

# Thinking K-16

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## NEW FRONTIERS FOR A NEW CENTURY A National Overview

**T**HERE IS A MOMENT UPON US. A convergence of fast-changing demographics, extremely high public and political concern about education, and a new willingness among many of public education's leaders and supporters to consider bold alternatives, including market solutions, that would have been unthinkable even a few short years ago. It's a moment that contains both enormous opportunity and enormous dangers. But regardless of whether you welcome or fear it, the moment is inescapably ours.

An earlier generation of leaders seized a similar opportunity before. Through their efforts, the country made significant progress during the 1970s and 1980s, cutting the achievement gap that separates low-income and minority students from other youth almost in half. But as regular readers of *Thinking K-16* know too well, by the end of the 1980s that progress

stopped cold. Since then the gaps have remained stable or widened once again.

We must use the moment upon us now to finally deliver on the promise that those who came before us left only halfway done. To do so, we must combine the passion—indeed the courage—that fueled their progress with the know-how that accumulated in unusually successful schools, districts and, finally, whole states. Our job, in other words, is to find a way to set aside all the old bargains, the old politeness, and do what it takes to make needed changes before it's too late for the children and for public education.

To move boldly ahead with needed changes, though, educators, policymakers and advocates need rock-solid information to help them shape policies and practices that will ensure the academic success of every student, especially those who have not been served well by our schools in the past. The Education Trust's *Education Watch* series is our best effort to provide a solid foundation for action. The first *Education Watch* databook was published in 1996 and provided national and state data on educational achievement, attainment and opportunity for all children in America. The demand for this data was enormous and led to making *Ed Watch* a biennial event.

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# Thinking K-16

In true 21st Century style, our third and latest edition of *Ed Watch* offers two innovations that promise to make the data even more useful and powerful than before:

- We now offer *Ed Watch* online with a new, interactive database that allows users to mine a large reservoir of national and state data and to compare progress among states.
- We highlight data from "frontier" states—those states that lead the country into whole new territories of educational performance. Virginia, for example, currently leads other states for Latino students in grade 8 reading, and Texas African American eighth-graders are at the head in writing.

No frontier state currently performs to the levels they need to for any group of children. But they do show us what's possible right now. They demonstrate, beyond a shadow of a doubt, that the achievement gaps are not what people have been led to believe—the inevitable result of poverty, poorly educated parents or neighborhood conditions. That myth is now forever shattered.

We can also draw on lessons from these frontier states to provide a framework for immediate action.

- We must insist, loudly and publicly if necessary, that the low-level assignments that poor children get be replaced by intellectually rigorous work. Now.

- We must insist that people look not just at the regression line on poverty and achievement, but at the so-called "outliers" and what we can learn from them. Now.
- We must lead our colleagues beyond analysis and excuses to bold action. Now.

Clearly, it would help if there were changes outside of schools, too—if parents spent more time with their children, if poverty didn't crush so many spirits, if the broader culture didn't bombard young people with so many destructive messages. But we can't ignore the damage done by what we as educators do: we take the children who have less to begin with, and then systematically give them less in school, too. In fact, we give these children less of everything that we know makes a difference.

In this issue of *Thinking K-16*, we introduce readers to the online *Education Watch* by taking a look at the data over the last decade. We hope through this report and our online database to provide not just information, but inspiration. The evidence is there. We have the tools. We have the expertise. Now all we need is the will. If we really try, we can make the achievement gap a historical footnote by the end of this decade. Then and only then will the children of the new century reap the benefits of a promise finally fulfilled.

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Director

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The Education Trust was created to promote high academic achievement for all students at all levels, kindergarten through college. While we know that all institutions could better serve their students, our work focuses on the schools and colleges most often left behind in efforts to improve education: those serving Latino, African American, Native American and low-income students.

*Thinking K-16* is published with the intent to share lessons learned in these communities with policymakers as well as with educators and members of the public concerned with the quality of education provided our neediest young people.

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# Closing the Gap: Done in a Decade

BY KATI HAYCOCK, CRAIG JERALD AND SANDRA HUANG

**T**HE 1990S WERE A TIME OF unprecedented focus on education. When the decade began, Americans were puzzling over a new idea in school reform: high, public standards intended for all students. The business community was first to latch on to this strategy as a means to raise the quality of the workforce to the levels the new economy demanded. But many others quickly saw the marriage of “high standards” with “all students” as a way to guarantee equity in education. By decade’s end, all states except one had their own standards and most were testing their students’ progress toward meeting them.

So where are we now?

Two stories can be told about progress over the last ten years. One gives us hope; the other reminds us that an enormous task was left undone.

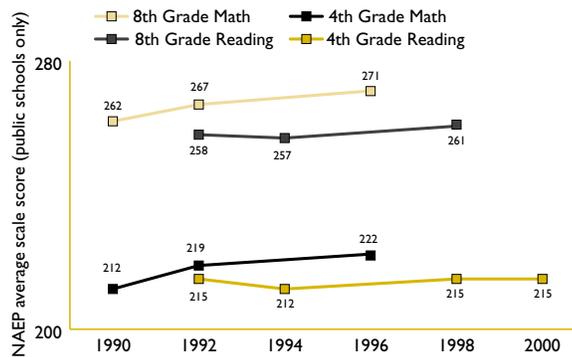
The first story tells what we’ve done well. After a period of lagging test scores, American students began once again to post gains, particularly in math. Moreover, most groups showed improvement.

- By 1996, the math skills of our fourth and eighth graders were nearly a year ahead of their peers in 1990.
- Within this overall improvement in math, African American and Latino children also made significant gains.
- Our eighth graders were making steady progress in reading.

- And even though fourth graders were reading at about the same level they were in 1990, they had managed to recover from a mid-decade decline by 1998 (Chart 1).

Chart 1

## Making Progress Over the 1990s



Note: Data are from Main NAEP tests, not Long Term Trends. Data are for public schools only. Ten points is roughly equivalent to a year's worth of learning on NAEP assessments. Only 4th grade reading was tested in 2000.

Source: National Center for Education Statistics.

The second story, on the other hand, sounds gloomily familiar. While minority students generally showed improvement over the decade, the gaps that separated them from White students remained alarmingly wide. Large gaps were also evident between the children of low-income families and others.

- By the end of grade 4, African American, Latino and poor students of all races are already about two years behind other students.
- By the time they reach grade 8, they are about three years behind.

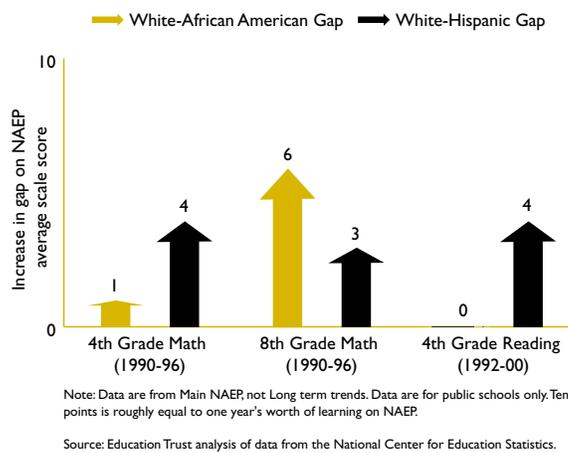
Unless otherwise noted, the data featured in this report are available on *Education Watch Online* at [www.edtrust.org](http://www.edtrust.org).

- By the time they reach grade 12, if they do so at all, minority students are about four years behind other young people. Indeed, 17-year-old African American and Latino students have skills in English, mathematics and science similar to those of 13-year-old Whites.<sup>1</sup> Unfortunately, these gaps continue into and through college.
- While the college-going rates of African American and Latino high school graduates have increased, they remain below those of White high school graduates.<sup>2</sup>
- African Americans and Latinos obtain college degrees at only half the rate of White students.<sup>3</sup> And well-to-do students are nearly seven times as likely as those from poor families to earn a bachelor's degree.<sup>4</sup>

What's worse, these differences didn't narrow a whit during the 1990s. In both reading and math, gaps separating poor and minority students from others actually widened at most grade levels, and remained the same or dropped only slightly at others (Chart 2).

Chart 2

### Gaps Have Grown Over the 1990s



To the Luddites of education, these data seem to simply reinforce the view that an achievement gap separating poor and minority students from other young Americans is inevitable, and efforts to close it hopeless and naive. But we are neither Luddites nor sentimentalists. We know that these gaps can close. And we have proof.

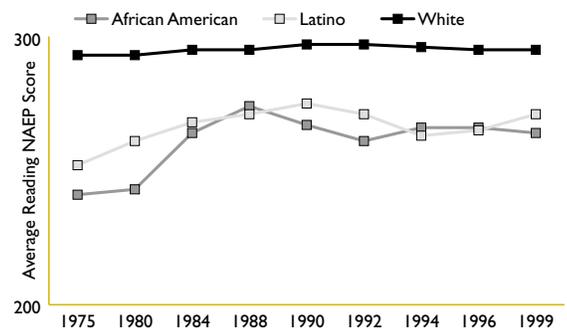
### Gaps Are Not Inevitable

A careful analysis of available data shows just how wrong it is to conclude that an achievement gap based on color or family income will always be with us.

