commission headed by Charles Eliot, President of Harvard College. Students should all study the same thing — a college-focused curriculum — said the Committee, no matter what their post-school ambitions and objectives. This was at a time when only about 10 percent of students went on to high school. That formulation lasted about a quarter of a century.

The movement for multiple pathways for students began with the publication of *Cardinal Principles of Education*, and turned the nation about-face: Students should be able to choose a course of study according to their future direction, whether it was to attend college or to directly enter the workforce. The nation embarked on a widely differentiated and comprehensive curriculum with different "tracks" for students to follow. But choice led to assignment, and rigid tracking was later held responsible for limiting the mobility of segments of the population. It eventually fell out of favor.

Although stratification continued to occur, it was much more by choice and with more flexibility for students to change courses as they went through high school. In fact, so many course offerings were available that a reaction set in and gave rise to the phrase "the shopping mall high school."[3] A comprehensive assessment, based on 15 case studies, is provided in Ernest Boyer's 1980 *High School: A Report of Secondary Education in America*.[4] The first part of the book, "A Troubled Institution," signaled the tenor of the diagnosis.

The growing view was that education was, indeed, a troubled institution. Diane Ravitch reports that there were "dozens of critical books published about the schools during the late 1980s."[5] Every year, newspapers headlined falling SAT® and ACT scores. U.S. performance in international assessments was a concern, and "alternative schools" began to spring up. The book *Deschooling Society* was widely read.

The period of unease was capstoned in 1983 by the publication of *A Nation at Risk*, a report of the National Commission on Excellence in Education appointed by Secretary of Education Terrell Bell. In a system considered lax and ineffective, the report called for a more rigorous approach to schooling — more demanding requirements for graduation, required academic courses, longer school days, and more homework. The language, with phrases such as "The Rising Tide of Mediocrity," was meant to alarm — and it did. Aside from its specific recommendations, this language had a long-lasting effect and garnered support for ambitious changes. The states

[3] See Arthur Powell, Eleanor Farrar, and David Cohen, *The Shopping Mall High School: Winners and Losers in the Educational Market Place*, published in 1985. For a history of the period, and what preceeded, see Diane Ravitch, *The Troubled Crusade: American Education From 1945–1980*.

[4] This was sponsored by The Carnegie Foundation for the Advancement of Teaching.

[5] Diane Ravitch, *The Troubled Crusade: American Education From 1945–1980*, Basic Books, 1983, p. 236.

followed through on many recommendations, including requiring students to take the "new basics" — four years of English; three years each of science, mathematics, and social studies; and one-half year of computer science.

As *A Nation at Risk* recommendations were still being implemented, a new effort to establish standards for what students should learn sprang forth in 1989 from the National Council of Teachers of Mathematics (NCTM) in its *Curriculum and Evaluation Standards for School Mathematics*.[6] This set off a wave of action to create similar standards in other subject areas. The beginning of the standards-based reform movement saw similar efforts in other content areas yield both successes and failures. Although standardized testing was not NCTM's focus, nor that of ensuing efforts in other subject areas, the states created tests based on their own state "content standards" and developed standardized tests to use in varying forms of accountability systems.[7] Efforts under way, in different degrees in the states, were codified in the 1994 amendments to the Elementary and Secondary Education Act (ESEA). This introduced the setting of "proficiency standards" with progress toward them to be measured by standardized tests derived from the content standards now required by this federal legislation, although the standards and the tests were left up to the individual states.

Standards-based reform was a promising framework for increasing the quality of instruction, and while it was underway, it morphed into the test-based accountability movement created first by a number of states and then nationally by the No Child Left Behind (NCLB) Act of 2001. The testing itself became the driving force to raise students towards proficiency levels ("cut-point" scores on the test) that the states had to set, and schools faced a graduated set of sanctions for not meeting the targets each year. Opinion is divided about the successes and failures of NCLB, and it is widely expected that when Congress finally faces reauthorization, NCLB will be substantially overhauled. A very strong view has emerged that allowing the states to set their own content and proficiency standards was a flawed approach, resulting in "50 different goal posts." A strong movement to set "common standards" for all states to adopt got under way in 2009.

A seed for a possible new era was planted about a decade ago by the New Diploma Project. Funded by major foundations and sponsored by Achieve, the Fordham Foundation, and the Education Trust, operating responsibility is carried out by Achieve. Much of the work of Achieve has been in helping states improve the existing state-based system — that is, getting better content standards and tests and aligning the two. Achieve also launched an effort that resulted in collaboration among a growing number of states to adopt a common and rigorous curriculum, starting with Algebra II: first developing a curriculum for a course, and then getting a test that matched the curriculum. Many states joined in on the curriculum frameworks, and many of those have installed the accompanying assessment. Thus came the introduction of a common standard for Alegbra II content, and then a common test to measure student achievement for a specific course — unlike the broad set of content standards that had come to characterize what the states were doing. Achieve has maintained that *all* high school

[6] The NCTM standards set off a lot of discussion and some controversy. They were revised and reissued in 2000.

[7] Unlike the NCTM standards, which specified the contents of a curriculum, these content standards were typically developed by committees and were very broad, without any systematic attempt to provide the content of a specific course.

students need to take this Algebra II course to be ready for college, to pass college placement tests in math, and to be ready to go directly to work, if not to college. At some point, the language was adjusted from being required for all jobs to being required to get "the good" jobs.

What Achieve began was indicative of what has transpired recently: a large-scale effort to create common educational standards — "content" standards, to use the terminology that started principally with test-based accountability — in the subject areas of mathematics and English Language Arts. The effort has been led by a strong coalition that includes the National Governor's Association, the Council of Chief State School Officers, Achieve, The College Board®, and ACT. Funding has been supplied, again, by a set of foundations as well as the U.S. Department of Education. The Common Core State Standards in mathematics and English Language Arts have now been made final, and the states are in the process of making choices about whether to adopt them. As of December 15, 2010, 40 states and the District of Columbia had formally adopted the standards and two additional states had provisionally adopted them (www.corestandards.org).

A considerable incentive was established by the Department of Education in the evaluation criteria for grant applications submitted for a very large pot of recession stimulus funds. One criterion was for the states to be part of a coalition of states — and there could be more than one coalition — that were adopting a set of common standards.[8]

These common standards are the principal feature of an emerging, if incomplete, consensus. A companion feature is that the purpose of the standards is to prepare all students for "college and careers." The operational definition of preparation for college is usually stated as the ability to score high enough on college placement tests to enter credit courses. That is also considered necessary for "careers," a term that seems to encompass all those who go to work, whether first to college or directly into employer-provided on-the-job training. Although the meaning of preparation for college is often explicit, very little is said about the type and number of jobs that need this level of education.

The next plank in the platform of this new understanding is the published Obama Administration "blueprint" for the replacement of NCLB, with the stated purpose of preparing students for college readiness and careers. The common mathematics and English Language Arts standards for high school are one high standard for all to reach, although some math standards were added that are even higher. This amounts to a one-size-fits-all high school curriculum (at least in math and reading) in a system now characterized by a wide variation of choices.

Education seems to be back near the position of the Committee of Ten: all students should receive the same high-level curriculum in high school. Looking at recent history, Robert Balfanz concluded: "At the dawn of the 21st century, the American high school is once again being called on to help promote the nations' success, this time by ensuring that all adolescents graduate from high school prepared for postsecondary schooling

[8] There was no outright "requirement."

and training. This new challenge is in many ways the end point of a 150-year evolution."[9] After a review of the history of the high school, Valerie Lee and Richard Ready sum up where we are: "A key element in this policy shift is the recommendation that high schools offer only college-preparatory courses … With such a curriculum, all high school students — regardless of their academic records, current interests, motivation, or post-high school plans — would follow a college preparatory curriculum."[10]

The stars of a single-curriculum approach to high school are coming into alignment in terms of all students completing a college readiness course sequence. National and federal efforts are clearly supportive of such a movement. So 117 years after the Committee of Ten Report, when only a few people went to high school, is the nation returning to a single high standard for high school graduation? This is at a time when we expect everyone to graduate but bemoan the fact that only about three-fourths do — and many fewer minority students. In the middle of all this, the "shopping mall high school" was found wanting and the post-*A Nation at Risk* era "tightened up" with more required academic courses. There may be very good reasons for such pendulum swings in education policy, but such wide shifts should be made only after much consideration, including thought about what may be lost in the process.

[9] Robert Balfanz, "Can the American High School Become an Avenue of Advancement for All?" in *America's High Schools*, The Future of Children, Princeton and Brookings Institution, Volume 19, Number 1, Spring 2009, p. 18. This is an excellent and informative presentation of the current status of high school learning, and the challenges in reaching this new high objective.

[10] Valerie E. Lee and Douglas D. Ready, "U.S. High School Curriculum: Three Phases of Contemporary Research and Reform," in *America's High Schools*, previously cited, p. 145. In addition to the history of recent reforms, Lee and Ready summarize the research that has looked at the effectiveness of each, and most particularly, the experience in Chicago where the shift to a single high-level curriculum was made in 1997.

Readiness for College

If our goal is ensuring that all high school graduates are ready for college, we need a good knowledge base about what colleges require. Are there differences in what two-year and four-year colleges require? How high are the requirements and how widely do they vary? Is there a single standard, or few, or many? How well does "one size fit all?"

The states are well on their way in addressing the connection between high school and college. In the 2011 issue of *Quality Counts*, Education Week tracks state efforts to coordinate the connections between K–12 and other parts of the pipeline — early childhood, college readiness, and preparation for the workforce.[11] As of the 2010–2011 school year, *Education Week* reports that 33 states now define college readiness (and four more are in the process of doing so) — a 13-state increase since 2009. The survey found that:

- 10 states require all students to take a college-preparatory curriculum to earn a diploma (nine more states will implement the policy with future classes);
- 11 states align high school course credits with the postsecondary system (seven more states will implement the policy with future classes);
- 15 states align state high school assessments with state postsecondary systems (three states will implement the policy with future classes); and
- 11 states use statewide high school assessments for admission, placement, or scholarship decisions in the state postsecondary system (one state will implement the policy with a future class).

