

Breaking the Glass Ceiling of Achievement for Low-Income Students and Students of Color

MAY 2013



The Education Trust

TO THE POINT

- ▶ Gaps between student groups at the below basic level of performance have narrowed over time, while gaps at the advanced level of performance have widened.
- ▶ Gap-widening between white students and students of color at the advanced level is more pronounced among higher income groups.
- ▶ Educators looking to close gaps, must:
 - ▶ Set meaningful goals for students at different levels
 - ▶ Raise the bar for all students
 - ▶ Mine every source of data for signals
 - ▶ Identify and attend to the gaps between groups

If we are going to close
America's long-standing gaps in
achievement, we need not only to
bring up our low-performing low
income students and students of
color, but also to accelerate our
middle and higher performers to
even higher levels of achievement.



Calling Attention to Gaps at the High End of Achievement

For as long as I can remember, I have worked with Latino and black colleagues who are smarter and much better educated than I am. So I have never had reason to doubt the capacity of children who look like them, including those who are growing up in low-income families, to achieve at the highest levels with the right instruction and support.

And certainly, every year brings new evidence that my colleagues aren't unique.

Perfect SAT scores, 5's on AP exams, top honors at highly selective universities, distinguished teaching awards, prestigious positions in the nation's best law and medical schools: Talented blacks, Latinos, and American Indians have taken their rightful places in these lofty ranks, and more.

But as I journey around the country talking with educators working hard on "closing the achievement gap," I have come to realize that the top tiers of achievement are not the goal that most educators have in mind. Indeed, their work is mostly at the other end of the achievement spectrum: bringing the bottom kids up.

Improving the knowledge and skills of our lowest performing students is hugely important, and I will never suggest otherwise. Far too many children — disproportionate numbers of low-income students and students of color among them, but many white students as well — have such low reading and mathematics skills that they will be forever locked out of decent jobs and full participation in our democracy if we don't do something different, and do it fast.

We will, however, never close the achievement gaps that many are so committed to closing if we focus only on bringing the bottom students up. Simple mathematics makes that clear. If we are going to get these gaps behind us, once and for all, we have to bring our middle-achieving low-income students and students of color higher, and move our higher-end students higher still.

In fact, if full racial equality is our goal, getting more black, Latino, and American-Indian students into the highest reaches of achievement — the top 25 percent or top 10 percent — is especially important. This is where many local and national leaders — in government, business, and the nonprofit sector — are drawn from. And having leaders who look like the country is crucial, especially to children looking toward their own futures.

So with this report — and a series of reports to follow — we want to help draw attention and action to gaps at the high end.

This first report provides a high level overview of what the data tell us about progress and gaps at both the low end and the high end. The next in the series looks at one of our most important high school-level strategies for producing high-end achievement — Advanced Placement and International Baccalaureate courses — probing gaps in opportunity there and highlighting strategies that some schools are using to close those gaps.

But we don't intend to stop here. Over the next few years, we intend to do our part as an organization to shine a light on what the data tell us about patterns at the high end and share what we can learn from the practitioners who are working on this problem.

Kati Haycock, President, The Education Trust

Breaking the Glass Ceiling of Achievement for Low-Income Students and Students of Color

BY MARNI BROMBERG AND CHRISTINA THEOKAS

Ask Elmont Memorial High School Principal John Capozzi about achievement gaps at his school, and he'll talk about getting his mostly African-American and Latino student body not just above the floor of New York's performance and accountability standards, but through the roof. In 2005, he said:

"You look at, 'Oh wow, 88 percent Regents diplomas!' But when you look at the data, we only had 31 percent advanced Regents diplomas, which is ok, but we need to push it to 40 percent. We need to set goals to get this up. You know, why should a minority school only be at 31 percent? I don't want to feed into that."

And he didn't. By 2011, Elmont High School had far surpassed Capozzi's original goal, with 47 percent of its graduates receiving the "advanced" designation, compared with only 38 percent of graduates statewide. The same year, Elmont boasted a graduation rate of 94 percent, far outstripping the state's 74 percent.

For nearly two decades, closing the achievement gap has been a focus of educators and policymakers nationwide. To date, efforts have often focused on the lowest performing students, those most in need of immediate attention. And that laser-like focus has paid off. In fourth-grade math, for example, the share of students in the "below basic" category on the National Assessment of Educational Progress (NAEP) has declined by roughly 25 percent since 2003. And while all groups of students have made progress, progress has been especially positive for students of color and low-income students. As a result, gaps at the below basic level have narrowed substantially.

But as Elmont Principal Capozzi reminds us, we'll never close gaps with solely a bottom-up strategy. If we are going to close America's long-standing gaps in achievement, we need not only to bring up our low-performing low-income students and students of color, but also to accelerate our middle and higher performers to even higher levels of achievement. In other words, we need to focus on students all along the achievement spectrum, including those near the high end.

Here, however, the data don't paint such an encouraging picture. Over the past decade, we've made progress as a country in getting more students to the "advanced" level of performance, but almost all of this progress has occurred

among white and higher income students. Moreover, research indicates that we do not do a good job of helping those students of color who start school as high performers to continue at that level of performance as they progress through school.² We've prided ourselves on being a land of opportunity where all children can excel, but we've only delivered excellence to some.

At a time when low-income students and students of color together make up more than half of our young people, we can't afford this loss of talent. In the pages and charts that follow, we explore patterns at the low and high end of the achievement spectrum in detail, sounding a call to action for educators and policymakers alike to take action to raise achievement and close gaps at all performance levels.

MEASURING ACHIEVEMENT

Typically, achievement gaps between groups of students are measured as either differences in average scores or differences in proficiency rates. But, practitioners, policymakers, and researchers have long recognized that these approaches don't tell the whole story. (*See sidebar: What's the policy context?*) Average scores, for example, are good at summarizing trends but can mask real differences in the range of student performance. Proficiency rates, on the other hand, measure the percentage of students that exceed a predetermined standard of performance, but don't convey much about students above or below that standard. In this report, we dig underneath the averages and proficiency rate data to take a deeper look at where we currently stand.

NAEP results allow us to examine national trends in student achievement, providing consistent assessment data biannually and across states. NAEP is an ideal measure for our analyses because the proficiency standards are higher than most state standards, making analysis of advanced performance a true indicator of exemplary achievement. Also, unlike state assessments, NAEP is not tied to state accountability systems, providing little incentive to manipulate scores.

For this paper, we examine national, public school trends from 2003-2011 in fourth and eighth grades in reading and math. Twelfth-grade results run on a different assessment cycle and are presented here separately. We analyze achievement patterns for low-income and higher income students, using free and reduced-price lunch as a proxy for family income, as well as for

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students of color and white students. We spotlight achievement gaps in: 1) the percent of students in the below basic and advanced performance categories; and 2) the achievement of the top and bottom 10 percent of students in each racial/ethnic and income group. (See Appendix A for a detailed description of these measures.) We also examine trends separately for low-income black, Hispanic, and white students versus higher income black, Hispanic, and white students. We describe results that are statistically significant. Some data, on the surface, may seem different or denote progress, but we rely on significance tests to determine if the changes are truly different.

The charts included in the body of the report utilize fourth-grade math as the primary example across analyses. Other tables are included to summarize results, and examples of other grades and subjects are included to demonstrate patterns.

What progress have we made in closing gaps and getting students to advanced performance levels?

Proficiency level trends followed a fairly uniform pattern between 2003 and 2011 in both reading and mathematics for grades four and eight.

Low End: Percent Below Basic

Let's walk through fourth-grade math results to see what happened (Figure 1a). In 2003, 46 percent of black students and 38 percent of Hispanic students performed at the below basic level. By 2011, both of these percentages had dropped by more than 10 percentage points, resulting in 34 percent of black students and 28 percent of Hispanic students remaining at this level.

Meanwhile, white students also moved out of the below basic category. In 2003, 13 percent of white students performed at this level, whereas only 9 percent did so in 2011, representing a 4 percentage point decline. Because black and Hispanic students made more progress than white students, gaps at this level narrowed; the size of the black-white gap declined by 8 percentage points, and the size of the Hispanic-white gap declined by 7 percentage points.³

Also, both students eligible for free or reduced-price lunch and their more advantaged peers made progress moving out of the below basic category in fourth-grade math. In 2003, 38 percent of low-income students were at below basic, compared to only 27 percent in 2011; the percent of higher income students moving out of below basic also fell from 12 to 8 percent. Again, because low-income students made more progress than higher income students, the gap declined by 6 percentage points between 2003 and 2011.⁴

This is significant progress. Still, black, Hispanic, and low-income students were more than three times as likely as their peers to perform within the lowest achievement category in 2011.

