

An American flag flies on a tall pole against a clear blue sky. Below the flag is a multi-story school building with a tan facade and several windows. The title text is overlaid on the upper portion of the image.

SECONDARY EDUCATION IN THE UNITED STATES

Lyndon B. Johnson School of Public Affairs
The University of Texas at Austin
Policy Research Project Report

155



Lyndon B. Johnson School of Public Affairs
Policy Research Project Report
Number 155

Secondary Education in the United States

Project Directed by
Catherine Clark

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Secondary Education in the United States
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Forward

The Lyndon B. Johnson School of Public Affairs has established interdisciplinary research on policy problems as the core of its educational program. A major part of this program is the nine-month policy research project, in the course of which two or more faculty members from different disciplines direct the research of ten to thirty graduate students of diverse backgrounds on a policy issue of concern to a government or nonprofit agency. This client orientation brings the students face to face with administrators, legislators, and other officials active in the policy process and demonstrates that research in a policy environment demands special talents. It also illuminates the occasional difficulties of relating research findings to the world of political realities.

Students conducted this project, *Secondary Education in the United States*, with guidance and financial support from the Congressional Research Service during the 2006-07 academic year. The purpose of the project was to investigate the development of secondary education in the United States, to investigate models used to provide high school education, to explore efforts to improve high school education, including reform efforts and related policies.

The curriculum of the LBJ School is intended not only to develop effective public servants but also to produce research that will enlighten and inform those already engaged in the policy process. The project that resulted in this report has helped to accomplish the first task; it is our hope that the report itself will contribute to the second.

Finally, it should be noted that neither the LBJ School nor The University of Texas at Austin necessarily endorses the views or findings of this report.

James Steinberg
Dean

Executive Summary

In the past decade, American secondary education in general, and high school education in particular, experienced a surge of critical attention from government leaders, policy analysts, nonprofit organizations, researchers, and philanthropic foundations. The challenges of American high school education have been explored, measured, and described in reports that aim to raise awareness and stimulate change in state and local education systems. In response, states and foundations seeded reform efforts with planning grants and start-up funds to support new programs. In addition to providing incentives for new programs, states attempted to change student and school system behavior by raising performance expectations and promoting academic rigor. Foundations offered assistance for building model schools and model programs as well as support for task forces to explore improvements at the district and state levels.

This report reviews the state of secondary education in the United States by first summarizing the development of American high schools from the early 1800s through 2007. The report captures highlights of 21st century reform efforts, including a brief introduction to reform leaders in foundations and government. Following data about high school participation is a review of high school reform issues. The report presents summaries of high school reform models and strategies for improving the delivery of secondary education. It concludes with an overview of federal and state policies that aim to stimulate improvement in high schools and recommendations for continued progress.

From the early 1800s through the middle of the 19th century, American cities and towns founded public high schools to serve community needs. Much like today, politics figured into the development of high school education as supporters promoted the schools as a means to spread democratic values and distribute power while detractors claimed that money was wasted on academic education of youth who were unlikely to need such knowledge and skills as adults.

High schools of the 19th and early 20th centuries varied greatly in terms of the courses of study offered, the rigor of the education, and the additional activities provided to students. This situation holds true in the early 21st century as well. The result of such diversity is inconsistent preparation of adolescents and young adults for postsecondary education or productive employment.

Critics repeatedly voiced concerns about course rigor, relevance of high school preparation for life after high school, and a persistent problem of students dropping out of school before completing graduation requirements. There is no absence of information documenting the problems of American secondary education and recommendations for change. There is, however, strong interest from generous individuals and foundations to help improve schools for millions of American youth, and over time many commissions and task forces have examined evidence and prepared reports recommending a variety of

changes to produce improvement in student performance and preparation for college and work.

Contemporary issues affecting secondary schools include academic standards, testing, dropout and completion rates, and course-taking patterns. Testing for accountability, postsecondary institution admission, and award of college credit to high school students increased dramatically since 2000, providing data for individuals who are examining the change in high school standards. With improved state data systems, analysts are able to describe patterns of course taking and graduation from high school by type of school and by student demographic characteristics. Available data allows supporters and critics alike to elevate the issues of high school performance and completion to a level of high importance.

In response to these pertinent issues, reformers devised different ways to provide high-quality secondary education including schools within schools, honors and Advanced Placement courses, dual enrollment options, and International Baccalaureate programs. Model programs for supporting students include Advancement Via Individual Determination; Science, Technology, Engineering and Mathematics programs; First Things First schools; High Schools that Work; High Tech High Schools; Talent Development High Schools, the KIPP or Knowledge is Power Program academies; and YES Prep schools. District-wide reform models include Project GRAD, GEAR UP, and the El Paso Collaborative.

In addition to reform models, educators and policy analysts have offered strategies for use in both traditional schools and model programs. These include improved academic engagement; personalized learning environments; alignment of standards, instruction, testing, and support; tougher graduation requirements; and meaningful college and workforce readiness indicators.

For several years, Congress and state legislatures enacted policies supporting the implementation of models and the use of promising strategies. Still, there remain challenges and barriers to improvement. These include insufficient funding, disagreements about the locus of control, frequent leadership turnover, weak teacher buy-in for top-down reforms, and entrenched cultures that favor the status quo.

Four recommendations conclude the report. First, schools and school districts need to expand capacity to implement and sustain reform. Expanded capacity includes new resources (flexibility to use existing resources differently, instructional supports for educators, and strong leadership). Rigorous coursework will improve the preparation of students for employment training and postsecondary education. Use of multiple accountability indicators will expand the data available to policymakers to understand secondary education as well as offer a fairer way to evaluate schools and districts. Finally, flexibility to use growth models may result in better measurements of student progress and school improvement.

Chapter 1. History

Development of Secondary Education

In 18th century America, formal education beyond grammar school was available through private academies or religious schools. In Boston, for example, private schools taught “many of the higher branches of learning that attracted middle- and upper-class families seeking a more practical education.”¹ Education gave young men a better chance to rise in the social and commercial world of the time, and even a few young women attended academies.

In 1820, Samuel Adams Wells led a committee of influential Bostonians that recommended founding a public high school that was to be called the English Classical School. Although it was a tax-supported school, an admissions test determined which students were eligible to attend. The English Classical School provided upper-level academic education to young men of strong moral character and high intellectual ability.² This first public high school marked the beginning of a movement that was to last for more than a century, a movement that resulted in universally available secondary education throughout the United States.³

From 1820 through the middle of the 19th century, cities and towns in the Northeast, South, and Midwest founded public high schools to serve the educational needs of the community. For example, in New York, precursors to the modern high school developed during the 1850s from free public high schools in consolidated school districts.⁴ These high schools were referred to as “public” schools because public tax dollars supported them, not because they were open to all youth in the population. Nineteenth century public school curriculum consisted primarily of history, geography, mathematics, English, and science.

Much like today, politics figured into the development of early high school education. Pioneering public education supporters promoted high school as a foundation of democracy and as the fairest way to distribute power in the country. Some reformers such as Horace Mann believed it was crucial to make public schools an attractive choice for middle-class students who would otherwise choose private academies. Over the course of the century, Mann’s vision succeeded, with most students choosing public high schools over private institutions.⁵

Public high schools were an integral part of a democratic republic for some, but others opposed their expansion. Nineteenth century critics believed that a high school education should be financed by families rather than citizen taxpayers. Opposition to publicly funded secondary schools was strong in the South. Some southerners believed free schools to be inferior; many did not believe that education would result in social or economic advancement, and therefore saw little reason to pay tax dollars to support it.⁶ Despite opposition, public school advocates prevailed; by the end of the century, high schools were “common on the educational and social landscape.”⁷

Community leaders, not professional educators, established and guided high schools of the early 19th century. Teachers were hired workers with little say in planning or governance of the school. But as the scope of secondary schooling grew, educators themselves became more involved in guiding the schools. By 1857, educators had formed the National Education Association (NEA) to exert more influence over educational decisions throughout the country. This organization grew and applied pressure on schools to support the professionalization of education.⁸

By the 1880s many cities, towns, and rural districts had established free public high schools, but those early high schools were neither democratic nor open to all youth. Most were created to serve children from the upper social classes. However, at the end of the 19th century, public high schools serving talented white students were common in the Northeast. The private academies, in turn, declined in number and prominence.⁹

Those who established public schools believed they were a foundation of social order and even public welfare and for that reason encouraged their expansion. High schools, public and private, each developed different courses of study at varying levels of rigor and depth. This approach served individual and community needs, but did not prepare all students for further study. Inconsistency in high school preparation concerned college leaders, who found it difficult to establish a curriculum for which most college entrants would be ready.¹⁰

To address this problem, the NEA chose ten educators to recommend a uniform high school curriculum. In 1893, The Committee of Ten, led by the president of Harvard University, recommended a standardized high school curriculum to prepare able children for higher education.¹¹ According to the report, students should study the same curriculum—at the same difficulty level—in American high schools, and colleges should accept all graduates of such rigorous high schools.¹² Critics of the committee’s report claimed that student capacities and aptitudes varied, making a common course of rigorous academic study impossible to implement. Most students, it was argued, did not need such instruction and would not benefit from it.¹³

In 1906, the president of the Carnegie Foundation for the Advancement of Teaching proposed that a unit of instruction be a course meeting five times a week throughout the academic year in secondary school. The “Carnegie unit” of instruction was quickly established and persists today as a way of measuring the amount of instruction high school students receive.¹⁴

Not long after The Committee of Ten report urged a standardized high school experience to prepare students for college, John Dewey argued very differently about the aims of schooling. He believed that high school should serve as an instrument of social reform, not primarily as a means to prepare students to enter college. Modern schooling should represent real life, and school material should be modified to meet a child’s ability.¹⁵ In 1917, a report called *Cardinal Principles of Education* echoed Dewey’s report offering a blueprint for “broad socialization of youth for work, family life, good health, citizenship, ethical character, and worthy use of leisure.”¹⁶

Changes in larger society such as industrialization, the growth of cities, and waves of immigration sparked growing concern about social changes. Many education reformers of the early 20th century looked to schools to address rising social problems, not to advance the academic skills of all or even a majority of students. Leading education reformers soon offered an approach to education reform that supported differentiated learning experiences for all students according to their backgrounds and aptitudes.¹⁷ First introduced by Dewey, this new vision became known as “progressive education,” and it guided many educators in the first half of the 20th century.¹⁸

Even though public education was expanding, it remained a locally governed institution throughout most of the states in the decades of the early 20th century. State government provided some funding and oversight, but local government was the primary developer of education policies such as the school calendar, hiring practices, and rules about attendance and graduation. In some communities, employment in the high schools arose from patronage rather than from professionalism.¹⁹

Many schools followed a curriculum keyed to local needs and values without much regard for intellectual rigor. The standardized curriculum became unnecessary if preparation for college-level study was not a priority. But in many cities as well as rural communities, high school was set apart as a prestigious institution with high standards. In fact, sociologists have speculated that the high school diploma of the 1940s shares the same prestige as the college degree of the 1970s.²⁰

Even into the 1940s, progressives expressed concern about teacher-dominated instruction and standardized approaches in high school. Reformers envisioned schools where projects and activities would replace rote learning. Students would have a voice in discussions and choice in their learning.²¹ As a result, progressives believed, students would find high school to be more pragmatic and enjoyable.

The United States Commissioner of Education appointed the National Commission on Life Adjustment for Youth, which released a report in 1948 that supported “progressive ideas.”²² The commission suggested that students receive immediately applicable lessons on practical matters in order to prepare for the real world, and advised against the study of anything without immediate utility, such as history, foreign language, advanced mathematics, and classical literature. The commission encouraged teachers to relate their subjects to practical life applications and to prepare students for adulthood. Teachers were to introduce methods to reach socially acceptable solutions to problems, molding students into respectful citizens. Tracking of students would be necessary—most would focus on life adjustment classes, while a few would concentrate on rigorous academics. Preparing everyone through life-relevant courses seemed an efficient approach because most students entered jobs after high school instead of attending college. A few high schools adopted this approach wholesale, while the rest made modifications, in part to reach the increasingly diverse high school population of the mid-century. According to one critic, what began as an effort to serve students who reformers deemed unmotivated turned into a movement to change the curriculum for everyone.²³

After World War II, Congress debated an initiative to provide federal aid to schools to help ease the teacher shortage, meet the need for new classrooms and schools, and serve the needs of a growing youth population. In 1947, President Truman's Committee on Civil Rights examined nationwide inequalities among the races and recommended eliminating segregation at the same time the Congress was discussing federal aid. Debates resulted regarding whether to provide federal aid to segregated Southern schools. Congress defeated bills for general aid to education in 1949, but passed a supporting program to aid "federally impacted areas," school districts "overburdened financially because of war-incurred or defense-incurred school enrollments" and by reduced local tax revenue due to federal land acquisition. At the time, school districts relied heavily on property tax revenue to support operations and school construction. With more students to serve but a constrained revenue source—because federal land and facilities are exempt from taxation—school districts struggled to build schools and to pay teachers. Federal impact aid was an attempt to address that problem.²⁴

The clash of ideas about the nature and purpose of secondary education was as lively at the middle of the 20th century as it was at the beginning. Interest was rising in life adjustment education for high school students at the same time that Harvard University's Committee on the Objectivities of a General Education in a Free Society in 1945 declared that the purpose of secondary schooling should be to foster intellect, not to address the interests of students. The committee defended traditional courses as better preparation for college and work after high school. The report writers asserted that "schools cannot do everything" in preparing students for life, and other social institutions should provide personal interest courses and life skills training.²⁵

At mid-century, public high schools stood firmly rooted in the political and social culture of the nation, but they did not serve all students well, despite the efforts of progressive educators to expand the social reach of schools or the efforts of others to promote intellectual development. In particular, formal segregation in the South and de-facto segregation in the North offered substandard education to poor and black children. Typically, intelligence test scores and class grades defined placement of high school students into different programs or tracks.²⁶ Academic education was often excellent for a few, but lacked rigor for the rest of the population.²⁷

During this period, local and state tax levies to finance schools increased. Business and political leaders looked to high schools to provide able workers as well as college-ready students. Schooling grew in scope and cost, raising questions in the minds of some about its value. Critics from the business sector declared that America's youth were not prepared to compete in the global economy of the mid-1950s. Social critics claimed that high schools shortchanged youth, in part because educators assumed that lack of family wealth connoted weak intellectual skills.²⁸ As concerned observers worried that progressives were weakening high schools, the Soviet Union launched Sputnik in 1957 and national anxiety about schooling increased. The idea of life adjustment education withered—though some classes survived as electives—and reformers stressed additional, more rigorous, mathematics, science, and foreign language classes.²⁹

In the 1950s and 1960s, tougher courses and tests entered the school days of high school students in advanced tracks. This period saw the introduction of early college admissions options: Advanced Placement (AP) tests in 1955, National Merit Scholarship examinations in 1955, and International Baccalaureate (IB) Diploma Programs in 1968. AP exams test subject matter knowledge in 37 different high school courses or subjects. Students may take an AP class to prepare for the examination, but they are not required to do so. Examinations receive scores ranging from one to five, with a five being the top score. Typically, colleges and universities grant incoming students college credit, placement in more advanced college courses, or both for exam scores of three or higher.³⁰ The National Merit Scholarship program offers college scholarships to students who attain high scores on the Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test in 11th grade and who meet other qualification standards.³¹ The IB Diploma program requires students to complete six courses from six different subject areas; write an essay; complete a Theory of Knowledge class; and complete 150 hours in creative, active, and service pursuits. Each subject has a standard final exam. An IB diploma is generally well-regarded in American colleges and universities.³²

In 1958, growing fear of the Soviet threat prompted the federal government to provide money for education through the National Defense Education Act and to greatly increase the National Science Foundation budget. The NDEA authorized federal aid for a wide variety of education purposes, including support for mathematics, science and foreign language, expansion of testing, and enhancement of state education agencies.³³ It was a “landmark statute in the history of federal aid to education” and presaged major federal education programs of the 1960s.³⁴ The NSF, which had become involved in improving science education in 1956 with a revision of the physics curriculum, increased its involvement by funding development of a new high school physics courses. A redesign of biology, chemistry, and mathematics curricula followed.³⁵ The country saw a mounting commitment to mathematics, science, and foreign language instruction as an appropriate response to the threat from an unfriendly nation.

Toward the end of the 1950s, James B. Conant, former Harvard University president and ambassador to West Germany, rose to prominence in education policy circles when he undertook an extensive study of American schools.³⁶ He published, with support from the Carnegie Corporation, *American High School Today*.³⁷ Conant applauded the high school meritocracy based on talent identification through testing, followed by rigorous academics for those identified as being most able. The author recommended improved vocational education programs for less-talented individuals, but in general he felt students were well-served in tracked, comprehensive high schools. Conant’s most famous recommendation was to eliminate small high schools that could not offer a diverse curriculum and extracurricular programs. He is known for his promotion of large, comprehensive high schools—a model that persists today.³⁸

Conant’s proposals supported and reinforced educators’ views that American high schools were basically sound, even though a need existed to strengthen education for talented students and to reorganize the delivery of high school education into larger operating units.³⁹ The comprehensive high school, with its broad selection of academic,

vocational, and personal interest courses also required more professionals to operate and administer than smaller schools. Conant's recommendations for improved vocational education preceded enactment of the federal Vocational Education Act of 1963, which expanded the definition of vocational education and provided a new source of funding. Programs for almost all occupations except those considered professions became eligible for support under the legislation.⁴⁰

Education critics in the 1960s continued to denounce public education for failing to serve all students well, particularly poor and black students. In 1960, Jerome Bruner published *The Process of Education*, challenging formal education trends such as a strong basic curriculum, homework, memorization, and testing for learning.⁴¹ John Holt and Jonathan Kozol both wrote books criticizing education systems for failing to educate the urban poor.⁴² Academic researchers as well as authors writing for the popular press declared the dawn of a new society which would be challenged by constant change. Demographic, scientific, and social trends of the time appeared to support radical theories on future changes and requirements for preparing young people for adult lives in the new world. In the field of education, critics derided traditional tools such as textbooks, homework, and tests as out of date.⁴³ Some even questioned the institution of schooling itself.⁴⁴

The issue of racial inequality in the schoolhouse led, finally, to the integration of high schools in the late 1950s and into the 1960s, along with implementation of programs and courses to assist minority students who needed to catch up academically. The Elementary and Secondary Education Act (ESEA) of 1965, part of President Lyndon Johnson's War on Poverty, included federal funding to supplement the education of low-income children. Early compensatory education programs provided academic support, counseling, medical screenings, and other services. ESEA later incorporated the Bilingual Education Act of 1968, with funds for bilingual education intended to assist limited English proficient (LEP) students in learning English, as well as for teacher training and research.⁴⁵ ESEA directed new funds to state departments of education for distribution to schools. One consequence of this shift was the growth in state education bureaucracies, as they allocated funds and monitored program implementation.⁴⁶

The social change that began with a quest for basic civil rights developed into a broader movement for social and academic freedom in the public schools during the 1970s. In opposition to standard rules for conformity and decorum, student dress and behavior changed. The culture of respect for teachers and fellow students transformed to one of questioning and even antagonism. Experts offered further prescriptions for change that diverted the nation from the focus on rigorous academic standards beginning in the late 1950s.⁴⁷ For example, educators at Teachers College, Columbia University, complained that schools and teachers were too conservative and too attached to books, homework, and old-fashioned rewards and punishments. Some considered the standard academic curriculum, textbooks, enforcement of middle-class norms, homework, and a focus on academic basics irrelevant for modern students. In effect, university reformers sought to bring back progressive educational ideas, declaring that "inquiry, discovery, and 'higher order' thinking skills should guide instruction."⁴⁸

In response, alternative models of schooling emerged in the late 1960s and early 1970s to implement new ideas. Alternative secondary school models included mini-schools, schools-without-walls, open schools, internship and apprentice-type programs, and even so-called “free schools.”⁴⁹ The open school movement was an effort to translate British primary school educational practices of the 1960s to American schools at all grade levels. Open schools emphasized project-based learning, multi-age grouping, student freedom to choose what to do and when to do it, schools without daily schedules, and even classrooms without walls. Charles Silberman’s best-selling *Crisis in the Classroom* suggested open education as “an antidote to the collapse of meaning and purpose for our lives.”⁵⁰

Many educators adopted open school practices at the urging of academic and social reformers. However, the American public was skeptical of such changes. There was worry that students were not developing even minimal skills. Resistance from parents as well as from educators, who rejected the new ideas from the beginning, made the most radical of the new ideas short lived. By the mid 1970s, the open school and alternative school movements had ended, but the effects lasted longer. High school requirements declined and elective courses proliferated.⁵¹ In 1977, a report by the College Entrance Examination Board revealed a decade-long decline in SAT scores, and by 1980s, reformers were calling for “back to basics” instruction and traditional school organization to correct the problems.⁵²

Late 20th Century High School Reform

In the early 1980s, economic concerns refocused national attention on the need for rigorous education. Economists reported dismal American productivity increases compared to Japan and to several Western European nations.⁵³ These concerns resulted in calls for new reforms which would bring about change and increase productivity and prosperity in the United States.