For one thing, data from the 1970s and 1980s tell a far different story. During these two decades, achievement among poor and minority students rose dramatically, and the gaps between groups were cut almost in half. Had that pattern continued uninterrupted, the gaps could have been eliminated early in this decade (Chart 3).

Chart 3

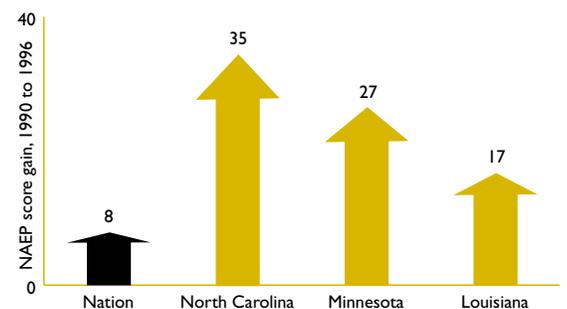
### Gap Narrows, Then Widens NAEP Reading Scores, 17 Year-Olds



Source: US Department of Education, National Center for Education Statistics, NAEP 1999 Trends in Academic Progress (p. 107) Washington, DC: US Department of Education, August 2000.

Chart 4

### Unequal Progress: Growth in Average 8th Grade Math Scores for Latino Students



Source: National Center for Education Statistics.

Even during the 1990s, it turns out that some states continued making precisely the kind of progress in raising minority achievement that the country as a whole made during previous decades. Indeed, if minority achievement had gone up nationally during the 1990s at the rates it grew in some states, we would be positioned very differently today (Chart 4).

## WHAT'S GETTING IN THE WAY, PART 1:

### Myths About Student Achievement

The American education system has been in thrall to a myth for more than 30 years. The myth says that student achievement has much more to do with a child's background than with the quality of instruction he or she receives. It says that urban and rural schools face insurmountable obstacles caused by poverty and racism. It says that "disadvantaged" children might learn some basic skills, but that their home lives are just too deprived to allow them to attain the same levels of learning as their affluent suburban peers.

The myth is powerful. It is pervasive. And it is wrong.

No one who has visited as many urban classrooms as we have would argue that poverty and racism don't make both teaching and learning more challenging. But more challenging doesn't mean impossible. All across the country, there are examples of high-poverty schools that perform at or near the top on state tests. Mount Royal in Baltimore. The KIPP Academies in Houston and the Bronx. Wrigley Elementary in Kentucky.

The myth mongers like to explain away such examples as isolated and unrelated. "Sure," we often hear, "individual schools can sometimes beat the odds, but that's just not a reasonable expectation for the majority of high-poverty schools. Show us a whole district that's done it. Show us a whole state."

The Education Trust has taken up the challenge. Beginning with the 1996 publication

of the first *Education Watch*, our compendium of key state and national education data, we have exposed how the system contributes to the gap and showcased the communities that buck the trend. The third and latest edition of *Education Watch*—now online with a new interactive data warehouse—gives further lie to the myth. By looking at the educational frontier, we are able to say flat out: "The myth is wrong."

### Some States Are Getting Much Higher Achievement

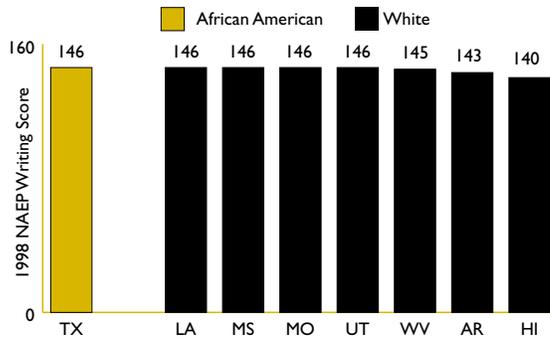
The most powerful evidence comes from the National Assessment of Educational Progress (NAEP), the only assessment that makes it possible to look at achievement across states. If indeed demographic factors exert such an overwhelming impact on learning, one would expect to see low-income or African American children, for example, performing about the same on NAEP from community to community, state to state. But that is simply not the case. *Even at the state level, where nuances get lost and variations wash out, differences in average state scores for the same groups of students are often staggering.*

On the 1998 NAEP grade 8 writing test, for example, average scale scores for African American students ranged from 121 points in Arkansas to 146 points in Texas, the "frontier state" on that test. This 25-point difference is roughly equivalent to two-and-a-half years' worth of learning, and is the same size or larger than the gap between White and African American students in about half the states. In fact, if African American eighth graders in Arkansas, Hawaii, Louisiana, Mississippi, Missouri and West Virginia could swap NAEP writing scores with their counterparts in Texas, the African American-White achievement gap in all of those states would disappear (Chart 5, p. 6).

The same patterns hold for Latinos. On the same grade 8 writing assessment, scores for Latinos range widely, from 146 in Virginia to 116 in Missouri and 108 in Mississippi. The gap between Latinos in these three states amounts to between three and four years of learning, and is larger than the White-Latino gap in most states.

Chart 5

## African American Students in Texas Match or Outscore White Students in Seven States on 1998 NAEP Writing Assessment



Source: National Center for Education Statistics.

And writing is by no means an isolated example.

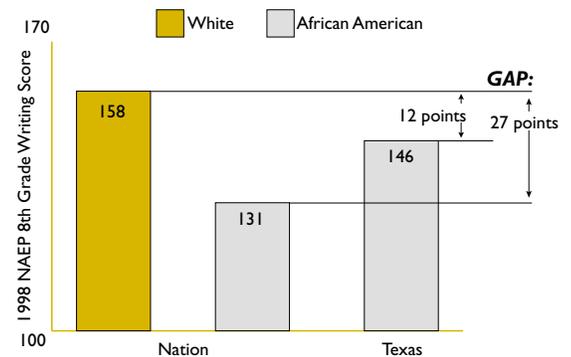
- In 1996, African American fourth graders in Texas achieved an average math score 24 points higher than African American students in California. Again, that range is roughly equivalent to two-and-a-half years' worth of learning, and is about the same as the gap between African American and White fourth graders in Massachusetts on the same math test.
- In 1998, African American and Latino fourth graders in Connecticut achieved average scores of 205 on NAEP's grade 4 reading test, with their counterparts in Colorado close behind at 202. This put Latino fourth graders in both states roughly one and one-half years ahead of their counterparts in New York and Georgia, and African Americans about one year ahead of African American students in the same states.
- In 1996, low-income eighth graders in North Dakota scored higher in science than middle- to high-income students in 20 states. They scored nearly 40 points higher than low-income students in Delaware and California, a gap far wider than the poor-nonpoor gap within any single state.

A focus on frontier states also puts the national achievement gap in perspective.

- If Latino eighth graders everywhere read as well as those in Virginia, the national achievement gap between Whites and Latinos would shrink by more than one-third.
- If African American eighth graders everywhere wrote as well as their peers in Texas, the national achievement gap between Whites and African Americans would be cut in half (Chart 6).

Chart 6

## Pushing the Frontier in Texas



Source: National Center for Education Statistics. Calculations by the Education Trust.

- If low-income eighth graders everywhere had mastered science as well as low-income students in North Dakota, the national achievement gap between poor and non poor students would virtually disappear.

## Some States Getting Bigger Gains

While states differ considerably in the absolute performance of similar groups of students, there are also significant differences among states in improvement over time. At the rate they are going, some of these states will clearly occupy frontier positions in the near future. This was clearly what North Carolina Governor Jim Hunt had in mind when he told his state education leaders that if they were "number 1 in improvement", they would eventually be "number 1, period."

Take, for example, the case of grade 4 mathematics. In the country as a whole, Latinos climbed 4 points on the grade 4 NAEP between

*continued on p. 8*

## Learning from the Frontier

Improving American education requires getting better at something we have yet to do very well: learn from places getting results. Education Watch Online ([www.edtrust.org](http://www.edtrust.org)) draws attention to the top-performing states for poor and minority students on NAEP. We call these leaders "frontier states."

We want to be very clear that "frontier" is not simply a fancy euphemism for "high performing."

- First, a frontier is a place that, by definition, someone can get to. Any state can reach the current frontier on a NAEP test, not in ten or twenty years, but by the next time the test is given. States that have vaulted to the frontier in only a few short years offer proof of that.
- Second, a frontier is not a final destination, but rather the farthest point anyone has reached yet. The true destination is crystal clear: all students score at a proficient level or above on NAEP's rigorous assessments, and there is no more achievement gap separating groups of students.

We also care that performance is improving and that gaps between groups are shrinking.