Postsecondary institutions vary tremendously in what they require students to know and be able to do to qualify for college entrance and credit work. For example, the SAT and ACT are widely used for college admissions, often in some combination with high school grades and other factors. The table below provides average scores on the SAT mathematics and ACT composite for the middle 50 percent of students at a sample of colleges and universities. The readiness of students, as measured by these tests, varies widely.

Table 1:

Selected Freshman Class SAT Mathematics and ACT Composite Score Ranges for the Middle 50 Percent of Students

	SAT Math	ACT Composite
Harvard University	700–790	31–34
University of Pennsylvania	680–770	—
Georgetown University	650–740	27–32
Ohio State University	580–680	25–29
Ohio University	490–600	21–26
Howard University	460–680	20–29
Mississippi State	—	20–27
University of the District of Columbia	Open Admissions	
Community Colleges	Typically Open Admissions	

Source: The College Board, *College Handbook*, 2008 edition.

The average SAT mathematics and ACT composite scores at Harvard (for the middle 50

[11] *Education Week*, *Uncertain Forecast: Education Adjusts to a New Economic Reality*, Quality Counts, Vol. 30, No. 16, January 13, 2011.

percent of freshmen) range from 700–790 and 31–34, respectively. In contrast, the averages at Ohio State are 450–540 and 18–23, while the University of the District of Columbia and most community colleges have open admissions. Many community colleges may not even require a high school diploma. The role that tests play in college admissions varies greatly. A study of 24 institutions commissioned by the National Assessment Governing Board (NAGB) found that "very few of the colleges and universities studied — 5 of 24 — use specific admissions test score cut-offs as part of their freshman admissions process. Where used, these cut-off scores vary significantly — by 160 points on the SAT I. A number of institutions combine one or more test scores with an applicant's grade point average to create an index that is usually used as a sliding scale, and most selective or highly selective institutions do not use test score cut-offs at all."[12]

Placement tests administered by colleges and universities are generally the key for judging what high school graduates need to know to enter credit-bearing courses after acceptance into a college. A survey conducted by Jobs for the Future (JFF) provides information for 46 states for 2008:

- 27 states (up from 21 states in 2002) reported that a state-level policy was in place requiring community colleges to assess students' needs for developmental education at the time they are enrolled.
- 21 states (up from 11 states in 2002) specified one or more approved placement exams for colleges to use. COMPASS® was the most frequently approved exam (14 states), followed by ACCUPLACER® (11 states), and ASSET® (seven states).[13]
- 19 states (up from five states in 2002) required colleges to use standardized cut scores or ranges on these exams for placement unto developmental education.[14]

The trend toward increasing standardization at the state level helps state high school systems focus on the nature of these well-known tests in efforts to raise students to achievement levels required for passing these placement tests. Most states, however, do not specify cut scores, and these can vary widely from college to college. Some states specify ranges rather than a single score. Seventeen states of the 46 surveyed set no placement test policies, leaving decisions to the college. Additionally, there may be two thresholds for cut scores — one for entering community college credit courses not accepted for transfer credit by a four-year institution, and one for courses accepted in transfers.[15] This adds another twist to determining what it means to be prepared to go to college, although there is likely little awareness of these two levels among high school students.

At the university level, there is also likely to be much variation in how placement tests are

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[12] Bob Laird, "Standard-Setting on Admissions Tests in Higher Education: The Uses of Admissions and Placement Tests by Selected Groups of Two- and Four-Year Colleges and Universities," a paper prepared for the National Assessment Governing Board, October 7, 2004, p. 3.

[13] COMPASS is a computer-adaptive test produced by ACT that can be related to ACT's *College Readiness Standards and Benchmarks* for English (writing), reading, and mathematics subtests. ACCUPLACER is a computer-adaptive test produced by the College Board and includes assessments of sentence skills; reading comprehension/computational skills in arithmetic, elementary algebra, and college-level math; and essay-writing skills. ASSET is a course-placement assessment produced by ACT that covers basic skills measures (writing, numeracy, reading), advanced mathematics (elementary algebra, intermediate algebra, college algebra, and geometry), and additional skills.

[14] Michael Lawrence Collins, *It's Not About the Cut Score: Redesigning Placement Assessment Policy to Improve Student Success,* Jobs For the Future, July 2008, p. 2.

[15] Laird, 2004, p. 5.

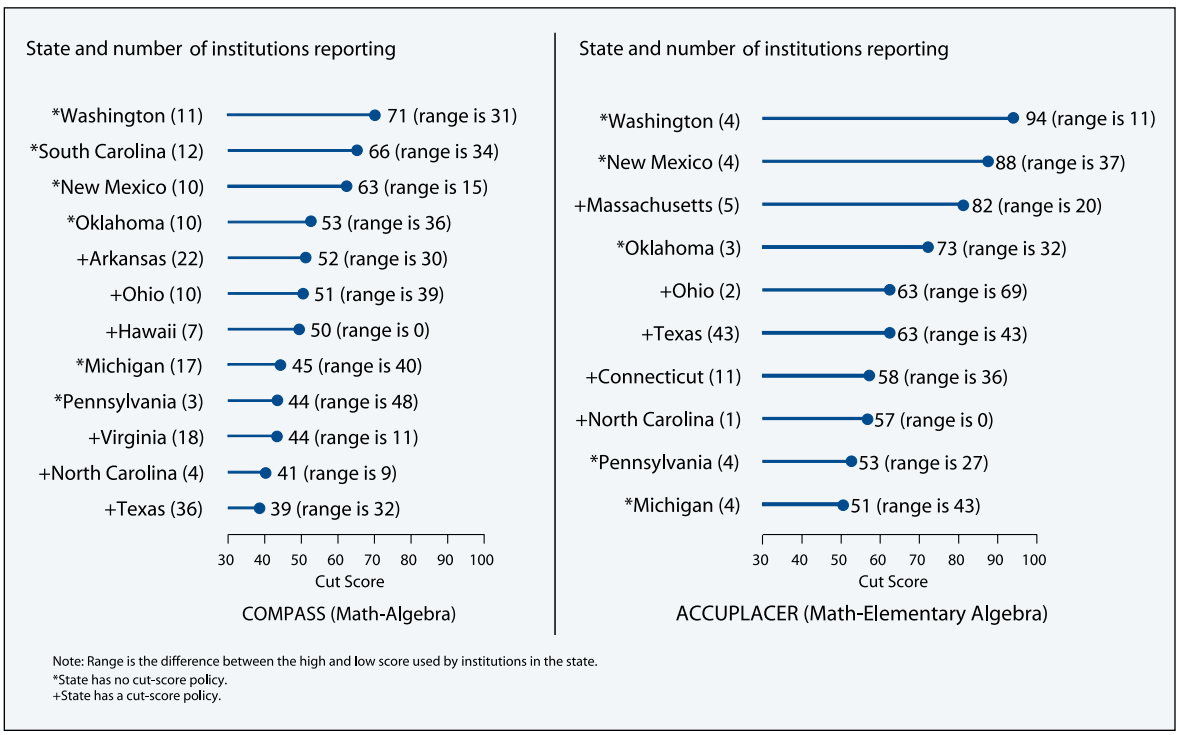
used, although no surveys could be found. Of universities that use placement tests, many use the same standardized tests that community colleges use, although individual schools may write their own tests or use achievement test results from the SAT II series, Advanced Placement®, International Baccalaureate®, or other scores. NAGB has a national survey under way to learn more about the placement test system.

Thanks to Jobs for the Future (JFF) and its ongoing project, Achieving the Dream: Community Colleges Count, considerable information is available about where cut scores are placed and how much they vary. JFF has surveyed the states in which it has projects, noting the two most common standardized placement tests, ACCUPLACER and COMPASS, which are provided by the College Board and American College Testing (ACT) program, respectively. Figure 1 summarizes this information for math-algebra in the states in the project that have a statewide placement test policy, and shows the median cut scores in the states, the range of scores from the top cut score to the bottom one, and the number of colleges in the state for which the information applies. The JFF report also shows the cut scores for reading and writing.

The median cut scores on COMPASS range from a high of 71 in Washington to a low of 39 in Texas. Within a state, the highest range among the

Figure 1:

Median (and Range) of Math-Algebra College Placement Tests



Note: Range is the difference between the high and low score used by institutions in the state.
*State has no cut-score policy.
+State has a cut-score policy.

colleges in cut scores on COMPASS is 48 points in Pennsylvania and the lowest is 0 in Hawaii.

For ACCUPLACER, the highest median cut score is 94 in Washington and the lowest is 51 in Michigan. The range varies from a high of 69 points in Ohio down to 0 in North Carolina. Note that the number of colleges for which information is available varies from a high of 43 in Texas to a low of 1 in North Carolina.

This variation among states and within states is large, placing many different targets in front of high schools responsible for getting all high school graduates ready to pass college placement examinations. Many reasons may account for the variation, including the institutions' expectations for how well prepared students should be to enter credit courses, how demanding those credit courses are, and the market conditions for the college — that is, how many student applications the college receives relative to the size of the entering class needed to meet the college's admission goals. Other considerations of tensions and trade-offs *within* a college are discussed below.

The validity of these examinations for course placement at any particular college is not an issue that has reached the level of national discussion. Standardized placement tests such as ACCUPLACER include detailed instructions to colleges using the exams explaining how to establish the validity of the scores used to determine placement in remedial or credit courses. What is known about how valid the test results are? Are students who pass highly likely to be successful in credit-bearing courses? Are students who fail highly unlikely to be able to succeed in credit courses?

No comprehensive guide to the results of validity studies conducted at colleges and universities was found. Of course, such studies are used to make corrections in the tests and their use, and would likely result in changes. Also, no information was located to show what percentage of schools have carried out periodic validity studies, or if they did, how many instances were found of low, acceptable, or high validity in predicting success in credit courses. There may have been no pressing reason to conduct such surveys, although it would seem very important information to have, given the numbers of students that are affected by the exams and the costs of remedial education.