The National Commission on Excellence in Education formed in 1981, as a response to “the widespread public perception that something is seriously remiss in our educational system.”⁵⁴ The resulting commission report, *A Nation at Risk*, expressed a deep sense of urgency to address economic and productivity problems through improvements in education. The 1983 report included dire warnings as a spur to action, declaring that “the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people.”⁵⁵ Rather than preparing American children and, in particular, high school students, to be competitors in the global market, the education system was standing idly by as students eased through with little effort. The report documented a secondary school curriculum that focused on a smorgasbord of non-academic choices rather than core academic courses. Concurrently, expectations for students declined to the point where some universities lowered their admission standards. Along with unearthing weak course content and low expectations, the report asserted that teachers did not make optimal use of instructional time and many teachers lacked necessary subject matter knowledge.⁵⁶

The commission saw education as key to national security and prosperity, and many citizens agreed. The report emphasized that a solid high school education was within the reach of virtually all, and that life-long learning would equip people with the required skills for new careers and for citizenship. A solid high school education included a curriculum called the New Basics, with rigorous and measurable standards for learning, higher expectations for student academic performance, challenging materials for students, more time for academic learning, fiscal support for reform, and improved teacher preparation. The New Basics include four years of English, three years of mathematics, three years of science, three years of social studies, and one-half year of computer science. The commission also recommended, for the college-bound student, two years of foreign language. The commission report and the concurrent publication of numerous other reports exposing high school weaknesses increased the sense of urgency to fix education.⁵⁷

Although urgency for reform grew throughout the nation, change did not develop as quickly as policymakers expected. Consequently, state leaders took it upon themselves to identify new reform implementation methods. In 1986, the National Governors Association (NGA), issued a report entitled *Time for Results*, which examined the governors' role in increasing the speed of school transformation, and more generally, education reform.⁵⁸ According to the report, gubernatorial leadership for accountability would result in positive outcomes for the education system. Foreshadowing the development in the 1990s of accountability systems, the governors focused on achievement, assessment, and accountability as the major themes of school reform. Moreover, the authors urged "the governors to intervene in low-performing schools and school districts and to take over or close down academically bankrupt schools."⁵⁹ This report was an important step on the road to greater state involvement, especially gubernatorial, in the high school reform movement.

A year later, in 1987, NGA released a second "Results" report which again addressed failure to implement education reform.⁶⁰ The report concluded that states must shoulder "larger responsibilities for setting education goals and defining outcome standards," and show flexibility by allowing "more varied instructional arrangements, greater collegial interaction among teachers, and greater teacher involvement in decision making."⁶¹ These recommendations echoed some of the progressive ideas of the mid-20th century, yet the report continued to focus on the role of state government as the locus for accountability systems. NGA argued for assessment systems that would allow states to track the progress of students over a period of years. After examining results, states could then devise new strategies to address the apparent weaknesses. At the time, the recommendation for a national testing system to track individual results was abandoned, but the idea continues to surface in policy discussions regarding improving student achievement.⁶²

In 1988, Albert Shanker, President of the American Federation of Teachers, introduced the idea of charter schools. Policy analysts had been thinking similarly.⁶³ Charter schools would be public schools free to operate like private businesses, without burdensome state regulations. In exchange for less regulation, charter schools would have to demonstrate

results and attract enough students to survive. Constraints would be exchanged for flexibility and performance-based accountability.⁶⁴

New charter schools presented an appealing alternative to the apparently intractable public school system that was responding slowly to the warnings in *A Nation at Risk* and other reports. Minnesota enacted the first charter school law in 1991. By 1996, over 20 states had charter school laws. By late 2006, the movement had spread to 40 states, with nearly 3,500 schools and about one million students.⁶⁵

The second half of the 1980s saw a gradual change in high school instruction. Schools focused on increasing course rigor and on preparing students for new state minimum competency tests, but policymakers remained dissatisfied with the outcomes. Federal and state data on tests and graduation rates were not encouraging. In response to anxiety about the future of the country and the education system, President George H.W. Bush convened governors and policy experts at an Education Summit in Charlottesville, Virginia, in 1989.⁶⁶

Those present reached a consensus concerning the unacceptable state of American education and the need for a national strategy to remedy its deficiencies. The Summit attendees discussed goals for states and identified a role for the federal government to play in education reform. The federal government would continue its role in financing schools, in particular the provision of equal access for economically disadvantaged or disabled students; assist state reforms by providing updated research, data, and aid in best practices; and increase flexibility in the administration of federal education programs so that states could lead education reform.⁶⁷ Consequently, the report treated the American education system as a national concern—a problem requiring the support of every level of government.

Following the summit, governors, in cooperation with the White House and the Congress, adopted six national guidelines to direct education improvement. The governors agreed that goals should address: student preparedness for schooling; student performance on international exams, in particular mathematics and science assessments; dropout rate reduction and at-risk student improvement; adult literacy; workforce training; sufficiency of qualified teachers and modern technology in classrooms; and supply of safe, drug-free schools which maintain student discipline.⁶⁸

A Clinton Administration effort to increase federal support for state and local education efforts incorporated the resulting National Education Goals.⁶⁹ With respect to high school reform, the Goals 2000: Educate America Act of 1994 called for increasing graduation rates and improving high school mathematics and science with the goal of becoming “first in the world” in those subjects.⁷⁰ The Act also established the National Goals Panel to assess and report national progress toward achieving the goals. The legislation allocated funding for state reform efforts tied to the goals and for programs to improve parental involvement and school safety—two later additions to the goals. Many states began to take action.

A private sector effort in 1991 established New American Schools to support the national education goals. New American Schools aimed to improve student performance by implementing “whole-school designs” in school districts around the country. Each school design would support common learning goals with an aligned curriculum within the school. A school design team would establish benchmarks that would measure progress toward the goals. Several design models were available for consideration, such as Modern Red Schoolhouse, Roots & Wings, and Co-NECT schools. Reformers implemented the models in more than 550 schools by 1997, with mixed results.⁷¹

Evaluators found effective implementation to be as important as the design quality itself. Aggressive implementation schedules, barriers to change within the established school system, and lack of access to additional financial support limited the effectiveness of many implementation efforts. Factors that supported implementation included strong district leadership, available financial resources, a culture of cooperation and trust between the model school and the district, and perceived commitment of district leaders to the project.⁷²

While states were taking action, policy analysts and academic researchers were crafting the components of systemic school reform, an idea experts hoped would guide education systems to support higher levels of student learning. Systemic reform builds around the idea that society can and should determine ambitious education outcome goals for all students. High standards, coordinated policies, and restructured governance are the three pillars of the 1991 systemic reform model.⁷³ Coordinated or aligned policies include state curriculum frameworks with upgraded content, tests that measure whether students learn the curriculum, instructional materials aligned to the curriculum, and teacher preparation to teach the curriculum. Governance includes both top-down and bottom-up elements. Higher levels of governance focus on defining outcomes and putting accountability systems in place—the top-down element. Systemic reform calls for flexibility at the school level—the bottom-up element—to determine instructional strategies to assist students in meeting the goals.⁷⁴ The conditions for change would be present in the majority of schools, not just a few. Systemic reform was an idealized model, a goal to which states could strive, that would improve whole systems and benefit all children. States such as Texas implemented elements of this model in the 1990s with its revamped state curriculum and related tests that formed the cornerstone of an accountability system. However, only a few states, such as Kentucky, came close to embracing all of the systemic reform components.⁷⁵

The period between 1990 and 2000 saw several shifts in the focus of educational reforms, many based on recommendations from *A Nation at Risk* or the National Goals. Good jobs for people with low skills became scarcer, while the demand for employees with college training and degrees rose. The reforms of the nineties focused on improving education practices to maintain American competitiveness in an increasingly globalized economy.⁷⁶ A related challenge in the early 1990s was a well-documented achievement gap between students of different races.⁷⁷ Schools at all levels were pressed to meet higher academic performance expectations for more students. Testing and better reporting, responses to the Education Summit and to the national goals, helped policymakers, educators, and

ordinary citizens monitor progress. Technology expansion, choice in the form of charter schools, specialized programs within traditional schools, and policies implementing accountability systems also emerged in many states. Elected leaders and policy experts focused attention on basic mathematics and literacy at the elementary level and on strengthened academic requirements in high school.

Kentucky serves as an example of reform in response to *A Nation at Risk*. The Kentucky Education Reform Act of 1990 resulted from a school finance equity and adequacy lawsuit.⁷⁸ The Act upended the old, underproductive education system in that state. The legislation addressed “system reforms that focused on developing high standards, then aligning curriculum, instruction, and assessment with them.”⁷⁹ Kentucky started by restructuring the state education agency and governance of individual school districts. It instituted independent oversight of the reform effort.⁸⁰ Legislators reformed the school finance system to meet the requirements of the courts, and the state developed standards that school districts would meet.

Reforms of the 1990s in many states emphasized school-level leadership in lieu of district-based management because bureaucracy appeared to be an impediment to reform. Leaders inside schools who were closer to the issues seemed better able to make solid decisions. Changes to ESEA Title I funding for schools serving concentrations of low-income children shifted more responsibility to local educators. School districts had authority to apply Title I funds to whole-school reform, even if the school enrolled a modest percentage of non-eligible students.⁸¹ In other federal legislation, the Comprehensive School Reform Demonstration Program of 1998 allowed greater discretion in the use of funds for schools serving large populations of low-income students.⁸²

ESEA also encouraged examination of best practices in whole-school reform. Models such as Direct Instruction, the National Writing Project, Cognitively Guided Instruction, Success for All, Accelerated Schools, and High Schools that Work were of interest to reformers in the 1990s. There was talk among educators and policymakers about developing more models and scaling them up, a concept resting on the assumption that what works well in one school may be replicated in many other schools.⁸³

Employers joined policymakers in expressing frustration about low performance and the minority-majority achievement gap which resulted in under prepared workforce entrants. In response, in May 1994 the Clinton administration enacted into law a new initiative, the School-to-Work Opportunities Act. The act established a framework for states to use to create school-to-work opportunities that would facilitate the transition from high school to jobs or further education and training. The legislation provided grant funding for program implementation and partnership development, with objectives keyed to the standards of Goals 2000.⁸⁴

Seven years after the first Education Summit in Charlottesville, another summit of governors convened. At the 1996 Education Summit, national leaders acknowledged that schools would not reach by the year 2000 the goals set after the 1989 Summit because progress was already stalled.⁸⁵ State leaders reaffirmed their commitment to improved

academic progress, but did not set higher standards or refine the activities that states should undertake to effect change. Congress declined to reinforce the efforts that began in 1990 and amended the Goals 2000: Educate America Act to allow states not participating in Goals 2000 to apply for funding.⁸⁶ The National Goals Panel continued to influence education reform until its elimination in 2002.⁸⁷

After the 1996 summit, progress remained slow. Federal leaders convened another education summit in 1999. Only 23 governors attended, compared with 40 or more who participated in previous summits. The role of educators was more prominent in developing the action agenda and statement for this summit, but it lacked a single purpose around which to build a consensus.⁸⁸ Instead, the agenda included assorted items such as “teacher quality, providing opportunities for all students to meet challenging standards, school choice, accountability, and the need to sustain public support.”⁸⁹ Inclusion of school choice on the Summit agenda was one contentious issue that thwarted a unified concluding statement.⁹⁰

Toward the end of the century, several states implemented academic standards, tests, and accountability systems to improve performance. As high schools struggled to improve, wealthy individuals and foundations joined the effort to reform and redesign these institutions. In general, they directed their efforts to changing the system from within. Bringing community organizations to the schools to help educators was one approach popular with the Annenberg Challenge, along with reducing the size of high schools or forming schools within schools.⁹¹ Aligning instruction and classroom management approaches from kindergarten to high school provided another approach that worked within the existing system.⁹²

Despite state efforts to improve accountability and foundation initiatives to improve school systems, it became apparent that education generally, and high school education in particular, was failing to fulfill its expectations. Of primary concern was the perceived failure of American high schools to prepare students for postsecondary education.⁹³ Dropout rates were high and college admissions test scores were flat or dropping. The academic performance gap at the high school level existed between poor and minority students and their Anglo and Asian peers. Higher education faculty reported large percentages of incoming students poorly prepared for college-level work, and placement in remedial courses increased to levels approaching 40 percent in community colleges.⁹⁴

High School Reform Efforts of the 21st Century

The topic of high school reform received increasing attention at the beginning of the new century. In 2000, U.S. Education Secretary Richard Riley announced formation of a National Commission on the High School Senior Year to examine the transition from high school to postsecondary education, work, and adulthood. This effort built partnerships between public and private sectors and laid the groundwork for systemic high school reform.⁹⁵

In 2001, a report titled *Bridging the Gap* explored the growing disconnect between high school and postsecondary education. Academic rigor in the high school curriculum can

result in reduced need for postsecondary remediation, greater high school graduation rates, higher college persistence rates, and overall postsecondary success. Researchers found high school course enrollment statistics disappointing.⁹⁶ A few high school students were graduating with a strong preparation for college, but many able students were actively avoiding available rigorous courses.⁹⁷ According to the testing organization ACT, in 2003-04 only 26 percent of test takers were prepared for college biology, 40 percent for college algebra, and 68 percent for college writing.⁹⁸ Another publication reported that only 70 percent of high school students graduated on time, compared with the federally reported graduation rate of 86 percent.⁹⁹

Bridging the Gap also singled out for criticism the poor alignment between high school instruction and entry-level undergraduate courses. Failure to align leaves teachers and counselors with a confusing array of requirements and expectations to explain to students. Lack of alignment is also expensive and inefficient, as some students must cover the same course content twice, and others must repeat coursework because their high school courses were neither rigorous enough nor appropriately aligned for college preparation.¹⁰⁰

In 2001, several state teams met to discuss ways to attain alignment of education from pre-kindergarten through college, known as P-16.¹⁰¹ In order to illustrate the need for P-16 reforms, the Bridge Project at Stanford University released several reports illustrating the problem. Two prominent reports were *Betraying the College Dream* and *Claiming Common Ground*.¹⁰² The former illuminated the disparity between the preparation of high school graduates and the skill set expected by higher education institutions. A later report from Bridge Project researchers made several recommendations for alleviating the situation, including increasing information access for students and their parents about which courses provide preparation for college, developing state financial incentives for public education and higher education to collaborate, creating statewide data systems to track students across institutions, and aligning high school exit tests with college course placement examinations.¹⁰³

The increasingly evident pattern of low expectations and low effort stimulated attempts to change the situation. Among the first to mobilize was a major foundation. The Bill & Melinda Gates Foundation (Gates Foundation) proposed solutions to redesign the traditional high school based on principles of rigorous academic coursework, meaningful relationships between teachers and students, and relevant learning opportunities.¹⁰⁴ To achieve these three requirements, the Gates Foundation advocated for smaller schools—fewer than 400 students—with clearly defined missions. Additionally, the Gates Foundation invested in identifying successful school models.¹⁰⁵

In addition to promoting its own priorities, the Gates Foundation influenced high school reform by funding several other initiatives including NGA's High School Honor States Program, the American Diploma Project Data Quality Campaign (DQC), and the National Center for Educational Accountability (NCEA) Data Quality Campaign. The Honor States Program is a \$23.6 million initiative, led by governors, to simultaneously improve graduation rates and college readiness in twenty-six states.¹⁰⁶ It has two phases,

one that began in 2005 and another more recent one that will work in specific areas such as AP participation and activities to assist low-performing high schools. The American Diploma Project originated to improve the value of the high school diploma by encouraging schools to offer, and students to take, more rigorous courses all through high school. The American Diploma Project Network is a coalition of 26 states that align curriculum, standards, tests, and accountability systems with workplace and postsecondary expectations.¹⁰⁷ The DQC is a national collaborative effort to encourage state policymakers to support collection of good information and to implement longitudinal data systems for improving student achievement.¹⁰⁸ DQC will build the political will states need to establish and use the 10 Essential Elements of a longitudinal data system by 2009.¹⁰⁹

The Carnegie Corporation of New York focused on reform of urban high schools. In 2000 the foundation initiated a program, Schools for a New Society, to “reinvent and re-imagine the high school experience for American students.”¹¹⁰ The Annenberg Challenge, a program of the Annenberg Foundation, awarded hundreds of millions of dollars in the form of 21 grants for urban education reform in over a dozen cities. The Annenberg Challenge included funds to improve high schools.¹¹¹

The Alliance for Excellent Education, formed in 2001, is a national policy, research and advocacy organization acting on behalf of millions of at-risk, low-performing secondary school students. The Alliance works to develop a national consensus and policy agenda by partnering with business, research, education and other organizations to build consensus and inform the public.¹¹²

The National High School Alliance (HS Alliance) partnership formed in October 2002. Over 50 partners share a common commitment to promoting the excellence, equity, and development of high school-age youth. They join the HS Alliance to mobilize resources, knowledge, and capacity of individuals and organizations to work collectively in shaping policy, practice, and public engagement. The goal of the HS Alliance is similar to other organization and foundation initiatives—to foster high achievement, close the high school achievement gap, and promote civic and personal growth among all youth in high schools and in communities.¹¹³

In May 2004, President George W. Bush presented a new initiative for high school, higher education, and job training, to complement the federal No Child Left Behind (NCLB) Act. With data showing that only 69 of every 100 ninth graders graduate from high school on time, the President established the goal that every high school student should graduate on time and be ready for the workplace or college.¹¹⁴ In order to effect this change, President Bush announced several programs: Striving Readers to help middle school and high school students who fall behind in reading, increased funding of the Mathematics and Science Partnerships, expanded AP, incentives to draw more science and math teachers into high school classrooms, and increased funding for the State Scholars program that requires four years of English, three years of math and science, and three and a half years of social studies for graduation.¹¹⁵ The President’s program also

seeks to expand high school accountability through nationwide 12th grade participation in the National Assessment of Educational Progress (NAEP).¹¹⁶

In February 2005, Achieve, Inc. and NGA convened the National High School Summit in Seattle, Washington. The purpose of the summit was to address low achievement and dropout problems that cost taxpayers billions of dollars each year in remedial education at public colleges and universities. Dropouts and low educational attainment also cost U.S. corporations an estimated \$16 billion in lost productivity.¹¹⁷ Bill Gates addressed the Summit and criticized American high schools as “flawed,” “broken,” and “obsolete.”¹¹⁸ In response, governors issued several recommendations aimed at increasing graduation rates and readiness for college and work. Governors vowed to restore the value of the high school diploma by increasing rigor—upgrading academic standards, curriculum, and coursework, and relevance—aligning high school assessments with college and connecting coursework with workplace expectations. State officials also expressed a desire to redesign the traditional American high school to serve the needs of all students, provide incentives to attract and retain the best teachers and principals in the neediest schools, ensure accountability for all high schools and postsecondary institutions through meaningful benchmarks, intervene in low-performing schools, increase accountability for postsecondary institutions, and streamline educational governance to facilitate P-12 and postsecondary collaboration and alignment.¹¹⁹

Also in 2005, the U.S. Department of Education funded the National High School Center, part of the national network of federally funded comprehensive centers. The center helps build the capacity of states to effectively implement the provisions and goals of NCLB so that high school performance improves, by providing access to the research and tools for improvement.¹²⁰ The National High School Center and NCEA published *Report on Key Practices and Policies of Consistently Higher Performing High Schools* in October 2006.¹²¹

In May 2005, the U.S. House of Representatives Committee on Education and the Workforce met to deliberate expanding NCLB’s high school accountability provisions.¹²² Several members of Congress commended the President’s efforts to make high school reform a national priority. Several governors provided testimony about the efforts in their states to implement initiatives involving more rigorous curriculum, mandated high school exit exams, more highly qualified teachers, and more college-preparatory courses.¹²³

In February 2006, the bi-partisan Commission on No Child Left Behind released its report, *Beyond NCLB: Fulfilling the Promise of our Nation’s Children*.¹²⁴ The report urges strengthening NCLB by ensuring teacher and principal effectiveness, sustaining efforts to hold schools accountable for the achievement of all students, broadening choice options for students, improving assessment, and implementing higher standards.¹²⁵ The report’s review of high school education includes an assessment of the dropout problem and recognition of the outcome inequities for low-income and minority secondary students. The report recommends strengthened accountability and support for high schools through implementation of a 12th grade assessment, use of performance growth

calculations during high school, and presentation of more information about school performance on student report cards.¹²⁶

December 2006 marked the introduction of a strongly worded report from the New Commission on the Skills of the American Workforce called *Tough Choices or Tough Times*.¹²⁷ The commission describes a looming threat to American prosperity from low skills, weak educational attainment, and lack of competitiveness. The report identifies as the core problem the fact that U.S. education and training systems were “built for another era” and cannot be improved by patches and fixes, but rather through overhaul of the system itself. The report lists ten steps to creating a new system of education at the secondary level. It proposes a state-level qualifying examination to be administered to students age sixteen or younger that will indicate whether they enter an upper secondary academic program or a community college, vocational school, or technical college (these students may also take upper academic courses). Additional exams after upper secondary education or vocational preparation would advance young adults to college or productive employment. Provisions regarding high-quality teachers, higher standards, universal early childhood education, adult literacy and training initiatives, new governance models, different mechanisms of finance, and different organizational models all appear in the commission’s report.¹²⁸

The contemporary high school reform movement has included multiple efforts to improve the academic preparation of students through rigorous curricula and high expectations for academic accomplishment. New organizations and centers have joined existing efforts to provide research, best practices, and reliable data to address high school reform. Craig D. Jerald, writing for *Educator Sector*, refers to the high school reform movement’s resemblance to “a sprawling 19th century Russian novel, with dozens of characters and innumerable subplots.”¹²⁹ However, Jerald offers an optimistic assessment of the reform effort currently underway— that the organizations and leaders dedicated to reform share a common goal to prepare students for success in the 21st century.

