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The Curricular Smorgasbord

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Introduction

In *A Nation at Risk*, the members of the National Commission on Excellence in Education (Excellence Commission) argued that much of America's decline in academic achievement could be traced to the "cafeteria-style curriculum" or "curricular smorgasbord" offered to high-school students.¹ The report said that the presence of so many nonacademic courses in the curriculum—such as preparation for adulthood, off-campus work experience, and physical and health education—was compromising America's commitment to high-quality academics. This was the result of society placing a "multitude of often conflicting demands" upon the schools, which were regularly asked, according to the Excellence Commission, to solve "personal, social, and political problems" that the home and other societal institutions

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were failing to solve. These demands, the report said, have placed burdens on the schools that are both educational and monetary.²

A Nation at Risk argued that academics should be the core mission of the schools. The report was significant not only because it pointed to the abysmal state of American education. This finding was merely factual. The report was more important for taking on a reigning idea: that American schools, especially high schools, should be multiservice agencies catering to all aspects of the whole child and his or her future adult life. The proponents of this idea believe that the high school curriculum should be substantially, perhaps predominantly, nonacademic. It should include personal and developmental courses (Bachelor Life, for example) as well as vocational courses. Within this scheme, some talented students might be allowed to take difficult academic courses, but most students would take watered-down academics and a substantial load of nonacademic courses. *A Nation at Risk* and its prestigious panel of commissioners declared war on all of this.

In this chapter, we review what has happened to curriculum and achievement in the twenty years since *A Nation at Risk*. We first show that students are taking more academic courses today than in 1983 (as recommended by *A Nation at Risk*), but that these courses may be academic in name only, since student achievement has remained stagnant.

The second half of this chapter considers the historical trends and philosophical traditions that led to the prevalence of the cafeteria-style curriculum in American public high schools by the early eighties. We examine the ideological beliefs of educators and the bureaucratic tendencies of school systems that have encouraged—then and now—watering down the academic curriculum and the proliferation of non-academic courses. We also explore why those who oppose academic rigor show such passion, persistence, and self-confidence. We conclude by speculating on the future of the academic curriculum and educational achievement in light of the impact of *A Nation at Risk*.

Changes in Curriculum and Achievement Since *A Nation at Risk*

High School Coursework

Since the publication of *A Nation at Risk*, U.S. Department of Education studies of high school transcripts have shown that school officials have heeded the plea for greater academic coursework, at least in mathematics and science.³ The studies detail the number of Carnegie units⁴ earned by high school graduates in various subject fields for selected graduation years. Because increasing the number of courses overall could artificially bolster the tally of academic courses,⁵ we present coursework summaries here as a percentage of total Carnegie units. Figure 1 summarizes these findings.

The share of the curriculum devoted to vocational and “personal” coursework declined from 33 percent in 1982 to 27 percent in 1998. Most of this decline (about 6 percentage points) was in the vocational education category. The average high school graduate had 0.63 fewer Carnegie units in vocational courses in 1998 than in 1982. Meanwhile, the personal coursework category stayed essentially stable over this same period, at 12 percent of the curriculum. The personal category includes personal and social courses and other nonacademic, nonvocational courses.

At the same time, coursework in higher mathematics and science was increasing. Figure 1 combines mathematics and science coursework into lower math/science and higher math/science. The lower math/science category (which includes mathematics below the algebra level and general science) decreased from 8 percent to 6 percent of the curriculum while the higher math/science category (mathematics courses in algebra and above and biology, chemistry, and physics) increased from 15 percent to 20 percent. Since the other categories in the figure have been relatively stable, it appears that some vocational

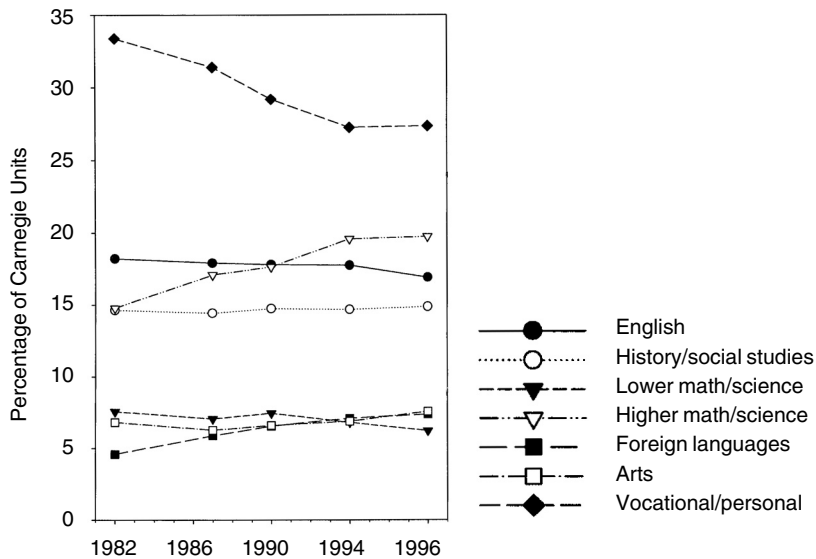


Fig. 1. Curriculum units for high school graduates by subject field

Notes: Values are Carnegie units in specific content areas as a percentage of total Carnegie units. Lower math and science is the sum of mathematics less than algebra and general science. Higher math and science is the sum of mathematics algebra or higher and biology, chemistry, and physics. The vocational and personal categories have been combined.

Source: U.S. Department of Education, National Center for Education Statistics. *Digest of Education Statistics, 2001*, NCES 2002-130, by Thomas D. Snyder. Production Manager, Charlene M. Hoffman. (Washington, D.C.: 2002) 158-59.

coursework has been replaced by courses in higher mathematics and science.⁶

Completion rates for specific mathematics and science courses increased dramatically over this same period.⁷ The percentage of graduates who completed geometry increased from 47 percent to 75 percent and the completion rate for algebra 2 increased from 40 percent to 62 percent. The completion rate for math analysis/precalculus increased from 6 percent to 23 percent. Completion rates in each science course increased more than 13 percent.

A Nation at Risk defined a New Basics curriculum for high school

graduates that included a minimum of four years of English, three years of mathematics, three years of science, three years of social studies, and a half-year of computer science. College-bound students were also advised to study a foreign language for two years. The completion rate for this series of courses increased from 2 percent in 1982 to 29 percent in 1998. This growth is not an artifact of the increases in computer usage and availability over the same time period. Without the computer science requirement, the increase was from 10 percent to 44 percent. Gains were reported for both boys and girls as well as for each of the ethnic groups studied.⁸

It should be noted, however, that the New Basics curriculum stipulated the number of years of coursework, but not the specific content to be learned. Therefore, some of the reported gain may be deceptive. Not all seemingly academic courses necessarily have solid content or cover the advanced aspects of an academic discipline. Furthermore, the New Basics completion rates still fall short of the college enrollment rates. Of all high school graduates in 1998, 65 percent had enrolled in college by the following October, compared with 51 percent in 1982.⁹ An increased proportion of students are going on to college, but not always having taken the New Basics course sequence.

High School Achievement

Given that students are completing more academic courses in mathematics and science today than in 1983, one would expect to find corresponding increases in achievement. But long-term trend data from the National Assessment of Educational Progress (NAEP) show only small increases in mathematics and science scores since 1983, when scores for seventeen-year-olds reached their nadir.¹⁰

The increase in mathematics scores from 1982 to 1999 was 10 points. The increase in science scores over the same period was 12 points. Since NAEP long-term trend scores are not given in a familiar

metric, it is necessary to find a way to characterize the size of these gains. Perhaps the most widely recognized characterization of effect sizes is that provided by Jacob Cohen, who has quantified the definitions of small, medium, and large effects.¹¹ For NAEP mathematics scores, small, medium, and large effect sizes correspond to differences of about 6, 15, and 24 points, respectively. The corresponding values for NAEP science scores are about 8, 20, and 33 points. Therefore, NAEP gains since 1982 in both mathematics and science are clearly small.

Even more worrisome is the fact that these achievement levels on the NAEP are considerably lower than would be expected from students who are taking reasonably rigorous academic classes. Consider the performance level description for a NAEP mathematics score of 350, which is substantially above the actual mean achievement level:

Students at this level can apply a range of reasoning skills to solve multistep problems. They can solve routine problems involving fractions and percents, recognize properties of basic geometric figures, and work with exponents and square roots. They can solve a variety of two-step problems using variables, identify equivalent algebraic expressions, and solve linear equations and inequalities. They are developing an understanding of functions and coordinate systems.¹²

This definition is not describing work at the precalculus level or even at the algebra 2 level; it is in fact describing some of the less difficult content from algebra 1 and geometry coursework. Yet even the average for the upper quartile of students has never reached this level.¹³

Changes in achievement levels over time can be seen by looking at results on the SAT college entrance examinations.¹⁴ From 1982 to 2001, the verbal score increased by 2 points, while the mathematics score increased by 21 points. Small, medium, and large effects on both scales would be 20, 50, and 80 points, respectively. Therefore, SAT scores show little change in verbal achievement and a small increase

in mathematics achievement since 1982. These findings are reasonably consistent with the NAEP results reported above.