### Frontier States, Smallest Gaps, and Biggest Gains

		Frontier State for Group	Smallest Gap	Biggest Gain*
4th Grade Math (1996)	African-American	Texas	Kentucky	Massachusetts
	Latino	North Dakota	North Dakota	Tennessee
	Low-Income	North Dakota	North Dakota	n/a
8th Grade Math (1996)	African-American	Nebraska	West Virginia	Nebraska
	Latino	Iowa	Iowa	North Carolina
	Low-Income	North Dakota	Utah	n/a
8th Grade Science (1996)	African-American	Colorado	Hawaii	n/a
	Latino	Montana	Indiana, Montana	n/a
	Low-Income	North Dakota	North Dakota	n/a
4th Grade Reading (1998)	African-American	Connecticut	Hawaii	Rhode Island
	Latino	Iowa	Wyoming	Connecticut
	Low-Income	Maine	Maine	n/a
8th Grade Reading (1998)	African-American	Kansas	Hawaii	n/a
	Latino	Virginia	Utah	n/a
	Low-Income	Maine	Oklahoma	n/a
8th Grade Writing (1998)	African-American	Texas	West Virginia	n/a
	Latino	Virginia	Virginia	n/a
	Low-Income	Oklahoma	Wyoming	n/a

\*1990-96 GR 8 Math; 1992-96 GR 4 Math; 1992-98 GR 4 Reading

Individuals should investigate where their state stands on all three measures. For example, some states with relatively high achievement among poor or minority students also have very large achievement gaps between those students and nonpoor or White students (see "Some States Have Smaller Gaps," page 8).

Consider Connecticut, which is the frontier state for African American students on NAEP's grade 4 reading test, but also has one of the widest achievement gaps between African American and White students on that test. The reverse can also be true. Texas and Hawaii each have a 28-point gap between White and Latino students in grade 4 reading, but both groups of students in Texas far outscore their counterparts in Hawaii, so much so that Latinos in Texas come within eight points of Whites in Hawaii on that test.

Ideally, states will combine high performance with small gaps. Virginia has the highest performance for Latino students on NAEP's grade 8 writing assessment and also the smallest gap between White and Latino students on that test. At the same time, Virginia's White students score fifth-highest on the NAEP writing test compared with their counterparts in other states.

The list of frontier states is surprisingly diverse. It includes traditional high-performers like Iowa and North Dakota, but also includes states that have high concentrations of poor and minority children, such as Kentucky and Texas, which are new to such lists. Those states succeed with state policies that focus on some of the things we know matter most: higher standards, meaningful assessments, real accountability, better instruction, and good teachers.

1992 and 1996. During this same period, Latinos in Tennessee improved by 15 points, Minnesota and Rhode Island by 11 points, and Mississippi by 10 points. Nationally, African Americans climbed 8 points on the NAEP mathematics assessment. But African Americans in Massachusetts improved by 14 points, those in Texas and Michigan by 13 points, and those in North Carolina, Connecticut, and Iowa by 11 points.

In reading, the differences look much the same. In Connecticut, for example, reading

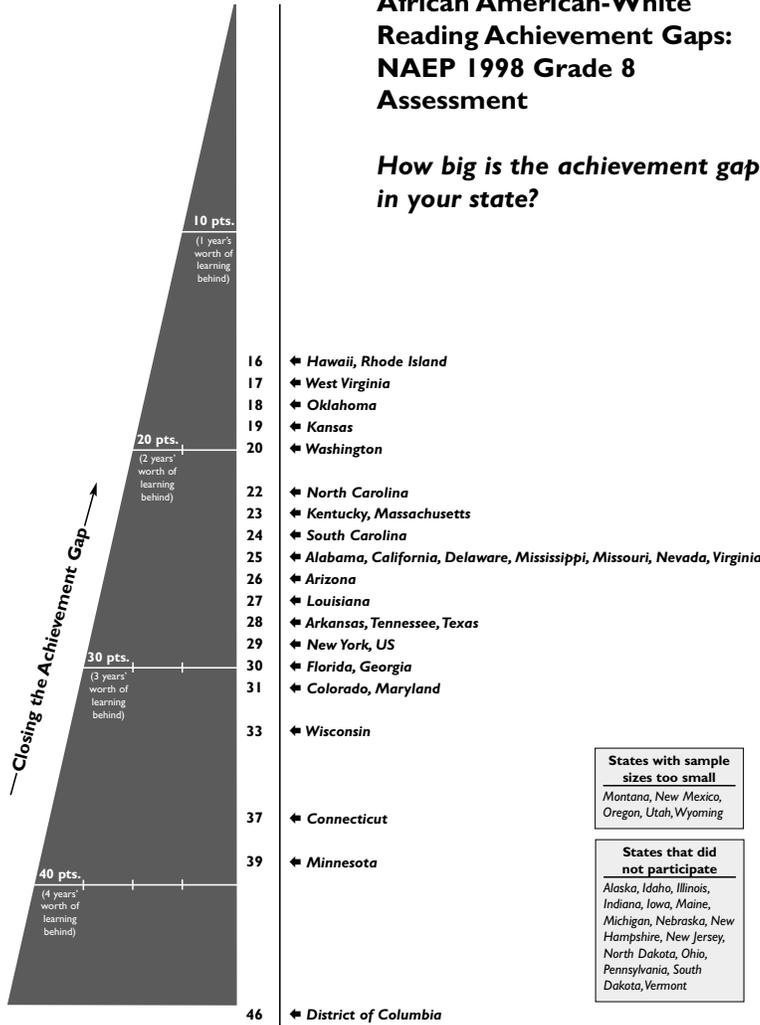
performance among African American and Latino fourth graders grew much faster than the performance of those groups in the nation as a whole. In the country overall, reading performance among African American fourth graders was statistically flat. But in Connecticut, it improved by 9 points, close to the amount of learning students typically gain in one year. For Latinos the comparison is even more dramatic. Nationally, Latino reading performance *declined* 4 points on the same test. In Connecticut, it *improved* by 12 points, a net difference of 16 points (Chart 7).

## Some States Have Smaller Gaps

★ Equity ★

### African American-White Reading Achievement Gaps: NAEP 1998 Grade 8 Assessment

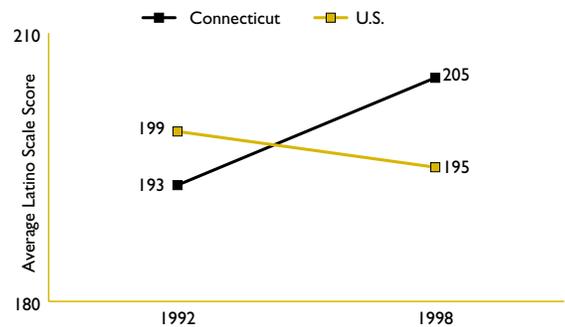
How big is the achievement gap in your state?



Note: Gaps are measured by the point difference between minority and White average scale scores. Calculations by the Education Trust.

Chart 7

### Connecticut's Latino Students Outpace the National Average in 4th Grade Reading



Source: National Center for Education Statistics.

The differences in state performance are huge, and they can have major consequences. If the nation's Latino fourth graders had attained the same rate of improvement as those in Connecticut, the national reading gap between White and Latino fourth graders would have been sliced *nearly in half*.

Other states don't necessarily get this much growth for students of color, but they have managed to accelerate the progress of minority students and narrow gaps between groups.

On the grade 4 reading examination, for example, Rhode Island managed to increase the performance of African Americans by 10 points between 1992 and 1998, while White students increased by 3 points, narrowing the gap

between groups by 7 points. Colorado increased African American performance in grade 8 math by 17 points between 1990 and 1996, while White students gained 8 points. As a result, the gap closed by 9, bringing the groups closer together by almost a grade level!

Virginia, Georgia and North Carolina did much the same thing for Latino eighth graders in

mathematics between 1990 and 1996, shaving the Latino-White gap by 7, 10, and 18 points respectively.

Importantly, all of these states narrowed gaps NOT through declining White scores, but by accelerating the performance of the groups that had lagged behind. In every case, White and minority scores increased.

## *Latinos in Iowa? African Americans in Vermont? Is This Relevant for Arizona and Mississippi?*

In some cases, the frontier state for one or more minority groups on a particular indicator is a state that doesn't have very many students from that group. We are ever sensitive to the need for data that are credible to users—a criterion we call “passing the laugh test.”

We initially decided to exclude states where a particular group comprised less than 3% of student enrollments from being frontier states for that group. We knew that people in Alabama might guffaw at the notion that they could learn something from Nebraska about educating African American children, and that people in New Mexico would be appalled at the suggestion that they could learn something about educating Latino children from Mississippi—or, for that matter, Vermont. And frankly, we didn't want to invite that kind of a reaction.

But then we looked more closely at the data. It turns out that the relationship between the relative size of a group and that group's performance is not as clear-cut as we first assumed.

Yes, in grade 8 mathematics, Latinos in Iowa, Minnesota and North Dakota are the highest scoring in the country. And in no case do these youngsters comprise even 3% of the student population in the state. At the same time, though, Latinos in South Carolina, Alabama and Mississippi—also less than 3% of each state's student enrollment—are the lowest performers in the country.

Interestingly, the same is true in states with sizable minority populations as well as those in between:

- In Texas, for example, where roughly 4 in 10 eighth graders are Latino, Latino young people scored second in the nation on the NAEP grade 8 writing assessment. In California, on the other hand, where roughly 4 in 10 eighth graders are Latino, Latino young people scored 20th in the nation, two full years' worth of learning behind their Texas counterparts.
- One in four Virginia eighth graders is African American. They scored third among their national counterparts in grade 8 writing. Arkansas has almost exactly the same percentage of African Americans, but they scored at the bottom of the national pool.
- One in three North Carolina eighth graders is African American. The same is true in Alabama. But African American eighth graders in North Carolina perform a full year ahead in mathematics than their counterparts in Alabama.