Notes

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Chapter 2. Leaders in High School Reform

Contemporary Movement Leaders—Foundations

Individuals from within and outside the education system drive reform. Those working within schools include teachers, administrators, board members, and parents. External influencers include elected officials and philanthropists, who push for reform through strategic giving. Some observers refer to contemporary movement leaders as catalysts for change. Smith and Peterson, from the NewSchools Venture Fund, call these outside actors “educational entrepreneurs” or “visionary thinkers who create new for-profit or nonprofit organizations from scratch that redefine our sense of what is possible.”¹ Many of these individuals used philanthropy and established foundations to guide generous, private funds allocated for education reform.

Foundation involvement in education reform dates back to the beginning of the 20th century. Andrew Carnegie sold Carnegie Steel in 1901 and began to invest in social reform and to focus resources on literacy, urban schools, and teacher education. For this purpose he founded the Carnegie Foundation for the Advancement of Teaching (the Carnegie Foundation) and the Carnegie Corporation of New York.² The organizations are still active in supporting efforts in undergraduate and graduate education of teachers, teacher professional development, and school reform.

Executives from the Ford Motor Company have led efforts in education reform since the 1940s. The Ford Foundation began its education initiatives in 1947 with the Education in a Democratic Society program.³ In 1951, the Foundation initiated the Fund for the Advancement of Education, which provided 500 grants totaling \$50 million to initiate short-term pilot studies to improve teacher recruitment and training, explore different uses of instructional time, and implement technology in schools. The foundation sustained these initiatives for ten years. In 1960, the foundation began another ten-year plan called the Comprehensive School Improvement Program (CSIP). The goal for CSIP was to help schools make changes necessary for implementing reform and improvement proposals coming from government and academic research groups.⁴ The plan mirrors James B. Conant’s view that public education systems possessed a good framework, but needed some modern improvements.

Through the 1970s and 1980s, foundations offered support for research projects, demonstrations, and pilot programs to improve instruction and help students remain in school and graduate. By the end of the 20th century, foundations and wealthy individuals began to tackle systemic reform in America’s struggling urban school systems. The Annenberg Challenge, the Carnegie Corporation, and the Bill & Melinda Gates Foundation were among the leaders.

In 1993, Walter Annenberg, founder of the Annenberg Foundation, announced the creation of the Annenberg Challenge with a donation of \$500 million to improve

education.⁵ The program created partnerships with local nonprofit organizations and foundations to support reform within large school systems.⁶

The Carnegie Foundation of New York national initiative, Schools for a New Society, provided ten cities or school districts with planning grants for high school reform.⁷ Smaller schools, rigorous curriculum, and personalized teaching are the main requirements.⁸ In 2001, Schools for a New Society began the implementation phase, with six cities receiving \$8 million for five years, and Houston receiving \$12 million per year for five years.⁹

In 2000, the Gates Foundation announced a five-year initiative to improve high school education, focusing on the design and development of small high schools that would serve roughly 400 students.¹⁰ After examining evidence about high school problems, Gates Foundation leaders concluded that contemporary high schools are obsolete. They are too large and impersonal, and they lack relevant and rigorous coursework to prepare students for work or college. The foundation urged creation of new or redesigned small high schools that are, at the same time, more personalized for the students and more rigorous in academic instruction. To that end, the foundation invested heavily in schools, school districts, and states to achieve these goals.¹¹ In terms of dollars, it is the most concentrated foundation effort to date to improve education, and it has had a major impact on state and local policy development as well as on high school research efforts. Since the Gates Foundation began its work in 2000, it has committed more than \$1 billion to 1,865 schools.¹²

The emergence of the Gates Foundation in 2000 reenergized the involvement of corporate, outside actors on a national level. The Gates Foundation supported several education initiatives focused especially on pushing for changes in public high schools. Other foundations like the Michael and Susan Dell Foundation (Dell Foundation), the Walton Family Foundation (Walton Foundation), the Broad Foundation, and the Thomas B. Fordham Foundation (Fordham Foundation) also added programs to address high school reform.

The Dell Foundation formed in 1999 to fund initiatives that would improve the lives of children living in poverty stricken urban areas.¹³ Initially, most of the education grants supported technology improvements in schools but in 2002, the foundation began to shift its focus to helping prepare students for college through rigorous course work.¹⁴ A grant of \$1.2 million to support Advancement Via Individual Determination (AVID) and \$2.8 million for AP strategies training reflected the foundation's emphasis shift. The foundation, in partnership with the Gates Foundation and the Texas Education Agency, also supported initiatives to create new high schools and redesign existing schools in Texas. Foundation programs have helped students learn basic academics as well as college readiness skills. Funding has also been initiated for tutoring programs conducted by certified teachers and programs that guide parents and students through the college application and financial aid process. The foundation expanded its reach and funding to include college scholarships and programs designed to increase teacher and education quality across the United States and India.¹⁵

The Walton Family Foundation supports a multifaceted school reform program: public charter schools, school choice initiatives, and traditional school district improvement programs.¹⁶ In 2002, the foundation gave \$77.5 million towards traditional public education reform, \$27.5 million for charter schools, and \$29.1 million for voucher programs.¹⁷ The public charter school initiative provides planning or start-up grants to support charter schools either through individual schools or charter school organizations. The school choice initiative is a voucher program that provides funds for low-income students to attend higher performing public and private schools. The school district improvement program funds traditional high schools to meet the educational needs of students by allowing for student choice and educator professional development.¹⁸

The Broad Foundation, established in 1999, addresses public education reform in governance, management, and labor relations, and celebrates the successes of outstanding urban districts. Broad addresses management and governance issues as a method of bettering school district leadership and improving outcomes for students. In a related effort, the foundation awards the \$1 million Broad Prize for Urban Education to urban districts that are leaders in academic performance and in narrowing the academic achievement gap for poor and minority students.¹⁹

The Fordham Foundation's major emphasis is on research and the dissemination of information. It recently commissioned a report that speculates on the reauthorization of NCLB and likely changes to the law.²⁰

Foundations can aid high school reform in ways that districts by themselves might not be able to achieve. In addition to financial support, the foundation may unite community leaders around change, encourage state government to assist in funding the local reform effort, or provide access to networks of like-minded reformers. Some large foundations use intermediary organizations, local foundations, and local individuals to communicate and drive the change they seek.

Successful foundations bring the visionary foresight of their leaders to school reform. These individuals have a "sense of urgency and drive to achieve [that] leads them to take action by creating new organizations that will make their vision a reality."²¹ In a survey of nineteen foundations involved in education reform, all of the foundations agreed that leadership for change plays a major role in how a foundation deploys strategies to affect education policy.²²

Contemporary Movement Leaders—Elected Officials

Elected officials are external influencers who consider high school reform as a means to ensure the economic and social well being of individuals and of society.²³ Federal, state, and local leaders understand that tomorrow's economy directly depends on the educational attainment of its citizens.

ESEA and the Civil Rights Act of 1964 were landmark statutes asserting new federal roles in the activities of the states. But the level of federal involvement in establishing standards in curriculum, instruction, and assessment was minimal and the overall federal

government's role in shaping public school policy was not influential in attempting to direct national policy prior to the release of *A Nation at Risk* in 1983.²⁴ Since then, the executive and legislative branches of the federal government have been steadily increasing their roles in shaping public school laws and policies. Over the past two decades, U.S. presidents have been influential in directing national education policy. Starting in 1989 with the Education Summit, President George H.W. Bush led the nation's governors and business leaders to address reform by developing national education goals, although his proposed legislation embodying and attempting to support movement toward such goals (America 2000) never became law.²⁵ President Bill Clinton presided over enactment of Goals 2000: Educate America Act of 1994 and the Improving America's Schools Act of 1994.²⁶ President George W. Bush continued increasing federal influence with NCLB.²⁷

The NCLB Act has led the way for improved education policy for grades K-8, and now states are doing the same for high school grades.²⁸ State leaders are at the forefront of public debates over secondary education reform. If promising reform models are to be successfully adopted statewide, state leaders must support those efforts. President George H.W. Bush convened governors to discuss education priorities in 1989 at the Education Summit. Since that time, governors have been active in assisting state agencies and school districts with reform programs and funding. They also work with other governors to shape national education policy through NGA.

Examples of gubernatorial initiatives include Indiana and Michigan, among others. In Indiana, the governor and state superintendent co-chaired the Indiana Education Roundtable, credited with restructuring high school course requirements and establishing end of course assessments.²⁹ In Michigan, the governor and state board of education developed the state's first-ever graduation course requirements, the Michigan Merit Core, which took effect in the fall of 2006. In Pennsylvania, the governor appointed a commission to study policy options for improving high school performance.³⁰

Outside their state borders, governors have advanced the national debate on high school reform through two key organizations: NGA and Achieve, Inc. Since the time that NGA helped establish Achieve in 1996, the organization has hosted reform seminars, most recently a seminar on high schools in 2005. Achieve has launched several initiatives and organized local and national forums designed to advance these reforms. In its report, *An Action Agenda for Improving America's High Schools*, NGA states that government, business, and education leaders "must ensure all high schools facilitate all students' successful transition to postsecondary education and the workforce," and that governors "must forcefully communicate to students, schools and the public the need for high standards so there is sufficient will and commitment for the changes that have to be made."³¹

Achieve, Inc. and NGA organized the February 2005 National Education Summit on High Schools. Achieve, Inc. has also published a report, *Closing the Expectations Gap 2006*, which offers a report card of state efforts on key issues ranging from aligning high school standards with real-world expectations to holding high schools accountable for

graduating students who are college and work-place ready.³² Achieve released another fifty-state survey the following year, “Closing the Achievement Gap 2007,” which showed significant progress within most states in the areas of graduation requirements, assessment accountability, and data systems.³³

The literature indicates that municipality leaders, and specifically city mayors, have increasingly become engaged in secondary education policy to improve the social and economic vitality of their communities.³⁴ Mayors may work with foundations to influence the path of reform. They may attempt to influence school board decisions, directly appoint school board members, or even take control over schools. A review of efforts in Akron, Long Beach, Denver, Nashville, and New York indicated that mayors can be effective in gaining community support for education reforms.³⁵

Successful education reform leaders, be they foundation heads, superintendents, or elected officials, refer ideas to practitioners for consideration before embarking on change. Once educators who must implement reform changes have confidence in the effort, leaders collaborate with other organizations and prominent individuals to support and fund the work. Meaningful reform comes with long-term goals and periodic benchmarks to mark progress. Successful leaders will ensure systems are in place to collect and review data so it can be reported and analyzed. The results are necessary in order to fine-tune the plan, re-deploy resources, and report progress to parents and constituents. Finally, strong reform leaders implement systems to sustain the reform if they leave their position.

Many high school reform efforts have faded and left faint marks on the landscape of American high schools. Others, like free schools, failed outright. The reforms that have been sustained are ones that typical teachers and administrators can implement and that parents and students can understand. Some successful reforms such as using Carnegie units to measure high school course work, require few or no resources: reforms requiring high resource levels are at risk of vanishing or transforming from their original intent because education systems find it difficult to sustain resources for specific reform programs once initial funding grants have lapsed. Another characteristic of success is the presence of strong links to higher education systems such as dual-credit education programs during secondary school that offer students credit for both high school graduation and for college.³⁶

Reforms that are not well planned and do not have buy-in from practitioners who must implement them seldom survive. Reform may stem from state or foundation activity, but local leadership within the school system—school board members, school administrators, and teachers—is responsible for implementing the reform, and they must have a stake in its planning. School and teacher buy-in is particularly important if reform efforts are to be sustained.³⁷ But even well-planned and appropriately communicated efforts can founder if there is a change in leadership, lack of attention to ensure that reforms actually extend to the classroom level, or adequate analysis and reporting of data.

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Chapter 3. Delivery of Secondary Education

The number of U.S. students participating in secondary education has risen in the past 35 years from 14.6 million to 16.2 million students, with between nine and ten percent attending a private school and the rest enrolled in public schools.¹ While secondary school enrollments have remained relatively constant over the past decades, there has been a clear change in student demographics, school size, and outcomes from schooling in the same time frame. The following sections address high school enrollment and the delivery of secondary education, including the number and size of schools, dropout and completion rates, course-taking patterns, and academic performance. A section offering a typology for secondary education delivery is followed by a section on the typology of secondary education governance.

Participation in Secondary Education

In 1970 local government provided the largest proportion—52 percent—of public school funding, but by 2003, local funding had dropped to 42 percent, and state sources provided the largest share of public school funding.² In 1980, total U.S. federal program funds for elementary and secondary education was about \$32.8 billion (in 2001 dollars) and by 2001 it had increased to \$48.7 billion. The inflation-adjusted 32 percent rise in federal support for education from 1980 to 2001 signaled the federal government’s growing involvement in public education.³ Although adjusted revenue increases indicate growth in public education spending, as a percentage of the Gross Domestic Product (GDP), the amount of public revenue devoted to education has remained relatively flat. In the last 30 years, the federal government has spent between 3.3 percent and 4.3 percent of GDP on public education. This percentage reached its lowest levels during the mid-1980s and has slowly increased since then.⁴

One reason for increased government support for public education is its potential to contribute to economic growth. A noted social scientist who studies both education and economics has said, “The education system is central to the development of skills and human capital, a fact long recognized by parents, policymakers, and educators.”⁵ Secondary education is a gateway to college and an indicator for future success in the workplace. Over the past 25 years, there has been a direct relationship between the employment outcomes of individuals and their educational attainment. Individuals who do not finish high school earn approximately \$5,000 a year less than those who complete only high school. The wage differences increase with the level of schooling, and the gap between college graduates and those without a high school diploma is more than \$20,000 a year.⁶

Data from the U.S. Department of Labor reveal that individuals who fail to complete high school have the highest levels of unemployment and the lowest wages.⁷ While periods of unemployment affect all education levels, individuals who have not completed high school appear to be the most affected in times of economic struggle.⁸

High School Enrollment

Secondary school enrollment grew quickly in the first half of the 20th century as compulsory education laws and restrictions on child labor coincided with a population boom. High school enrollment reached a peak in the late 1970s; then it declined for several years, followed by another period of growth. Only recently is enrollment matched levels attained in the 1970s. According to NCES predictions, school enrollment will continue to climb, but only marginally for secondary schools. In the next ten years, it is unlikely that school populations will grow as rapidly as they did in the 1970s and early 2000s; rather, it is likely that demographics will significantly change.⁹

Student enrollment is shifting both regionally and racially. In growing states such as Nevada, Arizona and Texas, NCES projects that public secondary school enrollment will grow by more than 15 percent in the next ten years; while many Midwest and Northeast states, such as North Dakota and Vermont, will see their enrollments drop by more than five percent in the next ten years. The substantial enrollment changes in the West are largely due to the growth of the Hispanic population.¹⁰

Minority enrollment in public education, primarily from Hispanic enrollment, has grown from approximately 21 percent in early 1970s to approximately 42 percent in 2005. The percentages of White and African American students have decreased during this time period, the number of Hispanic students has increased, and the other minority populations have remained constant. Although secondary school enrollment may remain steady, in the next ten years the public education system will continue to experience regional and racial population shifts.¹¹

Delivery of Secondary Education

The number of public high schools has grown from 20,059 in 1995, serving an average of 695 students per school, to 22,782 in 2004, serving an average of 768 students per school.¹² The growth of private secondary schools occurred alongside the expansion of public schools of choice. According to NCES, the percentage of children enrolled in assigned public schools decreased from 79.9 percent in 1993 to 73.9 percent in 2003.¹³ In the same time period, the percentage of children in public schools of choice increased from 11 percent to 15.4 percent. African American children (24 percent) and children whose parents have less than a high school education (19.7 percent) represent greater percentages enrolled in public schools of choice than the average.¹⁴ These figures may be higher than the national average because a significant portion of the public schools of choice locate in the inner cities and enroll high proportions of minority students.

School size is one factor believed to influence the ability of educators to prepare high school students more effectively.¹⁵ The NCES reports that in 2004, the average number of students per high school was 768.¹⁶ Florida tops the list of states with a mean of more than 1,500 students per high school, while North Dakota's mean of 206 students per school is the lowest.¹⁷ Inner city schools often serve large minority populations and operate large high schools—schools serving more than 900 students—than other urban or

rural districts. Large high schools comprise 44 percent of all central city secondary schools, compared to 37 percent and eight percent in other urban and rural districts, respectively. Conversely, more than half of all rural secondary schools are small schools with fewer than 300 students. One-fourth of both central and urban high schools serve less than 300 students.¹⁸

Types of High Schools

Traditional High Schools

The traditional, comprehensive high school serves as the standard. In the traditional school, students take a core curriculum in mathematics, science, language arts, and social studies, as well as a range of elective academic courses such as foreign language, economics, fine arts, and health education, all of which are offered at the school. Depending on school size and resource levels, typical comprehensive high schools may offer a variety of career and technical education programs, courses to prepare for college admissions, AP classes, physical education related to sports teams, technology applications, a wide array of fine arts classes and other choices.

The traditional high school may have a seven-period school day schedule with most core courses (in mathematics, language arts, science, and social study) extending for two semesters. Schools with block schedules offer four or five instructional blocks per day, with a core course such as geometry usually offered in a one-semester, 90-minute block. The block arrangement accelerates the pace of instruction and provides ambitious students opportunities to take more courses. Students who need remediation also have opportunities within the schedule to re-take classes or take intensive instruction to master a subject. In general, the traditional high school—whether organized with a regular schedule or a block schedule—moves all students through courses at the same pace. School size and flexibility might limit course variety.

