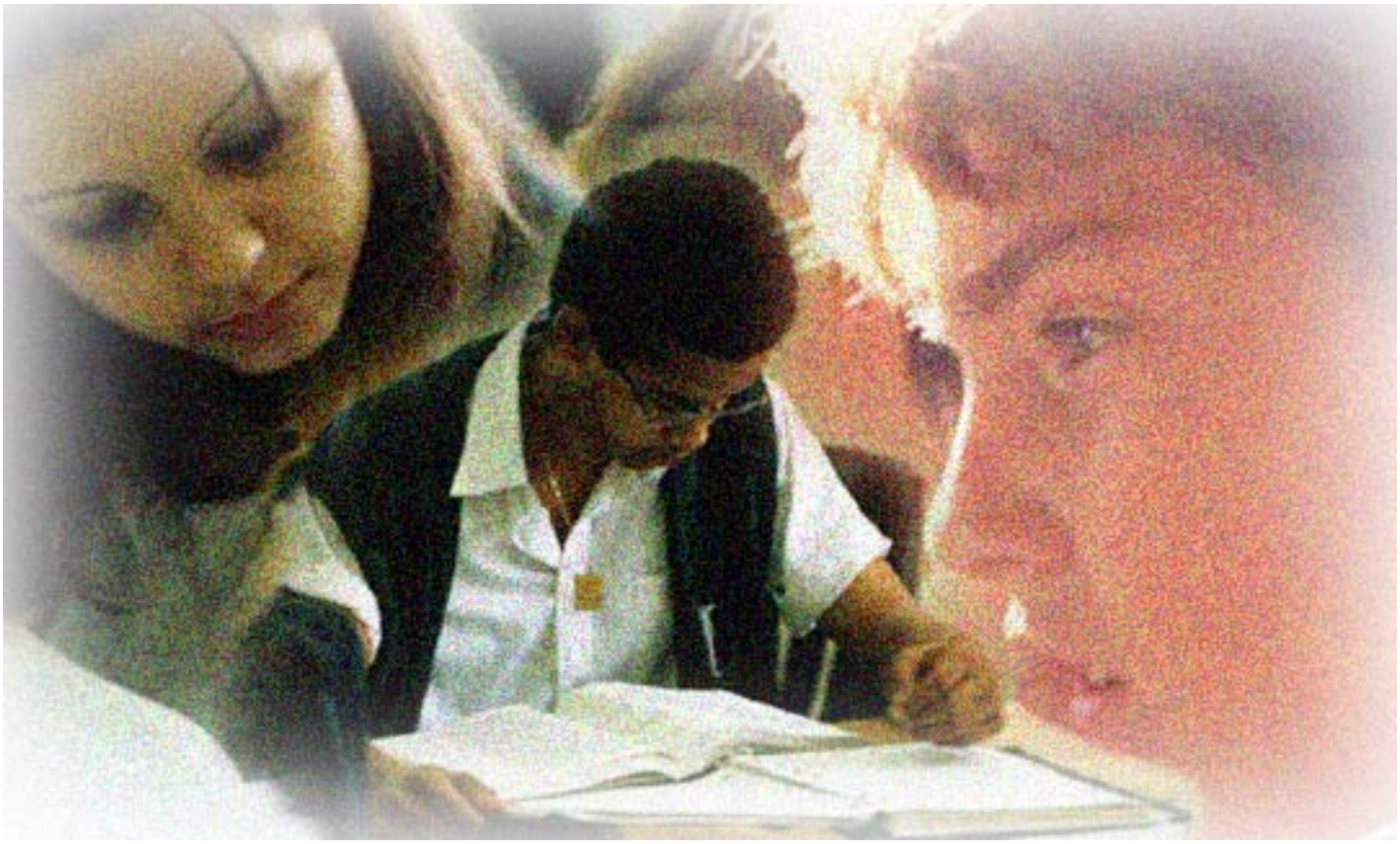
# Education Watch

# VIRGINIA

## *Key Education Facts and Figures*

Achievement, Attainment and Opportunity
From Elementary School through College



Prepared by the Education Trust, Inc.