There are also no obvious patterns when you look at achievement gaps.

- In Kentucky, where about 10% of eighth graders are African American, the African American-White gap in mathematics is second smallest in the country: 21 points (or about two years). However, in Wisconsin, where about the same percentage of eighth graders are African American, the gap is the second largest in the country: 48 points (or more than four years difference in learning!).
- Latinos in Oregon and Massachusetts comprise roughly the same percentage of student enrollments, yet Oregon has one of the smallest gaps in eighth grade mathematics (20 points) and Massachusetts one of the largest (41 points).

As it turns out, whether the poor or minority population in a state is high- or low-achieving seems to have little to do with their numbers. So Latinos in Iowa? African Americans in Vermont? Other states should pay attention.

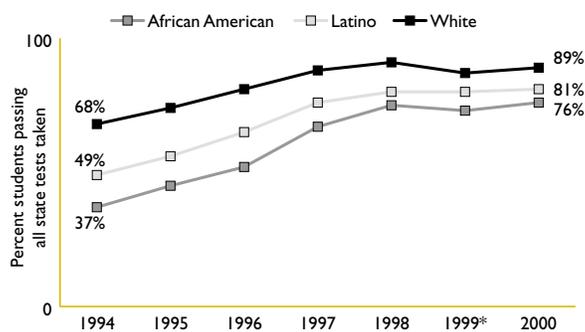
## Moving Beyond State Frontiers

It's important to keep in mind that these analyses are based on state averages, which themselves mask large variations in the performance of any particular group. In other words, the frontier doesn't end in statewide data from Texas or Connecticut or Virginia—or, for that matter, in state averages for any other state at an achievement frontier. Here's why: even within top performing states, some schools and some districts are performing higher still.

- For example, Mount Royal Elementary-Middle School in Baltimore, Maryland is 99 percent African American and nearly 80% low-income. Yet this school not only significantly out-performed schools with similar demographics, but it achieved the highest passing rate in the state on Maryland's 1999 grade 5 math test.
- The Aldine Independent School District in Texas is another example. Statewide, Texas's African American students are at the frontier. They outperformed African American students in any other state in grade 4 math and grade 8 writing, and Latinos were only a little behind. Yet Aldine exceeded even these accomplishments. The district, which has an enrollment of about 85% minority and 70% low-income students, made larger than average improvement on the Texas state exams for all groups and narrowed gaps between groups (Chart 8).

Chart 8

### Aldine, Texas: Improving Achievement, Closing Gaps



Note: \*Beginning in 1999, scores began to include special education and Spanish-language test-takers.

Source: Texas Education Agency.

Frontier states tell us more about how far any one state has come to date than about how far we all have left to go. Remember that the ultimate goal is for all students to meet standards. In only two states, Connecticut and D.C., does a majority of White students score above the NAEP “proficient level”—the NAEP definition of meeting standards—and then, only by the slimmest margins. In no state does a majority of African American, Latino, or low-income students score at this level. Schools like Mount Royal and districts like Aldine send the message that, when it comes to raising achievement statewide, especially poor and minority achievement, today's frontier is the not the end. It is only the beginning.

## WHAT'S GETTING IN THE WAY, PART 2:

### Solutions That Don't Fit The Problem

As we move into the 21st Century, our collective mission is clear. We must root out the remaining vestiges of our myths about who can learn and who can't, and move decisively to close gaps between groups once and for all.

But we also need to make sure that our solutions fit the problem, because it's not just myths that have slowed the effort to close historic gaps between groups. It's how we have approached them.

At the Education Trust, we are often asked why the country made so much progress during the 1970s and 1980s. After studying this issue for years, we are convinced that there are two parts to the answer.

First, poor and minority children were a major focus at all levels of government from the mid-1960s to the early 1980s. New laws were passed, programs created, and dollars appropriated. All in all, the message to schools was unmistakable: you've got to pay attention to the children at the bottom. And if we know anything from American education history, it is that when we truly focus on something, we generate results.

But they got something else right during these

decades: the fit between problem and solution. If you look closely at the achievement data from the early part of that period, you quickly realize that poor children and children of color weren't even mastering the most rudimentary of skills. The solutions that were pressed upon schools by lawmakers in the federal Title I program and its state-level clones were reasonably well matched to that problem. Schools provided extra assistance to eligible students, usually through pull-out programs characterized by drill and practice with a paraprofessional. So we made progress. And the achievement gaps in very basic skills virtually closed.

However, that approach essentially maxed out in the late 1980s. Now, most of remaining gaps are found when it comes time to apply those basic skills, for example, by analyzing texts and solving open-ended math problems (see "Hitting the Ceiling on Basic Skills"). These higher order abilities aren't simply amenable to improvement through drill under the direction of paraprofessionals, especially so for the students who are struggling anyway. Accordingly, we should have shifted our approach to bolster the skills of classroom teachers to raise the level of challenge in the regular classroom and support their efforts to address the varying needs of students. Instead, we remained mired in the add-on, drill-drill-drill approach.

The job before us is obvious. If we are to finally close achievement gaps, we must do two things. We must kill the myth that hobbles the thinking and action of too many of our colleagues inside and outside of education. And we must learn from the successful schools, districts and states at the frontier in order to fashion solutions that fit the problem.

## Moving Forward

What are the important lessons that should shape our work during the coming decade?

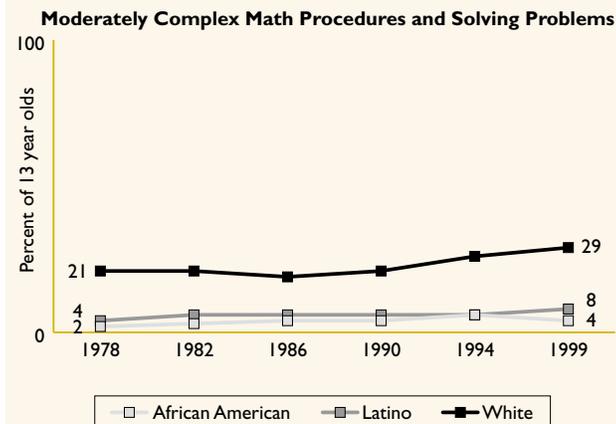
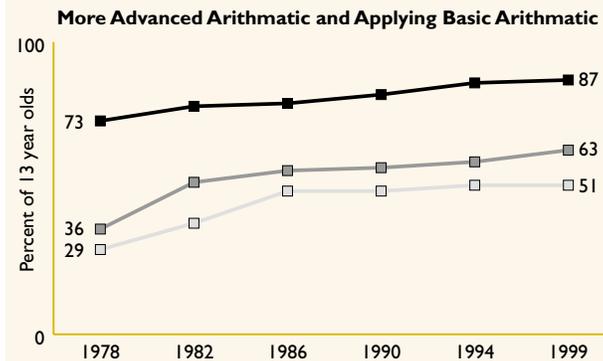
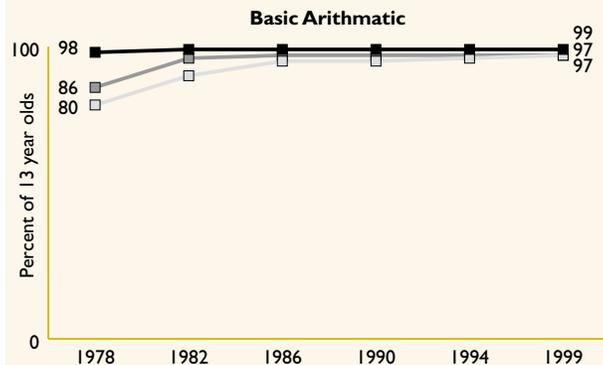
### Lesson 1. We need clear goals: The role of standards

Historically, there has been no agreement on what American young people should learn at

## Hitting the Ceiling on Basic Skills

During the 1970s and 1980s the nation made considerable progress on getting all students to master basic skills. But as these tables show, as math skills become more complex, gaps between students of color and White students begin to widen. Similar patterns are found in reading.

### Percentage of 13-year-olds who have mastered:



Note: The three skill levels correspond to levels, 200, 250 and 300 on NAEP Long Term Trends.

Source: NAEP Long-Term Trends, 1999.

each grade level, or on what kind of work is good enough. These decisions have been left to individual schools and teachers. The result is a system that, by and large, doesn't ask much of most of its students. And you don't have to go very far to find that out: ask the nearest teenager. In survey after survey, these young people are telling us that they are not being challenged in school (see "What Students Say").<sup>5</sup>

The situation is worse in high-poverty and high-minority schools. Education Trust staff members have spent a great deal of time over the past six years working with teachers who are trying to improve the achievement of students in their classrooms. While there, we have been looking carefully at what happens in high-poverty classrooms—the kinds of assignments teachers give, for example—versus other classrooms.