Alternative High Schools

Educators and some policymakers believe that an alternative setting where students can receive personal attention to resolve problems at the same time that they catch on up academic work, better serves some students.¹⁹ The U.S. Department of Education defines alternative education schools as public or private institutions that provide “nontraditional education,” address student needs that traditional schools cannot, or function as “an adjunct to a regular school, special education or vocational education.”²⁰

Non-Disciplinary Alternative Schools

Non-disciplinary alternative schools provide a route for reducing dropout rates and meeting student needs and expectations that fall outside the program at a traditional high school. Such programs aim to increase support and personalization in order to alleviate “some of the risk factors associated with dropping out, such as school disengagement and low attachment to school.” Dropout prevention programs serve students who face issues such as homelessness, pregnancy and parenting, violence, abuse, and frequent

displacement—all factors that increase the difficulty of attending and succeeding in a traditional high school. Some schools seek to provide opportunities for a more diverse population as well; one campus requires only that students have completed ten credits before enrolling.²¹

Non-disciplinary alternative school programs vary widely, but certain elements do aid in their success. Dropout prevention programs can exist as schools within schools or as separate campuses. One researcher found that elements of successful dropout prevention programs included non-traditional or school-within-school settings, a non-threatening “family” atmosphere, student-centered instructions tailored to student need, experiential curriculum, and high expectations for students.²² In a study of twelve successful dropout recovery programs, the American Youth Policy Forum found commonalities in alternative schools, including open entry and exit, flexible schedules and year-round learning opportunities, teachers who coach and facilitate, curriculum grounded in the real world and oriented toward careers, employment opportunities for students, consistently-enforced and clearly-defined codes of conduct, substantial support services, and a wide range of options for a diverse student body. The American Youth Policy Forum (AYPF) studied dropout prevention programs and found policy can aid such programs by providing a system for funds to support students in longer-term support systems and environments.²³

Two examples of non-disciplinary high schools are Gonzalo Garza Independence High School in Austin, Texas and the Academy of Creative Education (ACE), in San Antonio, Texas. Garza is an alternative school of choice that incorporates several aspects of the AYPF’s desired characteristics for alternative schools. Open since 1998, the school serves students who have completed ten credits but need an academic environment different from the traditional high school.²⁴ Students complete courses at their own pace and have an open enrollment system that allows newcomers to enroll throughout the school year. The school offers a rigorous curriculum personalized for each student. In 2005-2006, 76 percent of Garza High School’s 194 graduates were at-risk, and 7.1 percent were former dropouts.²⁵

The school has accomplished several notable achievements and received many awards to mark its success. Eighty percent of its students apply for admission to two-year colleges, and 16 percent attend four-year colleges. The high school also has the highest SAT average score in the Austin Independent School District. The American Youth Policy Forum has recognized Garza as an exemplary school.²⁶

ACE enables challenged youth in need of innovative teaching to reach graduation. It is a non-traditional school aimed at dropout recovery, intervention, and prevention. Students begin at ACE with a 16-hour orientation aimed at identifying their personal learning needs in order to put them on track to graduate. When students complete their required coursework, they have the option to participate in two yearly graduation ceremonies held on sites provided by the local community. The surrounding community takes part in “Life After ACE” to provide students with exposure to available options. Over the course of 14

years, ACE has graduated 2,666 students.²⁷ In 2006, ACE received a Crystal Star award as a model program in the National Dropout Prevention Network.²⁸

Disciplinary Alternative Schools

A disciplinary alternative high school may be a stand-alone school with a principal, counselor, and faculty, or it may be a school operated within the context of a comprehensive high school, but with its own rules, requirements, and professional leadership. The Delinquency Prevention through Alternative Education Initiative first promoted alternative schools in the 1980s for the purpose of reducing crimes committed by high school youth. Such programs also serve to isolate from the main body of students youth who exhibit criminal or disruptive behavior.²⁹

Disciplinary alternative programs provide academic instruction, as well as programs and activities for social and behavioral modification within a contained setting. The implementation can vary widely, but generally programs place students for a specific time length or to achieve a particular behavior goal rather than retaining them until graduation. The curriculum is specific to student needs and may be self-paced. Many disciplinary alternative schools strive to help students return to their home campus ready to participate in regular academic classes with their peers.³⁰

Virtual High Schools and Online Learning

Virtual schools provide students the opportunity to participate in distance learning. These schools use the Internet as the medium for learning. A virtual school serves a number of potential purposes, including expanding the curriculum, addressing scheduling conflicts, and increasing availability of AP or college-level courses. Virtual schools improve education by offering personalized schooling in personalized environments. Concerns associated with virtual schools include unequal access leading to a widening of demographic educational gaps, uneven course quality, lack of funding, inadequate teacher training, and decreased interaction with teachers and other students.³¹

Estimates for the number of students in virtual schools or students taking online courses from a virtual school range from 600,000 to 700,000.³¹ The providers of virtual education include universities, states, regional consortiums, local school districts, private schools, and charter schools.

The University of California Office of the President founded the University of California College Preparatory Initiative in 1999. The initiative led to the formation of 46 courses for the 2006-07 academic year, reaching 207 schools and over 28,000 students. The University of California Office of the President first funded the initiative with \$400,000 in 1998. The mission is to help minority and low income students gain admittance to college by providing virtual access to a college preparatory curriculum.³²

The Florida Virtual School is a state-sanctioned virtual school. The school was started in 1996 by the Florida Legislature, and funded through 2003 with research and development funds. Starting in 2003, the virtual school received funding based on the number of

students that completed a course, a performance-based funding system. The 2005-06 enrollment numbered over 31,000 students, and the school offered more than 90 courses.³³

The Virtual High School is a non-profit organization that offers rigorous, credit-bearing high school courses to students across the country and around the world. It started in 1996 with a Department of Education Technology Innovation Challenge Grant. It was the nation's first high school with an entirely online curriculum. As of 2007, it enrolled 9,111 students, with nearly 460 participating schools and 241 courses.³⁴

Local school districts can also serve as virtual school providers. The Houston Independent School Board approved its virtual school in 1999 to address teacher shortages, especially in AP courses, and to attract home-schooled students back to the district. The school opened for the 2000-01 school year with a budget of \$1.19 million. Budget items included startup costs, consulting, acquiring courseware, Internet access, host environment, hardware, and personnel. As of 2007, the Houston virtual high school offered over 50 courses. Tuition rates vary; AP courses cost slightly more per semester than regular courses. The virtual high school also offers fee-based foreign language courses each semester and test preparation classes.³⁵

The Christa McCauliffe Academy in Yakima, Washington is a private virtual school organized along the local public school district model. The academy is a nonprofit organization offering courses instructed by 12 certified teachers trained to teach online courses.³⁶ Most of the students are in high school. Private sources such as tuition, donations, and grants, fund the school, which also contracts with public schools to provide virtual courses and in turn receives a portion of state per-pupil allotment. The annual tuition cost is \$3,600.³⁷

Virtual charter schools operate in a similar fashion to traditional charter schools, offering free tuition and open enrollment.³⁸ Virtual charter schools often utilize private enterprises like K12, Inc. or Apex Learning to facilitate virtual courses. The Colorado Virtual Academy only offers courses through the 10th grade, but opened in 2001 with 400 students. By the 2003-04 school year, the number of students had increased to 1,200. Students must apply for the program; the virtual academy provides the computer, printer, course materials, and reimbursement for the Internet connection. Students must participate in assessments from K12 and the Colorado Student Assessment program.³⁹

Notes

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Chapter 4. Issues in High School Reform

Standards and Expectations for Academic Performance

In the past decade, American secondary education in general, and high school education in particular, experienced a surge of critical attention from government leaders, policy analysts, nonprofit organizations, researchers, and philanthropic foundations. The challenges of American high school education have been explored, measured, and described in reports that aim to raise awareness and stimulate change in state and local education systems.¹ By the time President George W. Bush took office in 2001, the education community, its supporters, and its critics acknowledged the importance of clearly articulated education standards.²

Standards-based reform under NCLB embraces a comprehensive process of identifying curricular content standards, pupil performance standards, and assessments linked to the content and standards, “holding schools accountable for their progress in meeting goals.”³ Since the enactment of NCLB, many education stakeholders and policymakers have called for changes ranging from its treatment of populations such as special education students and English language learners, to the lack of funding for states to fully implement mandates. However, while critics request alterations to legislation, one refrain is to make adjustments without affecting the spirit of the law. Others suggest expanding the scope of NCLB, and others seek to limit it. The foundation of the law is that schools, districts, and states hold responsibility for the learning of every student, and the principal means of measuring progress towards achieving this goal is consistent accountability for every child. The measure for accountability is Adequate Yearly Progress (AYP).⁴

In January 2002, Congress reauthorized the ESEA through overwhelming bipartisan support in both the House and the Senate to create NCLB. One of the principal demands of the law is that schools and districts make AYP. The objective of reporting AYP is to provide an accurate picture of the effectiveness of the schools, districts, and states being evaluated.⁵

NCLB’s AYP provision requires states to administer annual assessments aligned with rigorous state standards and to establish annual passing rates for the tests. NCLB requires states to establish achievement levels for their tests, subject to review by the U.S. Department of Education. States administer tests each year in grades 3 through 8 and once each year in high school in the core subjects of mathematics and reading. Beginning in 2007-08, states will administer a science test each year to one grade each in elementary, middle, and high school.⁶ States disaggregate student test scores by economic background, race and ethnicity, English proficiency, and disability in order to illuminate not just overall school performance but also the performance of every student subgroup.⁷ Each subgroup of students must meet or exceed the state’s own proficiency goals in order to make AYP.⁸ If schools do not meet AYP for two or more years, they must suffer sanctions, including offering an option to transfer to another school, providing

supplemental educational services like after school tutoring, and eventually undergoing restructuring.⁹ Although each state has unique interim AYP objectives, all must culminate with 100 percent of students meeting the state's standards for academic proficiency by the end of the 2013-14 school year.

Schools that are falling behind in meeting AYP are provided with technical assistance. The providers should have a high degree of expertise and work with the teachers and administrators to institute change. If a school continues to fail AYP standards after following protocols regarding implementation of school improvement plans and receiving technical assistance, the local education agency or school district is required to take corrective action. The district must notify the students' parents explaining why the school needs corrective action, how the parents can become involved in addressing academic issues that led to the identification, how to exercise their option to transfer their child to another school, and how to obtain supplemental education services for their child.¹⁰

Shortly after Congress enacted NCLB, concerns arose that measuring percent proficiency each year was not an effective means to judge the performance over time of a school or a district. To measure effectively, some experts have recommended a growth model or value-added approach. A growth model would measure the academic growth of the same cohort of students over time, thus making the impact of the school more transparent. A growth model would also make it possible to compare a student's achievement across time and to evaluate the effects of the school.¹¹ Growth model supporters note that student performance is not simply a matter of academic achievement at a single point in time; rather, it reflects a school's ability to facilitate progress over time.¹² In November 2005, the U.S. Department of Education announced a pilot program for up to ten states to develop growth models that follow principles of NCLB.¹³

Growth models can isolate the effects of a school, program, or intervention for evaluation, a capability that is especially important for rewards and sanctions administered under NCLB.¹⁴ While some argue that growth models are a more accurate means of evaluating schools, the reality is that, as with graduation rates, many state data systems are not sophisticated enough to follow students across grades, a necessary facet of measuring progress.¹⁵

Rising interest in standards has generated concerns about the effects on low-achieving students. Students who enter school poorly prepared to learn may be ill-equipped to meet the rigors of higher standards without considerable assistance. Older students in middle and high school who have fallen behind also experience difficulty in meeting standards that are higher than the ones they are currently struggling to reach. Some students may be discouraged from taking more challenging courses. Others may decide to drop out of school rather than struggle to meet ever-more-rigorous standards.¹⁶ Another concern related to higher standards is the extent to which teachers have the capacity to help students reach them. Teachers may need additional coursework to refresh or expand their content knowledge. They are also likely to need coaching or professional development to deliver rigorous content to a wide range of learners, and need planning time with other

teachers to align new standards across the curriculum.¹⁷ Data from the Education Commission of the States suggests that students who felt confident in their academic abilities were more likely to be engaged in school than vice versa. In addition to having clear and high standards, in order for students to do well and become involved in learning, they must feel that these standards are attainable.¹⁸

Many of the same divisions in course taking also appear in scores on the 12th grade NAEP exam in math and reading. Although federal authorities do not require the NAEP at the 12th grade level, selected students across the United States take the exam on a voluntary basis. These scores do not present a complete representation of the United States; however, they are nonetheless important for gathering a general sense of the national academic achievement in secondary schools.

According to 2005 NAEP scores, approximately 25 percent of all 12th grade males are at or above the proficient level in mathematics, while approximately 21 percent of females are at these same levels. Nearly 39 percent of all 12th graders scored below basic on the national mathematics assessment. Less than 6 percent of Black students and less than 9 percent of Hispanic students scored at or above the proficient level on the mathematics test. Conversely, more than 35 percent of Asian students scored at these same levels.¹⁹

Upon first examination, the 2005 NAEP reading exam data present more promising numbers. More than 29 percent of males and more than 41 percent of females scored at or above the proficient level. However, when broken down by race, the numbers are not as promising. Of African American students, 46 percent scored below basic on the NAEP reading assessment. Within each racial group, more than 20 percent of the students scored at the lowest level, below basic.²⁰

Testing

Currently, standardized test score data are the most widespread form of educational assessment. Title I-A of the Improving America's Schools Act initially incorporated testing requirements.²¹ The act reduced reliance on standardized norm-referenced tests, putting more emphasis on state standards and related progress measures.²² In 2002, NCLB required states to develop and use standardized achievement tests aligned with state curriculum to analyze student performance. Some state test results also serve as indicators on state accountability systems, and some states use the high school tests as "exit" exams required for graduation. Many school districts and some states also administer commercial tests for diagnostic purposes or to obtain grade-equivalent measures and percentile rankings. NAEP is currently the only national assessment of student performance administered in every state. A sample of students takes this test, which does not yield campus or school district results. Under NCLB, states must participate in NAEP assessments for the 4th and 8th grade in reading and mathematics. However, participation in the 12th grade test is voluntary at the national level, and data are not currently reported for 12th grade at the state level. Since the passage of NCLB, student test scores have increased and the racial gap has narrowed in several states.²³

NCLB is the driving force behind the current assessment of educational accountability. The act requires states to test student achievement, not as an end, but as a means to address the education system. In theory, test data can help high school educators identify strengths and weaknesses in curriculum and instruction. However, problems have arisen with this system. According to news writer Jay Mathews, NCLB “sought to hold public schools accountable for academic performance but left it up to states to design their own assessments.” As a result, “the definition of proficiency -- what it means for a student to perform at grade level -- varies from coast to coast.” In many states, a “proficient” level of performance on state tests is below “basic” performance on NAEP and well below “proficient” on NAEP.²⁴ Consequently, states may receive two incompatible representations of student achievement. A report released by the U.S. Department of Education on June 7, 2007, examined each state’s minimum proficiency score on reading and mathematics tests and determined the equivalent score on NAEP. The differences between state proficiency standards can vary by up to eighty points, a gap of several grade levels.²⁵ A recent report highlights another problem with variable standards. While students are earning higher grade point averages and are taking more advanced subjects, their overall NAEP performance in 12th grade has declined over the past 14 years.²⁶ These problems have led the National Assessment Governing Board, which oversees the administration of NAEP, to launch a state-level 12th grade test in 2009.

Inclusion of “high-stakes” testing for high school students has also created controversy in the education policy literature. A “high-stakes” standardized test informs decisions regarding student tracking, grade promotion, or graduation. A number of states currently require high school juniors or seniors to pass an exam or a set of exams to be promoted or to graduate. Proponents of this type of testing argue that these tests provide a culminating assessment of student achievement in high school and of readiness for post-graduation options, and believe it necessary for individuals to prove they have learned certain knowledge and skills prior to graduating. Opponents of high-stakes tests argue that the tests place unnecessary stress on students, to such an extent that some low-performing students may drop out of school rather than take the test.²⁷ Tests hold high stakes for teachers as well. Some school districts and states have devised programs of teacher compensation based in part on student test performance.²⁸

In 1999, the National Research Council’s Board on Testing and Assessment released a report entitled, “High Stakes: Testing for Tracking, Promotion, and Graduation,” which made recommendations regarding the appropriate use of tests. The report concluded that “tracking, promotion, and graduation decisions will be made with or without tests,” but argued that it is important to take into account the possible pitfalls of standardized testing.²⁹ Authors of the report argue that a specific set of testing criteria needs to be put in place to ensure that test scores can be used for educational decisions. First, the test must be aligned with standards and curriculum. Second, no educational decisions should be made solely on the basis of a single test score, because a single test is an inadequate predictor of student success. Finally, remedial services must be in place because better tests will not lead to better educational outcomes in the absence of effective services for low-performing students. The report asserts that while policymakers should be wary of

some of the unintended consequences of large-scale testing, properly used tests can improve student learning and lead to positive outcomes.³⁰

Testing is a sensitive issue for academics, administrators, and policymakers. Standardized tests provide a concrete indicator for use in accountability systems, but local or state tests differ widely and do not lend themselves to comparative analysis. A national test would overcome the difficulty of inconsistent local testing, but national test proposals have not received a warm reception. In 1998, the Clinton Administration proposed national testing of 4th grade basic reading and 8th grade basic mathematics, arguing that understanding student progress was essential to eventual school improvement. President Clinton's testing plan generated opposition from Republicans who viewed the idea as costly and unnecessary and from Democrats who believed national testing would be biased and could stigmatizing minority and low-income children. Business leaders supported the idea but were unable to promote it successfully to Congress.³¹

In September 2006, two former education leaders argued that states have set mediocre standards and are playing games with testing and accountability under NCLB, citing reports showing strong results on state tests versus poor results on NAEP. They describe state discretion over testing as an unintended negative consequence of NCLB flexibility. As an alternative, these leaders urge that, "Washington should set sound national academic standards and administer a high-quality national test."³² The Fordham Foundation published a report in the same month describing four approaches to national standards and tests.³³ Opponents argue that the testing regime is oppressive for students and forces teachers to develop a narrow curriculum focused on the tests.³⁴ They believe students and schools should be evaluated on local instruments and independent review of school and student progress.³⁵

The Dropout Problem

School dropout rates are one of the most troubling indicators of secondary education problems. One report calculates that a student drops out in America every nine seconds. Those dropouts face economic obstacles for the rest of their lives: they earn less, they are more likely to be unemployed, they have poorer health, and they are more likely to be incarcerated.³⁶ Researchers have used state or school district data sets to assess the economic impact of high school dropouts on society, and the price is high. If students who dropped out of the class of 2006 had graduated, the entire group would benefit by an additional \$309 billion in lifetime income.³⁷

As the dropout problem persists, individuals in the education field continue to debate the extent of the problem. Researchers report varying dropout statistics because they use different definitions and data sets to perform their calculations. Some use a status dropout rate, which measures the percent of individuals that have not completed high school, irrespective of when they dropped out of school. The measure provides an indicator of the percentage of individuals ages 16 to 24 that lack a basic high school education.³⁸ According to NCES, the total percentage of status dropouts has declined in the United

States in the last 30 years, with the gap between Blacks and Whites decreasing over that same time period.³⁹

Large regional differences exist in dropout rates. Fewer than 70 percent of all freshmen complete their high school education in every state in the Southeast, compared to about 80 percent in the Upper Midwest.⁴⁰ Minorities appear in the dropout statistics at a greater rate than their respective representation in the general student population. Both Hispanics and Black status dropout rates are higher than the White rate. According to a 2007 Bureau of Labor Statistics Report, Blacks and Hispanics were far more likely to drop out of high school or still be in high school at age 19. Additionally, “nearly half of Whites were enrolled in college during the October when they were age 19, compared to about one-third each of blacks and Hispanics.”⁴¹

Course-taking Patterns

Since 1982, NCES in conjunction with the NAEP has conducted high school transcript studies to follow high school graduates’ course-taking patterns, grades, and future educational outcomes. The 2005 High School Transcript Study (HSTS) analyzed approximately 2.7 million high school transcripts from public and private high schools and reported trends among graduates by subgroup related to courses taken, grades received, and NAEP scores.

The HSTS revealed that graduates are earning more credits than in previous years and have higher grade point averages overall. The increase of one third of one letter grade in grade point average between 1990 and 2005 could be due to “grade inflation,” changes in standards, growth in student performance, or a combination of influences. Grade averages increased across all ethnic groups, and a higher percentage of students in each demographic completed at least a mid-level curriculum during the same period between 1990 and 2005.⁴² Graduates with stronger academic backgrounds achieved higher NAEP scores. Female graduates gained higher grades in mathematics and science than male graduates, paralleling a higher percentage completing a rigorous curriculum. In terms of the achievement gap, Black graduates closed the gap with their White counterparts by six percentage points, but the Hispanic achievement gap did not change. Black and Hispanic graduates were less likely than White graduates to have completed advanced math and science classes and earn high grade point averages. Those students who took a calculus course scored at or above the NAEP proficient level on average, whereas those who only completed geometry or below had average NAEP scores below the basic level.⁴³

Minority students are also completing fewer advanced academic courses in both mathematics and reading than their White counterparts. More female students than male students enroll in science and mathematics courses, and Asian students are taking advanced courses at a greater rate than any other race.⁴⁴ These two trends also occur in reading and foreign language accelerated classes. Moreover, more students in private schools than public schools complete accelerated classes.⁴⁵ However, these numbers may reflect the likelihood that private schools offer a greater number of accelerated courses than private schools.