Spring 2004

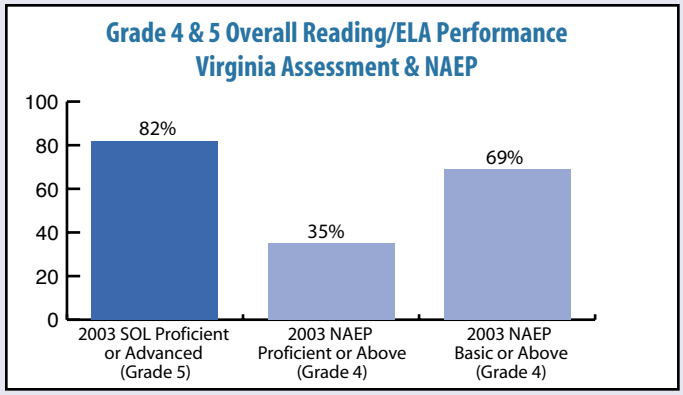
# Achievement

## Virginia Elementary Reading Achievement

Perhaps the most important task of elementary schools is to teach students to read well. Strong reading skills are the key to later success both in school and in life.

The following charts compare your state's reading performance on the most recent administrations of the state assessment and on the National Assessment of Educational Progress (NAEP). Results are reported below as the proportion of students reading at the "proficient" level or the state-defined equivalent.

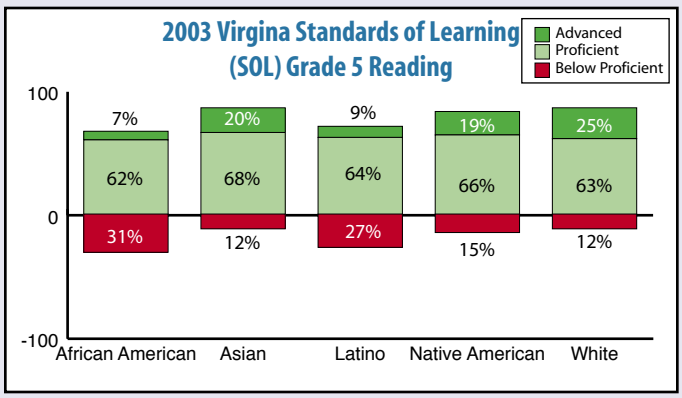
## Are students proficient in reading?

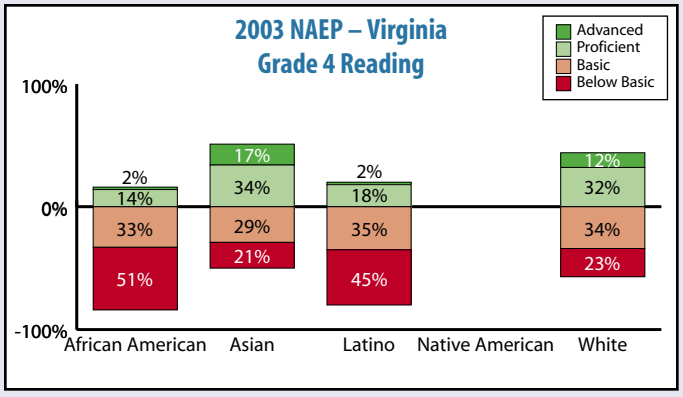



The bar on the left shows the percentage of students scoring at or above the proficient level, or state equivalent, on the state's elementary reading/ELA assessment. The bar on the right shows the percentage of your state's fourth-graders performing at above or proficient on the NAEP in reading. Comparing the two is one way to gain perspective on the level and rigor of the state's assessment.

## Do results vary by group?

It's also important to look underneath overall averages to see how different groups of students are performing. By looking at achievement data by group, states can draw attention to the students who need the most help. The charts below show the distance each group has to go in order to reach the proficient level on the state assessment and on NAEP.