In summary, achievement gains in mathematics and science are detectable but small. The magnitude of these gains is disappointing, particularly in light of increased participation in courses that are categorized as academic.

Other Disappointments

The relative weakness of even our most advanced students is confirmed by results from the 1996 Third International Mathematics and Science Study (TIMSS). Scores for the physics and advanced mathematics component of TIMSS reflect the achievement levels of only the subgroup of students who have taken courses in these advanced subjects. In physics, the United States scored significantly lower than fourteen of the fifteen participating countries. In advanced mathematics, the U.S. scores were significantly lower than those of eleven of fifteen participating countries. On neither exam was the United States' score significantly higher than the score for any other nation.¹⁵ These findings failed to demonstrate improvement over the disappointing U.S. results on the Second International Mathematics Study (SIMS) conducted in the early eighties.¹⁶

Another disappointment is that remediation rates for incoming college students appear to be increasing. Data for the entire California State University system illustrate this point.¹⁷ Students who fail the placement exams in mathematics and English are required to complete remedial coursework. In 1989, 23 percent of incoming students required remedial mathematics. By 1998, the figure had jumped to 54 percent. It should be noted that part of this increase is due to a change in the test in 1992. Nonetheless, the proportion of students failing the placement test has increased each year and has more than doubled over this period. The remedial instruction rate for English also increased substantially over the same interval.

Academic Coursework Revisited

The divergent trends—of increased enrollment in academic courses while achievement remains stagnant—suggest a hypothesis: In the process of increasing enrollments, the academic content of courses has been watered down. This may be an inevitable consequence of policies that stress equal academic treatments for all students. When schools place nearly all eighth-graders in algebra courses, this placement policy may seriously affect the rigor of algebra courses.¹⁸ This effect may be mirrored throughout the academic curriculum.

Data from the Standardized Testing and Reporting (STAR) program in California can be used to examine the consequences of simply placing more students in algebra courses.¹⁹ This analysis is possible because California has put in place both a national, norm-referenced achievement test and standards-based, course-specific tests in various content areas.

Figure 2 presents data for individual schools in California. The mean achievement of schools in eighth-grade algebra classes on a standards-based test is shown as a function of the percentage of eighth-graders enrolled. The algebra scores are adjusted (using simultaneous multiple linear regression) for mean achievement in the same school in seventh-grade mathematics the prior year as measured by the nationally normed test.

The impact of what appear to be district-level or school-level policy decisions is quite large. A partial correlation of $-.67$ was found between enrollment and algebra achievement. Small, medium, and large effects for correlations are $.10$, $.30$, and $.50$, respectively.²⁰ The observed effect greatly exceeds the criterion for a large effect size.

It is not surprising that higher enrollments in more advanced courses would result in lower achievement in those courses overall. It is quite surprising that placement policy decisions could have such a dramatically adverse effect on achievement. As schools and districts feel the need for more “accessible” curriculum materials to accom-

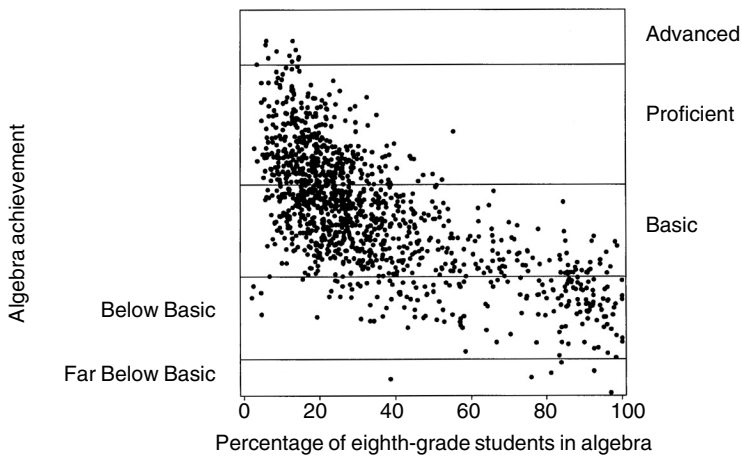


Fig. 2. Consequences of placement strategies in 8th-grade mathematics

Notes: Data are for 1,265 individual schools in California. Grade 8 algebra achievement is based on California Standards Test in algebra 1 in 2001, adjusted for grade 7 mathematics achievement in the same school in 2000 as measured by SAT9 (Stanford Achievement Test Series, Ninth Edition) mathematics scale scores. Algebra placement is the proportion of students with scores on the algebra exam as a percentage of reported enrollment in 2001.

Source: California Department of Education, Standardized Testing and Reporting Program, *STAR Results for 2001* and *STAR Results for 2000*. See <http://star.cde.ca.gov/>.

moderate less-prepared students, they deliberately seek out programs with less rigorous content. Meanwhile, expectations for achievement in these courses fall lower and lower. Flooding academic courses with unprepared students has the net effect of taking the rigor out of these courses. Ironically, the district or school policy decisions for eighth-grade mathematics may ultimately have been motivated, in part, by the emphasis on academic coursework per se in *A Nation at Risk*. More recent reports also promote this policy decision by stressing student completion of algebra courses in eighth grade.²¹

The supposed conflict between achievement goals and reducing the socioeconomic achievement gap has received much attention in

the literature. In 1961, John Gardner suggested that achieving both excellence and equity simultaneously is possible,²² as counterintuitive as this might sound. Put bluntly, however, the United States has been rather unsuccessful on both counts. The algebra results above suggest that merely placing large quantities of students in more academic courses may have undesirable consequences.

In the wake of *A Nation at Risk*, several studies emerged showing that reducing the number of low-level course offerings and increasing enrollment in more advanced academic courses improved educational outcomes.²³ Greater enrollment in academically rigorous courses within a school leads to greater achievement for the school as a whole. That said, however, greater individual differences in progress through the series of academic mathematics courses was also found to lead to greater achievement overall.²⁴

In other words, the best course of action is for high schools to increase academically rigorous course offerings and graduation requirements while at the same time differentiating among students with respect to the extent and rate of progress through the rigorous subject-matter content. A policy of rigorous content but retaining grouping to allow differing rates of progress is in sharp contrast to the differentiated curriculum (rigorous content for the college-bound, watered-down content for the rest) that *A Nation at Risk* warned against. However, it is also in sharp contrast to the policy that all students should be enrolled in the same lockstep sequence of academic courses.

Course Rigor Versus Course Names

Transcript studies use course names to measure rigor, but this measure may not accurately reflect course content. Perhaps, even while academic course completion has been increased, the actual curriculum hiding beneath these course identifiers has been declining. As then U.S. secretary of education William J. Bennett was already warning

five years after *A Nation at Risk*: “We need to pay more sustained attention to the content of courses, in addition to the number and type of course scheduled. Time on task is not a meaningful yardstick of achievement if students are not being given a challenging, rich curriculum.”²⁵

The notion that the strength of the curriculum is declining is nothing new. It underlies the lament in *A Nation at Risk* that “[w]e have, in effect, been committing an act of unthinkable, unilateral educational disarmament.”²⁶ The serious deterioration of textbook content appears to have begun in the sixties.²⁷ Indeed, achievement declines (reflected in NAEP scores) followed the deterioration of the curriculum immediately preceding the publication of *A Nation at Risk*.²⁸ Jeanne S. Chall and Sue S. Conrad studied widely used textbooks covering the period from 1945 to 1975 and noted that, “On the whole, the later the copyright dates of the textbooks for the same grade, the easier they were, as measured by indices of readability level, maturity level, difficulty of questions, and extent of illustration.”²⁹

There is reason to believe that curriculum materials have continued to deteriorate since the publication of *A Nation at Risk*. Indeed, it was the weakness of curriculum materials that precipitated the turmoil that has come to be known as the “math wars.” In “A Brief History of American K–12 Mathematics Education in the 20th Century,” David Klein notes, “The immediate cause of the math wars of the ’90s was the introduction and widespread distribution of new math textbooks with radically diminished content and a dearth of basic skills.”³⁰

One of the leading textbooks for introductory algebra, originally written by Mary P. Dolciani, has gone through multiple editions during this time period. A comparison of the 1973 version³¹ with the 2000 version³² reveals some of the changes that took place over this period. For example, the 1973 edition included some introductory geometry and trigonometry, but this was eliminated in 2000. At the same time, the text itself has increased from 596 pages to 744 pages. The increased page count is not the result of changing to a larger typeface. Rather,

sections have been inserted that would fit under a banner of “thinking skills” and “real-world applications” to make the textbook more palatable to those who stress these features over actual mathematics content. This includes sections called Explorations and Technology and Special Topics at the end of each chapter.