This progress and gap-closing pattern at the below basic level was not unique to fourth-grade math. For example, in eighth-

WHAT'S THE POLICY CONTEXT?

The past 10 years have taught us much about goal-setting and accountability. It has become clear to policymakers and educators alike that creating accountability systems that simply set a floor for performance may accelerate change for students struggling the most, but fall short of driving achievement and gap-closing beyond that floor. However, two state-led reforms are charting a new direction for schools.

First, 45 states and the District of Columbia have adopted the Common Core State Standards in an effort to raise academic expectations for all students. Designed to narrow the wide variation in standards and rigor across states, the Common Core defines a rigorous and uniform set of standards for learning.

The other reform bringing big change is the No Child Left Behind waiver. Thirty-two states and the District of Columbia are currently implementing waivers, which afford them some flexibility from the law, particularly in the areas of goal-setting and accountability.

Taking advantage of this flexibility, some state waiver plans aim to move students to higher levels of excellence:

- Massachusetts is creating targets for increasing the percentage of students reaching advanced.
- Kentucky is incorporating a system of "bonus" points for schools with more students at the highest level of achievement than at the lowest.
- Several states — including Florida and Indiana — now include measures of AP course participation and success in their definitions of career and college readiness.
- Other states are creating systems that measure growth among low- or high-achievers, attempting to avoid systems that treat these groups of students as the same.

Together, these reforms will help raise the bar for all students, illuminating and addressing gaps at the high end of the achievement distribution, while encouraging strategies to advance students at all incoming levels of achievement.

WHAT ARE THE DEMANDS FOR ADVANCED PERFORMANCE?

The distinction between proficient and advanced is an important one, with advanced representing a greater degree of critical thinking and an ability to communicate, generalize, and explain answers, which seems indicative of the kind of deep understanding we would want to foster in all students. And, a substantial proportion of students appear to desire more challenging work in school. According to a National Assessment of Educational Progress (NAEP) survey, 37 percent of fourth-grade students, 29 percent of eighth-grade students, and 21 percent of 12th-grade students think their math work is too easy.¹

In part, the student perception that schoolwork is too easy could reflect a misunderstanding among adults about what constitutes excellence. Without a sound understanding of what “advanced” looks like, educators may have a difficult time holding students to truly high expectations. Below is a table describing skills at the advanced level in fourth, eighth, and 12th-grade math.

1. U. Boser and L. Rosenthal, “Do Schools Challenge Our Students? What Student Surveys Tell Us About the State of Education in the U.S.” (Washington, D.C.: Center for American Progress, 2012). In 12th grade, 23 percent of low-income students felt their math work was too easy, compared with only 19 percent of higher income students

4th grade	8th grade	12th grade										
Description												
<p>Students can:</p> <p>Solve complex and non-routine, real-world problems</p> <p>Display mastery of four-function calculators, rulers, and geometric shapes</p> <p>Draw logical conclusions and justify answers and processes</p> <p>Venture beyond the obvious in their interpretations</p> <p>Communicate their thoughts clearly and concisely.</p>	<p>Students can:</p> <p>Probe examples and counterexamples to make generalizations</p> <p>Use number sense and geometric awareness to consider the reasonableness of an answer</p> <p>Use abstract thinking to create unique problem-solving techniques and explain the reasoning underlying their conclusions.</p>	<p>Students can:</p> <p>Integrate knowledge to solve, justify, and explain complex problems</p> <p>Analyze and justify mathematical arguments clearly</p> <p>Describe intersections of geometric figures in two and three dimensions, and use vectors to represent velocity and direction</p> <p>Describe the impact of linear transformations and outliers on measures of central tendency and variability, analyze predictions based on multiple data sets, and apply probability and statistical reasoning in more complex problems</p> <p>Solve or interpret systems of inequalities and formulate a model for a complex situation (e.g., exponential growth and decay) and make inferences or predictions.</p>										
Sample question												
<p>Every 30 minutes, Dr. Kim recorded the number of bacteria in a test tube.</p> <table><tr><th>Time</th><th>Number of Bacteria</th></tr><tr><td>1:00 P.M.</td><td>600</td></tr><tr><td>1:30 P.M.</td><td>1,190</td></tr><tr><td>2:00 P.M.</td><td>2,390</td></tr><tr><td>2:30 P.M.</td><td>4,800</td></tr></table> <p>Which best describes what happened to the number of bacteria every 30 minutes?</p> <p>A. The number of bacteria increased by 500.</p> <p>B. The number of bacteria increased by 1,000.</p> <p>C. The number of bacteria doubled.</p> <p>D. The number of bacteria tripled.</p> <p>34% of 4th-grade students could answer this correctly.</p>	Time	Number of Bacteria	1:00 P.M.	600	1:30 P.M.	1,190	2:00 P.M.	2,390	2:30 P.M.	4,800	<p>Dianne found the torn piece of paper shown below.</p> <div></div> <p>Six numbers originally appeared in a column on this paper. The fourth number from the top of the column had been completely torn away. Dianne wondered whether the sum of the six numbers was odd or even.</p> <p>Give an example of a number that could be the fourth number in the column if the sum of the six numbers is an odd number.</p> <p>Explain why you chose that number.</p> <p>23% of 8th-grade students could answer this correctly.</p>	<div></div> <p>The pulse rate per minute of a group of 100 adults is displayed in the histogram above. For example, five adults have a pulse rate from 40-49 inclusive. Based on these data, how many individuals from a comparable group of 40 adults would be expected to have a pulse rate of 80 or above?</p> <p>11% of 12th-grade students could answer this correctly.</p>
Time	Number of Bacteria											
1:00 P.M.	600											
1:30 P.M.	1,190											
2:00 P.M.	2,390											
2:30 P.M.	4,800											

Source: NAEP Item Maps, NCES website: <http://nces.ed.gov/nationsreportcard/itemmaps/>

grade reading, the percentage of black students at the below basic level declined from 47 percent to 42 percent; the progress for Hispanic students was even greater, 46 percent to 37 percent from 2003-2011. White students also made progress, but their rate of change was slower: 18 percent to 16 percent over the same time period. The gaps, therefore, declined by 3 percentage points between black and white students and 7 percentage points between Hispanic and white students.

In both subjects for fourth and eighth grades, nearly all gaps between white students and students of color and between low-income and higher income students narrowed significantly over time at the below basic level.⁵ (See Appendix B for a summary of results.)

High End: Percent Advanced

Let's now turn to the high end of the achievement spectrum — the advanced level. (See sidebar: *What are the demands for advanced performance?*) Returning to fourth-grade math, we see progress only for white and higher income students. Five percent of white students scored at the advanced level in fourth-grade math in 2003; by 2011, 9 percent did so. Meanwhile, the percentage of black students scoring at advanced flat-lined at about 1 percent;⁶ across most years, Hispanic students remained at 1 percent, jumping to 2 percent only in 2011 (Figure 1b). Here, because white students made more progress than black and Hispanic students, gaps widened significantly.

Essentially the same pattern occurred with low and high-income students at the advanced level in fourth-grade math. The percent of low-income students reaching advanced increased by only 1 percentage point between 2003 and 2011, from 1 to 2 percent. Meanwhile, the percent of higher income students reaching advanced increased by 5 percentage points, from 6 to 12 percent.⁷ So, gaps also widened between these two groups.

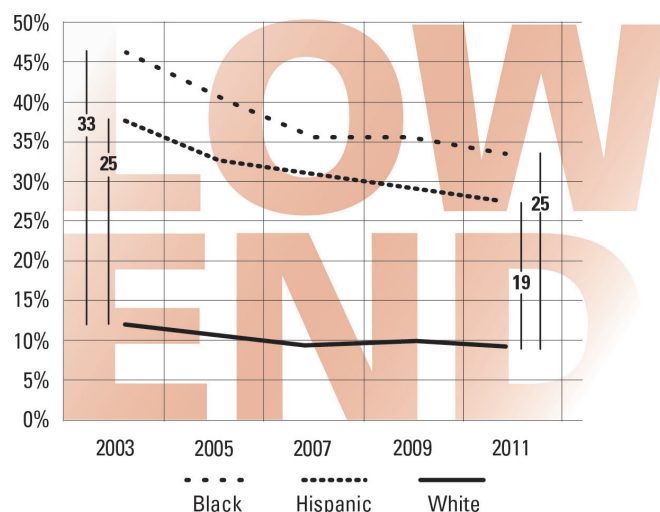
The resulting gaps were consequential — and they add up: about 1 in 10 white and higher income fourth-graders reached advanced in math in 2011.⁸ Yet only 1 in 50 Hispanic and low-income fourth-graders and 1 in 100 black fourth-graders did so.