The NCES prepared a special analysis of high school course taking for a report published in 2007. It confirms earlier reports that students are taking more courses in mathematics, science, social studies, fine arts, and foreign language. The average credits earned by high school graduates increased from 21.7 in 1982 to 25.8 in 2004. The increases are primarily the result of students enrolling in more advanced courses.⁴⁶

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Chapter 5. High School Reform Models

The impetus for adopting new reform school models is the recognition that the majority of American students are not adequately prepared for college or employment and that graduation rates are unacceptably low. The various reform efforts have a wide range in depth and scope, with some programs implemented within typical comprehensive high schools, and others requiring massive transformations of those comprehensive schools into small learning communities. Still others have implemented mass reform across districts using K-16 programs and other curriculum changes. Secondary education improvement falls into three general categories of classification: programs implemented within schools, school-wide programs, and district-wide interventions and programs.

Programs Implemented Within Schools

Some schools are looking for ways to challenge their students beyond the current curriculum and to increase rigor through more demanding coursework. The more challenging classes will then better prepare these students for college and, in some cases, even allow them to start earning college credit during high school.

Honors

Schools and districts designate certain classes as “honors” because teachers present content in more depth, and the requirements are more rigorous than in regular classes that cover the same subject. Schools may offer honors-level courses in subjects that are not taught within the AP or IB curriculum, but that are otherwise more challenging than a traditional class in the same subject.¹ Students enrolled in honors courses typically receive higher scores on NAEP tests than do students who do not enroll in honors courses.²

Classroom teachers develop their own honors curriculum, sometimes working in conjunction with fellow teachers. Implementation varies because national honors curriculum standards do not exist. Some honors students receive instruction within a larger non-honors class; in this case, the honors experience comes from additional assignments or classroom activities.³ Other students enroll in courses in which all students undertake the honors requirements.

Because honors courses are more difficult, students may receive lower grades than they would have received in the same course in the regular program. As a result, honors courses may adversely affect students' grade averages unless schools apply weighting criteria when calculating honors course grades with other course grades to determine the grade-point average. Many postsecondary institutions accept grade-point averages weighted to reflect the added rigor of the course, but the weighting process is not standardized.

Advanced Placement

In 1951, representatives from three private college-preparatory high schools and three universities developed the AP program to guide students in more rigorous preparation for college.⁴ A few high schools began offering AP classes in 1955 to college-bound students. The program allows students to learn college-level subject matter and, in some cases, to earn college credit by taking a placement exam and receiving a passing score. AP courses develop writing and problem-solving skills, reinforce good study habits, and prepare students for the college admissions process.⁵ Post-secondary institutions in 40 nations recognize AP credit, and 60 percent of U.S. high schools participate in the program.⁶

Trained teachers follow guidelines developed by the College Board when instructing AP courses. The College Board assists in course development, provides course descriptions and exams, administers and scores exams, distributes score results, and offers professional development. Teachers may attend professional development programs during the school year or at summer institutes. In many cases, they participate in scoring AP exams as well.⁷ The College Board offers 37 different classes and exams in 22 subject areas.⁸

Results from a nationwide survey of the class of 2006 demonstrate that 15 percent of all graduating public school students took AP exams and received a passing score of 3 or better, up from 10 percent in 2000. Since 2000, the number of students scoring better than 3 has risen in all 50 states and in Washington, D.C., but students traditionally underrepresented in AP courses perform more poorly on subject exams.⁹ Results also indicate that most high school students who take AP classes earn higher grades in college and are more likely to graduate than fellow students from the same economic background.¹⁰

In Texas, an incentive program is being considered to reward campuses and teachers for students' good performance on AP/IB tests. The state provides reimbursement to schools for teacher training costs, partial reimbursement for student exam fees, further subsidization for students with financial need, and awards up to \$100 to campuses for each student scoring a three or above on an AP test or a 4 or above on an IB exam.¹¹

Dual enrollment

When high school students enroll in a course that provides credit for both high school graduation and college credit, the students are said to take "dual enrollment" classes. The instructor may be from a college, or may be a high school teacher who is certified to teach dual-credit courses. Dual enrollment offers increased course rigor for students and provides a means to begin accumulating college credit earlier and usually at less expense.¹² Dual enrollment also eases students' transition to college and encourages them to consider postsecondary education.

In the 2002-03 school year, 813,000 high school students enrolled in college-level courses, representing 5 percent of all high school students in the United States. According

to a survey of degree-granting postsecondary institutions in 2002-03, 57 percent of these campuses enrolled high school students taking college courses, either within or outside of an official dual enrollment program.¹³

International Baccalaureate

The International Baccalaureate Organization is a non-profit educational organization established in 1968 and headquartered in Geneva, Switzerland.¹⁴ The organization has educational programs in 125 countries serving students at all grade levels. IB aims to develop knowledgeable young people who help create a better world through intercultural understanding and respect.¹⁵ The Diploma Program, developed for students aged 16-19, is a two-year course of study that prepares students for university study.¹⁶ All IB students study their primary language, a second language, social science, experimental science, mathematics and computer science, and an arts subject. In addition to the six subjects, students write a 4,000-word essay, complete a course in theory of knowledge, and complete community action and service projects. Schools award an IB Diploma to students who successfully complete the program and attain a passing score on the IB final tests.¹⁷

The NCEA found that students who enrolled in IB courses were better prepared for college, earned higher first-year grade point averages, and had a higher than average college graduation rate. This study found the results to hold for all ethnic groups and for all socioeconomic levels.¹⁸

The IB program charges fees for schools and students that participate in the program as well examination fees. The charges for schools and students may be offset by state grant programs or scholarships, but the cost may still be prohibitive for some school districts and families, especially in areas of high poverty. IB programs are more likely to be available in urban schools serving middle-class students and in suburban schools rather than rural schools.

Advancement Via Individual Determination (AVID)

The AVID program began as a response to the increased ethnic and socio-economic diversification in San Diego public schools. The program began in 1980, and in 1992 AVID became incorporated as a nonprofit organization and initiated a program of expansion across high schools in California and other states. The program now serves over 200,000 students in 39 states and 15 countries, and it has been especially prevalent in California and Texas.

The AVID program concentrates on acceleration versus remediation for academically average, low-income and minority students who have academic potential and may be the first in their families to go to college. They experience rigorous coursework within AP and honors classes. The curriculum focuses on writing, inquiry, collaboration and reading. Students must take an AVID elective class that focuses on tutoring, study skills, critical thinking, and college-focused activities. One of the faculty members also serves as an AVID coordinator, working with college counselors to guide students through the

college application process, as well as organizing the implementation of AVID curriculum throughout the school. Parents of students in the AVID program must sign a contract indicating their dedication to encouraging their children to attain all program goals and to attend AVID parent meetings on a regular basis. Sometimes the parent groups will also help to fundraise and design new programs.¹⁹

Almost all AVID students gain acceptance to college, with over 75 percent attending four-year universities. A high percentage of students take AP exams. Other positive performance measures include high rates of graduation from high school and completion of high school entrance requirements. However, data on how many of these students pass the AP tests or complete college in five years or less are not recorded.²⁰

Small Learning Communities

The small learning community concept has existed for a number of years in the education community. Proponents of these schools argue that students perform better in situations in which they have close personal relationships with their teachers and other students. These small learning communities often organize according to a theme and encourage students to pursue future studies and possibly careers in the particular field. Small learning communities include career academies, house plans, schools within schools, and magnet schools.

Career Academies

Career Academies first appeared in Philadelphia in 1969, and have since expanded to 2,500 high schools across the country. The goal of this model is to create a learning environment in which students receive substantial attention from faculty and engage in curriculum and activities that offer a direct link to post-secondary career opportunities. Career themes include, but are not limited to, health, business and finance, and technology. As part of the curriculum, students participate in internships with local employers. The academies usually contain no more than 200 students and are organized so that student interaction with the faculty and the community is encouraged.²¹

Career academies often locate within larger, comprehensive high schools. Coursework infuses workplace skills into traditional high school classes. Students in each academy have the same set of core teachers. Teachers develop curriculum jointly during designated planning times, and one teacher or administrator serves as a liaison to the principal of the larger school. Counselors assist students in planning for postsecondary employment or college. Career academies require collaboration between the school district, faculty from the academy, and local employers in arranging internships for each student.²² Programs employing full-time employer coordinators enjoy greater employer participation.²³

A study of career academies involving 1,400 students found that young men who were most at risk of dropping out when they entered high school but transferred to career academies eventually earned salaries 18 percent higher than their peers. Women did not experience the same labor market effect, and showed no difference in their earnings.

Overall, students benefit from exposure to a range of post-secondary opportunities, but, other than at-risk young men, these options did not significantly affect post-secondary outcomes as compared to their non-academy peers.²⁴

House Plans

House plans divide high schools into groups in order to improve relationships among students and teachers. The house plans are vertically- or horizontally-aligned social groups. Vertical alignment includes all grades, and horizontal alignment establishes a house for each grade level. Academic performance is not the focus of house plans, but rather the formation of a school community. The houses function as teams that compete against each other in meeting school objectives and work together in community projects.²⁵

House plans, now more than three decades old, were the first small learning community variation. Although house plans have received less attention in the literature than other small learning communities, examples of the model do appear in secondary schools. YES Prep uses house plans to build community among students. The southeast Houston, Texas, charter school campus includes grades six through twelve and forms groups within all grade levels. They help new students make the transition to the school's academic demands. Goleta Valley Junior High School in Goleta, California, also has house plans, with around 230 students and 17 staff in each group, to encourage campus community. The school started the system in 2003 and has experienced successful results.²⁶

House plan literature is sparse, and related research is limited. The Carnegie Corporation of New York sponsored research in 1988 to investigate how house plans affected four New York high schools in Manhattan, Brooklyn, and the Bronx. The Manhattan school houses focus on program interest or need, including prevention, health care, and employment skills. Student enrollment varied for each house, but staff did not, indicating limitations in the implementation. The Brooklyn high school houses also aligned according to professional interest; the core curriculum was constant for each house, but the elective curriculum was tied to the house theme.²⁷

Teachers and students took surveys to gauge how the house plans affected the school community. Rather than school size or alignment, survey results found the structure of the house plan to be the main factor for success. Overall, successful house plans were those that were thoroughly planned, designed, and executed. Time dedicated to making the school cohesive was more important than size or student population.

Schools within Schools

A school within a school is a small learning community that is autonomous from the traditional campus that it uses to provide instruction.²⁸ The difference between schools within schools, house plans, magnet schools, and career academies is the autonomy of the small learning community. Schools within schools have the most autonomy compared against other small learning community models.²⁹ The main challenge for schools within

schools is fully implementing and maintaining the autonomy necessary for creating the small school environment and to experiencing the benefits of small schools.

Support for schools within schools largely stems from research suggesting that small schools are beneficial. Research indicates that small schools succeed socially, financially, and academically, with higher graduation rates compared to large high schools.³⁰ However, drawbacks do exist. School size reduction does not guarantee academic rigor; parents and teachers often favor other options—such as addressing school discipline and decreasing class size—as methods of improving secondary education.

Observers who believe that high schools are failing due to their large size have proposed schools within schools as a possible solution. The model can also serve as a tool to make education more personal and provide opportunities for teachers to exert more influence in school policy development. Qualitative analysis indicates that a greater degree of separation from the host campus leads to a higher likelihood of successful downsizing for schools within schools.³¹

Magnet Schools

Magnet schools offer specialized curriculum and generally are open enrollment, though some schools maintain an application process.³² As of the 2003-04 school year, 1,811 magnet schools operated in the United States, serving three percent of all students. Magnet schools can operate either on a traditional campus or a separate location, and are similar to charters in their accountability. Magnet schools may be autonomous schools or they may be nested with a larger campus.

Magnet schools were originally a tool to desegregate high schools but now also serve to reduce educational gaps.³³ They also serve as a means of providing family choice in education.³⁴ The U.S. Department of Education's Magnet Schools Assistance program distributes grants for local education agencies implementing federally-required desegregation plans. The program assists local education agencies that have congressionally-approved court-ordered or voluntarily-submitted desegregation plans. Since 2000, Congress has appropriated between \$104 million and \$110 million to fund the awards. Fifty campuses received three-year grants in 2004, and a new grant application process began in 2007.³⁵

Magnet schools also help ensure educational choice and narrow educational gaps. NCLB implementation has further established magnet schools as a choice option. This development has caused concern that incorporating choice in magnet schools actually could lead to further racial or economic segregation, rather than alleviating the problem. Furthermore, it is unclear whether magnet schools have increased academic performance. Research suggests that at the local level students in magnet schools have achieved at higher levels than students in traditional schools, but similar results have not occurred in national analysis.³⁶

School-wide Programs

Beginning in the 1990s, governors, state and local officials, and many educators across the country launched downsizing initiatives because they recognized that high schools were not adequately serving all students.³⁷ These groups have embraced the high school redesign movement as an approach to raising student achievement, increasing graduation rates, and better preparing students for college and work. Traditional comprehensive high schools are successful in some communities, but redesign advocates believe that ineffective large high schools need to be broken up into small learning communities within the larger school, or create new small schools with separate administrations.³⁸

The key components that redesign advocates emphasize as instrumental in making high schools work for all children include rigorous expectations for all students, curriculum relevant to the students' lives, and meaningful relationships with adults that will support students to graduation.³⁹

To achieve the goals of rigor, relevance, and relationships, redesigned schools organize into small learning communities of no more than 500 students. These can be part of a larger public high school or a new small public school. SLCs that are part of a larger high school, but try to keep the same group of students and teachers together for four years, may have a unifying theme or career focus. In this situation, students can continue to participate in school-wide extracurricular activities. New small schools may be housed within a large high school that is downsizing into several small schools, or may be at a separate campus. Small schools, unlike small learning communities in a large high school, have their own administration and extracurricular activities. Variations of these basic small learning community models have emerged in the last decade as cities, districts, and schools try to find structures that suit the needs of their community. Included in this report are Science, Technology, Engineering and Math (STEM) academies, First Things First (FTF), High Schools That Work (HSTW), the Cristo Rey Network, High Tech High (HTH), Talent Development High Schools (TDHS), Knowledge Is Power Program (KIPP) Academies, and YES! Prep Charter Schools. Redesign schools do not necessarily adopt a specific school-wide program, but many choose to or are required to do so to receive grants.

Science, Technology, Engineering and Mathematics (STEM)

American students show low levels of mathematics and science proficiency according to NAEP. On the 2005 NAEP, only 23 percent of 12th graders who were tested scored above the proficiency levels for mathematics and 18 percent scored above proficient for science.⁴⁰ International comparisons show U.S. 8th grade students lagging their peers in several other developed countries in mathematics and science achievement.⁴¹ In response to these results, federal and state agencies have mounted efforts to implement and support STEM education in high schools.⁴² The National Academy of Sciences and NGA also encouraged the creation of specialized STEM high schools to improve instruction and learning in these fields.⁴³

Specialized high schools started as early as 1980, when the North Carolina School of Science and Mathematics opened in Durham, North Carolina.⁴⁴ Nationally, 37,000 students attended STEM public schools in 2006. These specialized high schools are either stand-alone public schools or fit within a network of public schools, residential public schools, charter schools, magnet schools, or early college high schools. These high schools typically have a more rigorous math and science curriculum with laboratory, research, and internship experiences.

Project Lead the Way (PLTW) is an example of the STEM school model. The emphasis for PLTW is a pre-engineering curriculum. Students in PLTW are found to do better on NAEP and to complete more advanced science and math classes. The 2004 HSTW assessment data show that mean scores are higher in reading, mathematics, and science for students in PLTW than for career/technical students in the 2004 HSTW assessment. PLTW students also typically take four years of math and science. Seventy-nine percent of PLTW students took four years of math while only 59 percent of the career/technical students did so.

Another example of STEM schools is the Texas Science, Technology, Engineering, and Math Academies (T-STEM). The Texas High School Project (THSP) plans for T-STEM Academies to be supported by strategically located T-STEM centers, T-STEM coaches at each school, and an Innovation Network that shares best practices of T-STEM concepts. Grants have been awarded to establish six T-STEM Centers across the state, and Texas plans to implement up to 35 T-STEM Academies in the next five years.⁴⁵

First Things First (FTF)

The New-Jersey based Institute for Research and Reform in Education (IRRE) developed the framework for the FTF reform model to help students prepare for success in post-secondary education and the workforce.⁴⁶

FTF has been in operation since 1997 and currently operates 70 schools in nine districts. IRRE received funding from the Ewing Marion Kauffman Foundation and began implementing the FTF model in all 43 campuses in the Kansas City Public Schools system. IRRE also received more than \$11 million from the US Department Education to expand the model to high schools in Houston, Texas; Riverview Gardens, Missouri; and Shaw and Greenville, Mississippi.

Three strategies comprise the FTF framework: small learning communities with no more than 325 students, a system of family advocates, and instructional improvement.⁴⁷ IRRE believes that small learning communities create an environment where teachers, administrators, and students and their families can develop a long-term and mutually accountable relationship.⁴⁸

The Kansas City, Kansas, school district experienced promising test results on the Kansas state assessment after three years of district-wide implementation of FTF. According to IRRE, the four comprehensive high schools in Kansas City experienced a graduation rate of 80 percent in 2004 compared to a range of 40-47 percent in the years before FTF;

increase in student attendance by 100,000 days since FTF was introduced; an increase in the percentage of students scoring at proficient or advanced levels on high stakes reading tests (from 25 percent to 40 percent); and a reduction in the percentage of students reporting that they are disaffected with school.⁴⁹

In a report titled, *The Costs and Benefits of Excellent Education for All of America's Children*, the authors conduct a cost-benefit analysis of five intervention programs including FTF.⁵⁰ The study concludes that for every 100 students who participate in FTF, 16 students who would not otherwise have graduated from high school will do so. The cost per student for the intervention is estimated to be \$5,500. Total lifetime benefits per high school graduate include additional tax revenues resulting from higher wages, savings from reduced expenditures for public health costs and welfare, and reduced crime by juveniles and adults. FTF, according to the study, has a three-to-one cost-to-benefit ratio for every additional high school graduate.⁵¹

High Schools That Work (HSTW)

The Southern Regional Education Board (SREB) established HSTW in 1987. A consortium that includes SREB, states, school systems, and school sites helps sustain the program. As of 2007, HSTW has more than 1,200 sites in 32 states. The model is an improvement initiative centered on the conviction that “most students can master rigorous academic and career/technical studies if school leaders and teachers create an environment that motivates students to make the effort to succeed.”⁵²

Schools that undertake HSTW implement 10 key practices for improving instruction and student achievement.

- Schools have high expectations for students
- They offer a program of study requiring students to complete an upgraded academic core and an area of concentration
- Schools encourage students to apply academic content and skills to real-world problems and projects
- Career and technical studies emphasize the higher-level mathematics, science, literacy and problem-solving skills
- Work-based learning integrates high school studies and work-based learning
- Teacher collaboration occurs on cross-disciplinary teams
- Schools incorporate active student engagement in rigorous and challenging assignments
- Schools provide guidance systems that involve students and their parents
- Students receive extra help in completing accelerated programs of study

- Schools and teachers undertake continuous improvement using assessment data to improve school culture, organization, management, curriculum and instruction.⁵³

Schools can participate in HSTW by joining a state HSTW network, participating in an urban district network (the HSTW Urban Schools Network), or undertaking the program as a stand-alone reform effort. Schools and school systems participating in a state network agree to adopt a minimum five-year implementation effort.

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The HSTW Assessment is the primary tool for measuring student achievement and school progress. All sites participate in the biennial HSTW assessment. These NAEP-referenced tests measure students' progress in reading, mathematics and science. Tests also indicate how schools are faring in their improvement efforts and which areas require greater improvement. The HSTW Assessment also includes surveys of administrative personnel, teachers, counselors, and students. HSTW conducts a follow-up survey of students one year after graduation to assess how well high school prepared them for postsecondary education and work.⁵⁵

According to an SREB assessment, students have significantly higher achievement in mathematics, reading and science at high schools that have more extensively implemented the HSTW design than do similar students at non-HSTW sites. Internal case studies, technical assistance visits, and annual progress reports suggest that when HSTW sites "make progress in implementing the key practices, they tend to get the following results: improved achievement and higher attendance, graduation, retention, and postsecondary attendance rates."⁵⁶

High Tech High Schools (HTH)

HTH began in 2000 as a charter high school in San Diego, California. A consortium of business and community leaders concerned with finding qualified individuals for the technology intensive work force developed the school. These leaders chose to design an instructional program to combat student disengagement and low academic achievement through the use of project-based learning and high course rigor. The school explicitly targeted women and minorities, two underrepresented groups in the fields of science, math, and engineering.⁵⁷

The success of the first HTH led to the creation of six more schools in California. In total, four high schools, two middle schools, and one elementary school serving nearly 2,500 students implemented the high tech approach. Moreover, the organization obtained the first California statewide charter in January 2006, and is the first charter school to be authorized to credential its own teachers.⁵⁸

Each HTH campus seeks to accomplish four goals:

- Ensure the makeup of the student body reflects the economic and ethnic diversity of the surrounding community,
- Prepare students for post-secondary opportunities in liberal arts and high-tech programs through integration of technology and academics,
- Empower educationally disadvantaged students to enroll and succeed in math and engineering, and
- Create thoughtful, engaged citizens.⁵⁹

After the early success of the first school, HTH found support from the Gates Foundation to open new schools and replicate the success elsewhere in the state. The organization also received state government support.