However, the changes in this classic textbook are minor compared to those that stimulated the math wars. The release of newer texts seen as grossly inadequate stimulated the growth of parent-led protest organizations for mathematics reform such as HOLD (Honest Open Logical Debate) and Mathematically Correct.³³ Many of these new mathematics programs were sponsored by the National Science Foundation (NSF).³⁴ A review of NSF influence in mathematics education states:

At the high school level, there is a continuing emphasis on discovery learning and a significant deemphasis of algebraic skills and logic. Indeed, one program, Interactive Mathematics Program, has candidly noted that all items listed for “less emphasis” in the NCTM [National Council of Teachers of Mathematics] standards, such as manual calculation and proof, were completely eliminated. Many key topics are presented in ways that are unlikely to lead to a high level of mastery, while introduction of the quadratic formula, a topic fundamental to high school algebra, is delayed until the twelfth grade. *Integrated Math I, II, and III* has been criticized as being seriously lacking in key content areas, ill-designed for mastery learning, full of contrived problems, and unlikely to prepare students for mathematics-based science courses or college mathematics. The Core-Plus Mathematics Project generated massive resentment among the students who were the experimental subjects during early implementation. Many students found themselves ill-prepared for college, even though they came from highly educated homes and had a high likelihood of success.³⁵

A comparison between the 1973 Dolciani text noted earlier and the 1998 Core-Plus text³⁶ mentioned above illustrates just how dramatic these differences are. The 1973 Dolciani text contains an entire

chapter on factoring and special products. The 1998 Core-Plus text has no section on factoring. The index of the two texts confirms this (see Table 1). The striking difference between the two listings reflects the dramatic loss of rigor in many newer texts—a loss of rigor that provoked the math wars of the nineties.

Another example from mathematics is the textbook *Algebra: Themes, Concepts, Tools*.³⁷ Motohico Mulase, professor of mathematics at the University of California at Davis, provided a review of this program, stating:

When I volunteered to read the book, I never expected to take poison. The feeling I received from reading the student edition was irritation, frustration, and pain. This is the feeling I receive from the world news these days, but as a mathematician, I usually enjoy reading math books with pleasure. At first I couldn't quite articulate the reason for my feeling. So I checked out the teacher edition . . . from a local district teacher and started to read. I then exploded. . . . The book is full of destruction and discouragement to students. The teacher edition treats readers as fools and encourages them to remain fools. A curriculum based on the book is a pure poison to the young mind. No matter how it is used, I do not believe that one can run a reasonable algebra 1 course out of this book. The only message I obtained from the teacher edition is, do not teach mathematics!³⁸

Similar changes are occurring in science education. Here again the NSF has sponsored instructional programs. An example is *Active Physics*, which consists of a series of curriculum modules from It's About Time, Inc.³⁹ School officials in San Diego, California, mandated that ninth-graders take the program, and the turmoil that resulted is well documented:⁴⁰

At the high school level, things are also in disarray. The district has mandated that all ninth-graders take physics. And just to make sure it's "successful," the district has watered down the curriculum, say many teachers and parents. . . .

Table 1. Mathematics instruction then and now, illustrated by index listings under “F”

1973 <i>Modern Algebra: Structure & Method, Book 1</i> (also known as Dolciani Algebra 1)	1998 <i>Contemporary Mathematics in Context: A Unified Approach, Course 1</i> (also known as Core-Plus)	
Factors Greatest common, monomial, polynomial, prime Factoring Applications of, the difference of two squares, polynomial products, product of a binomial sum and a binomial difference, products of binomial sums or differences, quadratic trinomials, trinomial squares Fallacies Finite decimal Finite set Flow charts Loops in, open sentences in, problems Formula(s) Quadratic Fractions Adding, complex, decimal form of, dividing, multiplication property of, multiplying, reducing to lowest terms, subtracting Fractional equations Functions Arrow notation, cosine, described by tables, domain, graphs, linear, quadratic, range, sine, tangent, value of, values of trigonometric	Faces Face-views, 3-D drawing Families In poverty data, income measure of center, number of children Fast food nutrition data Fat in fast food Feasibility study, scheduling Feeding tours, scheduling Ferris wheel, height of car Finding equations Using points, using regression, using situation, using slope and intercept Fish, population growth Fishing, boat rental Five-number summary, using technology Flags, symmetry Flea treatment, half-life Flight Aircraft, baseball Floor plan, best path Flower beds, managing conflicts Food Concession profit, fast food costs Football Athletes and homework, Nielsen ratings, quarterbacks statistics	Ford Mustang, price data Formula Area, cylinder, definition, perimeter, surface area, vs algorithm Four-color problem Fractal Fractional exponents Franchises, start-up costs Free-throw game, planning Frequency, radio, assigning Frequency table Front view, 3-D drawing Fuel, amount in plane Fuel economy Auto ratings, mpg model Fuller, R. Buckminster Geodesic dome, globe net Function, rate of change Fund-raising carnival, moon walk

Sources: Mary P. Dolciani and William Wooton, *Modern Algebra: Structure and Method, Book 1*, rev. ed. (New York: Houghton Mifflin, 1973); and A. F. Coxford, J. T. Fey, C. R. Hirsch, H. L. Schoen, G. Burrill, E. W. Hart, and A. E. Watkins, *Contemporary Mathematics in Context: A Unified Approach, Course 1* (Chicago: Everyday Learning, 1998).

Note: In June 2005, the authors of this essay learned that the *Contemporary Mathematics in Context* text included another index. The “F” contents of both have been combined in Table 1 above. We regret previously overlooking and therefore slighting this separate index.

“It costs \$14,000 per class to buy the materials, and it’s all junk stuff,” says [physics teacher Martin] Teachworth. “The smart kids are bored to death. . . .”

San Diego administrators pointed to Fairfax, Va., where *Active Physics* was reportedly getting glowing results. When Teachworth contacted Fairfax teachers, he was told, “The only students who used *Active Physics* were the lowest of the low. If they couldn’t pass any other physics class for high school graduation, they took *Active Physics*. . . .”

“*Active Physics* only covers 20 percent of the state standards,” says Teachworth. “However, I’m being told that if I don’t teach this curriculum, I will be documented and fired. My job has always been to teach real physics to kids who want to go to college. I could find myself in a lot of trouble.”⁴¹

Physics achievement scores are now available from the 2002 California Standards Test in physics.⁴² Out of 232 school districts with data available, only eight districts had mean scores lower than San Diego City Schools. This places San Diego among the bottom 4 percent of districts statewide. In the state as a whole, achievement in biology, chemistry, and earth science improved in 2002, and only the physics test showed a decline. However, this statewide decline in physics scores changes to an increase if the San Diego data are eliminated.

Thus, in both mathematics and science, programs have recently been established that are seen by critics as drastically watered down. These are not just isolated reports. An Internet search for “dumbed-down education” yields thousands of hits.⁴³ Most of these protests come from parents who first notice that their children’s textbooks are inadequate. These protests are no longer isolated, scattered, and merely local, and the parents have acquired some prestigious allies.⁴⁴

It is important to note that while *A Nation at Risk* focused on the academic nature of the high school curriculum, recent protests over declining academic rigor cover the full spectrum from kindergarten

through college. In elementary school, we may have course names no more glamorous than Grade 3 Mathematics, but attentive parents are noticing a dearth of content even in the schoolwork of young children.

Thus, we suggest that the academic rigor sought in *A Nation at Risk* and the twin goals of excellence and equity have been largely achieved—but achieved in name only. Academic course enrollments are up but achievement is not, because the rigor of the academic core is evaporating—perhaps throughout the K–16 experience.

David L. Angus and Jeffrey E. Mirel used a somewhat different research focus to arrive at a similar conclusion. They looked in depth at the content of mathematics and science courses in Detroit and Grand Rapids, Michigan, to see how local districts have responded to policies calling for tougher coursework. They concluded that educators have poured old wine into new bottles. The educators invented courses “to meet the letter but not the spirit” of more rigorous graduation requirements. Angus and Mirel say that policy makers who oppose an academic curriculum are adept at discovering ways to “give the appearance of toughening standards without actually doing so.” According to Angus and Mirel, the antiacademic educators use a variation on the unethical sales technique of “bait and switch.” They fill the high school schedule with classes that have academic titles, but “un-challenging content.”⁴⁵

Grade Inflation and Teacher Preparation

An increase in academic coursework without a corresponding increase in achievement may be largely caused by weaker curriculum materials, as suggested above. However, there are other contributing causes that must be noted. Two salient factors are highlighted here—grade inflation and the inadequate preparation of teachers.