## Is NAEP performance improving?

### Grade 4 Reading

| | NAEP Scale Score | | Change from 1998-2003 | |
|---|---|---|---|---|
| | 1998 | 2003 | State Change | Biggest Gainers |
| African American | 199 | 206 | 7 | 22 (DE) |
| Asian | 218 | 235 | 17 | 19 (MA) |
| Latino | 207 | 210 | 3 | 33 (DE) |
| Native American | N/A | N/A | N/A | 8 (AZ) |
| White | 225 | 231 | 6 | 15 (DE) |
| All | 217 | 223 | 6 | 17 (DE) |

Note: A difference of 10 points is roughly equivalent to one year's worth of learning.

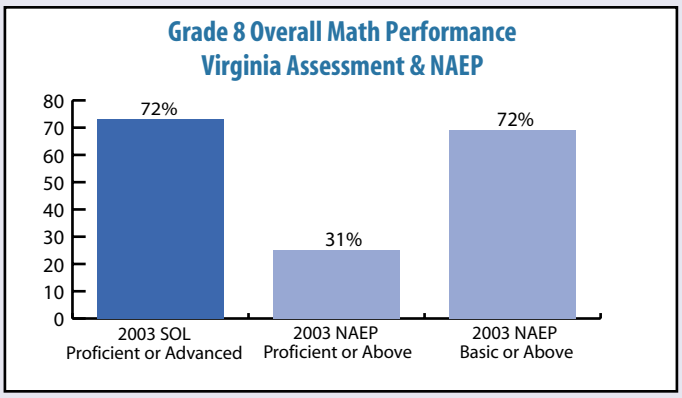
This table shows the amount of progress your state made on NAEP with each group of fourth-graders. The last column shows the amount of progress made by the biggest gaining state for that group over the same period of time. How does your state compare?

# Virginia Middle Grade Mathematics Achievement

To survive in our information society, all Americans need a solid foundation in mathematics. Middle schools play a particularly central role in assuring that students have not only mastered basic computation, but are also developing the mathematical thinking and problem-solving skills that are so important in the mathematics courses they will take in high school.

As we showed with reading on the previous page, the following charts compare students' mathematics performance on the most recent administrations of the state assessment and the National Assessment of Educational Progress (NAEP). Results are reported as the proportion of students at the "proficient" level or the state-defined equivalent.

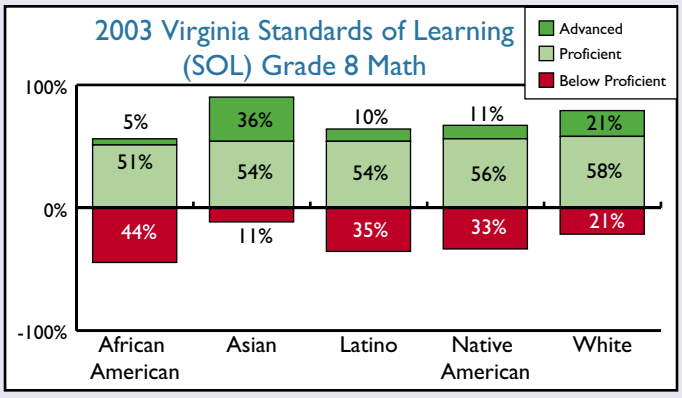
## Are students proficient in mathematics?

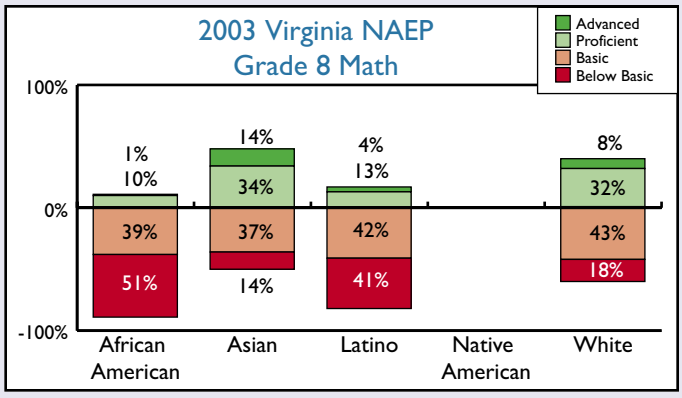



The bar on the left shows the percentage of students scoring at or above the proficient level, or the state equivalent, on the state's middle grades mathematics assessment. The bar on the right shows the percentage of your state's eighth-graders performing at above or proficient on the NAEP in mathematics. Comparing the two is one way to gain perspective on the level and rigor of the state's assessment.