A few reports are available that show considerable differences in the outcomes of validity studies, or the answers colleges gave to questions about determining the validity of their placement tests. A placement test validity study at Merrimack College in Massachusetts found the placement test to be valid. "We have found the mathematics placement exam to be a useful tool to place students in the appropriate mathematics course … Today, the entire Merrimack community appears to view the test score with increased respect" because of the results of the validity study.[16]

Bob Laird surveyed five institutions to determine how they validate the particular cut scores they employ. The answers were not

[16] Norma Rueda and Carole Sokolowski, "Mathematics Placement Test: Helping Students Succeed," *The Mathematics Educator,* 2004, Vol. 14, No. 2, p. 32.

always directly on point. One said, "The scores are determined based on the retention studies by each school/college" (Howard University). Another said, "If they [the cut-off scores] were under review, the discussion would probably take place at the Undergraduate Academic Affairs Committee" (St. Louis University). Still another said that validation of the required test scores is "based on the level of preparation the faculty believes the student should have" (University of Hawaii).

At the University of Utah, the Institutional Research Office provides a yearly report to the Committee on University Credits and Admissions and makes recommendations. The University of Texas (Austin) based its fall 2005 cut scores on validity and standards-setting studies conducted by its Measurement and Validation Center.[17] An outside researcher conducted a validity study of a placement exam in use for seven years at an unnamed two-year institution within a large, public, research-oriented university. In terms of whether the test scores were predictive of course grades, the study found the correlation to be "statistically significant but too low to be meaningful."[18] The problem was a mismatch between test and curriculum content. Based partly on the results of the outside researcher, the college discontinued use of the test.

Where large schools have a good institutional research capability, one can expect to get useful validity studies, and two of the above colleges reported that they relied on their own work. Generally, however, the information from this small group of schools was not reassuring. If college placement tests are to drive high school curriculum content and exit standards — and that seems to be where the nation is heading — confidence is needed that the tests sort students between those who are ready for credit coursework and those who are not. Currently it seems that little is known about the frequency, quality, and use of validity studies. Mostly, what has driven the college readiness train has been the one number available: the percent of those who enroll who take remedial courses. And no regular data collection is done for even that.

Establishing the validity of the cut score is not the only relevant issue, however. The previously referenced JFF report applies to 83 colleges in 15 states. It concerns what goes on in a college as a whole when carrying out policies on placement tests, and the experience is relevant to the focus of high schools on college placement tests. One example is that after setting new cut scores, "The colleges' budgets are automatically adjusted for their enrollment mix … We ran the projections using the newly proposed cut-score and found that some colleges would need to add up to 10 additional sections of developmental education."[19] Because of these findings, faculty assignments among credit and non-credit courses might need to be changed, causing some teachers to switch roles. Another tension arose when "The committee's practical approach to erring on the side of inclusion [in credit courses] was met with resistance from some faculty groups and from some colleges that argued that they were focused on excellence even if it resulted in more students needing remediation."[20] The faculty

[17] Laird, 2004, p. 11.

[18] Constance Schmitz and Robert delMas," Determining the Validity of Placement Exams for Developmental College Curricula," in *Applied Measurement in Education,* 4(1), p. 45.

[19] Collins, 2008, p. 11.

[20] Collins, 2008, p. 11.

was particularly alienated by the fact that the committee setting the placement policies had a guiding principal of identifying the point where students can reasonably be successful and not incur the cost of remediation if it is not needed.

These are a few examples of the internal tensions, conflicts, and cost considerations that go on in schools and colleges when establishing placement test policies. These internal policy setting processes may lead to changes in cut scores from time to time that have nothing to do with the changing characteristics of the applicants or their ability mix, but may have more to do with a need to rebalance the distributions of faculty between credit and non-credit courses. This can make the setting of cut scores more reflective of internal tensions than of student abilities.

The goal of preparing high school students to enter college credit courses seems complex to execute. When hitching the high school wagon to a college credit star, a galaxy of stars is found and more than one wagon is needed. The levels of preparation needed vary widely among all of the different colleges and universities, whether they have remedial courses or not. The world of college placement tests is not well known, at least in the public education community and among policymakers specifying the objectives of high school. If studies are not performed to determine the validity of college placement tests — or if studies are suspect, rejected, or ignored — the validity of college placement tests may not just be an unknown, but may represent a known lack of validity.

Nothing in the above discussion argues for not getting more students college ready; rather, it tries to make a case for having more knowledge and understanding of what it means to tie high school curriculum and standards to the varying and moving target of being college ready. A better understanding of how placement decisions work in colleges can help inform high schools about how to adjust to the reality of the postsecondary environment in which they channel students to college and work. The high school guidance counseling staff may be a key broker among the students, the teachers, and the college requirements; more about the counseling function follows later in this report.

Thus it is hard to see how a single standard can be set for college readiness. Carrying out a policy of college readiness would seem to support a variety of levels of academic preparation — which means getting to know the policies of the principal colleges a particular high school's graduates are most likely to attend.

Readiness for Work

While a consensus has developed around the notion that the mission of the high school should be "readiness for college and careers," the discussion has focused on college placement tests, remedial education, and qualifying students to enter college credit courses. Little focus has been placed on the careers aspect except to say that the education level needed is the same as that needed to pass college placement tests. The data presented in the previous section establish the fact that there is no single standard for college admissions or the passing of placement tests for those admitted. Is there likely to be more consensus on what it means to be career-ready?

Again, Education Week has documented state efforts to connect education and workforce preparation, which they describe as the most "mature" of the transition and alignment areas.[21]

- 33 state K–12 systems have defined workforce readiness (nine are in the process of doing so);
- 38 states offer a standard high school diploma with career specialization;
- 42 states offer pathways leading to industry-recognized certificates or licenses;
- 48 states offer pathways to earn credits to transfer to the postsecondary system; and
- 24 states have implemented all of the above policies.

There is a vocabulary that has developed to describe peoples' work lives. College graduates often are said to aim for "careers." Doctors and lawyers think of themselves as having careers, and college degrees are usually considered to be required for having careers. In U.S. Department of Labor and Census Bureau surveys, people are classified into "occupations" — a term that covers all who work.

The use of the word "career" tends toward a class connotation, as do the terms "white collar" or "blue collar," and "skilled," "unskilled," or "common laborer." A great many workers may consider themselves as having a trade, a craft, or just having a job. One term, however, is a shared one: all workers "go to work." This report, therefore, uses that term as all-inclusive.

Whether a person intends to go to college or directly into the workforce from high school, a one-size-fits-all prescription has been given for a high school education: a rigorous set of courses with standards high enough to enable a graduate to pass a college placement test. Some people offer qualifications to this and speak of jobs that require extensive training before entering, or they speak of the "good jobs" — presumably, jobs that provide a middle-class income. What the term "career" encompasses is unclear, except to say that typically, but not always, people with a college diploma are likely to be thought of as having "careers." Each decade, however, has seen more people with college degrees employed in jobs typically thought of as requiring no more than a high school education.

This section of the report seeks to enlarge the information base for considering what the mission of the high school should be for those who go to work without a postsecondary degree. And, while many people may start off on a postsecondary course, many do not complete it and must fall back on the preparation they received in high school. For these individuals, the starting place is employer perspectives on the qualifications they want to see in high school graduates.

A comprehensive survey of employers conducted by The Conference Board asked employers about the basic knowledge or

[21] Education Week, *Quality Counts 2011*.

applied skills they considered to be "very important" for new workforce entrants with a high school diploma.[22] At the top of the list was "professionalism and work ethic" at 80 percent, closely followed by "teamwork and collaboration," and "oral communication." After "ethics and social responsibility" comes several skills that are related to high school studies: "reading comprehension" and "English language." Number 14 on the list is "mathematics" and number 17 is "science."

Knowing the views of employers is very important; however, it does not tell us what is uppermost in the mind of a foreman in a factory when interviewing an applicant for a job, nor does it provide a job analysis of what it takes to actually perform the work.* Such surveys are often completed by human resources staff who can speak about formal entry requirements but may not be knowledgeable about actual demands of jobs that foremen supervise. Some of that information is described below.

In addition, periodic surveys are performed to learn what employers are looking for in new employees. The surveys are always slightly different in purpose, given their varying perspectives, and the wording of the questions varies. Figure 2 is based on data from the National Association of Manufacturers (NAM). This survey asks employers the most common reason for rejecting applicants as hourly production workers. Sixty-nine percent chose a category labeled "inadequate basic employability skills," such as "attendance, timeliness, work ethic, etc." These are not academic skills, but they are common skills needed to be a successful student who graduates from high school — and to be successful in the world of work or college. About a third of employers cited "insufficient work experience."

It is well documented that employers much prefer to hire workers who have already been trained by another employer. Training that is substantial is expensive, and once given, the person trained may decide to take their employers' investment out the door and to another employer. A combination of these two answers — inadequate basic employability skills and lack of experience — are reasons, among others, that options for cooperative education and internships in high school should be more widely available. A rich experience is available to draw on in the United States, and there are areas of the country where employers have long had strong programs with arrangements for participation by the high schools. There is also substantial experience with school-sponsored enterprises that offer students opportunities to acquire valuable experience before leaving school, and that have a record of experience to show employers.[23] After "don't pass drug screening" was "inadequate math skills," the reason given by about one in five employers. Oral communication comes up in this survey also, as do teamwork and problem-solving skills, at around one in 10.