In eighth-grade math, gaps at the advanced level also widened significantly between white students and students of color and between low- and higher income students. For example, the percent of white students reaching advanced increased by 4 percentage points, while the share of black and Hispanic students reaching advanced only increased by about a percentage point.

This gap-widening trend at the advanced level also occurred in fourth- and eighth-grade reading, but only between lower and higher income students, not between students of color and white students. In fourth-grade reading, for example, the percent of higher income students reaching advanced grew from 11 to 13 percent, while the percent of low-income students reaching advanced did not budge from 2 percent over the eight-year period.

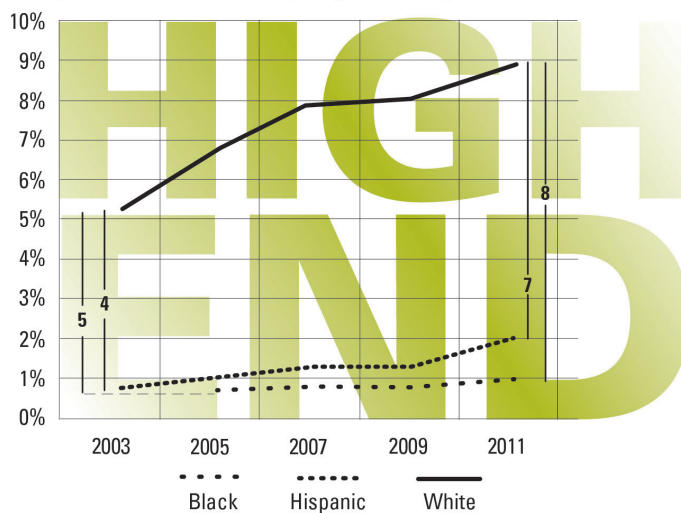
Gaps narrow at below basic, widen at advanced.

Figure 1a: Percent below basic, 4th-grade math, public school students



Note: The numbers along the vertical lines correspond to the size of the gaps in 2003 and 2011 (in percentage points).

Figure 1b: Percent advanced, 4th-grade math, public school students



Notes: The numbers along the vertical lines correspond to the size of the gaps in 2003 and 2011 (in percentage points). The percent of black students reaching advanced in 2003 in fourth-grade math rounded to zero.

How does family income influence gaps between white students and students of color?

Often the gaps we see between racial/ethnic groups are thought to stem from underlying differences in family income, particularly since black and Hispanic students are more likely to come from low-income backgrounds than white students. Yet, we also know that not all students of color come from low-income families, nor do all white students come from affluent families. In order to better understand which students are making progress and at what points on the achievement continuum, we conducted an additional analysis to examine

racial/ethnic gaps separately for students who receive free and reduced-priced lunch and those who do not.

Certainly, eligibility for subsidized meals is not a perfect proxy for parental income; indeed, among both free and reduced-lunch-eligible and non-eligible students, black and Latino families are more likely to cluster lower on the income spectrum than white families. That said, this extra analytical step can be important in deepening our understanding of achievement trends.

Low End: Percent Below Basic, Race Gaps by Poverty Status

Let's go back to the fourth-grade math example and start by examining progress for *low-income* white, black, and Hispanic students at the below basic level from 2003-2011 (*Figure 2a, column 1*). Over half of low-income black students performed at the below basic level in 2003, but only 38 percent did so by 2011, representing a 13 percentage point decline. Over the same time, the percent of low-income white students performing at below basic decreased from 24 percent to 17 percent, representing a 7 percentage point decline. As a result, the gap between low-income black and white students narrowed from 28 percentage points to 21 percentage points, representing a 7 percentage point decline in the size of the gap.

When we examine the data for higher income students across the three racial/ethnic groups, we see similar progress (*Figure 2a, column 2*). About 30 percent of higher income black students were at the below basic level in 2003, while only 19 percent were at this level in 2011, an 11 percentage point decline. The percent of higher income white students at the below basic level also declined, but to a lesser extent (from 9 percent to 6 percent). As a result, the gap between higher income black and white students also declined by 7 percentage points between 2003 and 2011, resulting from faster progress among higher income black students.

Certainly this is important progress, but the challenge remains significant. **Higher income** black and Hispanic students remained about as likely to perform at below basic as **low-income** white students (*Figure 2a*). The 17 percent of low-income white students in this category matched the percentage of higher income Hispanic students, and an even larger percentage of higher income black students fell in the below basic category. These trends suggest that gaps between white students and students of color cannot be blithely assumed to be the result of low family income.

The same trends at the below basic level occurred in eighth-grade math. In 2003, 67 percent of low-income black students performed at below basic; by 2011, this percentage had declined by 12 percentage points, to 55 percent. Similarly, the percentage of low-income Hispanic students performing at this level declined from 58 to 44 percent, representing a 15 percentage point change.¹⁰ Over the same time, low-income white students also made progress; 37 percent of this group performed at the below basic level in 2003, but only 29 percent

did so in 2011, representing an 8 percentage point decline. As a result, the gap between low-income black and white students narrowed by 4 percentage points and the gap between low-income Hispanic and white students narrowed by 6 percentage points.¹¹

Meanwhile, higher income black and Hispanic students made more progress than higher income white students at the below basic level in eighth-grade math. The percent of higher income black students performing at below basic declined from 49 to 35 percent; the percent of higher income Hispanic students dropped from 41 to 28 percent; and the percent of higher income white students fell from 17 to 12 percent. So, gaps also narrowed among higher income black, Hispanic, and white students.

Still, higher income black students remained more likely than low-income white students to perform at below basic in eighth-grade math.

In fourth and eighth-grade reading, most below basic gaps narrowed, but a few remained unchanged over time. (*See Appendix B*).

High End: Percent Advanced, Race Gaps by Poverty Status

When we turn to patterns at the *high end*, we see very little progress for low-income students, regardless of race. But we still see the gaps widening. Using the fourth-grade math example, the percent of low-income white students reaching advanced in fourth-grade math increased from 2 percent to 3 percent between 2003 and 2011 (*Figure 2b, column 1*). Meanwhile, the percent of low-income Hispanic students reaching this level languished at 1 percent, and the percent of low-income black students reaching this level rounded to 0 in every year.¹² So, although low-income white students only made a tiny bit of progress, gaps widened significantly.

Among higher income students, there was more meaningful progress, but it was mostly limited to white students. Twelve percent of white students reached advanced in fourth-grade math in 2011, up from 7 percent in 2003 (*Figure 2b, column 2*). Although higher income black and Hispanic students also made progress, their progress was less pronounced, resulting in gap-widening at the advanced level. By 2011, only 3 and 5 percent of higher income black and Hispanic students reached advanced, up from 1 and 2 percent, respectively, in 2003.

Just as we saw at the below basic level, by 2011, higher income black students were no better off than low-income white students: The 3 percent of higher income black students reaching advanced matched the 3 percent of low-income white students meeting this standard.

In eighth-grade math, gap-widening was also pronounced among higher income students. The percentage of higher income white students reaching advanced increased from 8 to 13 percentage points from 2003 to 2011, representing a 6 percentage point increase.¹³ Meanwhile the percentage of both higher income black and Hispanic students reaching

Gap-widening between white students and students of color is more pronounced among higher income groups.