Early College High Schools (ECHS)

Foundations have largely been the driving force behind the ECHS initiative. The Bill & Melinda Gates Foundation, the Carnegie Corporation of New York, The Ford Foundation, and the W.K. Kellogg Foundation have all donated money to its expansion, affecting over 130 schools and 16,000 students in 23 states as of October 2006. The partners plan on developing a total of 240 campuses that will reach 100,000 students. The ECHS Initiative supports a small school structure; the 400-student enrollment cap provides the support of a small high school while students complete the first two years of college.⁶⁰

In 2001, the Bill & Melinda Gates Foundation contributed \$40 million to help create 70 schools. A partnership between the Carnegie Foundation, the Ford Foundation, and the Kellogg Foundation built these schools. The first was Bard High School Early College, located in Manhattan's Lower East Side. The school enrolls 500 to 600 scholastically strong students in the intensive writing program, and admission is competitive. The program is tuition-free and open to all New York City residents. As of 2007, four classes had graduated since the school's opening.⁶¹

The Woodrow Wilson Early College Initiative began in 2003, with support from the Bill & Melinda Gates Foundation and the Carnegie Foundation. As of 2007, the Initiative administered fourteen ECHS campuses in partnership with such universities as Stanford, University of California-Berkeley, University of California-Davis, the City University of New York's Hunter and Brooklyn Colleges, and the University of the District of Columbia. The model focuses on rigorous coursework and professional development for teachers.⁶²

The University of Connecticut Early College Experience gives motivated students in 115 Connecticut high schools the opportunity to enroll in first-year college courses, earning college and high school credits concurrently. The high school teachers and college faculty coordinate closely on curriculum and instruction techniques. The program began

in the 1950s and continues to be successful; the students can usually transfer these credits to other colleges in addition to the University of Connecticut.⁶³

A grant from the Carnegie Foundation initiated Houston's Challenge ECHS. The school recruits average to outstanding high school students from the greater Houston area to attend its tuition-free program, housed in a facility shared by the high school and Houston Community College. In their freshman year, students enroll in rigorous high school courses; in their senior year, students take three college courses. With an additional year, the students can earn their Associates Degree. The model focuses not only on rigorous coursework, but also on relationships among students and between students and faculty and staff. Advisories are an essential component of the program.⁶⁴

While still a model in the early stages of implementation, ECHS campuses are showing promising results. They successfully enroll low-income and minority youth while placing many in college courses, and almost all students indicate their desire to attend college upon high school graduation. These schools report high attendance rates due in part to student-reported personalized relationships with high school personnel. While ECHS produce successful students, they nonetheless face the challenge of supporting under-prepared students in adapting to and learning more rigorous curriculum. ECHS face the tasks of preparing students for college-level work and determining the level of support students need in achieving this goal.⁶⁵

Many challenges exist to large-scale ECHS implementation. Among the most significant challenges is funding. Small schools such as these are costly to start and sustain. Gates Foundation funds and other initial grant support cannot serve to maintain the schools over time. Moreover, the curriculum is often more difficult than students have previously encountered, so students need support and individual attention to ensure they can benefit from the program. There are additional challenges to establishing access to local community colleges, both in negotiating contracts as well as in securing access for students in hard-to-reach or rural areas.⁶⁶

Cristo Rey Schools

Cristo Rey Network schools are private Catholic college preparatory high schools that are purposefully small in size. Each school must meet the Mission Effectiveness Standards, including such principles as being faith-based, serving the economically disadvantaged, being family centered with an active role in the community, and teaching college-prep level curriculum. Each Cristo Rey School has a separate president, principal, and Corporate Internship Program (CIP) Director.

These schools are based on a CIP, whereby students work as interns once per week plus one additional day per month in order to pay tuition. The internship rotates four students throughout the year. The CIP and the curriculum are mutually dependent and interconnected. Students come from low-income families who would not be able to afford a private education otherwise; often incomes are as low as \$24,000 or less for a family of four. However, the students must demonstrate average or better scholastic performance and indicate both interest and motivation to gain admission.⁶⁷

The Network sponsors opportunities for school leaders and faculty to share best practices, assists the schools in their start-up phase, collects and analyzes data in order to determine the model's effectiveness, and solicits funds from individuals and organizations who would like to support the Cristo Rey Network.⁶⁸

Of all graduates of the Cristo Rey Network, 96 percent attend college, 1 percent enters the military and 2 percent go directly on to employment. The dropout rate is less than 3 percent (calculated as those students who left the school without requesting transcripts), and the daily attendance rate is 97 percent. As a non-public school network, Cristo Rey schools are not subject to state and national assessments. However, the self-reported average SAT score for all Cristo Rey seniors across the nation is 1213, well above the national average.⁶⁹

Talent Development High Schools (TDHS)

TDHS began in 1994 through a partnership with the Johns Hopkins University Center for Research on the Education of Students Placed At Risk (CRESPAR) and Patterson High School in Baltimore. Thirty-five partner high schools in 15 states across the country, including the District of Columbia, have implemented the model. The comprehensive reform model targets large high schools struggling with low attendance rates, discipline problems, low achievement scores, and high dropout rates. The model endeavors to establish a strong, positive school climate for learning; curriculum and instructional innovations that can provide all students a transition into advanced high school work in English and mathematics; parent and community involvement activities to encourage college awareness; and professional development systems to support the implementation of the recommended reforms.⁷⁰

Students at TDHS assign students to ninth grade success academies. These career-themed, small learning communities serve to ease students' transition to high school with increased adult support and curriculum relevant to student interest and learning needs. Incorporated into the ninth grade curriculum are reading and writing recovery programs, transitional mathematics courses to prepare students for postsecondary education and business, and freshman seminars in study skills. In all grades, the school day consists of four periods of ninety minutes each. A "twilight high school" program occurs after regular school hours to help students who need to make up credits or who have not been successful in a traditional school day. Parental and community involvement and support is also an integral part of TDHS.

TDHS includes planning by the district and implementation support from Johns Hopkins University. Regional laboratories in Baltimore, Philadelphia, and Newark provide facilitators who assist schools throughout the redesign process. School teams first attend a two-day TDHS Planning Year conference to understand the structure and key components of the model. Faculty and staff then engage in a year-long planning phase, led by a Talent Development facilitator. To support the development of the model within a school during the first two years, a technical assistance team provides weekly on-site coaching on implementation in conjunction with monthly instructional workshops. The TDHS program also facilitates for all its teachers local network connections through

professional development and twice-yearly meetings for TDHS principals. During the first several years of implementation, Talent Development facilitators or developers conduct implementation checks, and schools provide feedback on their results and progress through an annual survey. Implementation costs vary, but complete costs range from \$250 to \$300 per student per year.⁷¹

CRESPAR worked in collaboration with the Philadelphia Education Fund to begin an ambitious scaling-up effort in Philadelphia through Talent Development. Twenty-two struggling Philadelphia high schools implemented TDHS. An independent research group studied five of these schools. Each of the schools suffered low attendance rates, low promotion rates from freshman to sophomore year, and low achievement scores prior to the Talent Development implementation.⁷²

Ninth grade success academies overshadowed other elements of TDHS in terms of solid implementation. Ninth grade departments formed small learning communities and changed scheduling to accommodate 80- to 90-minute classes. Each school changed its curriculum to support additional math and English courses, transitional math and reading courses, and a freshman seminar. The schools also attempted to maintain career academy placements in the upper grades, but were not entirely successful.

Research demonstrated that nearly every ninth grade student in the study of Talent Development schools earned more credits and had higher promotion and a five percent increase in attendance rates. Specifically, the percentage of ninth graders who passed all core curriculum classes rose from 43 percent before implementation of TDHS to 56 percent.⁷³ Findings for almost all first-time ninth grade student outcomes are positive and statistically significant.⁷⁴ TDHS sustained the higher course completion rates as the cohort of students progressed through high school, with first-time ninth graders benefiting the most.⁷⁵

Knowledge is Power Program (KIPP) Academies

Two teachers who completed the Teach for America program founded the first KIPP Academy in Houston in 1995. As of 2007, 52 KIPP schools in 16 states and Washington, D.C., served 12,000 students. Of the 52 schools, 49 are charter schools and 45 middle schools serving grades five through eight. Ninety-five percent of KIPP students are African American or Hispanic and 80 percent are eligible for free or reduced-price lunch.⁷⁶

In 2000, the KIPP Foundation formed to recruit, train, and support educators in opening new KIPP schools in high-need communities. The KIPP Foundation leads a year-long training for potential school leaders. The training includes six weeks at Stanford University's Educational Leadership Institute and participation throughout the year in a residency at the highest performing KIPP schools. During residency, recruits participate in the leadership and operation of the school. Future school leaders also attend training conferences with KIPP staff to cover real estate, legal, and community development topics pertaining to opening a school.⁷⁷

The education at a KIPP school centers around the “five pillars” of high expectations, choice and commitment, additional time, the power to lead, and focusing on results. The pillar of more time is the most significant difference between KIPP and traditional schools. Students attend school from 7:30 a.m. to 5:00 p.m. on weekdays, every other Saturday for four hours, and three weeks during the summer. KIPP schools use the extra time for extracurricular activities, experiential field lessons, and character development. The high expectations pillar applies to students, parents, and teachers. At the beginning of the program, parents must sign a contract that requires them to take on responsibilities such as checking homework completion and making sure the student gets on the bus to school. Teachers must exceed expectations and produce results. KIPP principals have the power to fire teachers if they do not live up to the KIPP tradition of academic gains for their students.⁷⁸

KIPP schools are reported to outperform their traditional school counterparts. KIPP students perform at the 34th and 44th percentiles in reading and mathematics at the beginning of 5th grade. By the end of 7th grade, KIPP students score at the 58th and 83rd percentiles, respectively, in reading and math. By the end of 5th grade, 56 percent of KIPP students outperform their local districts’ average score. By the end of 8th grade, 100 percent of KIPP students score above the district average. KIPP schools attendance rates are also well above average, at 96 percent, and higher than comparable traditional schools.⁷⁹

YES Prep Schools

The greater Houston area is home to four YES Prep charter schools, which serve 1500 low-income students from 22 school districts in the greater Houston area. The vast majority of students are first-generation college-bound. The YES model is an intimate environment for learning characterized by small class sizes, but it still provides activities and resources to prepare students for collegiate success. Between 80 and 95 percent of students are economically disadvantaged ethnic minorities, and these students typically enter YES at least one grade level behind in mathematics and English.⁸⁰

The students benefit from required curriculum and activities such as an extended school day that includes clubs and athletics, devotion of one Saturday per month to community service, attendance at a three-week summer school session, and participation in yearly college research trips and in a comprehensive college counseling program. Students must take at least one AP or dual-credit course while in school in order to ensure exposure to college-level expectations. Approximately 75 percent of all YES students take AP exams.⁸¹

Each year, the parents, students and teachers sign a contract demonstrating their commitment to pursue the YES mission of collegiate success. YES offers a unique student support model that includes small faculty advising groups, social services, tutoring sessions, and a college counseling department that begins working with students in ninth grade. All YES students take the SAT. In addition, all staff members receive school-provided cell phones and must be accessible to their students after school hours.

YES students have consistently outperformed Houston public school students as well as Texas statewide average scores on the Texas Assessment of Knowledge and Skills. Passing rates are above 90 percent in both reading and math.⁸² Every year, 100 percent of the seniors from the southeast YES campus gain acceptance to four-year colleges, and collectively they have received \$13.1 million in scholarships and financial aid.⁸³

District-wide interventions and programs

Several communities are focusing on broad-based reform. Examples include districts concentrating specifically on alleviating dropout issues, or those working to achieve alignment of curriculum from pre-kindergarten through post-secondary education.

Graduation Really Achieves Dreams (GRAD)

Project GRAD is an intervention designed to alleviate the dropout problem in public schools, particularly among disadvantaged students. Project GRAD's mission is to enhance the quality of the educational experience in economically disadvantaged communities in order to increase high school graduation rates and ensure success in the college environments. The goal is to achieve at least an 80 percent graduation rate, and for at least 50 percent of these high school graduates attend college. Project GRAD is implemented at the individual school district level, and includes levels K-16.⁸⁴

The fundamental component of Project GRAD is the "feeder" system. This system is a form of school alignment, in which all of the elementary and middle schools which feed their graduates to a certain high school approach the curriculum in a similar fashion and adopt consistent teaching practices. The high school and lower-level schools then comprise a feeder pattern. Project GRAD allows for academic consistency by giving continuity within a feeder, as well as by furnishing a consistent experience for children whose families move within the neighborhood.⁸⁵

Strong community support, which takes two forms, is a key element of Project GRAD's success. The local Project GRAD organization, a non-profit entity in each city with a Project GRAD presence, is the first support entity. This organization works with the stakeholders, including community members, to ensure the high quality of the program as it is implemented in the district. The organization can furnish technical assistance, coordinate the use of resources and solve problems as they arise.

The local community itself is also a key element of support for feeders in a Project GRAD system. Project GRAD wishes to engage community stakeholders, which include universities, corporations, foundations, and even individuals. These stakeholders may wish to contribute funds as well as direct assistance of various kinds. Project GRAD seeks the help of local stakeholders as tutors, mentors, and event sponsors. Other programs and initiatives also seek collaboration with Project GRAD; the cooperation between Project GRAD and other initiatives and programs in the schools makes all participants more likely to succeed in their goals of helping students.

Project GRAD is the national umbrella organization under which local programs operate, and it gives technical advice and quality control, as well as a certain amount of funding. The Project GRAD organization helps cities plan and garner local support when they are in the beginning stages.

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)

Created by Congress in 1998, GEAR UP is a federal grant program designed to assist low-income students prepare to enter and succeed in higher education.⁸⁶ As of March 31, 2007, GEAR UP had served 2.3 million students in 47 states, the District of Columbia, Puerto Rico, and other territories.⁸⁷ Congress has funded GEAR UP since its inception in 1999 with nearly \$1.2 billion.⁸⁸

Colleges, universities, school districts, and states compete for GEAR UP grants to provide academic and support services at high-poverty middle and high schools. The GEAR UP model serves an entire cohort of students beginning no later than the seventh grade and follows the cohort through high school. There are two types of GEAR UP grants: partnership grants, which serve cohorts of students at specific middle and high schools; and state grants, which can support statewide efforts and serve students in targeted schools within the state.⁸⁹

GEAR UP helps states and localities create education partnerships that strengthen their schools and improve education opportunities for low-income students. The model promotes several key objectives: making rigorous courses available to all students to help them prepare for college; developing an academic foundation to include challenging courses, qualified teachers, and current learning tools; promoting reforms and improvements in the school curriculum; providing intensive, individualized and coordinated support to students that includes mentoring, counseling, and tutoring; providing professional development opportunities for teachers; and designing comprehensive, research-based projects that include evaluations.⁹⁰ Individual states and partnerships have reported successes to the U.S. Department of Education.⁹¹

According to the National Council for Community and Education Partnerships, an association that promotes GEAR UP programs, the model has helped transform the relationship between colleges and universities and public schools by creating opportunities for developing close working relationships between faculty and administrators in higher education and secondary education. For example, the model requires that partnership projects have at least one college and one school district involved in the GEAR UP partnership. Each partner's respective leadership has to commit in writing to their participation.⁹²

El Paso Collaborative

Formed in 1991, the El Paso Collaborative for Academic Excellence consists of stakeholders from higher education, public schools, community organizations, and businesses. Three school superintendents sit on the leadership group along with presidents of El Paso Community College (EPCC) and University of Texas at El Paso

(UTEP) and university academic officers from those institutions. The city mayor, members of the El Paso Chamber of Commerce, and representatives of community organizations are also coalition members. Three national partners support the collaborative: the U. S. Department of Education, the National Science Foundation, and the Pew Charitable Trust.⁹³ The El Paso Collaborative for Academic Excellence advances one primary goal: Success for Every Child.

The initiative began when UTEP, El Paso Independent School District, Ysletta Independent School District and Socorro Independent School District formed a partnership to improve college readiness of high school graduates and reduce remediation when students entered college. The school districts recognized that almost 80 percent of certified teachers were UTEP graduates and most high school graduates remain in the area for higher education.⁹⁴

The collaborative provides professional development for K-12 teachers in multiple disciplines, helps schools establish high standards, involves principals and administrators in supporting the school improvement process, and works with parents to encourage school involvement and support college preparation. Parents join the Parent Educators Network and participate in seminars, training workshops, and an annual parent conference. University administrators and faculty support field-based teacher preparation programs and improve links between university and high school faculty to ensure curriculum alignment with an emphasis on mathematics education. The collaborative also works with business and community leaders to help identify and support strategies for raising academic achievement. For example, the El Paso Chamber of Commerce selects certain individuals from the community to be trained by the collaborative, and those community leaders are then sent out to give presentations to students in seventh through ninth grade about the importance of attending college.

AYPF credits the El Paso Collaborative with improving achievement in six years. The percentage of El Paso students enrolled in Algebra I by the end of freshman year increased from 63 percent (1992-93) to 99 percent (1997-98). During the same period, enrollment in Algebra II increased from 45 percent to 65 percent. For the school year 2005-06, 100 percent of 9th graders were enrolled in Algebra I, and 100 percent of eleventh graders were enrolled in Algebra II.⁹⁵

Voluntary K-16 structures such as the El Paso Collaborative and similar programs in Georgia and California require that leaders across systems assume joint responsibility for K-16 outcomes. Data systems and policies such as cross-system teacher preparation programs are key factors in aiding successful K-16 alignment.⁹⁶

New York City

In 2002, Mayor Michael Bloomberg declared reforming the city's schools his top priority. He then abolished the New York City Board of Education and appointed Joel Klein, a former Justice Department Lawyer, Chancellor of Schools.⁹⁷ Bloomberg's reforms seek to reorganize the leadership structure to focus on instruction; empower

principals; create smaller, high performing high schools in place of large failing high schools; standardize curriculum; and increase rigor.

The first step in Bloomberg and Klein's efforts was to replace the 32 community districts with ten regions and 113 localities. The goal for this change was to decrease the number of administrators at the district level and allow the 113 Local Instructional Superintendents (LIS) who spend their time at no more than twelve schools to work toward improving instruction. The ten regional superintendents and LIS are free from operational management and focus solely on teaching and learning. Six Regional Operations Centers are responsible for managerial tasks. This reorganization saved the city \$100 million in the first year of implementation.⁹⁸

The Empowerment Zone, formerly known as the Autonomy Zone, is a district level reform that Bloomberg and Klein expanded in June 2006 from 48 schools to 331. The Empowerment Zone allows high performing principals the authority to choose their own curriculum and to spend an additional \$250,000 on teacher hiring, training, and enrichment programs. Rather than working with regional superintendents and LIS, Empowerment Schools form networks of approximately twenty schools. The principals from these schools hire five experts including an Achievement Coach, Business Services Manager, Special Services Managers, and Instructional Mentor of their choosing. Additionally, Empowerment Schools gain flexibility over assessments. Schools may administer a standard set of three exams for high school or five exams for grades three through eight. They may create customized versions of these exams aligned to particular curriculum, or design their own assessments with the help of a professional or academic partner such as Teachers College Reading and Writing Project or Kaplan.⁹⁹

Bloomberg and Klein also sought to restructure the many failing high schools in New York by breaking them into small, autonomous schools. They facilitated the swift creation of 170 new small schools in the city. The New Century High Schools (NCHS), a Gates Foundation initiative, was instrumental in founding seventy-five new small schools in New York.¹⁰⁰ Each NCHS receives \$400,000 during the school's first four years, pursues community partnerships related to the school theme, and strives to provide rigorous curriculum to ensure that more students graduate from high school.¹⁰¹

Policy Studies Associates, Inc. evaluated NCHS's first three school years, 2002-2005. The students of NCHS schools are more likely to be female, African American or Hispanic, and poor as compared with the total population of New York City public schools.¹⁰² School attendance, credit accumulation, and grade promotion rates were higher for the NCHS students.¹⁰³ The schools were found to be safe, academically focused, and socially supportive.¹⁰⁴ Surveyed teachers and students noted that with each addition of another grade to the high schools, the feeling of connectedness diminished, even though the size of each school did not exceed approximately 100 students per grade level. Advisory systems generally were not well managed due to the lack of a unified curriculum and staff training. Suspension rates in the NCHS schools matched the city's average. Principals, teachers, and students noted that the main problem was sharing a school building with several other schools.¹⁰⁵ This factor created animosity between the

schools because principals had to vie for space and resources. However, overall, the report found that NCHS students out-performed their peers in other city schools.