Any effort to increase the high school's contribution to work readiness would benefit from examining two assessment systems and certification programs. One is the National Work Readiness Credential. This assessment system

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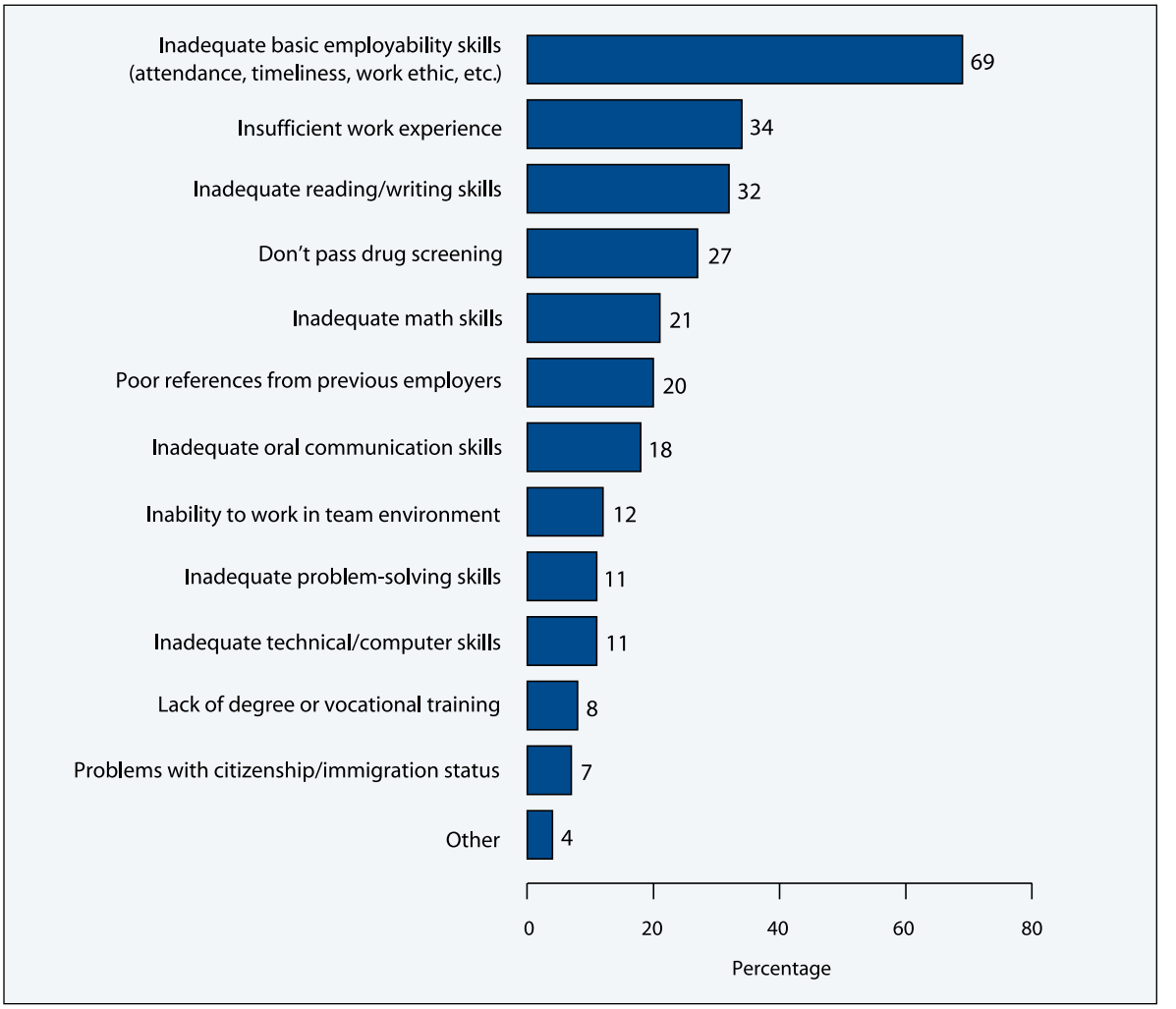
[22] Jill Casner-Lotto, Linda Barrington, and Mary Wright, *Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce*, The Conference Board, October 2006.

[23] See David Stern et al., *School-Based Enterprise: Productive Learning in American High Schools,* Jossey-Bass, Inc., 1994.

* Such analysis is available for every job. The U.S. Department of Labor's *Dictionary of Occupational Titles* did this for decades, and a computer-based system called O*Net has replaced it.

Figure 2:

Most Common Reasons Companies Reject Applicants as Hourly Production Workers



Source: National Association of Manufacturers, 2001.

is the basis for the award of a credential to take to employers that covers communication skills, interpersonal skills, and decision-making skills, and includes use of math to solve problems as well as lifelong learning skills. The other is the ACT National Career Certificate, which is based on results of taking three of ACT's WorkKeys tests: applied mathematics, reading for information, and locating information. It is noteworthy that these are *applied* skills, not those in the new high school common standards, or those assessed by college placement tests that seek to measure academic knowledge.

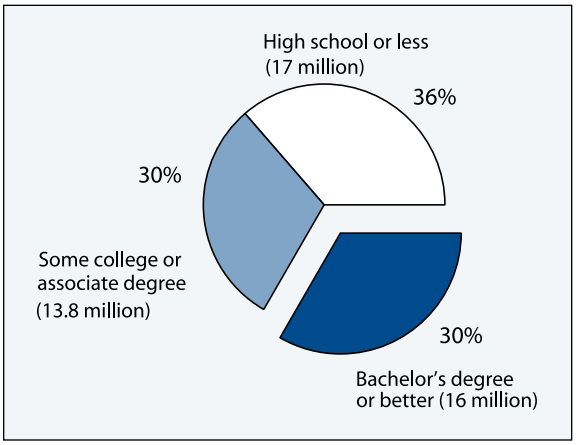
Learning about the educational requirements of jobs, understanding how the requirements have changed over time, and predicting future trends are daunting tasks. There are different approaches to determining the educational levels that are required for different jobs. The Department of Labor's Bureau of Labor Statistics (BLS) has developed and publishes occupational employment projections and related career information, including the education and training requirements for hundreds of detailed occupations. The BLS is currently developing a new education and training classification system that is intended to replace the current system of education and training categories. The objective of the new system is to present a more complete picture of the education and training needed for entry into a given occupation and to become competent at performing the occupation.

Previously, an analysis of the educational requirements of 44 occupations — which account for half of the 26 million job openings projected between 2001 and 2012 by BLS — indicated that about half of the openings in those occupations require short-term on-the-job training (one month or less experience and formal training). Eight of the 44 require moderate-term on-the-job training (one to 12 months). The rest require a longer period of training, a higher-education degree, or certification.[24]

Another view is provided by the Center on Education and Workforce Development at Georgetown University. According to the Center, by 2018, the economy will create 46.8 million openings — 13.8 million brand-new jobs and 33 million "replacement jobs," positions vacated by workers who have retired or permanently left their occupations. Figure 3 shows the distribution of their estimates for the educational requirements of these jobs. It is important to note that more than a third of the jobs will require workers with a high school diploma or less, and that a little less than another third will require some college or an associate degree.[25]

Figure 3:

Educational Requirements of New and Replacement Demand Jobs by 2018 (and Number of Jobs)



Source: Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, Georgetown University Center on Education and the Workforce, June 2010.

Another part of the knowledge base that defines or is related to readiness for work is employer certification examinations, which number in the hundreds. The Southern Regional Education Board (SREB) recently reviewed some diverse industry certification programs for use in career and technical education programs in high schools.

[24] Paul E. Barton, *High School Reform and Work: Facing Labor Market Realities*, Policy Information Report, ETS Policy Information Center, June 2006.

[25] Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, Georgetown University Center on Education and the Workforce, June 2010.

SREB studied 68 associations, institutions, boards, and registries that offer multiple examinations in nearly as many fields and specialties. Out of all the examinations available, 177 were recommended for approval.[26] These examinations reveal much about what workforce entrants need to know, and the variety of levels of qualification required to secure such jobs. These are likely to be high-end jobs, in terms of income, for those who do not complete college. A few examples are Painting and Refinishing Technician, EMT/Paramedic, Carpentry Level 1, Welding, Press Operation, and Pharmacy Technician. The preparation requirements for these jobs would be wide and would likely range from a one-year certificate program to "vestibule" training by employers after hiring. Many high school students are now preparing for such occupations. One of the authors visits a barber who prepared for the trade in high school, took the state examination, and qualified for a license along with a high school diploma.

Much is known about the requirements for "work," and little or none of it fits the model of a single curriculum to fit the needs of all high school students.

[26] *Measuring Technical and Academic Achievement: Employer Certification Examinations' Roles in High School Assessment,* Southern Regional Education Board, 2009.

Different Pathways to Life Destinations

Individual differences are widely acknowledged and these differences are apparent early in life. Children start talking at different ages, they exhibit different temperaments, and they may develop early aspirations to become a doctor, a musician, or an electrician. Still, some go through college without deciding on a career or occupation. We acknowledge and tolerate these differences and respect them. We recognize value in the air conditioning technician who gets our system up and running after a breakdown on a hot day, the aide who helps look after our children in nursery school, the chef at our specialty restaurant, the concert pianist, the senator, and the professor. We recognize that we have inequality in incomes but we value very highly the removal of barriers that encumber climbing the economic ladder.

In the world of policy discussions and debate, much of this understanding about differences seems to stop at the school door. In high school, students begin another stretch along the path to adulthood. They have different learning styles, different mind sets about what they see themselves doing in adulthood, different degrees of "striving" to reach a level of accomplishment, and different values as to what they want to contribute to the well-being of their fellow citizens as they prepare to contribute to their own well-being. They also have large differences in the capability of their families — or possibly a single parent — to care for them and guide their development. They have different adult models in whose footsteps they are inclined to follow — if they have a model at all.

The history of U.S. education goes in the direction of accommodating differences and choices to maximize a student's development, while striving toward some principle of uniformity. Some of the past swings in educational philosophy were described in the opening section of this report. A historical swing is nowhere more apparent than in the recent move to have a single high academic standard for high school graduates with a single objective of high schools preparing all students to meet the requirements of college placement examinations to enter credit courses.

Career and Technical Education

Although there are a number of potential problems in this single-minded approach, one very important one is the threat to teaching subjects like mathematics in applied settings as is done in what are called Career and Technical Education (CTE) programs. Initially funded by the federal government in 1917, under the term "vocational education," the program came about primarily as a result of strong efforts of the American Federation of Labor and the National Association of Manufacturers (NAM). CTE came under attack in the last Bush Administration in efforts to abolish its federal funding.