We have come away from this experience literally stunned by how little is expected of children in high-poverty schools. Stunned first by how very few assignments they get in a given school week or month. And stunned by the miserably low level of these few assignments.

In high-poverty urban middle schools, for example, we see an awful lot of coloring at the expense of assignments that require real writing or doing mathematics. Even at the high school level, it's not unusual for us to find coloring assignments. How often have we seen this grade

11 English assignment: "Read *To Kill a Mockingbird* (or *Of Mice and Men*, *The Diary of Anne Frank*, or the like); when you're done, color a poster on it." Or, there's the current favorite: "Design a T-shirt with your favorite quotations from the book." Indeed, national data confirm our worst impressions: we expect so little of students in high-poverty schools that we give them "A" grades for work that would earn a "C-" or a "D+" anyplace else.<sup>6</sup>

Clear and public standards for what students should learn at benchmark grade levels are a critical tool for solving this problem. They are a guide—for teachers, administrators, parents and students themselves—to what knowledge and skills are critical for students to master. Moreover, standards represent a contract between schools and their communities that this content and these skills are the expectation for all their students.

Kentucky is the first state to have embraced what has come to be called "standards-based" reform. Ten years ago, the Kentucky legislature laid out an ambitious set of learning goals and had the audacity to declare that all of its children—even the poorest—would meet those goals. Leaders in Kentucky would be the first to acknowledge that they are not there yet. But their progress is clear and compelling. And poor children are, in fact, learning. Among the top

## What Students Say

The New York Times recently talked to New York teenagers to find out what they think about new, rigorous high school graduation requirements.<sup>1</sup> According to the article, while school officials attribute rising drop out rates to tougher standards, the recent drop outs on the street had a somewhat different take. These young people put the blame on overcrowded classes; having to repeat courses with younger students; impersonal schools; and "poor preparation in earlier grades and dumbed-down instruction in high school."

The article also featured the opinions of students who persevered, such as this perspective from a senior who had failed a state-required exam once but stuck it out to try again:

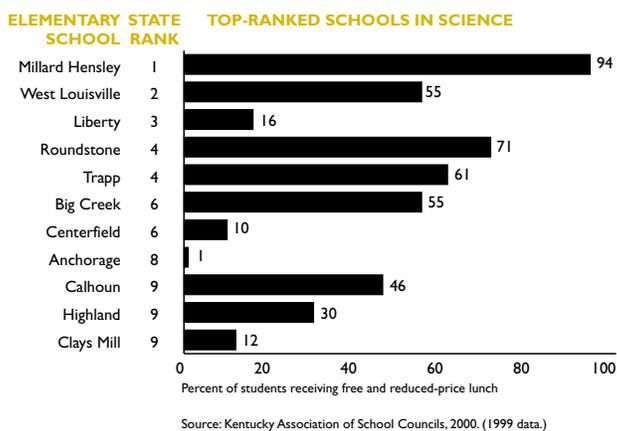
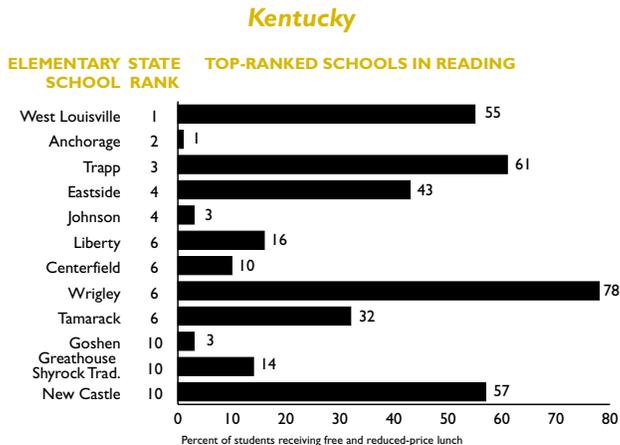
"Zachary Sharaga, 17, ... said that rolling back the standards could protect weak teaching, rather than weak students. Mr. Sharago told how he had failed his mathematics Regents exam with a score of 40, after being in a class where the teacher diluted the material for fear that students could not understand it. Though demoralized, he repeated the class with another teacher, who moved much faster. This time he scored 96.

"I got my hope back," Mr. Sharaga said. "Now I'm in Advanced Placement calculus."

<sup>1</sup>Anemona Hartocollis, "Not-So-Simple Reasons for Dropout Rate," New York Times, March 22, 2001.

performing elementary schools in each subject, for example: in reading, 7 of the top 20 are high poverty; in math, 8 of the 20 are high poverty; in writing, 13 of the 20 are high poverty (Chart 9).

Chart 9



## Lesson 2. Assessments and accountability systems must provide honest information and signal needed improvements

The old norm-referenced systems that were once used by virtually every state sent a message to most schools—and most parents and students—that things were just fine. By comparing students with one another, rather than with a standard, we told the majority of schools and students in the middle two quartiles that they were doing okay. And we told those who performed in the top quartile that they were great. Whether or not they were mastering what we knew was necessary to succeed at the next

level was irrelevant. At least they weren't losing the horse race.

The new assessments and accountability systems based on them are designed to tell students, and their teachers and parents, whether they know what they need to know. They are also designed to signal educators and the public about where they need to target their efforts to improve.

The choices policymakers make when selecting assessments and designing accountability systems are critical, because they have a major impact on school practice. Assessments that demand a lot of writing, for example, tend to result in more writing assignments in schools than those that measure “writing” through multiple-choice items.

Similarly, states that include student race or economic status in the accountability system are likely to see attention focused not just on moving the average up but also on closing gaps between groups. Every state should follow the Texas lead and adopt accountability policies that separate out – and hold schools accountable for – the achievement scores of different groups of students, including White, African American, Latino, and poor (see Chart 10, p. 14). The first step in closing the achievement gap must be to make that goal clear, explicit, and meaningful.

## Lesson 3. All students must have a challenging curriculum aligned with standards

New standards and assessments won't make much of a difference, though, if they are not accompanied by a rigorous curriculum lined up with those standards. Yet in too many places, some students are taught high-level curriculum, while other students continue to be taught a low-level curriculum—one that is better aligned with the assembly-line jobs that are disappearing than it is with state standards.

These patterns are disturbing, because the quality and intensity of high school coursework is a key predictor of college success—more important than class rank or scores on college admissions tests.<sup>7</sup> This is especially so for African Americans and Latinos. Skills learned in more

Chart 10

## Setting Clear—and Equitable—Goals

Only a handful of states base their school accountability policies on disaggregated test scores. The following box, taken directly from the 2001 Texas Accountability Manual, makes clear to schools and districts that they cannot ignore poor and minority students in their efforts to meet state accountability benchmarks:

### ACCOUNTABILITY RATING STANDARDS FOR 2001

	Exemplary †	Recognized †	Academically Acceptable / Acceptable	Academically Unacceptable / Low-performing
<b>Base Indicator Standards</b>				
Spring 2001 TAAS • Reading • Writing • Mathematics	at least 90.0% passing each subject area ("all students" & each student group*)	at least 80.0% passing each subject area ("all students" & each student group*)	at least 50.0% passing each subject area ("all students" and each student group*)	below 50.0% passing any subject area ("all students" or any student group*)
1999-2000 Dropout Rate	1.0% or less ("all students" and each student group*)	3.0% or less ("all students" and each student group*)	5.5% or less ("all students" and each student group*) ‡	above 5.5% ("all students" or any student group*) ‡

† A district cannot be rated Exemplary or Recognized if it:

- has one or more Low-performing campuses; or
- has 1,000 or more, or 10.0% or more, 1999-2000 students in grades 7-12 who were not reported either as enrolled or as leavers in the 2000-2001 PEIMS Submission I.

\* Student groups are African American, Hispanic, White, and Economically Disadvantaged.

‡ If a district or campus would be rated Academically Unacceptable / Low-performing solely because of a dropout rate exceeding 5.5% for a single student group (not all students), then the district or campus will be rated Academically Acceptable / Acceptable if that single dropout rate is less than 10.0%, and has declined from the previous year.

Source: Texas 2001 Accountability Manual.

rigorous courses make a big difference in earning power, as well.

Since 1983, we have steadily increased the number of students in a rigorous, "college prep" curriculum. But the pace is not fast enough. While about three quarters of high school graduates are going on to higher education, only about half of these grads complete even a mid-level college preparatory curriculum (four English, three each in math, science and social studies). If you also include two years of foreign language and a semester of computer science, the numbers drop to less than one in eight. Moreover, although college prep enrollments for poor and minority students have been inching up, they have failed to keep pace with those of White and affluent students.

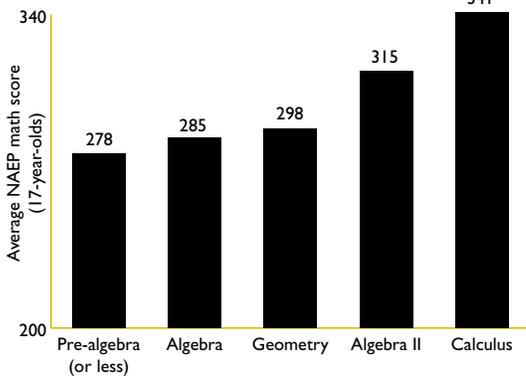
In addition to predicting college success, the number of rigorous courses students take also has a positive effect on learning. And that holds not only for traditional college bound students, but also for those who think of themselves as work bound and those who enter such classes as low performers.

