

# Achievement Gaps: PAST AND PRESENT

Paul E. Barton

The gaps remain large and persistent, and many of the 14 related factors are beyond the ability of schools to control.

## IN BRIEF

This article examines the nature of minority achievement gaps, how they are measured, and how they narrowed in the 1980s due to the influence of Head Start and Title I. Based on extensive research, the author cites 14 factors that impact achievement of minority students.

**S**tudent achievement gaps among racial and ethnic groups are large and persistent. They mirror gaps in life and school conditions that have been found to be closely related to cognitive development and school achievement. The road to parity begins with understanding the nature of the gaps and their trends.





# 14 Factors that Affect Achievement

One way the size of the gap has been illustrated, using National Assessment of Educational Progress (NAEP) scores, is that the average eighth-grade minority students score about the same as the average white fourth graders. By “mapping” NAEP items on the achievement scale, a clearer picture of the differences emerge:

■ In mathematics, the average black fourth grader is likely to be able to “subtract whole numbers with regrouping”; the average Hispanic fourth grader can “identify cylindrical shapes and measuring instruments”; and the considerably higher-scoring white fourth grader can “represent a situation algebraically.”

■ Four years later, when the same students are in the eighth grade, the black student is likely to be able to “round decimals to the nearest whole numbers”; the Hispanic student can use “multiplication to solve problems”; and the white student can “use a pattern to draw a path on a grid.”

■ The contrasts in reading are similar. For example, while the average black and Hispanic fourth grader can “recognize a story type as an adventure,” the average white fourth grader can “use story evidence to support opinion about a character” (Coley 2003).

## Three Decades of Achievement Gaps

In the traditional way of looking at achievement gaps over time—comparing students in one grade with students in the same grade in prior years—NAEP has shown persistent gaps since its beginning more than three decades ago. However, the gaps were even larger from around 1970 to the mid-1980s, when there was a significant reduction in the gaps that has remained about the same since then, although some ground was lost in the 1990s (Na-

### In School:

- The rigor of the curriculum;
- The extent of teacher preparation in the subject matter being taught;
- The amount of teachers’ experience;
- Class size;
- The availability of technology-assisted instruction;
- Safety in school.

### Before and Beyond School:

- Parent participation;
- How often students changed schools;
- Weight at birth;
- Lead poisoning;
- Hunger and nutrition;
- Reading to young children;
- Excessive television watching;
- Having two parents in the home (Barton 2003).

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tional Center for Education Statistics 2000). In the case of reading, the NAEP report for 1984 cited the reasons for the improvement:

*Children born in 1964 through 1967 entered school at the end of the 1960s or in the early 1970s: a time when Head Start was reaching disadvantaged preschoolers, when enrollments in pre-primary programs generally were on the rise... and when Title I programs of the Elementary and Secondary Education Act were reaching disadvantaged children in the early grades.*

Another way to use the NAEP data is to look at the *growth* in scores. NAEP samples fourth graders and samples them again four years later as eighth graders. Looking at trends in these growth scores, we find that minority students grew over the four-year period

at about the same amount as the majority students. There was no growth gap. What this means is that the large gap was already there when students were tested in the fourth grade, and that it was simply carried forward. From what we know now, the gaps were surely there even earlier, when they first entered school.

## Why Do Gaps Persist?

We have documented large and persistent achievement gaps over the last couple of decades. What do we know about their origins and what contributes to their persistence? To find answers to these

questions, I looked to relevant research performed over the last several decades. The results were reported in *Parsing the Achievement Gap: Baselines for Tracking Progress* (Barton 2003).

Fourteen factors related to cognitive development and academic achievement were identified, starting from birth (*see box*). Six are related to school; eight to the home and outside environment. The next step was to see if available statistical data for each factor would permit comparison on the basis of race and ethnicity. It turned out that data were available in all 14 cases, and the results showed that minority students were disadvantaged relative to white students on the things that make a difference in school achievement.

For example, the rate of lead poisoning, which has been found to seriously impede cognitive development, was much higher for minority students than for white students. In other comparisons, minority students also were more likely to be taught by teachers with less preparation in a particular subject, and less likely to be read to by their parents.

The available research provides no way to compare the effects between school and non-school factors, or to determine how much ground can be made up on one front that was lost on



## Are you open to a different approach?

"Last year, I was in my 13th year of teaching middle school math and was my county's *Teacher of the Year*; yet I was contemplating a different occupation. As I implemented the *Raise Responsibility System*, some misbehaviors stopped the instant students reflected. Good students rose to even higher levels of maturity. Students felt more relaxed and less in conflict with me. I am now less stressed and am helping students make permanent changes, rather than temporary behavior modifications. I will not return to the 'carrot and stick' approach which almost drove me from the profession that I love."

William A. Funkhouser - Eureka, CA  
2003-2004 Humboldt County Teacher of the Year - Johns Hopkins Educational Fellow

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another. Many of the conditions, such as birth weight and lead poisoning, are out of the principal's control, although others, such as parent involvement and reading to young children at home, can be encouraged.

But the principal does have varying degrees of control over six of the factors, and moving to address them will help reduce or significantly eliminate achievement gaps. Most important is the need for a broad understanding—by educators, families, communities, and legislators—of these factors and the many fronts on which the effort to close achievement gaps must be made. ■

#### References

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**"In...comparing students in one grade with students in the same grade in prior years, NAEP has shown persistent gaps since its beginning more than three decades ago."**

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#### WEB RESOURCES

The Educational Testing Service (ETS) provides the complete text of its 2003 report, *Growth in School Revisited: Achievement Gains from the Fourth to the Eighth Grade*. [www.ets.org/research/pic/growth2.pdf](http://www.ets.org/research/pic/growth2.pdf)

The North Central Regional Educational Laboratory offers a report, *All Students Reaching the Top: Strategies for Closing Academic Achievement Gaps*, focusing on the need for simultaneous intervention by families, teachers, administrators, and society. [www.ncrel.org/gap/studies/allstudents.pdf](http://www.ncrel.org/gap/studies/allstudents.pdf)

The United Nations Children's Fund (UNICEF) in a 2002 report found wide achievement gaps between students in some of the world's richest nations. [www.unicef.org/newsline/02pr68innocenti.htm](http://www.unicef.org/newsline/02pr68innocenti.htm)

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