Phyllis Eisen, long the key NAM officer who watches over the educational system from the standpoint of employer needs, recently expressed a continuing interest in CTE during an event sponsored by the American Youth Policy Forum. Eisen is reported to have said that pushing industries and government to form alliances, as well as changing the culture and the way people think about CTE, is a necessary step to promote the value of CTE and to ensure that the United States has the needed skilled workforce.[27]

Over the many ensuing decades, however, vocational education fell into disrepair, but perhaps not in all parts of the country. Efforts to turn it around began in the 1960s. Among others, there are the strong efforts of a collaboration of

[27] American Youth Policy Forum Brief, *Career and Technical Education: Responding to Industry Needs*, May 10, 2007.

states created by Gene Bottoms and brought into being in the late 1980s by the Southern Regional Educational Board. The High Schools That Work Program (HSTWP) has three principal features that are particularly important. One is that weak "general education courses" are phased out. A second is that academic and occupational/technical instruction are integrated, so learning comes about in applied settings and is reinforced by being applied and shown useful. A third is that there is regular assessment with a test drawn from NAEP assessments, with a goal of moving student achievement up toward levels reached by students in the college preparatory track.[28]

Another strong indication of the continuing efforts to improve CTE came in a recent paper issued by the National Association of State Directors of Career and Technical Education. The report states that "Standards incorporated in the programs are rigorous, blended academic and technical content, and internationally benchmarked." To accomplish its objectives, "we will:

- Develop a national common core of technical standards, built upon the National Career Clusters Knowledge and Skills Statements that are benchmarked internationally and supported by leaders from business, labor, education and government.
- Initiate federal policy that secures CTE's leadership role in leading alignment among education, economic development and workforce development …"[29]

The state directors recognize that they have to overcome both some beliefs from the past that old vocational education was in need of an overhaul and that, although much has been accomplished, more is needed. More is expected, too, if CTE is to swim against the tide of past views as well as the emerging view that all students need to meet a high academic standard — one that, so far, seems devoid of applied learning approaches and options that permit basic CTE instructional principles.

Considerable emphasis has occurred in the development of common academic standards that emphasize international benchmarking in terms of curriculum content. The same is appropriate for CTE, which has many first-rate approaches around the world that have been bought into by societies and industry. For common standards, the United States has looked to nations that exceed it in Trends in International Mathematics and Science Study (TIMMS) scores. This fails to recognize, however, that the countries that surpass the United States in these averages have *CTE approaches*.

Twenty-four percent of Japan's secondary students are in vocational programs, as are 29 percent in Korea, and a whopping 72 percent in the United Kingdom. All of these countries had higher average scores in eighth-grade mathematics that did the United States in the latest TIMMS assessment.[30] Singapore, the leader in average TIMMS math scores, was in the news in 2009. Singapore "has won praise … from educators and scholars around the world, the United States included. But recently, outside observers have become intrigued with another, less discussed feature … of its system: its career and technical programs."[31]

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[28] For more information, visit **http://www.sreb.org/page/1078/high_schools_that_work.html**.

[29] National Association of State Directors of Career and Technical Education, *Reflect, Transform, Lead: A New Vision for Career and Technical Education,* p. 3.

[30] OECD Education at a Glance Indicators, Table C1, 2005.

[31] Sean Cavanaugh, *Education Week,* July 14, 2009 (online edition).

Researchers struggle from time to time with how to evaluate the effectiveness of the CTE approach. As David Stern put it, "It is not possible to infer from the correlational studies whether enrolling students in additional college prep or career-tech courses actually makes any difference. Students may self-select or be directed by teachers or counselors into certain sets of courses because of unmeasured characteristics such as ambition, energy, drive, self-discipline or awareness of what it takes to do well in the world." Evaluation issues aside, forcing students into a wholly academic setting or the CTE applied-and-technical setting goes against the purpose of having options that fit students' interests, learning styles, and post-high school ambitions.[32] That said, many evaluations of CTE show positive results for the students who participate.

A thorough reporting of the research on the effectiveness of the CTE approach comes from the work of John Bishop and Ferran Mane.[33] This is their conclusion:

> *"Analysis of international cross-sectional data found that nations enrolling a large proportion of upper-secondary students in vocational programs have significantly higher school attendance rates and upper-secondary completion rates. Test scores at age 15 and college attendance rates for people over age 20 were not reduced. Analysis of 12 years of longitudinal data [in the U.S.] found that those who devoted about one-sixth of their time in high school to occupation-specific vocational courses earned at least 12 percent extra one year after graduating and about 8 percent extra seven years later (holding attitudes and ability in the eighth grade, family background and college attendance constant). Computer courses had particularly large effects on earnings eight years after graduating."*[34]

Career Academies

Career academies have had a long run since their introduction in Philadelphia in 1969. In the 1980s and 1990s, several different research teams carried out quantitative evaluations, using different methodologies. They measured a variety of outcomes, including attendance, credits earned, grades, dropping out, and sometimes postsecondary school attendance. Putting them all together, David Stern described the results: "No study found that academy students performed better on all these measures, but every study found academy students did better on some of the measures of them, and none of the evaluations found that academy students did worse."[35] That would seem to make a sufficient case to cater to individual differences and objectives.

These results prompted a randomized study by the Manpower Development Research Corporation with an eight-year period of follow-up. Each career academy was located in a regular high school, so comparisons could be made with students in the same school. Random assignment of students was possible because more students were recruited than there were openings. The

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[32] David Stern, "Expanding Policy Options for Educating Teenagers," in *America's High Schools,* The Future of Children, Princeton and Brookings Institution, Volume 19, Number 1, Spring 2009, p. 224.

[33] John Bishop and Ferran Mane, "The Impacts of Career-Technical Education on High School Labor Market Success," *Economics of Education Review,* 2004.

[34] Bishop and Mane, 2004, from the Abstract.

[35] Stern, 2009.

four-year follow-up after graduation found that academy students had significantly higher average monthly earnings. The eight-year follow-up found that these earnings gains held for males, but not for females. No differences were seen as to how many students received high school or postsecondary diplomas. No downside was observed to giving students this choice of high school learning experiences.[36]

Although this randomized selection approach is considered the gold standard, it does not answer another important question. What if the option for such an approach becomes available to all students in a high school? What if teachers and counselors helped steer students one way or the other based on their knowledge of the student? In the randomized evaluation, we start with the fact that all of the students had applied for admission to the Career Academy programs in their high schools. This establishes that they all were motivated to take advantage of this opportunity, and perhaps they were prodded or supported by their parents to do so. These students are different from all those who did not apply, and with displayed motivation, they all had a characteristic that would serve them well in any set of curriculum choices they might have made. With that similarity, the Academy students still did better in the labor market.

The question always comes back to what is best for the individual student. This approach is a long way from the rigid "tracking" of yesteryear, and a return to such tracking is not desirable. Students need counselors and teachers to help them make choices and to make sure they can make course corrections when indicated by changed preferences, changed plans, or changed aspirations. The old "head-and-hand" debate may have been over a real-world dichotomy a long time ago, but for work today and for almost everyone, the hands must be well connected to the heads. And all students deserve the opportunity for postsecondary education choices. It is not helpful when people try to label any system of choice and different pathways as "tracking" — the ultimate put-down and debate closer. It is particularly inappropriate when it is used by people who would force all students into a single "track."

It has always been difficult to find the right words to avoid the pitfalls of the labels. Here are the words of David Spence, President of the Southern Regional Education Board:

> *We know that every student will not earn a four-year college degree, but more students need greater opportunities. We cannot identify which students will ultimately achieve academic success once all the components of a first-class high school education are in place. This is one of the many reasons why we need to challenge every student to prepare for the highest level of education possible. We do that by creating multiple paths to college and careers that keep academic and upper-level jobs open. We should establish a high threshold that we expect most high school graduates to achieve, while recognizing the need for an even higher threshold for some. Educators must challenge themselves to take each student as far as possible — and educators must have the support and tools they need.*[37]

[36] For this short summary of the Career Academy evaluations, we have relied on Stern, 2009, pp. 226–227.

[37] David Spence, *The Next Generation of School Accountability: A Blueprint for Raising High School Achievement and Graduation Rates in SREB States,* Southern Regional Education Board, 2009, p. 2.

A Narrowing of Purpose and Curriculum?

It is important to ask whether focusing on testing, accountability, and common standards on two subjects — mathematics and English Language Arts — and defining the purpose of the high school as preparation to pass college placement tests in those subjects is too narrow a view for secondary education. Should we be thinking more broadly about what the purposes of public education should be?

Adequate preparation for college and work are certainly very important objectives for our high schools and for public education. Preparation for earning a livelihood in a changing economy is necessary for the individual and the economy. Going to college, and graduating, increases opportunities for higher earnings. However, individual and societal needs are much broader than that, and these broader needs are not expressed in the emerging consensus — or they are simply not addressed. Does anyone doubt that attention will shift to what is tested and used for high-stakes decisions?

The view of the purpose of education as being for economic gain and success has increasingly been espoused and there is little need or value in reinforcing those perceptions by the school system. Perhaps there is some intertwining of a changing policy leadership view and a changing public view. Kate Zernick, in an article in *The New York Times*, captures some of the shift in attitudes and values, and symptoms of shifts:[38]

- Students and their parents, she reports, are increasingly focused on what comes after college, such as how it will translate into a well-paying job and return on their investment — particularly as college costs keep rising.
- Business has become the most popular major in the last 15 years.
- Everyone asks, "What are you going to do with your degree?"
- In 1971, she says, 37 percent of the 400,000 freshmen entering the University of California, Los Angeles, responded to an annual survey that it was "essential or important" to be "very well-off financially," while 73 percent said this about "developing a meaningful philosophy of life." By 2009, the percentages were nearly reversed, to 78 and 48 percent, respectively.
- These trends are reflected in cutbacks in course offerings — such as philosophy, American studies, and the classics — at various colleges and universities as enrollment declines.

The narrowing of the curriculum that has resulted from our test-based accountability focus extends to science, where sanctions have not been applied. Although science tests were phased in under NCLB, science is generally not a subject covered by college placement tests, nor have common standards been developed yet in science. One hopes that the result has not been a degree of neglect there.

A quote from Diane Ravitch, the country's foremost education historian, provides a good stimulus to thinking broadly about the purposes of public education:

> *The disciplines taught in school are uniquely valuable, both for individuals and for society. A society that does not teach science to the general public fosters the proliferation of irrational claims and antiscientific belief systems. A society that turns its back on the teaching of history encourages mass amnesia, leaving the public ignorant of the important events and ideas of the human past and eroding the civic intelligence needed for the future. A democratic society that fails to*

[38] January 3, 2010.

teach the younger generation the principles of self government puts these principles at risk. A society that does not teach youngsters to appreciate great works of literature and art permits a coarsening and degradation of its popular culture. A society that is racially and ethnically diverse requires, more than other societies, a conscious effort to build shared values and ideals among its citizenry. A society that tolerates anti-intellectualism in its schools can expect to have dumbed-down culture that honors celebrity and sensation rather than knowledge and wisdom.[39]

A scanning of current events in this country and around the world provides strong reasons to support a broad school curriculum, and identifies areas where it can be broadened. More than ever, citizens are needed who not only vote but who have some grasp of current political issues, are knowledgeable about current affairs, and can render informed judgments on policy choices. This is especially important today, when the American political system is polarized. Many causes undoubtedly exist for this circumstance, but it calls for voters to understand the issues, to carefully examine different positions, and to develop the types of informed judgments that are necessary to make our democracy work.