This effect is clearest in high school, where students who take more rigorous coursework learn more and perform better on tests. Indeed, the more they take the better they do.

- In mathematics, for example, students who complete the full college preparatory sequence perform much higher on NAEP than those who complete only one or two courses (Chart 11).

Chart 11

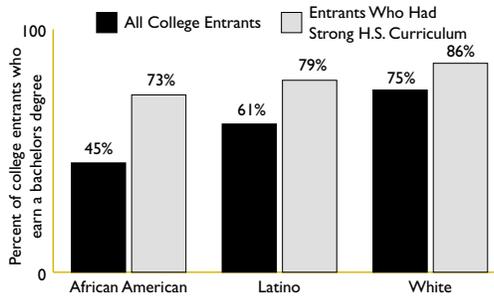
## A Rigorous Math Curriculum Improves Achievement



Source: National Center for Education Statistics, NAEP 1999 Trends in Academic Progress.

Chart 13

## A Strong H.S. Curriculum Can Shrink the College Completion Gap in Half



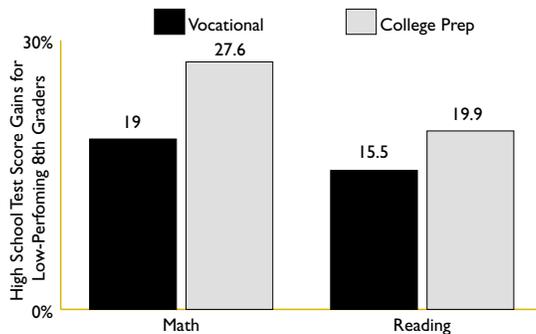
Note: "College entrants" include only those who entered directly after graduating from high school.

Source: Adapted from Adelman, Clifford, U.S. Department of Education, "Answers in the Toolbox," 1999.

- The reverse is true of watered down, traditional "vocational" courses. In this case, the more students take the lower their performance.<sup>8</sup>
- Some of these differences are attributable to higher scoring students being assigned to the tougher classes to begin with. Even so, careful research clearly shows the positive impact of more rigorous coursework even on formerly low-achieving students (Chart 12).

Chart 12

## A College Prep Curriculum Benefits Low Performers



Note: Low-performing refers to bottom quartile on NELS test.

Source: National Center for Education Statistics, "Students Who Prepare for College and a Vocation," August, 1999.

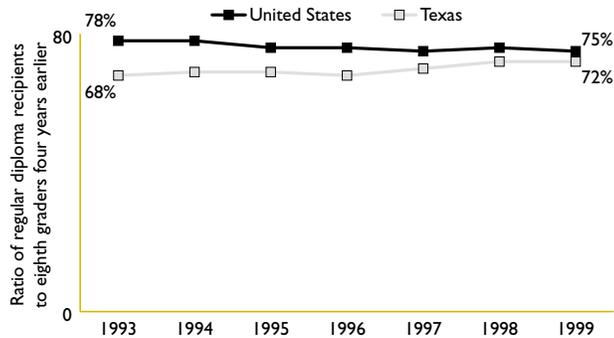
- A strong high school curriculum can further shrink the college completion gap in half (Chart 13).

When the evidence is this convincing, why do we provide any other options? At the very least,

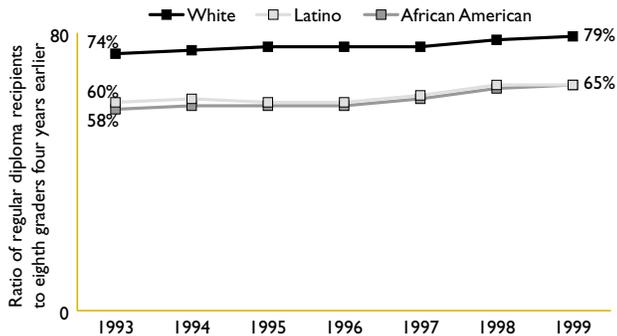
## Texas: Tougher Accountability Does Not Cause a Higher Dropout Rate

Critics of the Texas accountability system charge that the high school exit exam has led to higher dropout rates. An analysis of completion rates, however, reveals just the opposite.

### High School Completion Rises in Texas While It Falls Across U.S.



### Completion Rate Rising at Least as Much for Minority Students



Source: National Center for Education Statistics.

we should do what the Texas legislature is currently considering: make the college prep curriculum the default curriculum for all students. You can do this in your state and community, too.

## Lesson 4. Every child deserves good teaching

If we have learned anything over the past ten years it is how much teachers matter. On this point, the research is unequivocal: the teacher is the single most important factor in whether young people learn or whether they don't. The data—whether collected in Boston, Texas, Tennessee or anyplace else—are remarkably consistent:

- The most effective teachers are producing not just a little more growth, but as many as six times the learning gains produced by least effective teachers.
- These effects accumulate over the grade levels, with initially similar-achieving students separated by as many as 50 percentile points three years later based solely on the quality of the teachers they were assigned to.
- Most importantly for our work, these differences are not explained by differences in the race, socioeconomic or prior achievement of the kids, but, rather, by differences in the teaching.<sup>9</sup>

If they are going to learn to high standards, students need teachers who both know their subjects and how to teach them. Yet large numbers of students—especially those who are poor or members of minority groups—are taught by teachers who lack sufficient background in the subjects they are teaching.

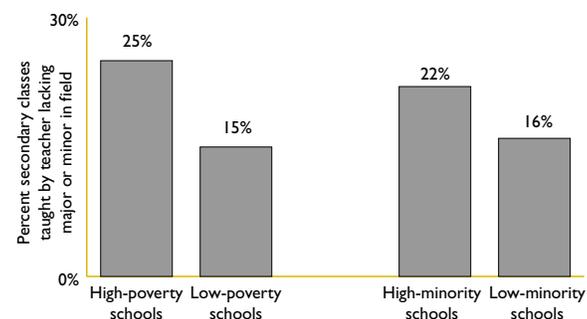
In high schools, for example, one-third of all math teachers do not have even a college minor in the subject.<sup>10</sup>

- In every subject, children in high-poverty secondary schools are more likely than other students to be taught by teachers without even the equivalent of a college minor in the subjects they are teaching (Chart 14).
- Students in high-poverty schools are far more likely to have teachers with low SAT/ACT scores (Chart 15).

- In much the same way, children in high-poverty schools are about twice as likely as other students to be taught by inexperienced teachers (Chart 16).

Chart 14

### Poor and Minority Students Get More Underqualified Teachers

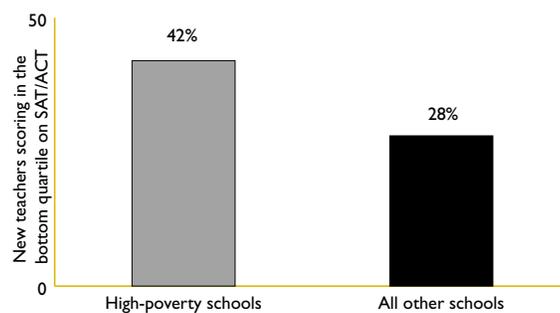


Note: High-poverty and high-minority schools have more than 50% of such students; low-poverty and low-minority schools have fewer than 15% of such students. Poor students defined as eligible for free or reduced-price lunches.

Source: The Education Trust. Analysis of federal data by Richard M. Ingersoll.

Chart 15

### High-Poverty Schools Get More Low-Scoring Teachers



Note: High-poverty schools have two-thirds or more students eligible for free or reduced-price lunches. New teachers include only new hires who graduated from college in 1992-93 and in a public before or during by 1996-97.

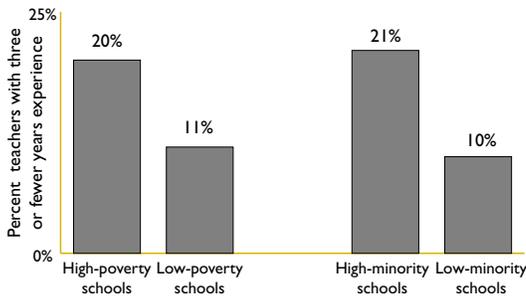
Source: Education Week, Quality Counts 2000, January 2000.

- Students in predominantly minority schools are also about twice as likely as students in other schools to be taught by inexperienced teachers (Chart 16).

No matter how you define teacher qualifications—in field vs. out of field, certified vs. uncertified, experienced vs. inexperienced, or low scoring vs. high scoring on licensure tests—the pattern is exactly the same. In other words, we take the kids who are most dependent upon

Chart 16

## Poor and Minority Students Get More Inexperienced Teachers



Note: "High" and "low" defined as top and bottom quartile of schools, respectively.

Source: National Center for Education Statistics, "Monitoring School Quality: An Indicators Report," December 2000.

their teachers for academic learning and systematically assign them teachers with the weakest academic base.