Figure 2a: Percent below basic, 4th-grade math, public school students

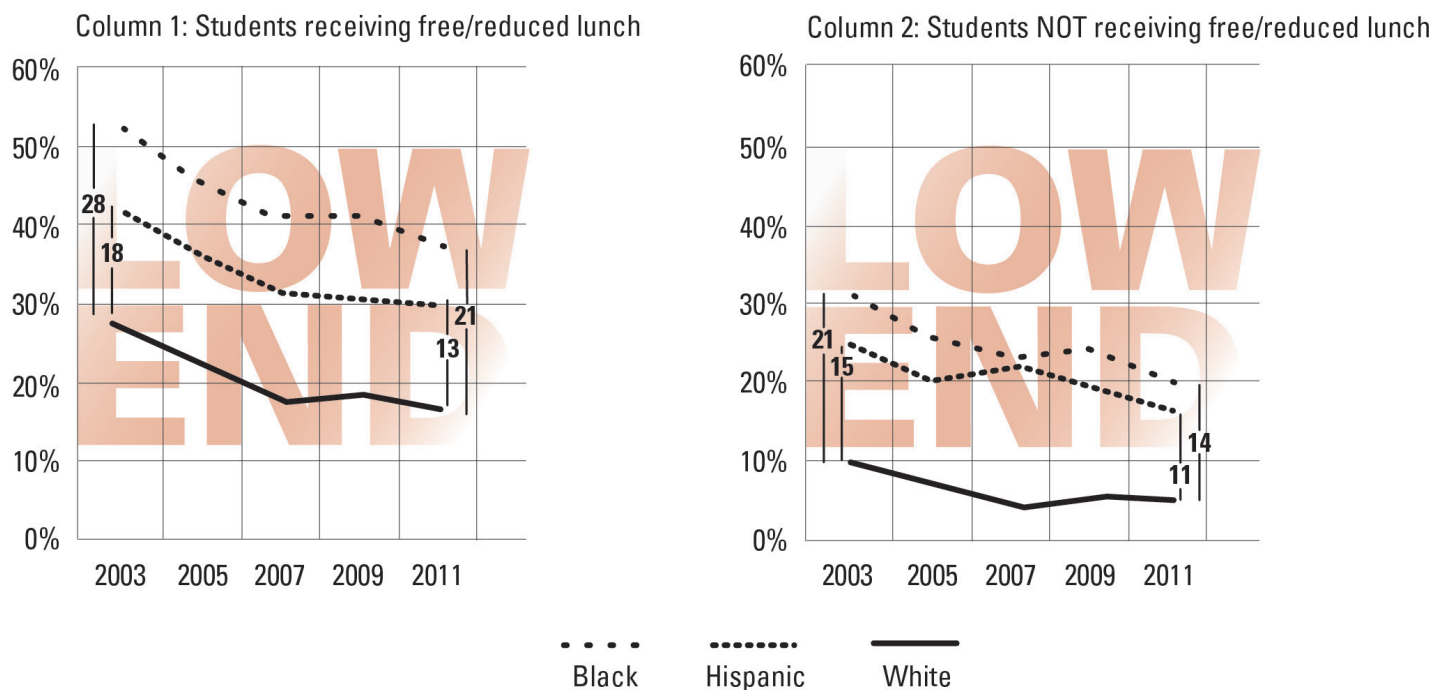
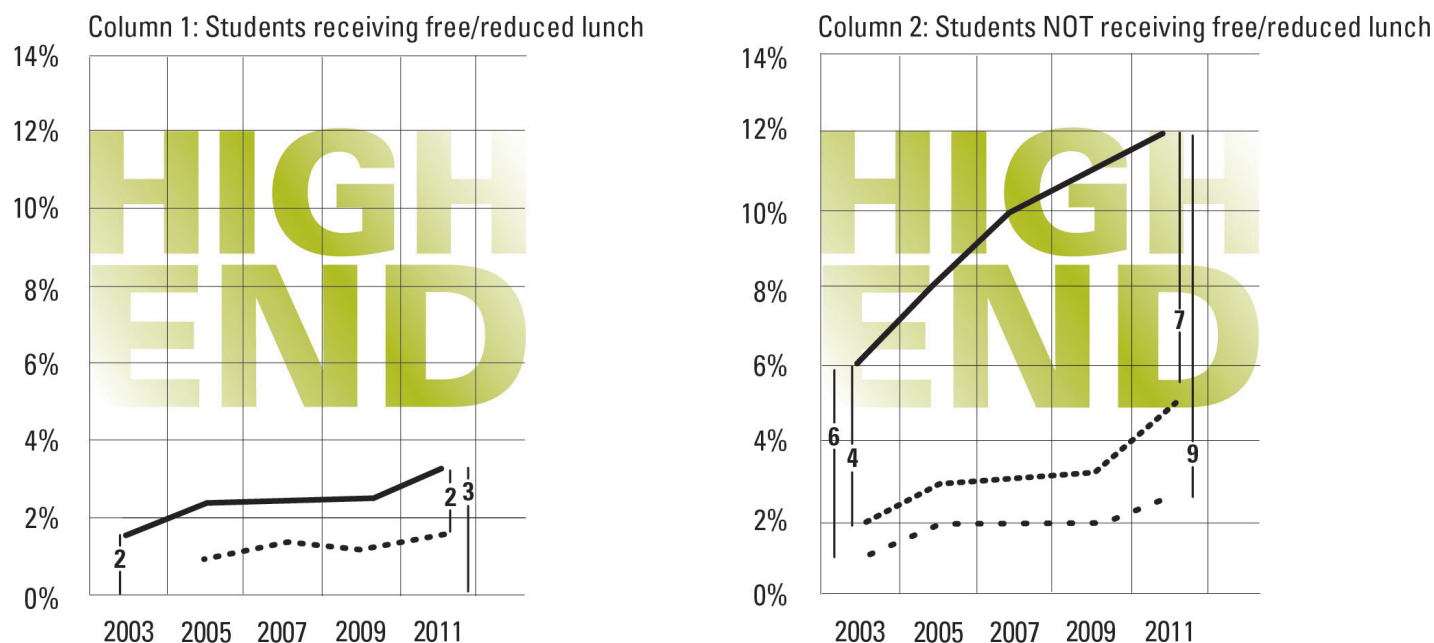


Figure 2b: Percent advanced, 4th-grade math, public school students



Notes: The percent of low-income, Hispanic students reaching advanced rounds to 0 in 2003, and the percent of low-income, black students reaching advanced rounds to 0 in every year. However, the gap between low-income white and Hispanic students grew from 1 to 2 percentage points between 2003 and 2011.

advanced increased by 2 percentage points, to 3 and 5 percent, respectively. Thus, gaps widened by 3 percentage points.¹⁴

Although gap-widening occurred between low-income black and white students at the advanced level in eighth-grade math, it was less pronounced (1 percentage point). Meanwhile, the gap between low-income Hispanic and white students remained steady.

Overall, the results suggest that a portion of the gap between white students and students of color might be related to low family income, yet large gaps exist even after splitting students into low-income and higher income groups. Moreover, just as we saw before accounting for family income, gaps at the below basic level have mostly narrowed over time, whereas gaps at the advanced level have widened, especially among higher income groups.

What do achievement gaps look like among low and high performers?

The proficiency rate data seem to suggest that we are making progress with our low-achieving, low-income students and students of color, but not so much with our high-achieving, low-income students and students of color. However, this could be an artifact of where proficiency bars are set, since proficiency rates, by definition, reflect the percent of students performing above or below a somewhat arbitrarily defined score. For example, in eighth-grade reading, students who score above a 323 are designated as advanced. In 2011, 4 percent of white students scored at this level, compared to only 1 percent of black and Hispanic students. However, if the advanced threshold were moved a point or two lower, we might see different results, especially if lots of black and Hispanic students were approaching this standard.

So we wanted to examine the data differently to find out whether the point at which proficiency levels are set might be influencing our conclusions. Instead of looking at progress at below basic and advanced, we examined progress and performance at the 10th percentile (the low end) and the 90th percentile (the high end) for each group.¹⁵ (*See Appendix A for a more in-depth description of this measure.*)

In the end, we were very glad we did that. Because it turns out, as we explain below, that black, Hispanic, and low-income students at the low end (10th percentile) and **also** the high end (90th percentile) **are making progress**. The progress is often similar in magnitude at the low and high ends, particularly in math. And, the progress of black and Hispanic students is often greater than their white counterparts, resulting in some significant gap-closing. At the high end, the problem is that high-achieving black, Hispanic, and low-income students *started* at a level much *lower* than that of white and higher income high achievers. Thus, even with these improvements, black, Hispanic, and low-income high achievers still remain far away from advanced performance.

To understand all of this, let's walk through the analysis step by step.

Progress at the Low End: 10th Percentile

At the low end (the 10th percentile), all groups of students have made progress. The other good news is that gaps have narrowed more often than not.

Using our fourth-grade math example to examine progress, 10th percentile performance has increased over time for all groups (*Figure 3*). Whereas the white student at the 10th percentile in 2003 received a score of 210, the white student at the 10th percentile in 2011 received a score of 215, representing a 5 point increase. Improvements among the black and Hispanic students at the 10th percentile over time were fairly similar: 7 and 6 points, respectively.

In fourth-grade math, this did not lead to significant gap-closing. However, in other grades and subjects, most low-end gaps did narrow significantly. For example, in eighth-grade math, the white student at 10th percentile in 2011 scored 6 points higher than the comparable student in 2003. The black and Hispanic students at the 10th percentile in 2011, on the other hand, scored 11 points higher than the comparable students in 2003. As a result, low-end gaps in eighth-grade math got significantly smaller over time.