If achievement drops in rigorous courses, it may be obscured by lowered grading standards—grade inflation. Lenient grading can be detected when objective tests are given at the end of specific courses,

as shown by the data from Texas for a statewide end-of-course algebra exam.⁴⁶ While only 2 percent of the students failed the course yet passed the state exam, 36 percent of the students passed the course but failed the exam. Grading standards were lower for schools with greater numbers of students from racial and language minorities and students from poor households. Thus, relaxed grading criteria can obscure both low achievement per se and an achievement gap, in a phenomenon President George W. Bush has called the “soft bigotry of low expectations.”⁴⁷

The need for an adequately prepared core of teachers is critical if real increases in academic rigor are to be achieved. In 1996, the National Commission on Teaching and America’s Future stated:

When it comes to widespread change, we have behaved as though national, state, and district mandates could, like magic wands, transform schools. But all the directives and proclamations are simply so much fairy dust. Successful programs cannot be replicated in schools where staff lack the know-how and resources to bring them to life.⁴⁸

Reports of inadequate teacher preparation are too numerous to review. However, the U.S. secretary of education recently released one such report.⁴⁹ This report focuses on the implementation of new legislation designed, in part, to increase teacher preparation in content areas:

... the focus of the law is on “content knowledge.” Congress has made it clear that it considers content knowledge to be of paramount importance. The law also implies, through these detailed definitions, that Congress suspects that current state certification systems are not doing enough to ensure preparation in solid content knowledge ... [As both research and compliance data from schools of education show], these concerns are well founded.⁵⁰

Both grade inflation and inadequate teacher preparation have surely contributed to America’s less-than-expected student achievement. Nonetheless, curriculum materials that have declined in rigor,

and courses that sound academic but aren't, have played a major role in creating a seeming paradox: gains in students' academic coursework and, at the same time, little in the way of gains in academic learning.

Ideology and Bureaucracy

In the twenty years since *A Nation at Risk* was published, more students are taking nominally academic courses, but gains in student achievement have been modest at best. Although students have a more academic-sounding course load, they don't appear to be learning in a manner commensurate with what they are supposedly doing in the classroom. At least part of the explanation is that beneath the academic labels on all too many courses is watered-down content.

The interesting question is: Why is this going on? Why hide watered-down content behind academic labels? Indeed, why did non-academic courses have such a large role in the curriculum for most of the twentieth century? Why have high schools had differentiated curricula that downplayed serious academics for many students? Is there a reason educators have clung to this reigning idea with such zeal and determination? Is there something in the very life of bureaucracies (and public schools *are* government agencies) that encourages them to take on multiple missions (including, in the case of schools, nonacademic missions)? To answer this, we need to delve into the mindset of educators and examine the nature of bureaucracies.

Ideology and Moral Energy

The story of American education in the past century has been the story of Progressive education. Progressive educators have been the most influential figures in American education. Historians have noted their enthusiasm, energy, moral earnestness, and sense of mission.⁵¹ Even when Progressive educators did not succeed in getting everything they wanted, they have set the terms of the debate. As the name

suggests, Progressive educators first flourished in the reform period called the Progressive Era that began in the last decade of the nineteenth century and continued up until U.S. entry into the First World War.

The ideology of Progressive education combined an anti-intellectualism and devotion to naturalness inherited from the romantic era; the rhetoric, jargon, and sometimes the methods of the social and behavioral sciences; and often-secularized religiosity committed to transforming the world through schooling.⁵² Indeed, one of the features of Progressive education brought over from Protestantism backgrounds was an intellectual tendency to unify things that were logically disparate.⁵³ The fusing of these disparate currents (romanticism, behavioral science, and religious millennialism) into Progressive educational doctrine is a conspicuous example of just such a monistic approach to philosophical problems.

The pietist millennialists and their secular successors contributed to Progressive education an animating spirit of confidence and righteousness. From their pietist background, many Progressive educators brought along a rhetoric of pious good intentions and, their critics would charge, a sense that such intentions were more important than actual scientific rigor and effectiveness. Indeed, in their enthusiasm for reform, Progressive educators often embraced rather odd notions of what constituted a scientific approach to educational reform in general and to curricular change in particular.

Educational reformers of the Progressive Era believed in or were heavily influenced by pietist Protestant millennialism. Religious adherents—in particular, millennialist religious adherents—are usually highly motivated and morally strenuous. Kingdom-of-God-on-Earth millennialists want to change the world and sometimes succeed in doing so. Even when such beliefs are transformed into a more secular form, these beliefs retain much of the impetus they had when they were explicitly religious. When considering modern Progressive and radical politics, Martin Buber speaks of a “secularization of eschatol-

ogy,” and Eric Voegelin speaks of the “immanentization of the eschaton.”⁵⁴ The practices and way of life of the pioneering capitalists in the early modern era, the romantic movement in the late eighteenth and early nineteenth centuries, and Marxian socialism in the late nineteenth and the twentieth centuries all were secular transformations of beliefs that were originally pietist or millennialist.⁵⁵ Each in their different ways is testimony to the power of such beliefs.

American pietist millennialists at the onset of the Progressive Era were not End-of-the-Worlders in beard and smock looking for a sudden Second Coming of Jesus. Instead, these millennialists soberly but fervently sought to rid America of perceived societal ills as necessary preparation for the Second Coming. They wanted to build a New Jerusalem, moral brick by moral brick, in order to usher in Christ’s earthly reign. They believed it was their duty to construct an earthly kingdom of righteousness.

Strenuous human effort over the course of history would create this realm, not an instantaneous supernatural miracle. These Kingdom-of-God-on-Earth millennialists strove to use any means necessary (including all levels of government) to create edifying institutions, extirpate sin, and develop a citizenry of saints.⁵⁶ Sin to these pietists included not only succumbing to temptation and violating God’s law, but also allowing ignorance or wrong thoughts to stand in the way of salvation of oneself or others.⁵⁷

In his book on Progressive Era reform and alcohol prohibition, James Timberlake succinctly encapsulates the Kingdom-of-God-on-Earth millennialist outlook:

Unlike those extremist and apocalyptic sects that rejected and withdrew from the world as hopelessly corrupt, and unlike the more conservative churches, such as the Roman Catholic, Protestant Episcopal, and Lutheran, that tended to assume a more relaxed attitude toward the influence of religion in culture, evangelical Protestantism sought to overcome the corruption of the world in a dynamic manner, not only by converting men to belief in Christ but also by

Christianizing the social order through the power and force of law. According to this view, the Christian's duty was to use the secular power of the state to transform culture so that the community of the faithful might be kept pure and the work of saving the unregenerate might be made easier. Thus the function of law was not simply to restrain evil but to educate and uplift.⁵⁸

By the 1830s, this doctrine predominated in Protestant churches in New England and in areas settled by New Englanders. It was particularly influential among the New England crusaders for common schools.⁵⁹ When common-school advocate Horace Mann became secretary of the Massachusetts Board of Education in 1837, Boston Unitarian minister William Ellery Channing declared: "If we can but turn the wonderful energy of [the American people] into right channels, what a new heaven and earth might be realized among us."⁶⁰ By the 1890s, Kingdom-of-God-on-Earth millennialism was in the ascendancy nationwide. During the Progressive Era, those who sought to reform education and the rest of American life came from this Protestant Kingdom-of-God-on-Earth millennialist milieu.

From the Progressive Era on through the thirties, someone who was a leader in the Progressive education movement was usually either an earnest, committed millennial pietist or else a fallen-away pietist, whose parents and upbringing had been pietist.⁶¹ John Dewey, for example, proclaimed in his "Pedagogic Creed" that the teacher is "the prophet of the true God and the sharer in the true kingdom of God."⁶² Many school reformers may have shucked off overt religiosity, but even they held onto their moral fervor and their belief that theirs was a providential (if now secular) mission.⁶³ The educational progressives blended, as historians David Tyack and Elizabeth Hansot put it, the values of their small-town pietism with what the Progressives considered an objective "science of education."⁶⁴

Ellwood P. Cubberley, the dean of the Stanford school of education and promoter of progressive policies of school administration, spent his childhood and youth in a pietist small town and taught

briefly at a Baptist college. Charles Judd, the dean of the school of education at the University of Chicago, was the son of a Protestant minister and had once planned to become a minister. G. Stanley Hall, the founder of the child-study movement and pioneer advocate of what are today called “developmentally appropriate practices” and “differentiated instruction,” had likewise studied for the ministry. Other preachers’ sons included two top leaders of different strands of the Progressive education movement: Edward L. Thorndike, the founder of the field of educational psychology, and William Kilpatrick, the Teachers College professor who popularized child-centered education and the project method. George Counts, the founder of the social-reconstruction strand of Progressive education, testified that his major inspiration had been “the Methodist Church and its social gospel.”⁶⁵