The health crisis in America is well known and very complex in terms of finding solutions. Though it is hard to understand solutions when they are proposed, there is general awareness that a large contributing factor is the way we fail to take care of ourselves and grow into obesity through poor diets and a sedentary lifestyle. Yet the amount of physical education provided in our schools is now being cut shorter to accommodate the more narrowed focus.

Although our recent "Great Recession" had a number of causes that even Alan Greenspan said he did not understand, because some of what had happened was contrary to his long-held theories, it is clear that a very large number of homeowners did not understand the provisions of the mortgages they had signed. And as workers become more and more individually responsible for managing their retirement planning, the need for financial literacy becomes more important. There is also a growing movement that seeks to enlarge the financial literacy of the young. The Jump$tart Coalition has as its mission the "improving of financial literacy of youth from kindergarten through college age by providing advocacy, research, standards, and educational resources." The coalition consists of 150 organizations and 49 affiliated state coalitions. How much this effort has taken hold within the schools is hard to say, and it likely varies a lot. After all, there is only so much time in a school year.

Preparation for citizenship is also an important function of our education system. The civic engagement of young people in presidential and congressional elections has been falling. UCLA surveys of matriculating freshman each year since the mid-1960s show that every significant indicator of political engagement has fallen at least by half. For example, just 26 percent think keeping up with politics is important, down from 56 percent in 1966, and only 14 percent say they discuss politics, down from 30 percent. Based on a 50-state analysis of civic education in the schools, William Galston found that "While most states endorse civic education in their constitutions and declaratory policies, fewer have made a serious effort … only three administer exams focused exclusively on civic topics. In many states, certification requirements do not ensure

[39] Diane Ravitch, *Left Back: A Century of Failed School Reforms,* Simon and Shuster, 2000.

that teachers called upon to teach civics will have the education and training to do the job."[40] These are not healthy trends for our democracy, nor are these trends supportive of our advocacy for a democratic form of government for all nations.

We might assume that going to college will broaden the knowledge and understanding of students and prepare them for citizenship. For the past five years, the Intercollegiate Studies Institute has measured how well colleges and universities are giving their students a basic understanding of America's core history, key texts, and enduring political and economic institutions. "The results aren't pretty," says Richard Brake, co-chair of the Institute board. The Institute starts from a test of 14,000 incoming freshmen, in which half of them fail a 60-question multiple choice test by getting just half of the items correct. Worse, he says, "they barely know any more when they graduate, with seniors scoring 54 percent correct …"[41] Some of the most missed questions, Brake says, dealt with such fundamental American concepts as judicial review, George Washington's warning against foreign entanglements, the Monroe Doctrine, and basic details of the Revolutionary and Civil Wars.

For such important matters, colleges cannot be relied upon to make up for what students did not learn in high school. And there is little reason to expect that the future will be better. The trends in higher education are more and more away from a broad education to a more occupation-oriented course of study. This has been underway for many years, as shown in student and parent response to perceptions of market demands and changes in occupational structures, for example, in such areas as business administration, computer sciences, health fields, and protective services. While community colleges are much more oriented to occupational preparation than are four-year colleges, the changes in the degrees granted by the four-year colleges are staggering, as the table below indicates. Another way of looking at these data is that between 1971 and 2008, the percentage of students with degrees in computer sciences, engineering, and business increased from 20 percent to 29 percent, while the percentage of those with social and behavior sciences degrees dropped from 23 percent to 17 percent.

Table 2:

Change in Bachelor Degrees Awarded

Degrees Awarded	1971	2008	% Change
Total	839,730	1,563,069	+86%
Social and Behavioral Sciences	193,511	259,950	+34%
Computer Sciences and Engineering	52,570	122,329	+233%
Business	115,396	335,254	+291%

Source: National Center for Education Statistics, *Digest of Education Statistics*, 2010, Table 274.

Although these few fields are only illustrative, the trends are clear. There are general academic requirements, of course, for getting a B.A. beyond the area of concentration, and that must be considered. The point is, however, that for subject matter covered in high school, colleges cannot be looked to for making up what is not done in high school. Of course, one might add the qualifier, "a *good* high school."

[40] William A. Galston, *Civic Education and Political Participation,* Institute for Philosophy and Public Policy, University of Maryland, undated, downloaded 8/18/2010.

[41] Richard Brake, "Opinion: Colleges Get Failing Grades on Civics," Special to AOL News, downloaded April 9, 2010.

A central focus on college and career readiness as the purpose of high school is new in relationship to past understandings of its purpose. The earlier Diane Ravitch quote is illustrative of the broader purposes long associated with a public high school education. If a new understanding — and one that seems quite limited — is being reached of this purpose, it should be considered thoughtfully and scrutinized intently. Efforts to improve the schools need to be guided with clear goals for what the whole of a public education system is, and those who set policy should be attuned to how piecemeal interventions affect the whole.

The early part of this report provides a sketch of the history of major changes in defining the purposes and objectives of public education. Although there has been much recent activity in defining common standards for specific subject areas, an earlier systematic look was given to the purposes of public education in 1984 through the monumental work of John Goodlad and his research team. The results were published in *A Place Called School: Prospects for the Future*.[42] Goodlad's assertion was that the purposes of public education had not been made clear. Even at that time, Goodlad said that although there was no federal policy on education goals and programs, and the Constitution leaves this to the states, "federal agencies have entered actively into formulating policies and funding programs in harmony with their interpretation of equality of educational opportunity. Consequently, even though responsibility and authority must be assumed at state and local levels, state and local school systems have been nudged — and shoved — this way and that because of federal laws, interests, and funds."

Goodlad points out that back in the 1950s, one of our most eminent educational statesmen, Ralph Tyler, proposed that principals and teachers should have available a set of a dozen or so educational goals to guide program development and teaching in their schools, not narrowly drawn grade by grade but rather a common set of purposes to strive toward. Goodlad and his team set out to find what kind of stated purposes were driving schools. They examined documents in all 50 states, going in depth in the seven states and 15 school districts where most of their work was concentrated. They found large variations, and a rather disordered array of topics and forms of presentation. Goodlad's major conclusion was that "this entire area is an intellectual swamp." Would such an in-depth examination reveal the same today?

When Goodlad looked beyond such stated purposes to the curriculum in operation, he found various forms of curriculum guides. Overall, the teachers in the schools he studied viewed state and local curriculum guides as of little or moderate use in guiding their teaching. Since then, with states exerting their authority in the many changes made after the *A Nation at Risk* report, and the federal requirements in re-authorization of the Elementary and Secondary Education Act that culminated in NCLB, as well as many other specific federal initiatives, there has been a huge amount of state and federal "nudging and shoving."

In spite of the varying statements of purpose, Goodlad was able to put together a composite that he says reflects the school systems at that time. He summarized them under four headings. There is a set of Academic Goals broken down into "basic skills" and "intellectual development." The other three are Social, Civic, and Cultural

[42] John I. Goodlad, *A Place Called School: Prospects for the Future,* McGraw-Hill, 1984.

Goals, broken into a group headed "interpersonal understandings"; Citizenship Participation Goals with nine subgoals, (including "develop a historical perspective, knowledge of the basic workings of government, and an understanding of the inter-relationships among complex organizations"); "Enculturation," including the "development of insight into the values and characteristics … of the civilization of which one is a member"; and Personal Goals, divided into a set on "emotional and physical well-being" and "creativity and aesthetic understanding."

As a beginning frame of reference, it could be instructive to think about Goodlad's research in the context of where we are today. Perhaps this would trigger thoughts about what might be out of date and what may be considered basic and enduring. Of course, this says nothing about how much the goals actually guided the school systems. Overall, after all the research was in, Goodlad voiced a lament that sounds very modern:

> *"… so long as state capitals concentrate almost exclusively on the accountability of administrators, teachers, and students, the state commitments we need will not be forthcoming. The message from those responsible for formulating state policy will continue to be punitive rather than inspirational. And those who legislate will continue to wonder why their 'perfectly rational' solutions to obvious problems produce such bland and unsatisfying results."*

In this modern era of common standards and assessments, having the purpose of preparing students for college and careers, and a blueprint for the reauthorization of the Elementary and Secondary Education Act having a similar concentration, the message given to educators is about getting students to pass college placement tests in reading and math. It is appropriate to ask how these messages play out at the level of the school. What is the understanding of the purposes of education at the school level, and how does this affect the curriculum offered and the teaching? This is unknown, except for an occasional study that finds some cutbacks in non-tested subjects here and there. What is needed is a common consensus on the purposes of a public high school education that informs the nudging and shoving produced by state and federal policy.

The Guidance and Counseling Connection

Although teachers often take an interest in a student's plans for the post-high school future and may offer advice and assistance, teachers are limited in the amount of guidance they can provide to the hundred or more students they see in any given day. Teachers' roles in the guidance function are particularly important in high-poverty schools where access to counselors is frequently more limited. Guidance counselors have a critical role to play. Their responsibilities include having knowledge and information about what postsecondary opportunities are available, as well as knowledge about what kind of high school curriculum and academic achievement will be required to access those opportunities. Counselors help students stay on track, raise the sights of students about their plans for the future, and work to keep students from dropping out. When students have personal or behavioral problems that pose barriers to graduating or staying on course, they need and deserve help. When the problems extend into the home, communication is needed with both parents and students.