Progress at the High End: 90th Percentile

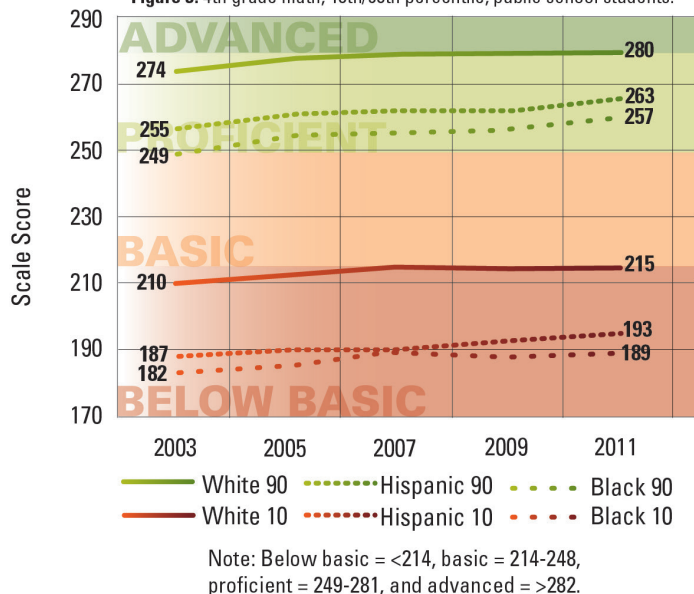
At the *high end*, like the low end, all student groups are making progress. And, whereas we see gap-widening at the advanced level, we see many instances of gap-narrowing when we examine high-end percentile trends. In fourth-grade math, the white student at the 90th percentile in 2011 scored 6 points higher than the 90th percentile white student in 2003; the 90th percentile black student's score increased by 9 points, and the 90th percentile Hispanic student's score increased by 7 points (*Figure 3*).¹⁶ Though these improvements are fairly similar in magnitude, the black-white gap narrowed significantly over time, while the Hispanic-white gap essentially remained unchanged.¹⁷

Another positive example of gap-narrowing at the high end occurred between students of color and white students in eighth-grade math. The score of the white student at the 90th percentile increased by 7 points between 2003 and 2011, from 327 to 334. Meanwhile, the score of the black student at the 90th percentile increased by 11 points over the same time, from 293 to 304. And, the respective Hispanic student score increased by 12 points, from 301 to 313. So, because the top 10 percent of black and Hispanic students made relatively more progress than the top 10 percent of white students, these gaps narrowed.

Overall, these trends are reassuring, as generally the highest achieving students in each group are performing at higher levels over time. The problem, however, becomes clear when we look at their starting points.

All groups have made progress at both the low and high ends

Figure 3: 4th grade math, 10th/90th percentile, public school students.



In fourth-grade math, for example, the 90th percentile score improves for each group over time. In 2003, the white student at the 90th percentile still fell squarely in the proficient category. But by 2011, the white student at the 90th percentile scores at the cusp of the advanced performance category, so it makes sense that nearly 10 percent of white students reach advanced in 2011. By contrast, in 2011, black and Hispanic students at the 90th percentile score in the middle of the proficient category. So, although these groups have made progress at the high end over time, this progress has not propelled more students into the highest category of performance (Figure 3).

Gaps in 2011

When we use 10th and 90th percentiles to examine performance over time, we see progress for all groups at both levels and some gap-narrowing. Now, we'll examine the gaps that exist at the end of 2003-to-2011 window. In 2011, we see that every group exhibits a wide range of performance. Nonetheless, wide gaps exist at both the low and high ends in every grade and subject.

At the *low end*, the lowest performing 10 percent of black, Hispanic, and low-income students score substantially below the lowest performing 10 percent of white and higher income students in 2011. For example, in fourth-grade math, the low-income student at the 10th percentile receives a score of 194 in 2011; this score is a full 25 points below the higher income student at the 10th percentile, who receives a score of 219 (Figure 4).

This pattern of large, low-end gaps holds for all grades and subjects. To provide another example, in eighth-grade reading, the low-income student at the 10th percentile receives a score

WHAT DOES THE RESEARCH SAY ABOUT LOW AND HIGH-END GAPS?

Other research has examined gaps at the low and high end, though researchers have generally approached this task by following the same group of students as they progress through school. From this research, we know that gaps between similarly performing white and black students grow over time, implying that dissimilar school experiences exacerbate gaps, rather than constrain them.

According to a nationally representative study, black students who start out as high-performing fall behind their white counterparts at twice the rate of black students who start out as low-performing.¹ A separate North Carolina study corroborates this gap growth between high-achieving white and black students in math.² ■

1. Sean Reardon, "Differential Growth in the Black-White Achievement Gap During Elementary School Among Initially High and Low Scoring Students," (Stanford, Calif.: Stanford University Institute for Research on Education Policy & Practice, 2008). Reardon uses ECLS-K data to examine achievement during first through 5th grade. High-performing is defined as scoring one standard deviation above the mean, whereas low-performing is one standard deviation below the mean.
2. C.T. Clotfelter, H. Ladd, and J.L. Vigdor. "The Academic Achievement Gap in Grades 3 to 8" (Cambridge, Mass.: National Bureau of Economic Research, 2006). The authors use within-group percentile scores as a relative measure of achievement in 3rd through 8th grade. In math, the gap between white and black students at the 90th percentile increases significantly as students progress through school. However, unlike the Reardon study, these authors find that the black-white low-end gap actually decreases as students progress through school.

of 208, which is 26 points below the higher income student at the 10th percentile, who receives a score of 235.¹⁸

Similarly, at the high end, the top 10 percent of black, Hispanic, and low-income students score substantially below the top 10 percent of white and higher income students. For example, in fourth-grade math, the low-income student at the 90th percentile receives a score of 263, which is 21 points below the analogous higher income student, who scores a 284 (Figure 4).

Percentile gaps can also provide information related to the relative size of low-end versus high-end gaps. When we compare low and high-end gaps using percentile scores, we see that gaps at the 10th percentile generally remain wider than gaps at the 90th percentile in fourth and eighth grades.

For example, the low-end gap between black and white students in fourth-grade math is 26 points, whereas the high-end gap between these groups is 23 points. Similarly, the Hispanic-white, low-end gap is 22 points, while the high-end gap is 18 points (Figure 5).¹⁹

TWELFTH-GRADE RESULTS

The 12th-grade NAEP runs on a different assessment cycle, so we have examined trends in 12th-grade math from 2005 to 2009 and in 12th-grade reading from 2002 to 2009. The primary difference between 12th-grade results and fourth and eighth-grade results is that, over the time period studied, proficiency rates have not changed very much in 12th grade, despite a small amount of progress at the below basic end of the achievement spectrum. Moreover, whereas fourth and eighth-grade 10th percentile gaps are larger than 90th percentile gaps in 2011, the opposite is true in 12th grade.

WHAT PROGRESS HAVE WE MADE CLOSING GAPS AND GETTING STUDENTS TO ADVANCED PERFORMANCE LEVELS?

Overall, although there has been some progress at 12th grade at the low end of the achievement spectrum, there has been no significant gap closing.

For example, in 12th-grade math, 62 percent of low-income students and 34 percent of higher income students performed at the below basic level in 2005. By 2009, those numbers had dropped to 55 and 29 percent respectively, demonstrating progress for both groups, but not yielding significant gap-closing.

The progress in reading at the below basic level has been smaller in magnitude and again similar for each group of students. The percent of black students at below basic declined from 48 to 44 percent, while the percent of Hispanic students dropped from 41 to 39. Meanwhile, the percent of white students at below basic declined from 22 to 20. For black and Hispanic students, these declines were not statistically significant. The declines for white students, however, were statistically significant, even though they were similar in magnitude.¹

When we examine trends at the high end in 12th grade, there has been very little progress overall and consequently, not much gap-closing or widening. In 12th-grade math, for example, roughly 3 percent of white and higher income students reached advanced in 2005 and 2009; so few students of color and low-income students reached this benchmark in math that estimates effectively rounded to zero.

But there is one instance of gap-widening: in 12th-grade reading between low-income and higher income students. Higher income students made a 2 percentage point improvement between 2002 and 2009 (from 5 to 7 percentage points), while the share of low-income students reaching advanced did not budge from 1.5 percent.

HOW DOES FAMILY INCOME INFLUENCE GAPS BETWEEN WHITE STUDENTS AND STUDENTS OF COLOR?