The Progressive educators who specialized in curriculum development also shared this same Kingdom-of-God-on-Earth millennial pietist background. Thomas Jesse Jones, the Progressive who influentially argued for channeling American blacks into nonacademic courses of study, had studied education at the graduate level at Columbia. But he also had a divinity degree from Union Seminary and had worked briefly for the Federation of Churches of New York City.⁶⁶ Clarence Darwin Kingsley, the Progressive educator who headed and gave intellectual direction to the commission that wrote the 1918 *Cardinal Principles* report, studied for the Baptist ministry.⁶⁷ *Cardinal Principles* advocated nonacademic courses and a curriculum designed to encourage social adjustment. The report that Kingsley guided into existence supplanted a previously widely accepted set of K–12 curriculum guidelines: the 1893 report of the Committee of Ten, which had advocated an academic course of study for all students.⁶⁸

The Progressive educational reformers from pietist backgrounds retained their righteous certainty and zeal even as they combined that sense of certainty with what they considered to be the objective, value-free practices of a secular social science.⁶⁹ At the same time, they secularized the religious project of building a sinless utopia as prepa-

ration for the Second Coming of Jesus. For some of them, the social reconstructionists, the secular substitute was building a new socialist society through transformation of the school curriculum.⁷⁰ But most progressive educators concentrated their certainty and zeal on advocating process-oriented instruction, administrative centralization, and changes in the curriculum so that it would (in their opinion) help students adjust to the existing American society. Some Progressive educators described these curricular changes in terms of life adjustment, others in terms of social control. Sociologist Edward A. Ross, for example, explicitly connected schooling and social control and wrote that education can “help in ‘breaking in’ the colt to the harness.”⁷¹

Armed with moralistic self-assurance, scientific-sounding rhetoric, and an anti-intellectualism inherited from the romantic movement, Progressive educators have consistently resisted academic rigor in the school classroom. Pioneering Progressive educators were born in a scientific age, often saw themselves as scientific and often wanted others to see them that way. But Progressive education’s roots in nineteenth-century pietist millennialism and in romanticism (which itself was rooted in an earlier millennialism) have made scientific habits of mind uncongenial to Progressive educators. Intellectual content has always been secondary to a program of remolding the child and the society.

The American pietist millennialists endeavored to extirpate perceived societal ills to ready society for the Second Coming. They sought to rescue sinners and build a New Jerusalem for Christ’s earthly reign. The heirs of these pietist millennialists—the twentieth-century Progressive educators—developed parallel secular goals. They sought to minister to the whole child and build a progressive society. These goals shaped the Progressive curriculum and shoved aside academic subject-matter. Those Progressives who focused more on the child called for children reliving reconstructions of mankind’s learning processes or for attending to children’s interests or child psychology in

various ways. Those Progressives who focused on society called for teaching children to adjust to society or using the schools to build a new political order or to fine-tune the adult labor market. Whatever their focus, Progressives had a tendency to resist academic rigor and to deemphasize content.

In short, millennialism lived on in missionary zeal, in a less than scientific approach, and in secularized goals of a regenerate child and regenerate society. To see how this manifested itself in Progressive curricular proposals, we have to look at the specific approaches of the various strands of Progressive education.

Ideology and the Nonacademic Curriculum

The ideology of the Progressive Era reformers and of their intellectual heirs today offers four different rationales for emphasizing the nonacademic and watering down the academic in the curriculum. Proponents of the nonacademic in the present day draw on these rationales and do so with the fervor and moral certainty of the nineteenth-century pietists and the twentieth-century secular reformers.

Developmental appropriateness and the child-centered curriculum

The most invoked name in the history of American educational thought is that of John Dewey, who endeavored to make instruction a problem-solving, experiential process linked to the present-day child's interests and natural development. When John Dewey was first starting out as an educational theorist he associated with a circle of American followers of the German philosopher Johann Freidrich Herbart. The American Herbartians believed, as Dewey did, that educational curricula should reflect the natural development of the child. The American Herbartians also believed, again as Dewey did, that child development recapitulated the cultural evolution of mankind (and school curriculum should do likewise).⁷² Thus, in kindergarten,

the Herbartians would have the student learn about the life of primitive peoples, whose fears and superstitions the Herbartians likened to those of young children. There might be a year in which students studied literature on hunting and gathering, then perhaps a year studying works on agriculture and farm life. By high school, students should be studying the literature of advanced civilization.⁷³

Dewey did have some differences with the Herbartian approach to the curriculum. He agreed with the Herbartians that the curriculum should be naturalistic and that it should mimic the cultural evolution of mankind. But Dewey wanted the curriculum to be experiential, rather than literary or strictly historical. The student would learn from an artificially created environment that would resemble that confronted by humans along the different stages of cultural development. Students would learn through experience the ways of knowing that were developed in each cultural epoch. Thus, in kindergarten, students would face the problems (in artificially reconstructed form) that the cavemen faced and learn from them. By high school, students would face the problems of advanced contemporary civilization and, again, learn from them.⁷⁴ As Dewey saw it, the key was having the child directly experience, to the extent possible, the activities that were common to a historical epoch or way of life: “[T]he agricultural instinct requires . . . to be fed in just the same way in the child in which it was fed in the [human] race—by contact with earth and seed and air and sun and all the mighty flux and ebb of life in nature.”⁷⁵

Dewey’s specific curriculum proposals were not widely adopted, though variations on them can be found in a few private progressive schools, past and present.⁷⁶ But his curriculum is notable for reasons other than wide acceptance of its details. It is significant because in adopting it, Dewey showed that he had a rather odd idea of what constituted an objective science of education. He had no empirical basis for believing that children learn best by being put through a recreation of cultural evolution. Furthermore, because Dewey took as his curriculum every sort of still-relevant learning through experience

that had happened in the course of human civilization, he left nothing out. There were no limits in principle to what should be taught. Thus, to the extent that Dewey was broadly influential on curricular issues, the logic of his ideas backed large-scale inclusion of nonacademic topics.⁷⁷

Life-adjustment

An even odder idea of science was associated with the life-adjustment strand of Progressive education.⁷⁸ The advocates of life-adjustment sought to make the curriculum functionally efficient in preparing the student for adult life. Thus, they studied adult life, then created the curriculum by working backward. Of course, different people held different roles in adult life, and these curriculum planners wanted their curriculum to be scientific. Therefore, they called for both differentiating the curriculum and predicting the future occupational status of students. With the student's future "scientifically" predicted, the student would be assigned to appropriate curriculum.

With all of adult life and all of adult skills, knowledge, and problems on the agenda, nonacademic topics loomed large in the life-adjustment curricula. As historian Herbert Kleibard points out, the aims set forth in the 1918 *Cardinal Principles* report, a famous and influential document drafted by life-adjustment progressives,

. . . gave secondary schools license to expand the curriculum almost indefinitely. . . . Almost no activity that human beings engage in could not be subsumed under one of those [aims]. Thus, almost anything that the human imagination could conceive of became fodder for the secondary-school curriculum.⁷⁹

If the overarching goals were quite vague and all-encompassing, the curriculum planners were deliberately quite specific in formulating the curriculum in operational terms. This specificity left a tempting target for critics who wondered out loud whether "How to Bake a Cherry Pie" should be a high school curriculum requirement. Thus, a

program that aimed at social engineering and functional efficiency became an object of mockery for its use of scientific lingo.

More importantly, the life-adjustment movement encouraged watering down of content while retaining course titles. In actuality, the practitioners of life-adjustment (and their intellectual heirs today) all too often assigned children from poor households or from racial and language minorities to nonacademic courses and to academic courses with reduced content.⁸⁰

Social reconstruction

The social reconstructionists were the political socialists within the Progressive education movement.⁸¹ Like other educational Progressives, social reconstructionists were opposed to an academic humanities-and-sciences curriculum. But in their case it was because they believed such a curriculum wasn't preparatory for the struggle for socialism or life in a future socialist society. Like the other educational Progressives, the social reconstructionists favored organizing the curriculum around problems and problem-solving. But unlike the other Progressives, the social reconstructionists were not interested in life-adjustment and social control within the existing exploitative society. The reconstructionists wanted students to scrutinize social and economic problems with a view to how they could be solved through a planned economy and government ownership.⁸² Organizing the curriculum around social problems gave a green light to importing some nonacademic topics into the curriculum.

But more than this, social reconstructionists also sought to reorient the existing courses. They had a particular interest in preserving the labels on history and social studies courses, while changing the political character of the content. The curricular changes that the reconstructionists earnestly worked for were rooted in their radical political ideology. It would be odd to say that their curricular proposals were rooted in an objective science of education.

Holding youth off the labor market

During the thirties, child-advocacy groups and educational interest groups began to argue that young people should be held off the labor market and kept in school.⁸³ The quasi-ideological message from social workers and child-welfare advocates was that young people needed training and preparation for adult work. They should not enter the workforce at a young age and learn on the job. Young people, it was argued, deserve an extended period of youth before they take on adult responsibilities, and they deserve training from professionals before they enter the world of work. Most importantly, some argued that high wages cause prosperity and that holding young people off the labor market was necessary to maintaining high wages.⁸⁴ While this high-wage argument would certainly be challenged by many economists, one can see how it would resonate with the public, both during the Great Depression and later on.