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Chapter 6. High School Reform Strategies

One approach to high school improvement is to apply a reform model to a new or redesigned schools. But new models may not entirely eliminate some constraints limiting high school improvement. Addressing larger, institutional constraints may be necessary. Reformers have offered numerous strategies that may improve student performance without application of a comprehensive model. Academic engagement, personalized learning environments, and systemic alignment may help high school educational systems and institutions become more efficient. Strengthened graduation requirements and documentation of college readiness might alleviate concern that high schools fail to prepare students for postsecondary education.

Academic Engagement

Academic engagement as a strategy for improving high schools is an integral part of many current high school reform initiatives. The Gates Foundation lists “relevance” as a critical component of a high-performing school, and emphasizes the need for curriculum that engages students by directly relating coursework and projects to students’ lives and to the rapidly changing world.¹ Though many strategies exist for engaging students, theme-based high schools appear most frequently in the current education reform landscape.

Theme-based high schools are another reform aimed at increasing academic engagement. Many new, small high schools choose a theme such as visual arts or technology to attract and to engage students. Educators organize curriculum, projects, and outside learning experiences around the theme to better serve students who may not have been successful in traditional, comprehensive high schools.²

Project-based learning is also a way to engage students, lower absenteeism, and improve test scores. This kind of learning encourages problem-solving, and tends to involve projects that are more relevant to real-world tasks. One study found that students at project-based schools performed better on mathematics exams.³

ECHS also aim to improve student engagement by providing a clear connection between high school and college. These campuses offer students an opportunity to earn a high school diploma and an Associate’s Degree simultaneously without extra expense to the student. Campuses implementing this program align curriculum with local community colleges and state universities.⁴

Personalized Learning Environments

Personalized learning environments allow for relationship formation between students and teachers through small school structures. These models can include teacher teaming, teacher looping, teacher advisories, student grouping, and mentoring. Approximately 70 percent of students are in high schools with more than 1,000 students.⁵ The size of

traditional high schools hinders the ability of students to form relationships, and can impede student success.⁶ High schools that encourage interaction between teachers and students may be more likely to improve performance because teachers will be more able to assess student educational needs. Restructuring the large, comprehensive high school can be a means to provide supportive relationships that aid higher academic performance.

Restructuring includes curriculum and instruction changes, without which improvement might not occur. Students perform at higher levels when the curriculum is relevant to their lives. Training helps teachers accommodate a wide range of student needs and individualize student academic plans. Teachers who maintain close relationships with their students may be better able to personalize the curriculum. Classroom interactions also change in more personalized environments because relationships develop through open communication, respect for the ideas of others, a safe environment, and shared expectations. School improvement may not happen without curriculum and instruction changes, so decisions about academic planning develop from regular meetings between a teacher or advisor and the student. Students are also more involved in this model, and must participate in leadership roles within the school.⁷

Evidence suggests that smaller schools may have advantages over large schools because students, teachers, and staff are more likely to know one another. Small schools are also reported to improve academic achievement, behavior standards, satisfaction with school and dropout rates.⁸ Small schools can come in a variety of forms. A previous section of this report presented four types of small learning communities: career academies, house plans, schools within schools, and magnet schools. Experts believe that high schools should restructure into smaller learning communities to obtain the benefits of personalized learning; ideally, each teacher should have 100 to 150 students.⁹ Flexible school schedules and longer class periods aid in this transformation.

Using data from the 1988 National Educational Longitudinal Study, researchers found that small schools positively affect student learning with a more equitable achievement distribution. Research also shows that schools with 300 to 600 students are better able to increase achievement, improve attendance, reduce dropouts, and promote positive behavior. However, small size alone is not enough to ensure a school's success. Students in smaller schools still need personalization.¹⁰

Alignment

Secondary education includes several components: standards, curriculum, instruction, assessment, and support. High schools in districts and states that address these aspects are more likely to show improvement. Content standards describe what students should know after completing a grade. Using these standards, teachers and administrators develop a curriculum to disseminate the relevant information. Instruction uses materials and teaching to present the curriculum to students, and assessments ensure that students grasp the curriculum and meet the standards. Federal and state governments provide support through funding, while districts and foundations supply personnel to high schools to support teachers and administrators in instruction.¹¹

Aligning these components can benefit high schools. First, federal funding stems in part from standards and assessment alignment. NCLB requires that states receiving federal funding have aligned assessments and standards. The alignment of assessments with standards provides useful information to teachers regarding students' understanding of the content. Alignment encourages accountability from parents and the community because results communicate student understanding of required material. Assessments also hold schools accountable for teaching comparable skills across the state and for allowing the identification of both best practices and struggling schools. Proponents expect this academic environment to help improve secondary education.¹²

K-16 Alignment

Secondary schools can improve by analyzing how well high school education aligns with postsecondary education. K-16 alignment attempts to develop high school curriculum and graduation requirements that adequately prepare high school graduates for college courses. The National Education Summit on High Schools in February 2005 listed K-16 alignment as a pressing issue facing the public education system. The forty-five governors attending the summit acknowledged a gap between what students learn in high school and the knowledge and skills they need for college and the workplace. Approximately 39 percent of high school graduates in college and 46 percent of high school graduates overall believe their high schools did not sufficiently prepared them to fulfill college and workforce requirements. Many students have to take remedial courses in college; 76 percent of students who enroll in remedial reading courses do not graduate. Summit participants identified alignment of K-16 academic standards along with other strategies including more rigorous high school graduation requirements and longitudinal data systems as methods of addressing this challenge.¹³

Five states have aligned their academic standards and postsecondary demands with approval from the business community and state higher education officials. Thirty other states are in the process of standards alignment. One tool that helps align K-16 education is longitudinal data systems. The U.S. Department of Education has established the Statewide Longitudinal Data Systems Grant Program to help state education agencies with implementation. Longitudinal data systems provide state education agencies the capabilities to analyze individual students' academic performance and use education data more efficiently. The process of implementing longitudinal data systems is difficult due to the necessary infrastructure, though Florida, Louisiana, and Texas have the systems in place, and as of 2005 thirty-one other states were creating a K-16 data tracking system.¹⁴

Tougher Graduation Requirements

Graduation requirements, the criteria that a student must meet to obtain a diploma, vary by state. The America Diploma Project called for a rise in graduation requirements to restore value to the high school diploma and to align high schools with postsecondary institutions. According to state interviews and websites, states have increased the amount of course credits required in all subjects. For example, states such as Texas have implemented a "four-by-four" curriculum which requires students to take four years of

English, mathematics, science and social studies to graduate. Exit exams are a second method of increasing graduation requirements. New York requires students to pass Regents exams to receive certain diplomas.¹⁵ Some states require that every high school student pass the state standardized exit exam before graduation.

Meaningful College Readiness Indicators

No formal definition of college readiness common to the entire education community exists. One definition is that students are college-ready when they have completed the courses in high school required for admission to a nonselective four-year college. A study has found that the greatest indicator of college attainment is the courses that a student took in high school. Results indicate that a student is more likely to attain a bachelor's degree if the curriculum is more challenging. Some strategies to ensure high school graduates are college-ready include aligning high school courses with postsecondary courses and high school assessments with postsecondary expectations. For example, all students to take a college preparatory curriculum, so that the campuses produce only graduates who are college-ready.¹⁶

Furthermore, several states have taken steps to determine whether students are college-ready. Illinois and Colorado require all high school students to take the ACT before graduation. Some states have embedded college readiness indicators into their state standardized exit exams, while California and Kentucky created college readiness exams. Other states created a college preparatory curriculum that students may elect to follow. Texas made the new college preparatory curriculum the default for all high school students as of the 2007-08 school year. College readiness indicators are becoming increasingly common as more policymakers and states become concerned about the high school reform movement and the importance of a college degree in the 21st century.¹⁷

Review of State High School Reform Activity

According to a review conducted by this policy research team, many of the states are implementing similar reform activities. More than three quarters of the states are strengthening graduation requirements. This can involve requiring students to take more courses, such as four years of math and science. Strengthening requirements could also include requiring students to enroll in at least one AP or dual-credit course in order to graduate.

Several of the states stand out with the sheer number of programs being implemented to increase rigor and relevance, redesign high schools, prevent dropouts, improve teacher and principal professional development, use data systems, and incorporate technological approaches. Those states in the top fifth of those most aggressive in attacking high school reform are: Delaware, Washington D.C., Indiana, New Hampshire, New Jersey, New Mexico, New York, Texas, Virginia, and West Virginia.

Approximately two-thirds of the states are now requiring new or additional high school tests, adopting college readiness standards, and providing teacher and principal professional development. Most states are incorporating standards necessary to compete

in post-secondary work or continuing education into the requirements to graduate from high school. New tests can include either comprehensive exit exams or end-of-course exams. Teacher and principal professional development can include vertical alignment of classes so that teachers within the same discipline may meet during the scheduled off period to discuss curriculum and best practices. Principals may also have the opportunity to develop leadership skills through training and conferences. Some states, such as California and Oklahoma, place considerable emphasis on teacher and principal education and development.

More than half the states are focusing on career pathways in their high school curriculum. This could include putting students on a pathway to complete courses in “career clusters” pathway. New Mexico has instituted such a program, where the courses taken are specified to the skills and knowledge necessary to go into a particular career. Career pathways might also include student internships or enrollment in dual-credit courses in conjunction with local community colleges in order to earn career certification.

Over half the states are increasing the availability of honors, IB, or AP courses. Some states, including Arkansas, pay for the tests that students must take at the end of AP courses to place out of college credit. This has roughly doubled the number of students taking the test. Almost half the states are also increasing access to dual-enrollment and early college opportunities. These programs are especially helpful to underprivileged populations who are able to access a head start on acquiring college credit hours for a reduced cost, and also for first-generation college students to prove to admissions boards that they can handle college-level coursework.

Nearly half of the states are working to develop college readiness standards. Some states are collaborating with post-secondary education and local business to ensure that they are incorporating into the curriculum the skills necessary to succeed post-high school. In several states there are multiple organizations whereby business leaders work with school administrators and superintendents to develop higher standards for curriculum. Almost half the states are also incorporating technological approaches, ranging from online test taking to technology academies within schools. Roughly half of the states have decided to devise individual graduation plans for each student in high school, to recognize objectives and goals as well as early intervention identifiers. Louisiana uses a program called “Lighthouse Schools” to propagate thriving schools, joining nearly half the states in cross-state implementation of successful high school models.

Forty-seven of the states either currently have K-16 data systems or are working on implementing these data systems. Florida currently has the most comprehensive data system, with states such as Texas and Louisiana following closely behind. Massachusetts and Arkansas executed a longitudinal data system beginning in 2007.¹⁸ Florida also has a board dedicated to increasing college rigor, and certifying the discipline of the AP courses being offered in the public high schools. In those states that do not have K-16 data systems or are not working on acquiring the infrastructure, lack of funding is cited as the most common barrier.

Other statewide reform strategies are seen to a lesser extent (in less than one-third of the states), these include: internships and service learning, developing new small schools or breaking large high schools into smaller schools, implementing 8th and 10th grade readiness tests, extended school days or year, and virtual learning.

In summary, many state education representatives feel that the role of the federal government in assisting them with high school reform could include: funding the unique student populations such as special education or English as a second language, funding Title I high schools at a higher rate while maintaining spending levels for elementary and secondary education, and allowing for more flexibility in meeting national standards.

Almost every state is implementing some type of high school reform or improvement program. Some are doing state-wide uniform programs backed by the governor while others are more piecemeal and driven by private funders. While varying degrees of success have been seen in different models and programs, it is too early to determine with certainty what programs are accomplishing their goals. Those states that are well into the reform movement need time to let their efforts go into full effect before comprehensive evaluation can be done, and longitudinal data systems could be the catalyst to helping make that kind of evaluation more fruitful.

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Chapter 7. Policies to Improve High School Education

Introduction

American education has a long history of efforts to expand and improve secondary education. When educators in the early 1900s came to believe that school was not preparing large numbers of students for tasks they would face in adult life, policies establishing trade schools and vocational education programs arose.¹ When the U.S. population swelled with immigrants during and between the two world wars, communities created comprehensive high schools to offer all students an opportunity for success.² Policymakers and critics became concerned in the 1980s about substandard preparation of high school graduates, and schools began requiring students to pass competency tests to demonstrate that they met minimum standards.³ When it was clear that significant numbers of students were still behind academically, despite the reforms of the 1980s and early 1990s, policymakers set goals students should meet and established accountability indicators.⁴

Federal and state education policies continue to respond to needs or problems. Among recent concerns are national performance data that reveal uneven high school quality; persistently high dropout rates; and reports from higher education institutions, employers, and students themselves that indicate inadequate preparation for postsecondary education.⁵ Educators and researchers confirm that bridges between higher education and high school are weak: curricula are not aligned, state graduation requirements and tests do not reflect the knowledge and skill that higher education faculty believe are necessary, and students lack accurate information about what is needed to succeed in college and the workplace.⁶ Student course-taking patterns, perhaps resulting from incomplete information, do not generally reflect the rigor necessary to prepare for postsecondary education success.⁷

New high school reform policies seek to improve academic preparation for postsecondary education through a rigorous core curriculum, to raise the quality of secondary education experiences for students with relevant activities and positive relationships, and to increase awareness and understanding with improved data systems.

In a development that is relatively recent, elected leaders, state agencies, business leaders and foundation executives are leading the conversation about standard setting and high school completion requirements, not educators. As a result of pressure from these multiple constituencies, nearly every state has taken steps to increase requirements for high school graduation, and one-quarter have implemented “significantly tougher graduation requirements.”⁸ Twelve states report that high school standards are aligned specifically with college and workplace expectations, and 32 additional states are in the process of doing so. According to Achieve, Inc., a bipartisan organization that helps states raise academic standards and improve assessment and accountability, there is more activity in the states now than at any time since the 1983 publication of *A Nation at Risk*.⁹

Other indicators of increasing academic rigor are the rise in enrollment in AP classes and higher scores on the AP tests themselves.¹⁰ In addition, more high school students are participating in dual enrollment courses with postsecondary institutions. Dual enrollment offers students opportunities to gain college credit while completing rigorous high school requirements.¹¹

In addition to raising academic standards, policymakers and foundation leaders seek to improve the high school experience of many students by making coursework more relevant, while at the same time improving relationships between students and adult leaders in the schools.¹² Creation of smaller schools; advisory systems that link students with teachers in meaningful ways; and programs of work, study, and community involvement all serve the aims of increasing relevance and improving relationships.¹³

To support school accountability and improvement, policymakers are investing in systems to collect, analyze, and report data about student performance. According to Achieve, Inc., five states use longitudinal data systems that track students from pre-kindergarten through college graduation, and nearly all states have plans to develop such systems.¹⁴ These systems will reveal points of strength and weakness in school systems and assist educators and policymakers in learning more about the elements of high school preparation that correlate highly with postsecondary success.

A steady flow of information, policy briefs, and academic reports on improving high school education shows early progress.¹⁵ Public and policymaker awareness is high. Students are taking more courses and achieving higher grade-point averages.¹⁶ State test reports required by NCLB show student academic performance gains, although national tests such as the SAT or the NAEP do not reflect those gains.¹⁷ While the early indicators are promising, it is too soon to tell if major reforms will have lasting and salutary effects on the high school performance of all students.

Federal Policy

Until recently, federal laws and regulations guided policy at the state level while permitting broad local control over programs and definitions of what constitutes progress. For nearly four decades, federal activity was compliance-driven. NCLB represents a departure from past practice. Under NCLB, the federal government has established a framework for accountability that guides state standard setting and assessment. The federal role is focused on measuring and reporting outcomes in terms of student academic performance. An accountability system in each state charts a path for all students to reach academic proficiency by 2013-14.

Along with measuring results, accountability also includes corrective action and choices for parents and students. NCLB policies also encourage greater flexibility for states and districts to use federal funding to improve student achievement. Title I has, for many years, flowed primarily to elementary schools. Fewer than one in ten high schools receive

Title I funding. Even though all high schools are evaluated for AYP, most are not subject to sanctions imposed for failure to meet AYP targets.¹⁸

Several NCLB requirements affect high schools. States must ensure that AYP objectives include high school graduation rates as a measurement, and that all high school students achieve proficient achievement levels in math, reading, and science by 2014. High school teachers of core subjects must meet the state's "highly qualified requirements." Also, graduation must be defined as the percentage of students who graduate with a regular diploma in the standard number of years, so states cannot include General Educational Development (GED) certificates or alternative diplomas in their measurement of graduation rates.

In addition to NCLB, Congress has explored the role that high schools play in preparing students for postsecondary education and entry into the workforce, and it created several programs that serve high school students and high school age youth no longer in school. These programs, primarily authorized by the Higher Education Act (HEA), serve to help students make the transition into postsecondary education or the workforce.¹⁹ First, Tech-Prep Education is a program that integrates academic and technical skills with work-based learning. It combines at least two years of high school coursework with two years of postsecondary education in a technical field.²⁰ Second, Federal TRIO Programs are six individual programs serving low-income students who are first-in-their family to go to college. Of these programs, Talent Search, Upward Bound, and Student Support Services provide academic and transitional services to high school students.²¹ Next, GEAR-UP is a comprehensive academic and student support services program that transitions cohorts of students from middle school to high school to postsecondary education.²² Finally, High School Equivalency (HEP) targets children of migrant farm workers by providing preparation for the GED test and transitional services to migrant youth who have yet to complete their high school education.²³

New proposals for supporting high school education have come from the White House, the U.S. Secretary of Education, and Congress. Education proposals comprising and supporting the White House's 2004 *Jobs for the 21st Century Initiative* include seven components. Striving Readers is a competitive grant program to provide schools with resources to provide extra help to students falling behind in reading. The Mathematics and Science Partnership provides funding to help students who are falling behind in math. Low-income students receive additional funds for AP support. The Adjunct Teacher Corps is a grant program to encourage private-sector professionals to teach math and science part-time in high schools. State Scholars, a program that requires students to take four years of English, three years of math and science, and three and one-half years of social studies, would expand. The Secondary and Technical Education grants would replace the Perkins Vocational Education State Grants and create a coordinated high school and technical education improvement program. Funds for High School Accountability would support a requirement for states to participate in the NAEP for 12th graders.²⁴

On March 30, 2006, U.S. Secretary of Education Margaret Spellings testified before the United States House of Representatives Committee on Science to announce the President's High School Reform Initiative. This initiative included targeted interventions for the most at-risk high school students by creating individual performance plans and expanding high school assessments to require testing once in grades 10-12. In a letter to chief state school officers in April 2007, Secretary Spellings highlighted five top priorities to strengthen NCLB:

- close the achievement gap through high standards, accountability, and more information for parents;
- give states flexibility to better measure individual student progress, target resources to students most in need, and improve assessments for students with disabilities and LEP (highly dependent upon using the growth measure in AYP and a pilot program);
- prepare high school students for success by promoting rigorous and advanced coursework and providing new resources for schools serving low-income students;
- provide greater resources for teachers to further close the achievement gap through improved mathematics and science instruction, intensive aid for struggling students, continuation of Reading First, and rewards for teachers in high-need schools; and
- offer additional tools to help local educators turn around chronically under-performing schools and empower parents with information and options.²⁵

The President also recommended a “substantial increase in funds for Title I high school students,” and in return, states would develop academic standards for English and Math by 2010-2011 and give assessments aligned to these standards by 2012-2013.²⁶

With the reauthorization of NCLB pending in 2007, national leaders focused on changes and improvements to the law, and high school became a new theme in many discussions. A bipartisan, independent Commission on NCLB solicited feedback from educators and stakeholders of all levels and released recommendations on how to improve the act. The report includes recommendations for all levels of schooling to ensure that teachers and principals improve student achievement, academic progress is accelerated through accurate and fair accountability measures, and state data systems are strengthened. Student choice options and rigorous standards tied to college and workplace readiness are additional recommendations the commission offered.²⁷

To strengthen and reform high schools, the commission specifically recommends targeting districts that serve large concentrations of struggling high schools and requiring them to develop and implement comprehensive district-wide high school reform.²⁸ In addition to recommending district support to reform high schools, the Commission also supports stronger accountability with expanded assessment systems, a 12th grade assessment, and calculation of student academic growth in high school.²⁹

Several bills introduced in the first five months of 2007 addressed high schools: the Striving Readers Act, the Graduation Promise Act (GPA), the Pathways for All Students to Succeed Act (PASS Act) and the Graduation for All Act.