We just saw that 12th-grade gaps between white students and students of color did not change over the time period studied. When we account for family income, we again see that gaps did not change. Again, in 12th-grade math, some progress occurred at the below basic level, yet progress was similar for all groups, and no progress occurred at the advanced level.

For example, between 2005 and 2009, the percent of low-income white, black, and Hispanic students performing at below basic in 12th-grade math each declined by about 6 to 7 percentage points. So, gaps between low-income white students and low-income students of color did not change significantly.

The percentage of higher income black, Hispanic, and white students at below basic also declined. In fact, higher income black and Hispanic students made more progress than white students at the below basic level,

but this faster progress was not enough to constitute significant gap-closing.

At the advanced level, little to no change occurred for any group of students in 12th-grade math. For instance, the percent of low-income white students reaching advanced increased from 0 to a half a percent, while the percent of low-income black and Hispanic students reaching advanced rounded to 0 in both 2005 and 2009. Meanwhile, the percent of higher income white, black, and Hispanic students reaching advanced flat-lined at 3, 0, and 1 percent, respectively.

WHAT DO ACHIEVEMENT GAPS LOOK LIKE AMONG LOW AND HIGH PERFORMERS?

When we examine percentile trends in 12th grade, we see that all groups made progress at both the low and high ends. For example, black, white, and Hispanic students at the 10th percentile all increased their scores by 5 points in math. At the 90th percentile, more progress was made for black and Hispanic students (3 and 6 points, respectively) than for white students (2 points). Yet, no significant gap-closing occurred at either end.

Unlike fourth and eighth grades however, high-end gaps were generally larger than low-end gaps in 2009. For example, the gap between black and white students in 12th-grade math at the low end was 25 score points, compared to a 31-point gap at the high end (*Figure 7*).² Similarly, the Hispanic-white gap is 20 points at the 10th percentile and 22 points at the 90th percentile.

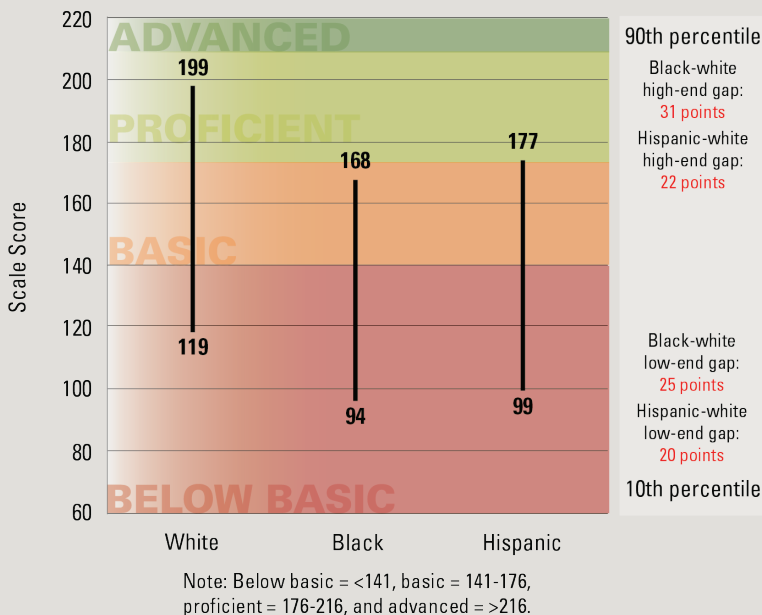
Because NAEP patterns could be affected by a wide range of factors, we do not know why this reverse trend occurs in 12th grade. However, we do know that students at the 10th percentile, regardless of group, score well below the basic threshold in 12th-grade math, and students of color at the 90th

percentile are not even at proficient. This low overall achievement and restricted range of performance may constrain gaps at the low end, with the lowest performing students nearing the bottom of the NAEP scale.

Meanwhile, the few, primarily advantaged students who do perform exceptionally well in 12th-grade math score well above their high-performing, less-advantaged peers, exacerbating the high-end gap. ■

1. This trend likely occurs because there are more white students than black or Hispanic students in the 12th-grade population, meaning there is more statistical power behind the 2 percentage point decline for white students. Nonetheless, gaps did not narrow significantly.
2. When race gaps are examined separately for students receiving free and reduced-priced lunch and those not receiving free and reduced-priced lunch, this trend does not always hold. For example, among non-poor students, race gaps in 12th-grade reading are similar at the top and bottom.

Figure 7: NAEP 10th percentile-90th percentile range, 12th grade math, by race, 2009



While this pattern is not quite as stark for all grades and subjects, it generally holds for fourth and eighth-grade reading and math, though there are some exceptions. (See Appendix B for a full summary of low and high-end gaps.)

For example, in eighth-grade math, the Hispanic student at the 10th percentile scores 26 points below the respective white student, while the Hispanic student at the 90th percentile scores 21 points below the respective white student. However, low-end and high-end gaps between black and white students are fairly comparable in eighth-grade math: The black-white gap at the 10th percentile is 31 points, while the black-white gap at the 90th percentile is 30 points (Figure 6).

Both low-end and high-end gaps are distressing. Yet the fact that low-end gaps often continue to be larger than high-end gaps substantiates a continued focus on our lowest-performing students, particularly students of color and low-income students who are not achieving even a basic level of proficiency. Without basic building block skills, these students will be increasingly shut out from opportunities as they progress through school and life.

WHAT CAN EDUCATORS DO TO CLOSE GAPS AT THE HIGH END?

The trends in this report reveal both significant progress and significant chasms remain at both ends of the achievement distribution. Clearly, it is vitally important that we continue — even accelerate — recent progress at the low end, working hard to make sure initially low-achieving students get the high-quality instruction and supports they need to meet standards. But if we want to close the gaps that have haunted us as a country for so long, we’ve got to make more and faster progress with students all along the achievement distribution. That includes high-achieving low-income students and students of color, who’ve made progress in recent years, but need to make much, much faster progress if they are to be proportionately represented at the advanced level of achievement.

Some schools are facing these inequities at all levels head-on and engaging in the tough work of closing gaps at the high end. Elmont High School, for example, led by Capozzi, simultaneously increased its graduation rate and the percent of its graduates attaining an advanced Regents diploma, pushing this high-minority school well past state benchmarks.

How did Elmont get from good to exceptional? “It’s a very goal-driven school,” Capozzi says. Here’s some of what they did:

- At the beginning of each school year, they examined their data and set goals to move all students up a proficiency level, and they aimed to move their lowest achieving students to proficiency.
- They examined incorrect answers on prior-year exams to identify students’ academic strengths and weaknesses, resulting in an individualized plan for every student. This

Figure 4: NAEP 10th percentile-90th percentile range, 4th grade math, by free/reduced lunch status, 2011

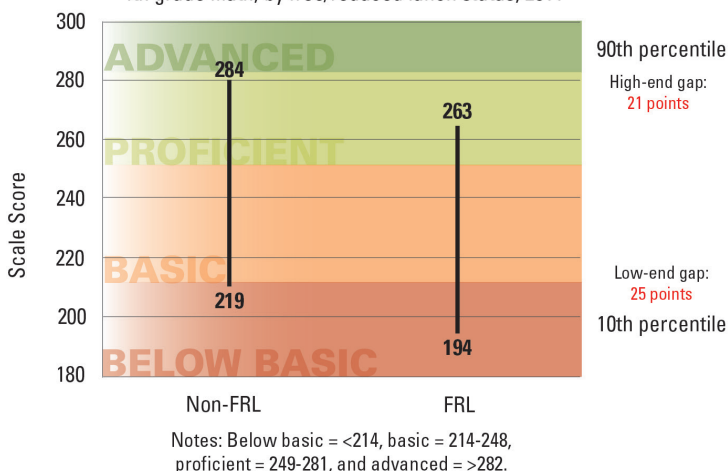


Figure 5: NAEP 10th percentile-90th percentile range, 4th grade math, by race, 2011