Once many policy makers became convinced that young people needed to be held off the labor market, the question was what government agency would have control of these young people's lives. In the thirties, educational interest groups saw that this field of endeavor could expand the size, scope, and budget of K–12 schools, and they struggled with various rivals over jurisdiction and government money. The rivals were youth community-service agencies and similar bodies. By the forties, the schools had largely won the jurisdictional battle, and they were multiple-service agencies in charge of young people. As educators saw it, with that multiple-service mandate came a need to stress nonacademic topics in the curriculum and to water down the academic.

Whatever one thinks of the dubious high-wages-create-prosperity argument, policy considerations of this sort should not relegate young people to make-work activities and content-free courses. By the time of *A Nation at Risk*, a consensus was emerging in American society at

large that this treatment of young people was wrongheaded and counterproductive.

The Progressive education movement sprang from its early leaders' pietist Protestant milieu and, after its secular transformation, produced the notion of the comprehensive high school and the differentiated curriculum. The high schools could ". . . serve democracy by offering usable studies to everyone, rather than dwelling on academic abstractions that would interest only a few."⁸⁵

But not all schools deserted the academic curriculum under the influence of Progressivism. Catholic educators tended to withstand Progressive education, with its utopian millennialist fervor and Protestant roots. Catholic schools resisted abandoning the academic curriculum.⁸⁶ The comparisons of student achievement between the public schools (where the Progressive influence has been pervasive) and Catholic schools favor the Catholic schools on both excellence and equity. Catholic school students performed one full grade level above public school students from a similar family background.⁸⁷ Education scholars, in particular James Coleman, were noticing this "Catholic school effect" in the same time period that *A Nation at Risk* was being drafted.⁸⁸ Attention to the "Catholic school effect" contributed to discontent with public-school performance in the early eighties.

Bureaucracy and Multiple Services

The history of public-school curriculum shows that educators actively sought and fought to have schools take on nonacademic tasks. *A Nation at Risk* had suggested that society imposed nonacademic burdens on the schools. In truth, the schools eagerly took on these burdens.

Many political scientists study bureaucrats and bureaucracy using the same scholarly premises and tools that economists use to study economic activity. These "public choice" political scientists have

found that bureaucrats who are in charge of a government agency tend to strive to expand that agency's size and budget. In addition, bureaucrats have an incentive to transform a government agency with a single mission by adding additional missions. Not only does this add to the agency's size and scope, but providing multiple services also allows the agency to pad its budget in a way that gives the agency spending flexibility as new contingencies arise.⁸⁹

Indeed, the quasi-autonomy traditionally enjoyed by school boards has allowed them (once the national educational interest groups had beaten back the rival youth agencies) to pursue expansionist dreams more successfully than many government agencies. Educational interest groups fought to obtain a monopoly of control over young people's civilian lives in the forties and subsequently expanded the activities and objectives of schools in actuality, going beyond what Progressive educators had been able to achieve on behalf of their beliefs.

Although there were four different major reasons for Progressive educators to oppose an academic humanities-and-sciences curriculum, the proponents of these different rationales had much in common:⁹⁰

- All of them caricatured the nineteenth-century high school as elitist and dominated by wishes of college officials.
- All of them believed that to make high schools more "democratic" the curriculum needed to be expanded beyond its academic content.
- All of them believed that the expanded curriculum needed a multitude of practical, problem-solving courses, and they sought to modify high-school graduation requirements and college-entrance requirements in line with these curricular changes.
- All of them sought to make the curriculum relevant to what educational professionals perceived to be the needs of students.

- All of them believed that education professionals, not lay boards of education, should be making curricular decisions.
- All of them retained something of the zeal and certainty of millennialist crusaders and had an odd notion of what constituted a scientific approach to education in general and the curriculum in particular.

The same rationales are used by adherents of the present-day variants of Progressive education. Although the Progressive education movement no longer shows obvious indications of its roots in pietist millennialism, the movement remains fervent and is alive and well in colleges of education, complex public-school bureaucracies, and even the National Science Foundation. Progressive rhetoric of egalitarianism translates today into coursework with “accessibility” as its key feature—meaning that reliance on prior learning is to be avoided. “Accessible” courses are courses that sound academic but where no one expects that students have learned (or previous teachers have taught them) the prerequisite academic content. *A Nation at Risk* helped mightily in convincing policy makers and the public to do away with the differentiated curriculum of the early eighties. The issue then became what to replace it with. Proponents of solid education want to replace it with an academically rigorous curriculum; the present-day Progressives want an undifferentiated curriculum without rigor.

Conclusion

The publication of *A Nation at Risk*, like the launch of Sputnik before it, served as a wake-up call for the complex political machinery that guides education in the United States. Significant gains in academic course completion rates have followed, at least in mathematics and science. On the other hand, the growth rate in achievement indicators has been disappointing. Worse yet, there are indications that the content of heretofore rigorous academic courses is at risk. Can we

hope that greater gains lie ahead? Or will this limited progress fade away with the next round of fads in education?

Today, the standards and accountability movement that was ignited by *A Nation at Risk* acts as something of an ideological counterweight to proponents of nonacademic topics and of less thorough coverage of academic topics. It is more difficult to disguise a lack of rigor in an era of standards and accountability measures than it is to attach an academic label to a less-than-rigorous course offering.

In addition, pluralism has emerged in the delivery of schooling. Magnet schools and other public-schools-of-choice, charter schools, privately managed charter and public schools, and parents with vouchers usable in public or private schools are likely to put pressure over time on comprehensive high schools with differentiated curricula. This pluralism may check the ideological desires of educators to hang onto a nonacademic curriculum when parents don't want it, and it may limit the expansionist tendencies of school bureaucrats.

Yet the thinking that unites the variations of Progressive education is still with us today. Standards that are both demanding and explicit are called "elitist" and are therefore difficult to implement. Nonacademic courses are on the decline, but nonacademic content is being infused into traditionally academic courses. Math problems without obvious real-world applications (such as factoring a trinomial) are shunned while those that relate to the student world (such as selecting the best video-rental contract) are praised. Parents and professors alike are told to leave matters of education to the education "experts," while what passes for research in education all too frequently lacks scientific rigor.

Given the changes that have followed the publication of *A Nation at Risk*, it appears that further real gains will be slow in coming, if they materialize at all. There is every reason to assume that the effort required to produce real gains will be tremendous. Easy solutions, like simple changes in placement practices, will not be sufficient. Yet there

is little hope for the future of the academic curriculum without continuing and refining the efforts stimulated by *A Nation at Risk*.

Notes

1. National Commission on Excellence in Education, *A Nation At Risk: The Imperative for Educational Reform* (Washington, D.C.: U.S. Government Printing Office, 1983), 18–19, <http://www.ed.gov/pubs/NatAtRisk/>.
2. *Ibid.*, 6.
3. U.S. Department of Education, National Center for Education Statistics. *Digest of Education Statistics, 2001*, NCES 2002-130, compiled by Thomas D. Snyder (Washington, D.C., 2002).
4. A “Carnegie Unit” is one year of study or the equivalent in a secondary-school subject.
5. William H. Clune and Paula A. White, “Education Reform in the Trenches: Increased Academic Course Taking in High Schools with Lower Achieving Students in States with Higher Graduation Requirements,” *Educational Evaluation and Policy Analysis*, 14 (1992), 1, 2–20.
6. See chapter 3 by Caroline Hoxby, figures 1 through 4, for more data on curricular changes since 1983.
7. *Digest of Education Statistics, 2001*, 161.
8. *Ibid.*, 161; see also chapter 3 by Caroline Hoxby, figure 5.
9. U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 2002*, NCES 2002-025 (Washington, D.C.: U.S. Government Printing Office, 2002), 166.
10. U.S. Department of Education. Office of Educational Research and Improvement. National Center for Education Statistics. *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance*, NCES 2000-469, compiled by J.R. Campbell, C.M. Hombro, and J. Mazzeo (Washington, D.C.: 2000). [Hereafter *Three Decades*.]
11. Jacob Cohen, *Statistical Power Analysis for the Behavioral Sciences*, 2nd Ed. (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1988). Cohen’s effect sizes can be related to NAEP long-term trend scores by estimating the standard deviations of NAEP scores. The standard deviations are estimated from the means for quartiles published in *Three Decades* on pages