A guidance counselor can monitor a student's course-taking and performance in relation to what it takes to enter college and pass placement tests. The counselor can help put a set of courses together that meets the student's postsecondary objectives and needs. The counselor can advise students on — or even conduct classes on — what college and work requires, and can help students to find and access student aid. The counselor can spot students who fall behind, are absent too much, or get into trouble, and work with them to keep them in school and graduate — and even work with parents when necessary. The goal of having students finish high school and be college- and work-ready will be met or not to varying degrees, depending on the availability of these professionals.

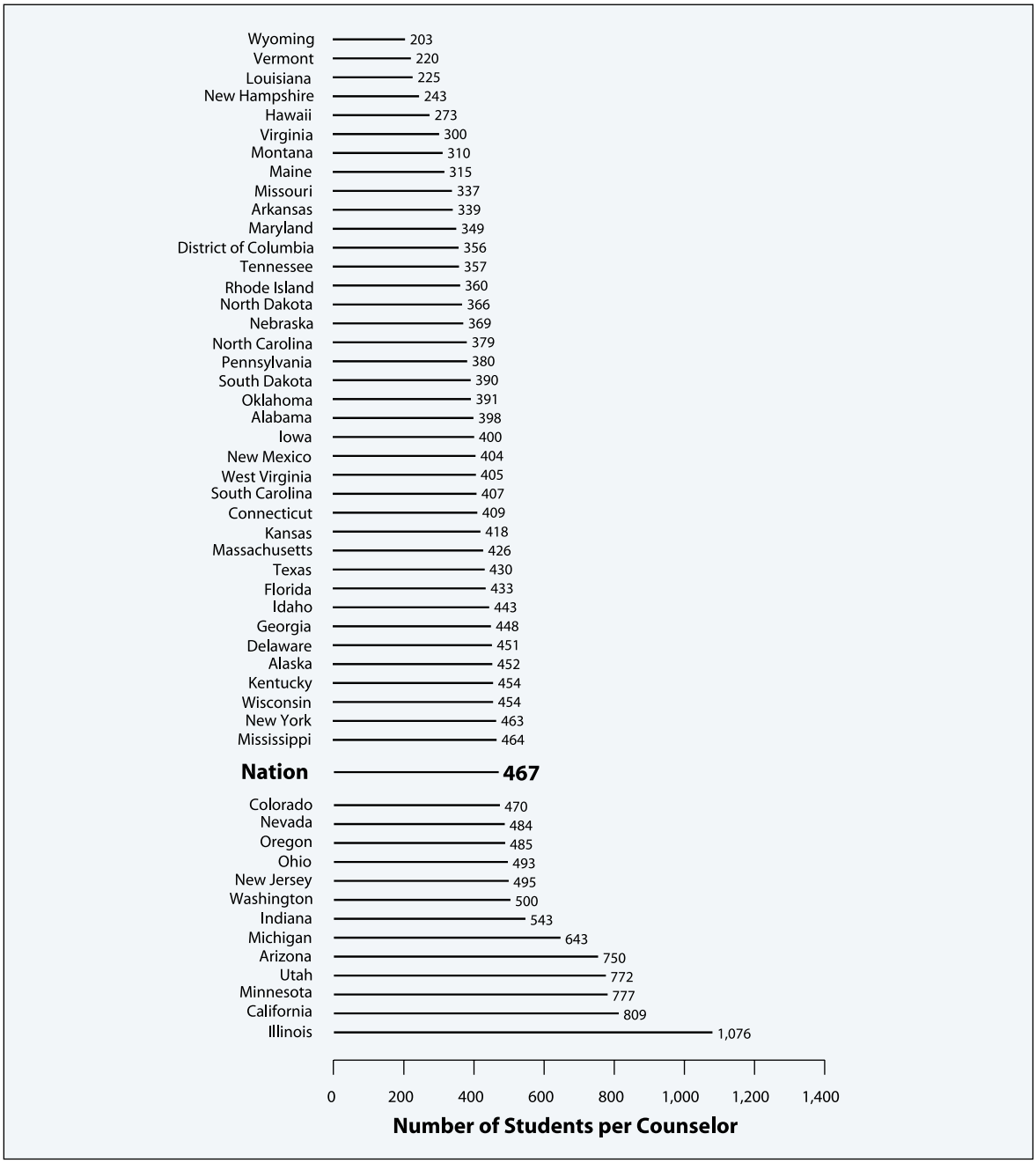
Yet, with all the emphasis on high school reform and getting more students ready for college and work, guidance counseling has not been a focus of the education reform era. When budgets are cut, the counseling staff is vulnerable. Accountability systems do not include counseling. Schools are judged on the basis of student test scores and, increasingly, so are teachers, with no inquiry as to whether those schools are staffed to perform the support role that helps raise student achievement and graduation rates.

Some public high schools are reasonably well staffed and some are nearly — or completely — barren of guidance counselors available to work with individual students on the range of needs they have outside the classroom. Little statistical tracking is done nationally beyond the statistical series on the number of counselors by state and the student-counselor ratios provided by the National Center for Education Statistics — and those ratios are disaggregated by the three levels of schooling. No periodic national surveys are done of how counselors spend their time, and how much time they apply to their professional duties as compared to time spent on the administrative chores assigned by principals, although some state and local surveys are conducted from time to time. What we have found is set out below.

On average, the U.S. K–12 public school system has one guidance counselor for every 467 students. As shown in Figure 4, there is a huge variation among the states in this ratio. The lowest ratio is Wyoming at 203 per student; the highest is in Illinois at 1,076. These state averages hide wide variations within states, and perhaps within school districts, and there may or may not be data regularly collected, district by district, and school by school.

Figure 4:

Number of K–12 Students per Counselor by State, 2007–2008



Source: National Center for Educational Statistics, Common Core Data: School Year 2007–2008.

Even guidance counselors who can devote their full day to counseling would face challenges, in most states, to get to know all students, let alone help all of them. In reality, counselors by no means work full time — or even close to full time — at the duties for which they were trained and certified. In the development of the counseling function, the profession never got a sufficiently strong hold to determine its proper place in the school management structure. Principals and other administrators have the power to make assignments, and it is commonplace to tap counselors for many routine and administrative duties. Though this has long been the case, the situation was greatly exacerbated in the last two decades when the accountability movement arrived and counselors were assigned test administration duties beyond many other administrative duties they had already assumed.

For example, a headline from a story about Nashville, Tennessee, read "High School Counselors Spend 40% of Day on Tests," and bore the subtitle, "State Rules Say 15–20 Percent of Time Should Be On Tests." In another county, counselors are spending 47 percent of their time on test administration.[43] Why should professional counselors be administering tests at all, unless it is a test related to their professional duties? As the testing burden has grown, provisions have not been made for carrying it out.

What tasks are counselors performing that take them away from helping students? A survey in Missouri in 2005 details the tasks, as shown in Table 3. Leading the list is "managing schedule changes" at 83 percent. Next, 74 percent of high school counselors are coordinating testing programs. Other duties include managing files, balancing class loads, maintaining records, handling transcripts, calculating class rank, building the master schedule, and mailing student enrollment records. Missouri has lately been in the forefront of building up its school counseling program and reducing its student-to-counselor ratio.

Table 3:

Non-Guidance Tasks Performed in High School by Counselors in Missouri

Tasks	Percent Doing Task
Managing schedule changes	83
Coordinating testing programs	74
Handling transcripts	66
Balancing class loads	59
Maintaining permanent records	52
Developing and updating student handbooks and course guides	47
Testing for special education and gifted programs	40
Coordinator of management files	34
Copying/mailing new student enrollment records	31

Source: Richard Lapan, Norman Gysbers, and Marc Kayson, *Missouri School Counseling Benefits All Students*, a study sponsored by a partnership with the Missouri Department of Elementary and Secondary Education, the Missouri School Counselor Association, and the University of Missouri-Columbia, 2005, p. 7.

A few years ago, an article ran with the title of "School Counselors Overwhelmed: California Has the Worst Ratio in the Nation." A survey in Los Angeles asked students why they gave up

[43] Dennis Ferrier, MSNBC, downloaded April 9, 2010.

on high school or college. The answers included: no information about scholarships and grants, missing deadlines for college admissions tests, taking the wrong classes, and "it may take a year to see a counselor."[44] Such answers point to the very important role that counselors play and the consequences that can ensue when their roles are diminished. A study in Michigan of young adults found that only 16 percent of recent high school graduates said they were helped by a guidance counselor in their postsecondary decision.[45] That same survey found that just 29 percent of a counselor's time was spent on post-high school planning with individual students and their families; 25 percent went to "responsive services," which includes dealing with incidents and immediate student needs; 30 percent went to administration and paperwork (much of it due to testing duties and curriculum changes); and the rest went to group counseling and other activities. Despite the current challenges, the survey found that 43 percent of counselors believed that the quality of high school counseling in Michigan had *improved* over the past decade, with 30 percent saying it had stayed the same, and 27 percent believing it had deteriorated.

In 2009, Public Agenda conducted a national survey of 22- to 30-year-olds with at least some postsecondary education, preceded by five focus groups in sites across the country. In asking them what would help "someone whose circumstances were similar to yours," 68 percent of college graduates and 68 percent of those who did not graduate said, "The opportunity to talk with advisers who know all about the different college and job-training programs so you can make a good choice."[46]

Christopher Mayhew became a high school counselor. When asked whose advice helped him make the transitions from high school to college to career, he doesn't mention his high school guidance counselor. "We never interacted," says Mayhew. "When there are four counselors in a school of 1,200 kids, you become more of a number."[47]

The Consortium on Chicago School Research spent nearly two years tracking the progress of 105 students in three Chicago high schools providing information on the difficulties faced by many students in the postsecondary planning process. A major finding was that "students at all levels of qualifications have difficulty taking the steps to enroll in a four-year college."[48] One finding was that there was a mismatch between the students' qualifications for college and the colleges actually attended, with many students enrolling in community colleges or less selective colleges when they were qualified for selective four-year colleges. The knowledge and advice of a good counselor might well have resulted in many students raising their sights. The study showed how the social capital gap—the extent to which students have access to norms for college enrollment, information on how to prepare and effectively participate in college search and selection, and effective guidance and support in making decisions about college — shapes a student's college access.

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[44] Barbara Pytel, Suite 101.com, October 5, 2006.

[45] Joyce Ivy Foundation, "2008 Michigan High School Counselor Report," p. 10.