The Striving Readers Act of 2007 would provide grants to every state for reading and comprehension programs for students in grades four through 12. The act aims at helping older students who are struggling to read and write at grade level. It would provide funding to create statewide literacy initiatives, share data with the public, and improve teacher training and professional development.³⁰

The GPA would provide \$2.5 billion to turn the nation's worst performing high schools into effective centers of teaching and learning. Most of the proposed funding would focus on high schools where 40 percent of freshmen do not complete their senior year. The second component of the GPA would create a \$60 million grant program for the development, implementation, and replication of highly effective secondary school models. The third component of the bill would create a \$40 million grant program for the development of policies and practices that states could implement to increase student achievement and graduation rates in all of their high schools.³¹

The PASS Act aims to improve student achievement through three methods. First, it would provide funding to allow schools to hire math and literacy coaches. Second, it would allow states to hire additional academic counselors in their poorest high schools. The counselors would develop individualized six-year graduation plans for each student. Third, the bill would provide funding for states to set up data systems to accurately calculate graduation rates.³²

The Graduation for All Act would authorize \$1 billion for schools to increase literacy rates and to implement individualized graduation plans for the students most at risk of dropping out. Moreover, the act would provide additional funds to allow states to hire one literacy coach per 600 students. These individuals would be responsible for training other teachers about literacy instruction and for identifying students struggling to read at grade level.³³

State Policy

According to one report, today's state policymakers are rethinking some of the central features that have governed and defined high schools for a half century. State policy provision for high schools is now broad and far-ranging and includes strengthening the structure of high schools, increasing course and graduation requirements, expanding assessment, tightening requirements for high school seniors, increasing academic rigor, strengthening instruction, creating links with postsecondary education, and expanding accountability.

Creation of small high schools or schools within schools has been the primary policy for strengthening high school structure.³⁴ Research suggests that students attending small schools generally have higher achievement, better discipline, and higher graduation rates. Students, families, and teachers reported more satisfaction in small schools. Students

most in need of support appear to benefit the most from small schools.³⁵ Closer relationships between adults and students in small schools benefits all kinds of students and teachers as well, but especially those students often overlooked in larger schools or those who need special help.³⁶ In addition to creating new schools, school districts have begun to experiment with reducing the size and complexity of comprehensive high schools. Some have created small school units within the larger structure; others have created distinct programs within larger schools that operate like small magnet high schools. Gates Foundation funding has been pivotal to the development and implementation of small high schools, both new schools and redesigned existing schools.

Many states have directed their policies at strengthening high school requirements. Increasing the number of course credits required for graduation; increasing the number of core academic course requirements in math, science, language arts, and social studies; and increasing the number and type of assessments are all tools states are using to increase rigor and improve student preparation for postsecondary education and work.³⁷ According to Achieve, Inc., nearly every state has increased course requirements and the number of course credits needed for high school graduation as a means to improve academic rigor and better prepare students for postsecondary education.³⁸

Expanded assessment is another policy tool to increase rigor by assuring that students learn the content of the curriculum before they graduate. Some states implemented culminating or exit tests and others have developed end-of-course tests. Virginia and Tennessee have implemented end-of-course tests, and Texas is poised to implement them in the next four years.³⁹ Such tests are administered at the conclusion of an academic course, are more closely linked to the content presented by the teacher, and are believed to be more relevant for students who prepare for them as a part of their regular coursework.⁴⁰ Some states are developing college-readiness standards, including assessments, to guide students and their families, others use commercial tests such as the PSAT from the College Board or the PLAN assessment from ACT to help students gauge whether they are on track to graduate with appropriate preparation to succeed in college.

Educators as well as researchers have identified the high school senior year as unproductive and wasteful for many students. Students who have finished minimum and undemanding course requirements may take a reduced course load or sign up for classes that are unrelated to success after high school. Many students fail to take mathematics in the senior year, and they experience difficulty in college because they have not maintained or enhanced their skills. To address these problems, some states and school districts require seniors to take a full course load. State requirements for three or four years of science and mathematics in high school also serve to infuse rigor into the senior year. Other states and school systems are experimenting with service learning where seniors have opportunities to work in the community at nonprofit organizations or with volunteer groups. Additionally, many school districts are offering students the opportunity to enroll in college courses and receive dual credit for both high school and college graduation. In effect, students in dual enrollment programs get a jump-start on their college education and may save time and money later on as they pursue a degree.⁴¹

Career pathway programs are another approach to increasing rigor and relevance for high school education. For example, Texas has developed the “Achieve Texas” program that offers students a system designed to help them and their parents make good education choices. It is based on the belief that the curricula of the 21st century should combine rigorous academics with relevant career education. Integrated academic and technical education is intended to help students see the usefulness of what they are learning. The system facilitates a seamless transition from secondary to postsecondary opportunities.⁴² The Texas initiative uses the sixteen federally defined Career Clusters as the foundation for restructuring how schools arrange their instructional programs. A Career Cluster is a grouping of occupations and broad industries based on commonalities. Career Pathway models exist for each of the Career Clusters. These models represent a recommended sequence of coursework based on a student’s interest or career goal and they align with state course and graduation standards.

States are using several policies to strengthen instruction. Curriculum policy appears in every state, in part because of NCLB requirements that accountability testing be aligned with the curriculum. Highly qualified teachers work in their area of certification, which reinforces the link between curriculum and accountability. By offering or requiring readiness testing, states offer teachers and families an opportunity to gauge a student’s progress toward graduation and competence for postsecondary education. State incentives for advanced courses, such as funding support for AP tests, funding for teacher professional development linked with advanced or honors courses, and grade-point average calculations that must give greater weight to advanced classes and classes taken for dual credit, are tools that can increase high school rigor.

Many states have endeavored to improve science and mathematics instruction through standard-setting processes, state testing requirements, funding for teacher professional development, and technology.⁴³ To guide the states, the National Governors Association prepared a report with recommendations for states to align science and technology standards and assessments with postsecondary and workforce expectations and identify best practices to expand and improve math and science education.⁴⁴ U.S. Department of Education proposes that states increase the skills of high school students and strengthen national security with a greater focus on math and science.⁴⁵ A related policy is improved career and technology education for high school students that will prepare them for challenging postsecondary opportunities as well as high-paying careers.

Throughout discussions of reform strategy, whether efforts are related to math and science education or rigorous courses in the arts and humanities, states are attempting to strengthen the links between high school and postsecondary education. One policy lever is to require higher education leaders and public education leaders to form work groups or P-16 councils to align education from pre-kindergarten to college.⁴⁶ Aligning education along a continuum creates a more seamless education system, eliminating gaps in education through coordinated transitions between high school and postsecondary education, reducing program duplication, expanding learning opportunities, and strengthening teacher training. At the high school level, when tests required for graduation are aligned with postsecondary placement criteria, students have a better understanding of their preparation for college study. High school teachers who

understand the knowledge and skills expected at postsecondary institutions are able to refine instruction to prepare students more effectively.⁴⁷

Finally, state policy to strengthen high school accountability can aid the improvement of high school education by setting rigorous academic standards aligned with workplace and postsecondary education, improving data systems, measuring academic performance using growth measures that show year-to-year growth or even within-year growth, and technical assistance to high schools that are in danger of failing to meet accountability standards.

Challenges and Barriers to Improvement

Many persistent challenges make implementing and sustaining reform difficult: insufficient funding, disagreements about locus of control, a focus on structural change, leadership turnover in schools and systems, weak levels of educator understanding and support for reform, and entrenched cultures that favor the status quo.

Educators, school boards, and some policy analysts believe that funding is inadequate to support the instructional and operating expectations of state and federal policymakers.⁴⁸ They cite funding streams that have failed to keep up with cost increases, under-funded state and federal mandates, and inequitable state finance schemes that make it difficult for some school districts to provide required educational services.⁴⁹ Other analysts argue that funding levels may be appropriate but resource allocation systems are flawed and divert support away from approaches that would improve academic performance.⁵⁰ Even with reallocation, one expert notes that successful reforms need additional money.⁵¹ Foundation funding for secondary reforms has been welcomed in nearly every state, but for many educators and administrators, lack of sustained funding is an obstruction to improvement in high schools.

Struggles for control over education reform agendas and over the places in which reform will take place serve as barriers to change. Educators and the broader community do not share a vision for the goals of schooling or how to achieve those goals.⁵² In addition, when state legislatures provide funding contingent on adoption of certain policies and programs, local educators may be slow to adopt change because they were not involved in the policy process. Foundation funding offers new opportunities for schools, but it, too, brings questions of control.

A focus on structural rather than instructional change creates a barrier to lasting reform. Implementing changes in school size or schedule patterns may fail to achieve the desired long-term outcomes like reducing the achievement gap or increasing the proficiency of all students.⁵³

Leadership turnover can block the path to reform.⁵⁴ Survey results report the average tenure of a school superintendent to be between five and six years.⁵⁵ The average turnover level for principals is between 14 and 18 percent.⁵⁶ Turnover for teachers is reported at levels of between 13 and 15 percent and higher in some urban schools.⁵⁷ Changing leadership may prolong reform implementation or even change its course. For

those who remain employed, buy-in is critical to implementation of reform initiatives.⁵⁸ Results from research on teacher buy-in indicate that teacher participation in program selection is not a strong predictor either of immediate or long-term buy-in, but training, support from program developers, and control over classroom implementation are stronger predictors of teacher buy-in to a school reform program.⁵⁹ If policymakers or external reform leaders leave principals and teachers out of the planning process, and they fail to receive training and support, reforms may be less effective or short-lived.

Technical challenges accompany modern high school reforms. Data systems that report student performance, measure academic growth, and link high school to college data appear in only a few states because of their cost and complexity. Measurement of academic growth presents another technical challenge. Tests must be constructed so that growth measures are valid, and student identification across databases for multiple years must be stable to permit growth calculations. Both of these conditions require resources and expertise for appropriate design and maintenance. Absence of funding may result in weak and inconsistent state data systems that will prevent meaningful cross-state comparisons.

A final challenge to high school improvement policies is the power of the status quo. One author claims that the politics of education are inherently biased toward the status quo, noting that reforms acceptable to established interests that leave the basic system intact are likely to survive.⁶⁰

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Chapter 8. Lessons Learned and Recommendations

Lessons Learned through Policy Development and Implementation

The history of high school reform can be a useful guide to policymakers today. U.S. high schools have been under constant pressure for change and adaptation for more than a century. The 21st Century is not the first time national leaders have raised concerns about the math and science capabilities of young Americans. Questions about using test scores to report student performance, compare schools, and compare teachers were raised 100 years ago.¹ The history of high school development also shows that objectives for preparation of youth may be in tension with the desire to expand access to educational programs to a larger and more diverse community of learners. The need to serve students who are under-prepared even for basic educational achievement is in conflict with the press for higher and higher standards that all students must meet. By understanding history, policymakers will have a clearer perspective about various points of view about reforms, and perhaps, they will be more comfortable giving reform ideas time and adequate resources to develop to fruition.

Federal school reform policies, notably NCLB accountability provisions, have improved the base of knowledge about high school performance, informed parents and the public about school quality, and illuminated problems such as inconsistent state course and test rigor, high dropout rates, and learning gaps between disadvantaged students and their more advantaged peers.² Information systems can help clarify issues and problems, but strong evaluations will help policymakers know if reforms improved matters or simply changed the nature of the problems.

In response to data that make problems apparent, states have developed policies to assist struggling schools, and foundations have invested in reforms such as new small schools and high school redesign. State improvement efforts include incentives for high schools that target student interests, particularly in mathematics and science; reform of career and technology education to include relevant occupational skills and explicit links with postsecondary training; individual graduation plans; advisory systems; tutoring and intensive instruction for struggling students; and programs to encourage and support college going, such as AVID. Incentives for innovation have resulted in high school models that school systems can adopt such as First Things First, High Schools that Work, and Talent Development High Schools. Almost all these reform activities are new and have few or any rigorous evaluations, so the relative power of various models to improve outcomes for students is unknown. AVID is an exception; being an older program, it has a quarter-century of implementation experience and numerous evaluations pointing to its efficacy.³

Unprecedented support for reform from philanthropists and foundations has stimulated change across the nation. Foundation leaders' emphasis on small schools has stimulated the founding of new public schools, charter schools, and various high school

improvement models. The infusion of funds and new ideas has energized many educators, but it is not clear yet whether the changes will be effective. One thing foundations have learned is that it is very difficult to turn around a large, struggling urban school.⁴ It is also not certain whether successful efforts at individual schools or districts can scale up to be implemented in thousands of schools, particularly given limits to foundation support, both in terms of time and money.

If links between high school and postsecondary education are stronger, students are more likely to know what is expected of them and schools are more likely to provide opportunities to help students succeed. Policy analysts observe that schooling is an interlocking system and reforms at the high school level have a higher likelihood of success when higher education and secondary education jointly determine expectations. One effort to do this is to increase the number and rigor of high school courses students must take. More than half of the states have increased course requirements for graduation, especially in science and math. Good predictors of success in higher education can guide instruction in high schools. To begin the process of predicting success, some states have implemented assessments that help students and parents gauge student readiness for postsecondary education. Efforts to link lower and higher education systems are too new to assess, but early data show that high school students now take more courses and more students are completing advanced courses and dual credit classes taught at the college level. Skeptics wonder if these changes are really improvements when results on national tests do not show corresponding improvements.⁵

School systems and schools may fare poorly if multiple reforms are undertaken at one time, but the practice occurs frequently. A study of urban districts that were unsuccessful at reducing the achievement gap found that these school districts were implementing contradictory reforms or curricula.⁶ Multiple reforms can result in fragmentation and burnout as schools pursue funding for many initiatives and try to accomplish too much.⁷

Reform by system segment is less effective than systemic reform that addresses the continuum of public education from early grades through college. In the early 1990s, middle school reform was the center of policy attention. In the late 1990s, elementary reading was the focus. Now high school has the attention of policymakers. The shifting spotlight of reform interest may result in policy gaps between systems unless standards and accountability are aligned to help students move seamlessly from one level to the next.

Reports published in 2007 declare that the national competitiveness and the future of the nation's children are at risk if educational achievement gaps persist and student performance stagnates.⁸ The Commission on No Child Left Behind offers recommendations to improve and expand the systemic changes NCLB introduced.⁹ The New Commission on the Skills of the American Workforce goes further. It declares that trying to fix the existing system will not work. The system itself must change.¹⁰ Numerous projects on high school redesign, rigorous instruction, and assessment offer specific ideas for improving secondary education to assure the success of all students.¹¹ Drawing from these reports, and research cited elsewhere in previous chapters, this

review concludes with several considerations for high school improvement. These considerations include building capacity for change and reform, promoting rigorous high school coursework, using multiple high school accountability indicators, providing more flexibility in meeting accountability standards through measurement of performance growth.

Build Capacity

Schools and school districts need sufficient capacity to implement and sustain reform.¹² However, they will be unlikely to make significant program or operational change at current capacity levels. Those capacity elements include strong leadership, systemic commitment to reform concepts and goals, time set aside to work on reform, ability to use data, and autonomy to allocate resources to achieve results with schools and systems. Individual educators also need content knowledge and instructional skill to implement intellectually demanding courses and to provide individualized support for struggling students, along with other reform expectations.¹³ Similarly, professional staff members need time to develop and practice new skills as well as plan with their colleagues. Systems need time for community members, district leaders, and professional staff to understand and implement reforms.¹⁴

Researchers have documented the lack of systemic capacity for engaging and sustaining reform and have suggested specific tools for building capacity, among them agreed-upon standards for student performance, curriculum and assessments that are linked to the learning standards and an aligned instructional system that supports a continuum of learning that is based on the standards from elementary school and through middle and high school.¹⁵

Education systems will be better able to implement reform if they have temporal, fiscal, instructional, and leadership capacity. Fiscal capacity, or adequate resources, would help pay for more teacher planning and collaboration time, appropriate technology for instruction, teacher professional development, and staffing for personalized instructional settings and personalized support for struggling students.¹⁶ Fiscal capacity may also support improved salaries based on teacher knowledge and skills rather than solely on the basis of years of service.¹⁷ In some schools and districts, flexibility to use existing resources differently may lead to increased capacity.¹⁸ Instructional capacity, if expanded, will mean having more teachers qualified to teach rigorous courses to all students. Expanded leadership capacity means boards and superintendents trained for and disposed to making policy and budget allocations that will support needed change to improve student learning.

Ensure Rigorous Coursework

Increasing course rigor is one of the most frequently mentioned tools to improve high schools.¹⁹ An important step to increase rigor is promoting student and family acceptance of intellectually challenging academic work. A related step is for policymakers to assure that there is agreement among educational professionals at the high school and

postsecondary levels about what constitutes rigor in high school education. Similarly, rigorous career preparation courses can be aligned with employer expectations. National standards for rigor in core courses will help establish frameworks for common courses such as Algebra II, so they are aligned across the nation. Common definitions of rigorous courses, made at the national level, could give states an opportunity to compare their curricula with agreed-upon high standards. Finally, teachers can be trained to teach rigorous courses to promote student learning at high levels.

Rigorous academic coursework will prepare students with a strong knowledge and skill base for college and employment. Better student preparation will reduce the cost associated with remedial education and training activities, improve student chances for postsecondary success, and give U.S. students a better advantage in a competitive world economy.²⁰ An important but intangible outcome of increased rigor may be the reaffirmation of the academic purposes of high school education.²¹ States could work independently to adopt measures of transcript strength to capture the rigor of the high school programs students select, or they could join the American Diploma Project network to accomplish this work.²²

Use Multiple Accountability Indicators

Multiple indicators of high school success and accountability provide a better picture of the strengths and weaknesses of secondary education. Employing several useful indicators could improve accountability accuracy, provide better predictors of postsecondary success, and help the public understand the accomplishments of high schools. Multiple indicators may include but are not limited to results of end-of-course tests, college admissions test scores, and college admissions results, placement test results, and postsecondary remediation rates. In addition to these academic measures, federal policymakers working with states could choose a single method to compute graduation, completion, and dropout rates to be used in assessing AYP under NCLB and in standard reports.

A related consideration with respect to collecting and using indicators is creation of state longitudinal data systems that show student progress over time. There is much that federal and state governments can do to support strong data systems by refining student privacy protections, increasing funding to build and use data systems, coordinating common data definitions, and providing timely and user-friendly information to all education stakeholders.

Multiple indicators and better data will guide the decisions of students, families, teachers, and state and federal policymakers. Students and families will have a more realistic picture of student, school, and district performance. Teachers can use better data to target assistance. And lastly, quality longitudinal data showing results over time will help education systems gain public trust and support and help policymakers better direct limited resources to the most effective programs.

Permit Flexibility to Use Growth Models

Flexibility to use academic growth measures for AYP determination may improve the quality of reporting and reveal more about which schools have the capacity to serve students who struggle academically. Growth models or growth assessments measure the amount of student learning over a period of time. Typical growth models show grade-level performance at multiple points in time and permit computation of how many months or years of academic learning the student achieved within the time period. This measure is important for students who begin with academic deficits. To close the gap, they need to learn more than “a year’s worth” of subject matter, and growth measures permit assessment of whether this is occurring. Growth models permit schools serving struggling students to show accomplishment and avoid labels of, “needs improvement.” If a state has good longitudinal data, they can use growth models to show how student performance improves, even when students change schools. Growth models, especially when data are provided throughout the school year, provide better information to educators to help them improve instruction for students most in need of assistance.

The U.S. Department of Education has approved the use of growth models in several states under the following principles.²³ States must set annual goals for closing the achievement gap for all student groups. Expectations for achievement must be based on meeting grade-level proficiency, not student background or school characteristics. All students must continue to be included in the accountability system and results reported by sub-groups. States with approved growth models must continue to track student progress as part of the state data system.

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