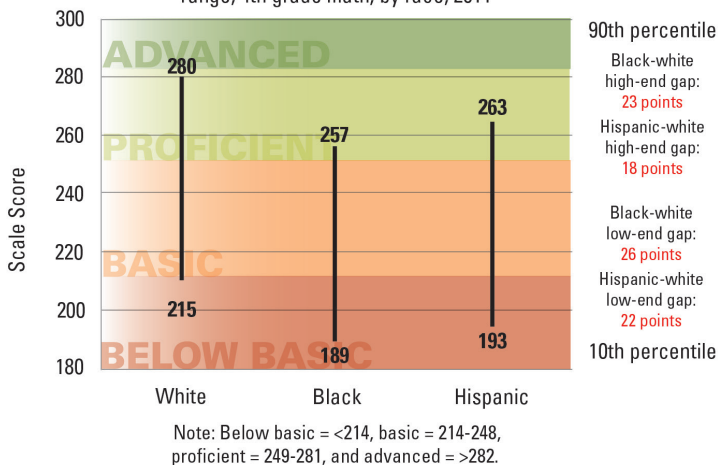
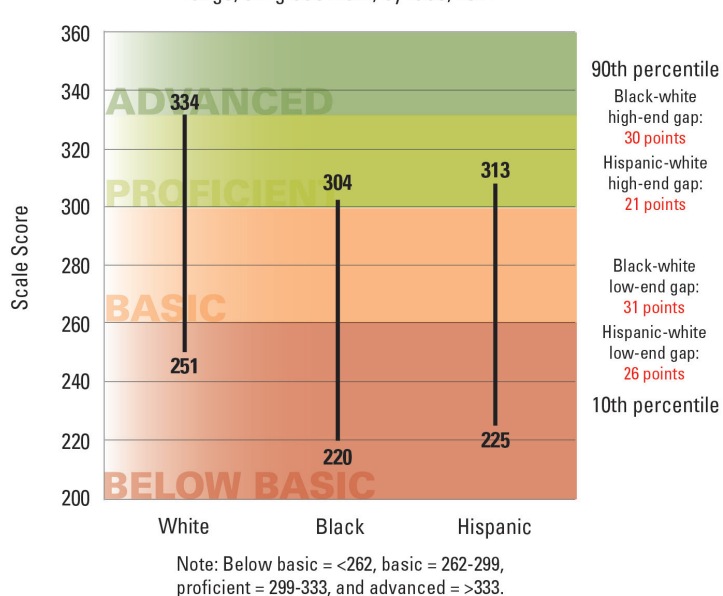


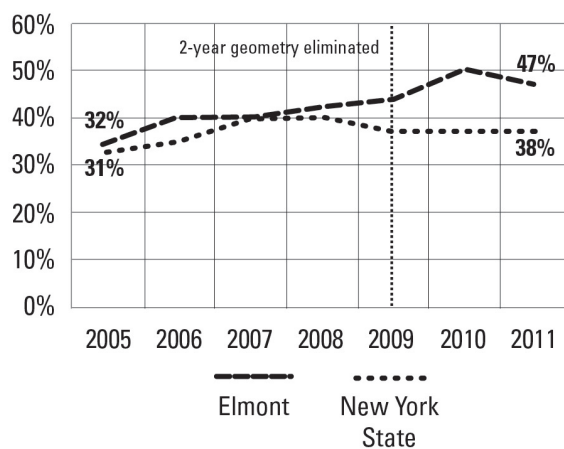
Figure 6: NAEP 10th percentile-90th percentile range, 8th grade math, by race, 2011



allowed teachers to fill in knowledge gaps and tailor their instruction toward their students' needs.

- They disaggregated data by teacher on an ongoing basis, allowing teachers to see whether students in particular classrooms were grasping subject-specific content better than others. And teachers collaborated with their colleagues to share the instructional practices that worked best.
- Capozzi eliminated the two-year-long geometry course that was a dumping ground for low-achieving students in 2009. Students who were being placed in this course were not ever reaching Algebra II/trigonometry, a requirement for the advanced diploma designation. If students failed the geometry Regents exam the first time around, they had an additional opportunity to take it after taking a geometry "topics" course their senior year. Following 2009, the percent of students graduating with advanced designation got a boost (*Figure 8*).

Figure 8: Percent of graduates receiving an advanced diploma, Elmont High School vs. New York State



Note: Data are from the New York Department of Education

Schools that are successfully narrowing gaps along the achievement spectrum, like Elmont, could provide a model for gap-closing approaches in other places. At Elmont, it took courage to look at their data and reflect on why their students of color weren't doing as well as they should. But once they had that information, there was no stopping them.

CONCLUSION

Good leaders like John Capozzi know that this work is about more than just proficiency targets. "Every child has to be college ready. ... If you're not challenging the kids at the upper end, or even in the middle, you're really doing them a disservice."

Achievement gaps do not exist because students of color and low-income students are uniformly low-achieving, and white and higher income students are uniformly high-achieving. Rather, the data show that each racial and socioeconomic group demonstrates a range of achievement. Unfortunately, gaps between students of color and white students and between low-income and higher income students exist all along the continuum.

While concerted efforts over the past several years have resulted in progress at the low end, moving students out of below basic and inching up the level of the 10th-percentile student, our work is not done here. Nor are we paying nearly enough attention to those students caught in the middle of the spectrum who are out of the academic red zone, but still far from advanced performance. And, although we have made progress at the high end for all students, a lot more, and faster, progress is needed, particularly with our students of color and low-income students so they are equally represented at the advanced level of performance.

Principal Capozzi would be the first to tell you: Gap-closing is difficult. But, in order to disrupt long-entrenched patterns of underachievement and inequity, we must understand those patterns. Our data show that we're not very good at getting students of color and low-income students to reach advanced performance levels. Even so, gaps at the low end remain larger than gaps at the high end in elementary and middle grades. This pattern affirms that in too many places we still have a lot of work to do to ensure students are being given the opportunity to learn, not to mention excel. This need not be in conflict with raising the bar and moving more students to proficient and advanced. It is not an either/or proposition, but rather about meeting students where they are while having the same goals of excellence for all of our students. A true gap-closing approach must focus on gaps at all levels, simultaneously building capacity to support low-performing students while challenging students who are ready to go further faster.

Individual schools are doing this. We need to expand this knowledge base so that others can apply the lessons to more students. What we do know, however, is that to tackle this problem, practitioners everywhere must: 1) set meaningful goals for students at different levels; 2) raise the bar for all students; 3) mine every source of data for signals; and 4) identify and attend to the gaps between groups. Although these priorities are an enormous undertaking, when pursued together, they form a comprehensive approach to addressing equity and excellence in our nation's classrooms.

Principal Capozzi says, "We understand that there's an achievement gap here. ... but we have to work harder to close it, to maintain our high academic achievement." Educators, communities, and policymakers must exhibit this same resolve in order to foster the potential of all learners, while leveling the playing field for all groups. ■

NOTES

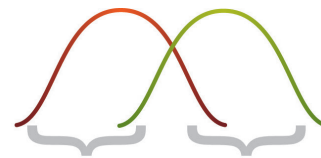
1. Interview with Brooke Haycock, artist-in-residence at The Education Trust, 2005.
2. Sean Reardon, "Differential Growth in the Black-White Achievement Gap During Elementary School Among Initially High and Low Scoring Students," Working paper 2008-07 (Stanford, Calif.: Stanford University, Institute for Research on Education Policy & Practice, 2008).
3. The 7 percentage point decline in the size of the Hispanic-white gap in fourth-grade math results from rounding. Initially, white students were 25.3 percentage points less likely to perform at the below basic level than Hispanic students, but by 2011, they were 18.5 percentage points less likely. Therefore, the change in gap size is 6.8.
4. The decline in the gap rounds to 6 percentage points. Although it appears that the percent of low-income students at below basic declines by 11 percentage points, the magnitude of the decline is actually slightly under 10.5 percentage points when decimal places are considered. Because higher income students experience about a 4.4 percentage point decline at the below basic level, the change in gap size is 6 percentage points.
5. There is one exception. In fourth-grade reading, the gap between low-income and higher income students at the below basic level did not *significantly* narrow over time.
6. In fact, the percent of black students scoring at advanced in 2003 rounded to 0 percent. This means that between 0 and 0.5 percent of black students actually scored at advanced. In 2005, the next year that we observe, 0.6 percent of black students scored at advanced, which rounds to 1 percent.
7. The 5 percentage point change results from rounding. The percent of higher income students reaching advanced actually increased from 6.11 to 11.56.
8. More precisely, about 1 in 11 white fourth-grade students and 1 in 8 higher-income fourth-grade students reached advanced in 2011.
9. The 15 percentage point decline results from rounding. In fact, the percent of low-income Hispanic students performing at below basic dropped from 58.3 percent to 43.8 percent.
10. The 6 percentage point decline is the result of rounding.
11. The percent of low-income Hispanic students reaching advanced in fourth-grade math in 2003 actually rounded to 0. By 2005, it increased to 0.7 percent and remained at about 1 percent until 2011.
12. The 6 percentage point change is the result of rounding. In fact, 7.8 percent of higher income white students reached advanced in 2003, while 13.4 did so in 2011.
13. NAEP scale scores in fourth and eighth-grade reading and math and 12th-grade reading range from 0 to 500. In 12th-grade math, they range from 0 to 300. So, 10th and 90th percentile scores fall within these ranges.
14. In Figure 3, the black student at the 90th percentile in 2003 scores a 249, whereas the black student in 2011 scores a 257. The increase over time seems like it should equal 8 points, but it actually rounds to 9. Similarly, the Hispanic student at the 90th percentile in 2003 scores a 255, whereas the comparable student in 2011 scores a 263. Again, because of rounding, this represents a 7 point increase.
15. NAEP scale scores in fourth- and eighth-grade reading and math and 12th-grade reading range from 0 to 500. In 12th-grade math, they range from 0 to 300. So, 10th and 90th percentile scores fall within these ranges.
16. In Figure 3, the black student at the 90th percentile in 2003 scores a 249, whereas the black student in 2011 scores a 257. The increase over time seems like it should equal 8 points, but it actually rounds to 9. Similarly, the Hispanic student at the 90th percentile in 2003 scores a 255, whereas the comparable student in 2011 scores a 263. Again, because of rounding, this represents a 7 point increase.
17. The Hispanic-white gap did not change significantly, meaning the slight narrowing could have resulted from chance.
18. The 26 point difference results from rounding.
19. The 18 point difference results from rounding.