These problems are highly visible in the high-poverty schools Education Trust staff are working in. But they are also revealed in national data on instructional practice in different types of schools. Results from a survey of practice conducted in conjunction with the 1996 NAEP science examination are a case in point. While research has established that "hands-on" science taught by in-field teachers has a positive effect on science test scores, African American eighth graders are far less likely than students from any other group to be taught in these ways. They also attend schools that lack science resources. Even a qualified science teacher would find it hard to offer real science instruction in a room with no access to running water. Yet African American students are four times as likely as White eighth graders to have science class in such a room (see "No Piecemeal Solutions," page 18).

Given these differences, it's hardly surprising that African American eighth graders perform at the bottom of the national distribution.

If we're going to get any real traction on this issue, though, we have got to be able to talk about it in ways that don't make large numbers of teachers feel deeply and personally threatened.

This doesn't mean that we shouldn't talk publicly about this issue in our communities and get our local data out there. We must. And it certainly doesn't mean that we shouldn't try every approach we can think of—from salary incentives to lower course or student loads to bans on the hiring of unlicensed teachers in low-performing schools—to turn around the gross maldistribution of teacher talent in this country. We must try all these things, and more.

It does mean, however, that we must be clear that these problems are not the fault of individual teachers or of teachers more generally, but, more often, of the system that prepared or assigned them. And it also means that we must accompany new challenges to our teachers with new supports.

Teacher effectiveness is not forever fixed at exit from college. With coaching and support, most of our teachers—like most of the rest of us—can become ever more effective.

Pittsburgh provides a compelling example. A couple of years ago, the district implemented the NSF-financed *Everyday Math* curriculum and contracted with Lauren Resnick's Institute for Learning to provide intensive professional development and coaching for the teachers. The result: both African American and White students in so-called "high implementation" schools (i.e., close work with expert teacher-coaches and a high level of implementation for the professional development) are substantially outperforming their counterparts in a matched set of "low-implementation" schools.

Moreover, after only three years, the high implementation schools have eliminated the African American-White gap on math skills, and reduced it considerably in problem solving and math concepts. Indeed, the African American students in the high implementation schools are significantly outperforming the White students in low implementation schools on skills, concepts and problem solving (Chart 17, p. 19).

## No Piecemeal Solutions

Each of the six lessons can take a school system part of the way to closing the achievement gap. But making all of them work together is the surest route to closing the gap entirely.

For example, the data show that African American students systematically are more likely to be denied effective eighth grade science instruction. Bringing in more qualified teachers will help, but many would still be working in classrooms unfit for effective instruction. Spending money on better classroom materials would help, but not as much as if the materials were put the hands of adequately trained teachers. The problem is systemic, and the solutions must be too.

### Standards and Expectations

- Compared with White students, African American eighth graders are twice as likely to have science teachers who place "little" emphasis on developing lab skills.

### Frequent, Meaningful Assessment

- Compared with White students, African American eighth graders are nearly four times as likely to be assessed using hands-on activities only once per grading period or less.

### Challenging Curriculum

- Compared with White students, African American eighth graders are twice as likely to have a science teacher who does not have students produce notebooks or reports on lab work.
- Compared with White students, African American eighth graders are twice as likely to have a science teacher who does not emphasize development of data analysis skills.
- Compared with White students, African American eighth graders are nearly three times as likely to only engage in hands-on science activities (e.g., labs) less than once or twice a month.

### Quality Teaching

- Compared with White students, African American eighth graders are only two thirds as likely to have a science teacher who participated in more than two days of science-related training the previous year.
- Compared with White students, African American eighth graders are much less likely to have a science teacher certified to teach middle school science (97% vs. 82%).
- Compared with White students, African American eighth graders are three times as likely to have a science teacher with a substandard license in his or her main subject (temporary, probationary, emergency, etc.).

### Resources

- Compared with White students, African American eighth graders are four times as likely to take science in a classroom with little or no access to a laboratory or running water.
- Compared with White students, African American eighth graders are much less likely to have a science teacher who gets most or all of the necessary classroom materials.

## African American/White Science Gap Widens as Students Progress Through Grades

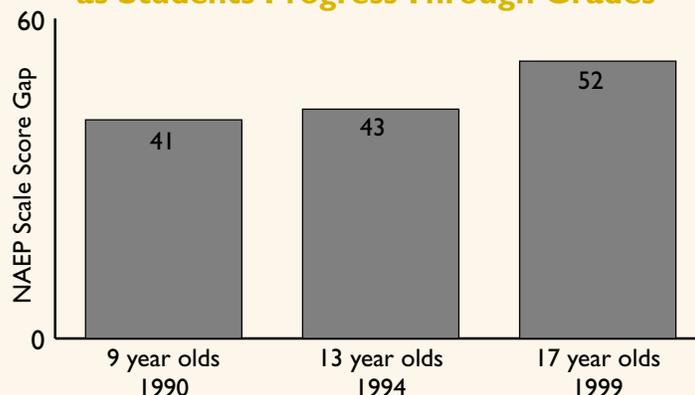
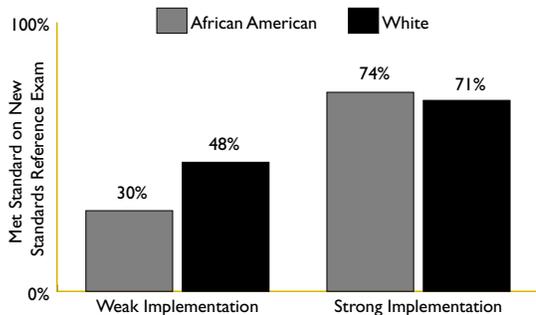


Chart 17

### Pittsburgh: High Implementation of Reform Strategies Wipes Out Math Skills Gap



Note: Chart compares students in schools with similar demographics.

Source: Briar and Resnick, CSE Technical Report 528, CRESST, UCLA, August 2000.

We have seen similar gains in districts using our Standards in Practice (SIP) professional development model. In Cincinnati, for example, schools with SIP teams significantly improved test scores in just one year—much higher than schools without teams, which posted little or no student gains.<sup>11</sup>

Findings like these make you wonder what would happen if, instead of always being at the end of the line for intensive, high quality professional development, teachers in high poverty and high minority schools were at the head of that line? It also makes you wonder what would happen if, instead of getting far less than their fair share of good teachers, underachieving children actually got *more*.

#### Lesson 5. Provide extra time and instruction for those who need it

There is now ample evidence that all children can achieve at high levels if they are taught at high levels. Contrary to conventional wisdom, simply putting students in more rigorous, college preparatory courses *will* improve achievement; the data are clear on that. But it is equally clear that for some students, passing the course—or the examination—will require more time and more instruction.

Around the country, states and communities are wrestling with how best to provide those extras. Kentucky does so by giving high-poverty

schools extra funds every year that they can use to extend instruction in whatever way works best in their community: before school, after school, weekends or summers. Maryland has an ambitious new plan that provides a wide range of assistance to students who are not on track to pass its new high school graduation test. And San Diego, California, created more time mostly within the regular school day, by doubling, even tripling, the instructional time for low-performing students to develop literacy and mathematics skills. They also provided high-quality training to all of their teachers.

The San Diego example is particularly noteworthy. What they are saying is essentially this: If students enter their middle or high school years well behind in reading or math, rather than create a lower level path through high school for them, they will create what Phil Daro calls an “on-ramp” to the higher curriculum by dropping almost everything else and really concentrating on building those critical skills.

The core idea in these states and communities is straightforward: *high challenge* and *high support*. Those of us from communities that have not yet stepped forward to build such support structures need to step forward NOW to assure that they are put in place and done right.

#### Lesson 6. It’s time to ante up

If we’re going to cut through all of these barriers in the time we—and, for that matter, the system—have left, we need help from those outside of education. And we must not be afraid to begin engaging them even if we can’t be sure of where they’ll land. So reach out. Share the data. Share what research says matters most. Raise your voice, even if these things make you a little nervous.

But while we raise our voices on these necessary action steps, we must also raise our voices about the shameful fiscal inequities that lie at the roots of some—although not all—of the opportunity gaps in high poverty and high minority schools and districts.

In preparing the latest *Education Watch*, we commissioned a new analysis of state and local

education dollars. Unlike most such analyses, which look at fiscal inequities regardless of who is enrolled, we looked at differences in revenues between districts with high- and low-concentrations of poor and minority students.

Our analysis reveals substantial funding inequities in most states. In 42 out of 49 states studied, school districts with the greatest numbers of poor children have less money to spend per student than districts with the fewest poor children. In fact, the national gap between the high- and low-poverty districts was \$1,139 per student.

These gaps have real consequences for the quality of education low-income children can receive. In North Dakota, the state with the *smallest* gap, the \$32-per-student difference translates into \$12,800 for an elementary school of 400 students, enough to pay for a part-time reading specialist or buy 1,000 new books for the school library!

At the other extreme, the \$2,794-per-student gap in New York state translates into a whopping \$1,117,600 for a 400-student elementary school, enough to compete with elite suburban schools for the most qualified teachers on the labor market and also provide extra instructional time for students who are behind (Chart 18).