- 11–15. These are then multiplied by the coefficients provided by Cohen (0.2, 0.5, and 0.8) to get effect size estimates in NAEP score terms.
12. *Three Decades*, 18.
 13. *Ibid.*, 13.
 14. Paul Peterson presents a more detailed review of SAT scores in chapter 2 of this volume (see especially figures 1 and 3). Data here are from *Digest of Education Statistics, 2001*, 153.
 15. *Ibid.*, 30.
 16. Curtis C. McKnight, F. Joe Crosswhite, John A. Dossey, et al., *The Underachieving Curriculum: Assessing U.S. School Mathematics from an International Perspective* (Champaign, Ill.: Stripes Publishing, 1987).
 17. California Legislative Analyst's Office, February 8, 2001, *Improving Academic Preparation for Higher Education*, prepared by Jennifer Kuhn, reviewed by Buzz Breedlove. http://www.lao.ca.gov/2001/remediation/020801_remediation.html.
 18. See Jay Mathews, "Algebra = X in One School, Y in Another; Teaching Inconsistent as Standards Waver," *Washington Post*, August 19, 2002 (comparing algebra course content in Virginia and Maryland).
 19. California Department of Education, Standardized Testing and Reporting Program, *STAR Results for 2000* and *STAR Results for 2001*, <http://star.cde.ca.gov/>.
 20. Cohen, 79–80. The unit of sampling for these effect sizes is the school, not the individual student, since the variation of individual scores is not reported. The effect here is best interpreted as an effect of policy on school performance.
 21. This includes the influential briefing paper "Mathematics Equals Opportunity," White Paper prepared for U.S. Secretary of Education Richard W. Riley, October 20, 1997, <http://www.ed.gov/pubs/math/>, and National Center for Education Statistics, "Do Gatekeeper Courses Expand Education Options," *Statistics in Brief*, February 1999.
 22. In the early sixties, this assertion was made in the context of higher education. John W. Gardner, *Excellence: Can We Be Equal and Excellent Too?* (New York: Harper, 1961).
 23. See, for example, Valerie E. Lee and Anthony S. Bryk, "Curriculum Tracking as Mediating the Social Distribution of High School Achievement," *Sociology of Education*, 61 (1988), 78–94.
 24. U.S. Department of Education. National Center for Education Statistics.

High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988, Working Paper No. 98-09, by Valerie E. Lee, David T. Burkam, Todd Chow-Hoy, Becky A. Smerdon, and Douglas Geverdt. Jeffrey Owings, Project Officer. Washington, D.C., 1998.

25. William J. Bennett, *American Education: Making It Work. A Report to the President and the American People*, ED 289 959 (Washington, D.C.: U.S. Government Printing Office, April 1988), 17.
26. *A Nation at Risk*, 5
27. Diane Ravitch, *Left Back: A Century of Failed School Reforms* (New York: Simon & Schuster, 2000), 404.
28. See, for example, Charles J. Sykes, *Dumbing Down Our Kids* (New York: St. Martin's Griffin, 1995), 130.
29. Jeanne S. Chall and Sue S. Conrad with Susan Harris-Sharples, *Should Textbooks Challenge Students? The Case for Easier or Harder Textbooks* (New York: Teachers College Press, 1991), 2.
30. David Klein, "A Brief History of American K-12 Mathematics Education the 20th Century," in James M. Royer, ed., *Mathematical Cognition* (Greenwich, Conn.: Information Age Publishing, 2002). <http://www.csun.edu/~vcmth00m/AHistory.html>.
31. Mary P. Dolciani and William Wooton, *Modern Algebra: Structure and Method*, Book 1, rev. ed. (Boston: Houghton Mifflin, 1973).
32. Richard G. Brown, Mary P. Dolciani, Robert H. Sorgenfrey, and William L. Cole, *Algebra: Structure and Method*, Book 1 (Evanston, Ill.: McDougal Littell, 2000).
33. See Klein, "Brief History," for an account of these events.
34. Michael McKeown, David Klein, and Chris Patterson, "The National Science Foundation Systemic Initiatives," in Sandra Stotsky, ed., *What's at Stake in the K-12 Standards Wars: A Primer for Educational Policy Makers* (New York: Peter Lang, 2000).
35. *Ibid.*, 326.
36. Arthur F. Coxford, James T. Fey, Christian R. Hirsch, Harold L. Schoen, Gail Burrill, Eric W. Hart, and Ann E. Watkins, *Contemporary Mathematics in Context: A Unified Approach*, Course 1 (Chicago: Everyday Learning, 1998) (also known as Core-Plus).

37. Anita Wah and Henri Picciotto, *Algebra: Themes, Concepts, Tools* (Mountain View, Calif.: Creative Publications, 1994).
38. Motohico Mulase, 1996 book review of *Algebra* by Wah and Picciotto, <http://www.mathematicallycorrect.com/pinkbook.htm>.
39. See <http://www.its-about-time.com/htmls/ap.html>.
40. Sherry Posnick-Goodwin, "Isn't It Time to Treat Teachers As Professionals?" *California Educator*, vol. 6, no. 6 (March, 2002).
41. *Ibid.*, 11, 15.
42. Data extracted from the California Department of Education website (<http://www.cde.ca.gov>) on August 31, 2002.
43. About 8,500 on google.com and about 4,500 on altavista.com on July 15, 2002.
44. Support from the mathematics community is indicated by a letter that appeared November 18, 1999, as a full-page advertisement in the *Washington Post* that was signed by more than 200 individuals, mostly university mathematicians. A copy of the letter is available at <http://www.mathematicallycorrect.com/riley.htm>.
45. David L. Angus and Jeffrey E. Mirel, *The Failed Promise of the American High School, 1890–1995* (New York: Teachers College Press, 1999), 195. See also 186–95, for the authors' detailed analysis of mathematics and science courses in Grand Rapids and Detroit.
46. Texas Education Agency, Student Assessment Division, *Performance on Algebra I EOC Test Compared to Performance in Algebra I Course*, Spring 2000. <http://www.tea.state.tx.us/student.assessment/resources/conferences/tac/2000/algperf.html>.
47. "Bush Warns Against the 'Soft Bigotry of Low Expectations,'" *Education Week*, Sept. 22, 1999, 18.
48. National Commission on Teaching and America's Future, *What Matters Most: Teaching for America's Future* (New York, 1996), 5.
49. U.S. Department of Education, Office of Postsecondary Education, Office of Policy, Planning and Innovation, *Meeting the Highly Qualified Teachers Challenge: The Secretary's Annual Report on Teacher Quality* (Washington, D.C., 2002).
50. *Ibid.*, 6.
51. Lawrence A. Cremin, *The Transformation of the School: Progressivism in American Education, 1876–1957* (New York, Vintage Books, 1964), vii ("enthusiasm," "energy"); David Tyack and Elisabeth Hansot, *Managers*

- of Virtue: Public School Leadership in America, 1820–1980* (New York: Basic Books, 1982), 3 (“moral earnestness and sense of mission”).
52. Ravitch; E. D. Hirsch Jr., *The Schools We Need and Why We Don’t Have Them* (New York: Doubleday, 1996); Williamson M. Evers, “From Progressive Education to Discovery Learning,” in Evers, ed., *What’s Gone Wrong in America’s Classrooms* (Stanford, Calif.: Hoover Institution Press, 1998), 1–21.
 53. Sydney E. Ahlstrom, *A Religious History of the American People* (New Haven, Conn.: Yale University Press, 1972), 780–81.
 54. Buber, *Paths in Utopia* (London: Routledge & Kegan Paul, 1949), 10; Voegelin, *The New Science of Politics: An Introduction* (Chicago: University of Chicago Press, 1952), 188.
 55. Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parson (New York: Charles Scribner’s Sons, 1930), chap. 5; M. H. Abrams, *Natural Supernaturalism: Tradition and Revolution in Romantic Literature* (New York: W. W. Norton, 1971), 325–72, 416–18, 445; Robert C. Tucker, *Philosophy and Myth in Karl Marx*, 2nd ed. (Cambridge, Eng.: Cambridge University Press, 1972). The background to modern political millennialism lies in Western European history. See Norman Cohn, *The Pursuit of the Millennium: Revolutionary Millenarians and Mystical Anarchists of the Middle Ages*, rev. ed. (New York: Oxford University Press, 1970). We have benefited from discussions with and suggestions from David Gordon and Jonathan Reider on the topic of secularized religion.
 56. See Ahlstrom, chaps. 39, 44, 46, 47; Ernest Lee Tuveson, *Redeemer Nation: The Idea of America’s Millennial Role* (Chicago, University of Chicago Press, 1968); Cushing Strout, *The New Heavens and New Earth: Political Religion in America* (New York: Harper & Row, 1973); Paul Boyer, *When Time Shall Be No More: Prophecy and Belief in Modern American Culture* (Cambridge, Mass.: Harvard University Press, Belknap Press, 1992). In “World War I as Fulfillment: Power and the Intellectuals,” Murray N. Rothbard discusses the influence of Kingdom-of-God-on-Earth millennialism on other noneducational areas of Progressive reform, in John V. Denson, ed., *The Costs of War* (New Brunswick, N.J.: Transaction Publishers, 1997), pp. 203–53.
 57. Ahlstrom, 779; Tuveson, 58.