Appendix A: NAEP indicators that measure low and high-end achievement

Proficiency Levels



Percentile Scores



What we are measuring	The percent of students in each subgroup at two discrete levels of proficiency: below basic and advanced. To measure gaps, we examine the difference between the percent of each subgroup performing at each proficiency level.	The 10th and 90th percentile score for each subgroup. To measure gaps, we examine the difference in scores at the 10th and 90th percentiles.
Type of measure	Criterion Based: Student achievement is compared against a predetermined standard of performance. For instance, the “proficient” student in 4th grade math should be able to solve real-world problems across content areas, whereas the “advanced” student should be able to solve <i>complex</i> and <i>non-routine</i> real-world problems.	Relative: Percentile scores describe the distribution of achievement. Student scores are rank ordered and placed into equal groups, such as the bottom 10 percent. If we assume that academic capacity across subgroups is similar, we would expect similar achievement scores across groups at a given percentile.
Relevance	The percent of students performing at “below basic” provides an estimate of the size of the low-performing population, whereas the percent of students performing at “advanced” provides an estimate of the size of the high-performing population. If higher percentages of black, Hispanic, and poor students are performing at the below basic level than white and non-poor students, achievement gaps exist at the low end. If the opposite is true at the advanced level, achievement gaps also exist at the high end. Because the achievement standards remain constant across NAEP cycles, gaps can be examined over time.	Gaps at the 10th percentile represent the difference between the lowest achieving 10 percent of students in each subgroup. And gaps at the 90th percentile represent the difference between the highest achieving 10 percent of students in each subgroup. These scale score differences allow for comparisons of low-end gaps versus high-end gaps. Moreover, the scale scores at the 10th and 90th percentiles also correspond to discrete proficiency levels, since proficiency levels are based on cut points. By superimposing the achievement level framework over the 10th and 90th percentile scores for each group, we can better understand the context for what these gaps mean for students.
Drawbacks	<p>Proficiency levels are based on somewhat arbitrary cut points, which fail to meaningfully differentiate between students near the cusp. For example, in fourth-grade math, the cut score for the proficient level is 249, yet students earning a 248 are probably not so different from students earning a 250.¹</p> <p>Because a smaller percentage of students score at the advanced level than at the below basic level, proficiency scores do not permit the comparison of gaps among low achievers to gaps among high achievers.</p>	Because percentile scores are a relative measure, they implicitly communicate that low achievement and high achievement mean different things for different groups, rather than upholding the same achievement standard for all students. In other words, the use of these measures may condone an inconsistent ascription of the terms “high achieving” or “low achieving” to different groups of students.

Appendix B: Data Summary

Trends in gap sizes at the below basic and advanced levels (2003-2011)

Key		< = Gap has narrowed significantly over time	> = Gap has widened significantly over time	n = Gap has not changed significantly over time	x = Significance test could not be conducted.
GAP		MATH		READING	
		Below Basic	Adv.	Below Basic	Adv.
4th Grade	FRL-non-FRL	<	>	n	>
	Black-white	<	>	<	n
	Hispanic-white	<	>	<	n
	Poor, black-white	<	>	<	n
	Poor, Hispanic-white	<	>	n	n
	Non-poor, black-white	<	>	<	n
	Non-poor, Hispanic-white	<	>	<	n
8th grade	FRL-non-FRL	<	>	<	>
	Black-white	<	>	<	n
	Hispanic-white	<	>	<	n
	Poor, black-white	<	>	n	n
	Poor, Hispanic-white	<	n	<	n
	Non-poor, black-white	<	>	n	n
	Non-poor, Hispanic-white	<	>	<	n
12th Grade Math 2005-2009, Reading 2002-2009	FRL-non-FRL	n	x	n	>
	Black-white	n	n	n	n
	Hispanic-white	n	n	n	n
	Poor, black-white	n	x	n	x
	Poor, Hispanic-white	n	x	n	x
	Non-poor, black-white	n	n	n	n
	Non-poor, Hispanic-white	n	n	n	n

Note: The above chart shows whether gaps in each grade and subject have significantly narrowed (green cells), significantly widened (red cells), or remained unchanged (grey cells) between 2003 and 2011 (with the exception of grade 12). Cells contain the letter x when a significance test could not be performed. Significance tests were conducted using the NAEP Data Explorer on the NCES website. Note that this chart does not summarize the amount of improvement (or decline) that each student group has exhibited. In fact, gap narrowing could result from 1) improvement among the reference group only, 2) improvement among both groups, or 3) decline among the poorer performing group. However, in general, gap-narrowing at the below basic level has resulted from movement to higher levels among both groups, but substantially more movement among traditionally disadvantaged groups. At the advanced level, gap-widening has resulted from improvement among the reference group and stagnation or slower progress among the traditionally disadvantaged group. Finally, the “basic” and “proficient” categories have been omitted from this chart because changes in gap size at these levels generally reflect changes in the top and bottom categories.

Scale score gaps at the 10th and 90th percentiles, math and reading

		MATH		READING	
GAP		10th perc.	90th perc.	10th perc.	90th perc.
4th Grade (2011)	FRL-non-FRL	25	21	33	24
	Black-white	26	23	28	22
	Hispanic-white	22	18	29	20
	Poor, black-white	17	16	16	14
	Poor, Hispanic-white	13	10	17	12
	Non-poor, black-white	21	16	20	12
	Non-poor, Hispanic-white	18	12	22	11
8th Grade (2011)	FRL-non-FRL	27	26	26	21
	Black-white	31	30	26	23
	Hispanic-white	26	21	24	19
	Poor, black-white	21	19	17	15
	Poor, Hispanic-white	16	9	15	11
	Non-poor, black-white	27	23	21	17
	Non-poor, Hispanic-white	23	15	17	11
12th Grade (2009)	FRL-non-FRL	18	24	19	21
	Black-white	25	31	25	27
	Hispanic-white	20	22	20	22
	Poor, black-white	18	20	14	19
	Poor, Hispanic-white	12	9	11	14
	Non-poor, black-white	22	26	25	24
	Non-poor, Hispanic-white	19	19	18	18

Note: Values represent the difference between the scale scores of each group at the 10th and 90th percentiles. Scale scores on NAEP assessments range from zero to 500, with the exception of the 12th-grade math assessment, which ranges from zero to 300.

ABOUT THE EDUCATION TRUST

The Education Trust promotes high academic achievement for all students at all levels — pre-kindergarten through college. We work alongside parents, educators, and community and business leaders across the country in transforming schools and colleges into institutions that serve all students well. Lessons learned in these efforts, together with unflinching data analyses, shape our state and national policy agendas. Our goal is to close the gaps in opportunity and achievement that consign far too many young people — especially those who are black, Latino, American Indian, or from low-income families — to lives on the margins of the American mainstream.

SHATTERING EXPECTATIONS

ABOUT THIS SERIES

In this series, we will be producing reports focused on shattering the glass ceiling of achievement that has existed for far too long for our low-income students and students of color. In our next report, we dive deep into high school course-taking and examine AP and IB participation rates between and within schools. Another forthcoming report will examine Career and Technical Education (CTE) course-taking, analyzing whether taking these courses has an “opportunity cost” — that is, whether it precludes low-income students and students of color from taking a rigorous academic course load. In general, papers in this series will focus on strategies for increasing excellence and rigor in our schools, while also attending to equity.



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