[46] Jean Johnson, et al., *With Their Whole Lives Ahead of Them,* Public Agenda, 2009, p. 20.

[47] "A numbers game for school counselors," *U.S. News & World Report,* September 2010, p. 24.

[48] Melissa Roderick, et al., *From High School to the Future: Potholes on the Road to College* (Executive Summary), Consortium on Chicago School Research, 2008, p. 4.

Many studies have been done of the effectiveness of counselors in making a difference when they are able to do what they are prepared to do. They show beneficial effects in the areas of increasing graduation rates, reducing behavioral problems, and helping students make transitions to college and work.

A principal objective of this report is to point out that adequate support for the counseling and guidance function should be part of the agenda for increasing college access and enrollment; that the goal of getting students "ready for college" in terms of credit courses will not, by itself, have the desired result of increasing college opportunity; and that the practice of diverting the staff trained to provide necessary counseling services to routine administrative functions needs to be stopped.

Adequate staffing and support for the guidance and counseling function needs to be recognized as important in increasing graduation rates, and supporting achievement in the classroom by helping students cope with a variety of personal problems that may hold them back.

If we are serious about getting more high school students onto appropriate pathways, we cannot ignore the counseling need. Today, many types of certificate programs and community college programs can lead to good jobs in growing fields like health care and technology. Yet many of today's high school students lack information about these opportunities. Can we get common standards for the school counseling function and set goals for providing the resources that are necessary?

Facing Low and Stagnant High School Completion Rates

Finally, the high school graduation rate is a very serious matter that should be considered and factored into any restructuring of the mission of the high school.

Table 4:

Average Freshman Graduation Rates for Public Secondary Schools, Selected Years

Year	Percent
1990–91	73.7
1993–94	73.1
1994–95	71.8
1995–96	71.0
1996–97	71.3
1997–98	71.3
1998–99	71.1
1999–00	71.7
2000–01	71.7
2001–02	72.6
2002–03	73.9
2003–04	74.3
2004–05	74.7
2005–06	73.4
2006–07	73.9

Source: National Center for Education Statistics, *Digest of Education Statistics*, 2009, Table 105.

We do not see an obvious pattern in these trends. The completion rate dropped a bit in the early 1990s and then leveled out until 2001–2002. There followed a slight increase, then the rate started dropping and ended where it was in 1990–1991. For long-term trends, the best estimates are provided by James Heckman, and it is likely best to stick with the overall conclusions of Heckman and Paul LaFontaine:

> *Correcting for important biases that plague previous calculations, we establish that (a) the true graduation rate is substantially lower than the official rate …;(b) it has been declining over the past forty years; (c) majority/minority graduation rate differentials are substantial and have not converged over the past 35 years …*[49]

Many campaigns have been waged over the years to reduce the dropout rate. Individual states and districts launch their own campaigns from time to time, and NCLB has included the high school completion rate in the set of conditions that can trigger sanctions, in addition to test scores. One thought is that choices must be made about the total high school curriculum, and that there will be differences of opinion about what kind of total structure best deals with keeping students in school through graduation. What is considered the best approach, and how much focus there should be on it, may vary with the demographic make-up of the students and the characteristics of the neighborhood. Another thought is that a search should be made for successful programmatic/support models that have withstood rigorous evaluation, and these should be incorporated within the ongoing school structure. Additionally, there are many examples of extending the reach of the schools, including cooperative agreements with other service agencies in the community; these are generally called "Community Schools."

Evaluation results of successful program-type approaches were summed up five years ago in an ETS Policy Information Center publication

[49] James J. Heckman and Paul A. LaFontaine, *The American High School Graduation Rate: Trends and Levels,* NBER Working Paper No. 13670, National Bureau of Economic Research, Inc., 2007.

that cited four such well-evaluated efforts: The Talent Development High School (a whole school approach), Communities in Schools, Maryland's Tomorrow, and the Quantum Opportunities Program.[50] Other evaluation studies show good results in the community school approach. A recent publication by David Stern at the University of California-Berkeley addresses efforts to keep students in school. Stern emphasizes the important role mentors could play. He says that "Mentoring of some kind has become a common feature of many high school improvement models, including some like First Things First and career academies that offer good evidence of positive impact on students. Some programs have taken this a step further by keeping mentors in contact with students even if the students leave."[51] As an example of the latter, he cites a program called "Check and Connect," a program developed by researchers at the University of Minnesota.

When it comes to the matter of the most appropriate curriculum, and how wide or narrow it should be, substantially different viewpoints exist. One is that students become disengaged because they do not find the work engaging or challenging enough. Another related view is that all those who enter high school simply must be made ready to enter college. Little comment or analysis seems available on how this approach would work from the standpoint of high school completion, nor for the emerging "one-size-fits-all" model now making its way into conventional wisdom. Another view is that "multiple pathways" can raise academic standards, and that this approach can hold more students in school.

The objective of this brief discussion is to point out that the stagnation of the high school graduation rate is a very serious matter that should be seriously considered and factored into any discussion of restructuring the mission of the high school.

[50] Paul E. Barton, *One Third of a Nation: Rising Dropout Rates and Declining Opportunities,* ETS Policy Information Center, 2005.

[51] Stern, 2008, p. 230.

Concluding Comments

The mission of the U.S. high school is once again the topic of debate. The debate is provoked by warnings from executive and legislative leaders at federal and state levels, from heads of foundations, from economists, education researchers, labor market and workforce officials, and others that the nation's future is being threatened by our lagging educational performance at home and in the world and by the growing inequality in wages, income, and resources that characterizes American society today. In this view, there is a mismatch between the skills possessed by the workforce and the skills needed by employers. In response, there is a movement afoot to repurpose high schools to focus on increasing the college-readiness of all graduates and also to prepare in a similar way those who will enter the world of work. Others warn that education is being oversold as a way out of our problem and that the real solution lies in the creation of jobs that will happen as our economy recovers. This camp also supports the view that many of the jobs that will be created in the future will not require a college degree. In any case, high schools should prepare all students for college, careers, and citizenship as well as for the lifelong learning that will be required by the changing nature of work in the future.

As a result, the nation appears to be moving toward a one-size-fits-all course of study for all high school students to make them college- and career-ready. This notion is supported by the "common core state standards" movement, which has found wide acceptance across the states. These standards, so far, address only English Language Arts and mathematics. This focus is strongly reinforced by test-based accountability programs that are limited to those two subjects and is further strengthened by the threat of an array of sanctions that can be imposed on schools, principals, and teachers. This report is not intended to present a case for or against this new "movement" to reform the high school, but it does urge that this important undertaking merits deep thought and consideration about a number of issues including:

- What defines college and work readiness and how are these definitions applied?
- What do we know about more applied learning approaches like Career and Technical Education and multiple pathways approaches?
- What is missing from a narrow focus on reading and mathematics and what are the effects of that narrowing on students and our society?
- What is the effect of the dismal state of the high school guidance function on helping students pursue the right academic and career choices?
- And finally, what obstacles does the high school dropout situation impose on meeting the goal of having all students college and career ready?

A few conclusions are offered in each area.

While many states are well on their way to making the connection between high school and college, postsecondary institutions vary tremendously in what they expect of high school graduates. These differences relate to standards for college entrance and credit work and, in fact, some institutions have open admissions policies. In addition, there are gaps in our knowledge about the validity of college placement examinations and about the effectiveness of different policies across the nation.

States are also making efforts to connect schools and work, establishing policies to define workforce readiness. Yet many of the skills that employers say they want in new employees are "soft skills" like professionalism and work ethic — skills not traditionally imparted by the high school curriculum. There is also a lack of consensus about determining the educational requirements of jobs. Surveys that describe the educational levels of current job holders are one way, but may reveal more about supply and demand than actual job requirements. We know that many bartenders and waitresses, for instance, have a college degree. The other way is to look at the job itself, as the Bureau of Labor Statistics has done, to determine the level of education and training that the job requires. We need better information on what levels of education will be required in the workforce of tomorrow.[52]

There is a considerable history in the United States of the educational system accommodating differences and choices that allow students to maximize their development while still adhering to common standards and expectations for all students. There is much to learn, for example, from existing programs like CTE. Two important examples are High Schools that Work and Career Academies.

When we define the purpose of the high school narrowly and send the wrong signals to students and parents, we harm both students and society. The society into which today's high school students will graduate will demand the kinds of skills that are not deemed to be important in many high schools today. More and more individuals will need literacy in areas like finance and health care to manage their lives. How much of the recent financial meltdown might have been avoided if individuals were more astute about the risks of certain types of mortgages and investments? And with the downward trend in fixed-benefit pension plans and likely changes in the Social Security system, today's graduates will have to take more responsibility for ensuring they have sufficient resources available to them in retirement. There are also signs that today's students are not civically engaged, posing a serious threat to the health of our democracy.

Whatever the college/career path chosen, it is likely that the choices students make will be increasingly important. Yet our schools have disinvested in the guidance function at the same time that the counselors we do have are diverted to administrative and other non-guidance functions. On average, we have nearly 500 students for every guidance counselor in our schools today. Surely, this level will not serve students' needs going forward.

And finally, we are losing a tremendous amount of human capital each day when, on average, 7,000 students drop out of high school. Little progress has been made over the past 20 years in reducing the dropout rate. Ways to stem this loss of human capital need to be worked into any plan to reform the mission of the high school.

A new conventional wisdom has developed about the central purposes of the public education system and its relationship to higher education and the world of work. The implications are considerable in terms of the huge variation in academic skills of students — as well as in their motivations, life goals, and ambitions — as they prepare to enter a highly differentiated economy, and as they prepare to assume adult

[52] The Bureau of Labor Statistics is in the process of developing a new system to present a more complete picture of the education and training needed for entry into a given occupation and to become competent at performing the occupation.

responsibilities and contribute to society and our democracy. To make judgments about this new formulation of purpose, we need to understand the dynamics that have led to such a large percentage of college freshmen who end up in remedial courses, and where course corrections need to occur. We need to recognize that we are reformulating the purposes we assign to a public education system that encompasses kindergarten through the 12th grade. The hope is that this report has provided useful information, raised important questions, and identified areas where we need to know more as such momentous measures are proposed and enacted.

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