58. James H. Timberlake, *Prohibition and the Progressive Movement, 1900-1920* (Cambridge, Mass.: Harvard University Press, 1963), 7–8.
59. Tyack and Hansot, 3.
60. Quoted in Ahlstrom, 641.
61. Col. Francis W. Parker, the father of modern progressive education in America, said: “Feed the lambs of God [i.e., instruct the schoolchildren], and the gates of glory shall be lifted up, and the King of Glory shall enter in.” Parker, “The Child,” *Journal of Proceedings and Addresses of the National Education Association*, 1889, 482. When New York began to require that teachers be trained, Parker was jubilant. The new regulation led him to declare that he believed in the “resurrection in this life” and “the coming of a new spirit” and to proclaim: “Mine eyes have seen the glory of the coming of the Lord.” See “The Instruction and Improvement of Teachers Now at Work in the Schools: Discussion,” *Journal of Proceedings and Addresses of the National Education Association*, 1895, 191–92.
62. John Dewey, “My Pedagogic Creed” (1897), in Dewey, *The Early Works, 1882–1898* (Carbondale: Southern Illinois University Press, 1972), vol. 5, 95. Tyack and Hansot (197–98) write of Dewey’s “naturalistic ethics blended laced with millennial Christian and democratic values.”
63. “[Liberal Protestants] were fervently optimistic about the destiny of the human race. Supported by the apparent success of democratic governments and the evidence of scientific and technological advances, their confidence in the future outran even that of the Enlightenment’s apostles of progress. The Kingdom of God was given a this-worldly interpretation and viewed as something men would build within the natural historical process.” Ahlstrom, p. 780. Most evangelical Protestants and all liberal Protestants believed that the Kingdom of God would develop as part of the historical process. P. 811.
64. Tyack and Hansot, 6–7, 114–15.
65. *Ibid.*, 114–15, 122. As an undergraduate, Kilpatrick went to Mercer University, a Baptist college. He later taught there and served as Mercer’s acting president. Samuel Tenenbaum, *William Heard Kilpatrick: Trail Blazer in Education* (New York: Harper, 1951), 11. Counts went to Baker University, a Methodist college. Gerald L. Gutek, *George S. Counts and American Civilization* (Macon, Ga.: Mercer University Press, 1984), 5.
On the concluding page of his Social Gospel classic *Christianity and*

the Social Crisis, Walter Rauschenbusch writes: “If at this juncture we can rally sufficient religious faith and moral strength to snap the bonds of evil and turn the present unparalleled economic and intellectual resources of humanity to the harmonious development of a true social life, the generations yet unborn will mark this as *that great day of the Lord for which the ages waited. . . .*” *Christianity and the Social Crisis* (New York: Macmillan, 1907), 422 (italics added). As Ahlstrom points out, the Social Gospel was “a form of millennial thought.” Ahlstrom, 786. Ahlstrom also describes the Social Gospelers as the “praying wing of Progressivism.” 804.

On the interrelationship between Progressive political thought and the Social Gospel, see Eugene McCarragher, *Christian Critics: Religion and the Impasse in Modern American Social Thought* (Ithaca, N.Y.: Cornell University Press, 2000), chap. 1.

66. Herbert M. Kliebard, *Changing Course: American Curriculum Reform in the 20th Century* (New York : Teachers College Press, 2002), 25.
67. *Ibid.*, 33.
68. Charles W. Eliot, the president of Harvard University and chairman of the Committee of Ten, had argued that school administrators had no business predicting students’ futures and then using their administrative authority to make those predictions come true by assigning certain students (namely, the ones for whom lesser futures were predicted) to nonacademic courses of study. See Eliot, “The Fundamental Assumptions in the Report of the Committee of Ten (1893),” *Educational Review*, 60 (1905): 330–31. See also Kliebard, *Changing Course*, 58.
69. Tyack and Hansot, 3–4, 6–7, 116–17.
70. “The social reconstructionists had a radical vision of using public schooling to transform society into a planned cooperative commonwealth.” *Ibid.*, 202. See also Ravitch, chap. 6.
71. Edward A. Ross, *Social Control and the Foundations of Sociology: Pioneer Contributions of Edward Alsworth Ross to the Study of Society*, ed. Edgar F. Borgatta and Henry J. Meyer (Boston: Beacon Press, 1959), 72. See also Herbert M. Kliebard, *Forging the American Curriculum: Essays in Curriculum History and Theory* (New York: Routledge, 1992), 11; Christopher Lasch, *The New Radicalism in America, 1889–1963: The Intellectual as a Social Type* (New York: Alfred A. Knopf, 1966), 170–77.
72. Cremin, 102 n. 5.

73. For the American Herbartians' literary approach, see Charles De Garmo, *Herbart and the Herbartians* (New York: Charles Scribner's Sons, 1896), for example, 209–13 (on the history curriculum).
74. Kleibard, *Forging*, 68–82. See also Cremin, 119, 141.
75. Quoted in Kleibard, *Forging*, 74.
76. *Ibid.*, 78; Ravitch, 171. For a brief description of the curriculum at Dewey's Laboratory School, see Cremin, 139–40.
77. Compare the similar effect of the G. Stanley Hall's criterion of child-centeredness. Cremin writes: “[I]t opened the pedagogical floodgates to every manner of activity, trivial as well as useful, that seemed in some way to minister to ‘the needs of children.’” 104.
78. See Kleibard, *Forging*, chap. 5; Ravitch, 163–69.
79. Kleibard, *Changing Course*, 47.
80. In another variation, Progressive educators today often oppose teacher-led instruction as unsuitable for girl students and students from racial and language minorities while insisting on watered-down content and “discovery-learning” instruction as more suitable for these students. David Klein, “Big Business, Race, and Gender in Mathematics Reform,” in Steven G. Krantz, ed., *How to Teach Mathematics*, 2nd ed. (Providence, R.I.: American Mathematical Society, 1999), 221–32.
81. See Kleibard, *Changing Course*, chap. 5.
82. See Cremin, 229–30.
83. Angus and Mirel, see esp. 3–4, 59, 69. See also W. Norton Grubb and Marvin Lazerson, “Education and the Labor Market: Recycling the Youth Problem,” in Harvey Kantor and David B. Tyack, eds., *Work, Youth, and Schooling: Historical Perspectives on Vocationalism in American Education* (Stanford, Calif. : Stanford University Press, 1982), 110–41 (on the Progressive Era and the 1970s).
84. The erroneous theory that high wages cause prosperity had a prominent adherent in Depression-era president Herbert Hoover: “The very essence of great production is high wages and low prices, because it depends upon a widening . . . consumption, only to be obtained from the purchasing-power of high real wages and increased standards of living.” *Memoirs of Herbert Hoover* (New York: Macmillan, 1937), vol. 2, 108. President Hoover was by no means alone in adopting this idea; it was widespread in the twenties.

In reality, increased productivity and capital investment cause higher

real wage rates, not the other way around (as President Hoover would have it). On the economics of a high-wage policy, see Alfred Marshall, *Elements of Economics of Industry*, 4th ed. (London: Macmillan, 1907), 401–2; Richard K. Vedder and Lowell E. Gallaway, *Out of Work: Unemployment and Government in Twentieth-Century America*, 2nd ed. (New York: New York University Press, 1997). We are indebted to Joseph Fuhrig for the reference to Alfred Marshall.

85. Arthur G. Powell, Eleanor Farrar, and David K. Cohen, *The Shopping Mall High School: Winners and Losers in the Educational Marketplace* (Boston: Houghton Mifflin, 1985), 260.
86. See, for example, Anthony S. Bryk, Valerie E. Lee, and Peter B. Holland, *Catholic Schools and the Common Good* (Cambridge, Mass.: Harvard University Press, 1993). Laurence J. O’Connell argues that in Progressive education, activities are given an almost exclusive place of importance, at the expense of intellectual learning and reasoning. O’Connell, *Are Catholic Schools Progressive?* (St. Louis: B. Herder Book Co., 1946), 129–30, 131, 155.

James S. Coleman and Thomas Hoffer point out that Catholic schools were able to hold off “the curriculum watering-down and course-content watering-down” that took place in American high schools in the seventies. See Coleman and Hoffer, *Public and Private High Schools: The Impact of Communities* (New York: Basic Books, 1987), 94.
87. For a review, see James S. Coleman, Thomas Hoffer, and Sally B. Kilgore, *High School Achievement: Public, Catholic, and Private Schools Compared* (New York: Basic Books, 1982).
88. The Catholic school effect was not caused by smaller class size, larger teachers’ salaries, or better buildings and equipment. Coleman attributed the Catholic school effect to “social capital”—namely, shared values within the students’ families and between the families and the schools. Coleman and Hoffer, *Public and Private High Schools*. See 39–50 for discussion of curriculum and coursework.
89. William J. Niskanen Jr., *Bureaucracy and Public Economics* (Aldershot, Eng.: Edward Elgar Publishing, 1994), 36–42, 106–12.
90. Angus and Mirel, 13–14.