Our analysis also revealed how funding disparities affect minority students. Nationally, the gap between the quarter of districts with the highest and lowest minority enrollments is \$979. Thirty-one states have such gaps (Chart 19).

We are not among those who argue that schools and districts can't do anything to change until they get more money. In fact, we explicitly reject that argument. That said, these differences are shameful, educationally significant, and downright un-American. If states are truly committed to closing the gaps between groups, they must close the gaps in funding as well.

## Toward New Frontiers

We could say that the 1990s were a lost opportunity. The progress we were making toward closing the gap between groups of

Chart 18

### Poor Children Receive Fewer Dollars: U.S. and States with Biggest Gaps

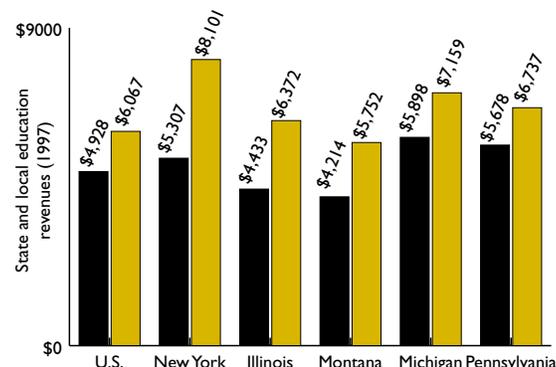
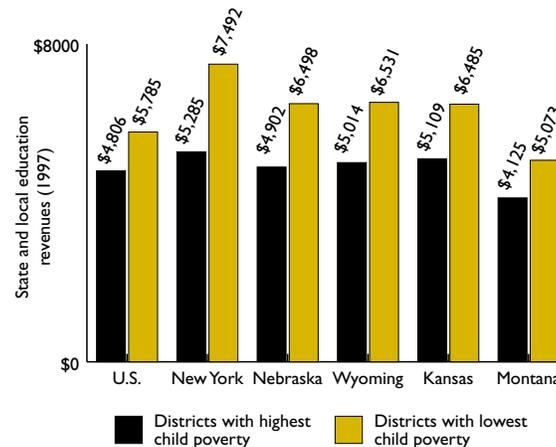


Chart 19

### Minority Students Receive Fewer Dollars: U.S. and States with Biggest Gaps



Note: Charts revenues per student in the quarter of districts that have the highest child poverty rates or minority enrollments with revenues per student in the quarter of districts that have the lowest child poverty rates or minority enrollments. Dollar figures have been adjusted to reflect student needs and geographic cost differences.

Source: The Education Trust. Analysis of federal data conducted by Greg F. Orloffsky.

students suddenly stopped. To many, we appeared to hit a logjam—one created by a myth about who can learn and who can't, and perpetuated by a bad fit between solution and problem.

But we could just as easily say that the lessons learned during the 1990s give us new direction and hope for the new century. Even though we failed as a country to narrow the achievement gap, actual student scores increased among most groups in many subjects, particularly mathematics. Moreover, the national averages concealed the enormous successes of individual states,

districts and schools that saw an opportunity where others saw only obstacles. These states and communities define the current frontier of school reform. They are proving that all students, and especially poor and minority students, will learn and meet high standards of performance when given the chance.

The frontier states show the rest of us what is doable right now. Out of their experiences, we now know that standards must be high and apply to all, and they should be aligned with good assessments. We need accountability mechanisms that cast a spotlight on achievement by race, ethnicity and poverty so our failure to teach some kids can no longer be hidden. We must make sure every child has the benefit of a challenging curriculum and teachers qualified to teach it. We must provide extra time and

support to students and their teachers. And we must allocate funds where they are most needed.

It's a big job. Not only are the gaps between racial and income groups large and, in some cases, growing, we have a widening gulf between the high-achievers and the low-achievers, suggesting that we haven't yet mustered the will to reach the neediest students no matter what color they are.<sup>12</sup> The frontier states have their work cut out for them, too. They may be leading the pack, but they still have a long way to go before all their students are meeting standards.

But we can do it. In fact, the data are so compelling that we propose a new mantra to launch the new century:

Close the gap by 2010.

It's a goal within our reach.

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<sup>1</sup> National Center for Education Statistics, *NAEP 1999 Long-Term Trends*, U.S. Department of Education: Washington, D.C., 2000. Calculations by the Education Trust.

<sup>2</sup> U.S. Bureau of Census, "October Current Population Survey 1998" in National Center for Education Statistics, *The Condition of Education*, U.S. Department of Education: Washington, D.C., 2000, p.149.

<sup>3</sup> U.S. Bureau of Census, *Current Populations Reports: Educational Attainment in the United States*, U.S. Bureau of Census: Washington, D.C., March 1998.

<sup>4</sup> Mortenson, Tom, Research Seminar on Public Policy Analysis of Opportunity for Post Secondary, 1997.

<sup>5</sup> For example, the 1998 Who's Who Among American High School Students annual survey reported that fewer than 3 in 10 students found their schools to be "very academically rigorous." The Metropolitan Life Survey of the American Teacher 2000 shows a large difference between what students aspire to after high school and what teachers think they will do: 71% of students expected to attend college while only 32% of their teachers expected them to.

<sup>6</sup> Office of Educational Research and Improvement, "What Do Student Grades Mean? Differences Across Schools," Educational Research Report (p. 3), U.S. Department of Education: Washington, D.C., January 1994

<sup>7</sup> Adelman, Clifford, "Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment?" U.S. Department of Education: Washington, D.C., June 1999.

<sup>8</sup> U.S. Department of Education, National Center for Education Statistics, *Vocational Course-Taking and Achievement: An Analysis of High School Transcripts and 1990 NAEP Assessment Scores*, U.S. Department of Education: Washington, D.C., May 1995.

<sup>9</sup> For a synthesis of effective teacher research see Haycock, Kati, "Good Teaching Matters," *Thinking K-16*, The Education Trust, Washington D.C.: Summer 1998.

<sup>10</sup> Ingersoll, Richard M., "The Problem of Out-of-Field Teaching," *Kappan*, Phi Delta Kappa: Bloomington, IN, June 1998, p. 773.

<sup>11</sup> Cincinnati Public Schools, "Standards in Practice Program: Evaluation of First Year Program Results," November 2000.

<sup>12</sup> Barton, Paul E. "Raising Achievement and Reducing Gaps: Reporting Progress Toward Goals for Academic Achievement," National Education Goals Panel: Washington, D.C., March 2001.

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PLEASE NOTE: For calculations and technical notes, please see our *Definitions and Sources* online.

*National Assessment of Educational Progress (NAEP)* All data were all obtained online through National Center for Education Statistics using the NAEP Summary Data Tables (Washington, D.C.: U.S. Department of Education): <http://nces.ed.gov/nationsreportcard/TABLES/SDTTOOL.HTM>

*Postsecondary Education Opportunity, August 2000.* Calculations by Tom Mortenson. (Oskaloosa, IA: Thomas Mortenson, 2000). For more information, go to the Postsecondary Education OPPORTUNITY website at: <http://www.postsecondary.org/>

*1993-94 Schools and Staffing Survey*, (Washington, D.C.: National Center for Education Statistics, U.S. Department of Education). Calculations by Richard Ingersoll, University of Pennsylvania, published by the Education Trust, *Thinking K-16* (Washington, D.C.: The Education Trust, Summer 1998)

*State and Local Revenues of School Districts, by Child Poverty and Student Minority Status*—Calculations conducted for the Education Trust by Greg F. Orlofsky, using a database constructed for the purpose from the data sources described below:

- *Adjusted school district revenues: F-33 Annual Survey of Local Government Finances, 1997, Data Files*, (Washington, DC, U.S. Census Bureau, 2000)
- *Minority students by district: Common Core of Data School Years 1993-94 through 1997-98 CD-ROM*, (Washington D.C.: National Center for Education Statistics, U.S. Department of Education, December 1999)
- *Children in poverty by district: Small Area Income and Poverty Estimates: School District Estimates*, (Washington, DC, U.S. Census Bureau, 2000)

*Early Estimates of Public Elementary and Secondary Education Statistics: School Year 1999-2000* (Washington, D.C.: National Center for Education Statistics, U.S. Department of Education, June 2000).

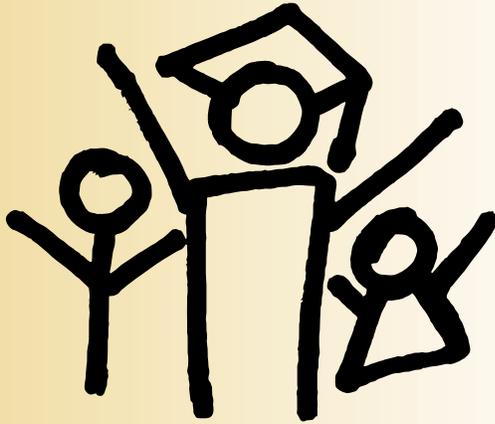
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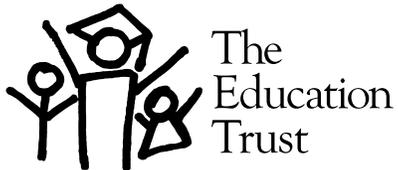
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