## Do results vary by group?

It's also important to look underneath overall averages to see how different groups of students are performing. By looking at achievement data by group, states can draw attention to the students who need the most help. The charts below show the distance each group has to go in order to reach the proficient level on the state assessment and on NAEP.




## Is NAEP performance improving?

### Grade 8 Mathematics

| | NAEP Scale Score | | Change from 1996-2003 | |
|---|---|---|---|---|
| | 1996 | 2003 | State Change | Biggest Gainers |
| African American | 244 | 262 | 18 | 19 (WA) |
| Asian | 279 | 297 | 18 | 27 (MA) |
| Latino | N/A | 268 | N/A | 20 (DC) |
| Native American | N/A | N/A | N/A | 15 (WY) |
| White | 279 | 290 | 11 | 18 (SC) |
| All | 270 | 282 | 12 | 17 (SC) |

Note: A difference of 10 points is roughly equivalent to one year's worth of learning.

This table shows the amount of progress the state made with each group of eighth-graders on NAEP. The last column shows the amount of progress made by the biggest gaining state for that group over the same period of time. How does your state compare?

# How Does Virginia's Achievement Compare?

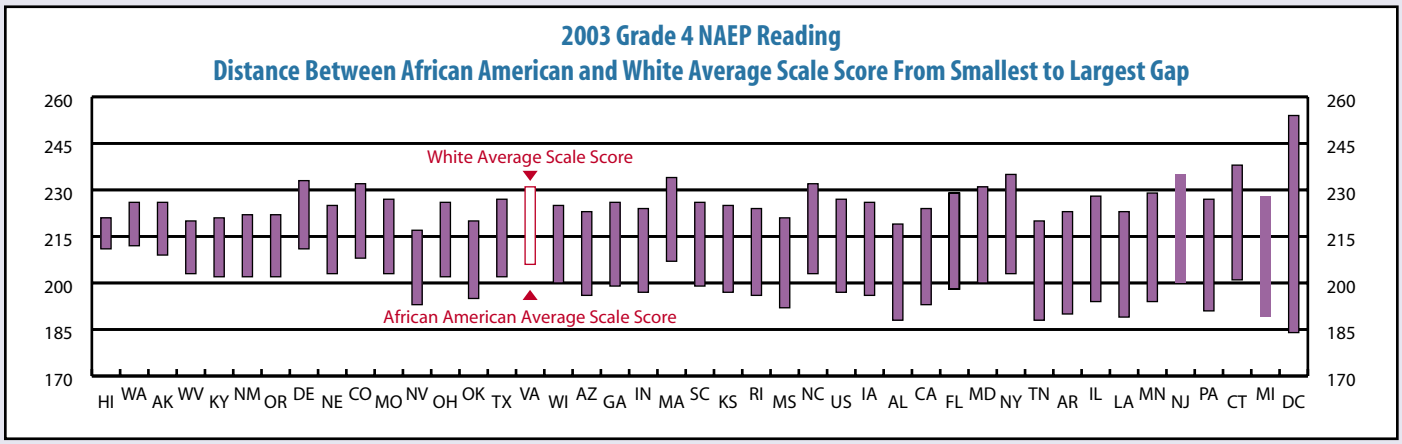
The win-win pattern most state residents will want to see is rising student achievement combined with narrowing gaps between student groups. On these pages, we show where your state is in meeting this two fold goal with respect to either African American, Latino or low-income students, which ever is the largest "minority" group in this state. While we focus here on one group's story, a complete picture of how your state is doing with all groups can be found on Ed Watch Online at www.edtrust.org.

Readers should note that progress on one part of the goal does not necessarily mean progress on the other. For example, a state can have a narrow achievement gap between white and minority students, but the achievement levels of both groups are low. Likewise, minority achievement can be high relative to other states, but low in relation to white achievement in their own state, leaving a large gap. The best situation is progress on both fronts.

## NAEP Grade 4 Reading

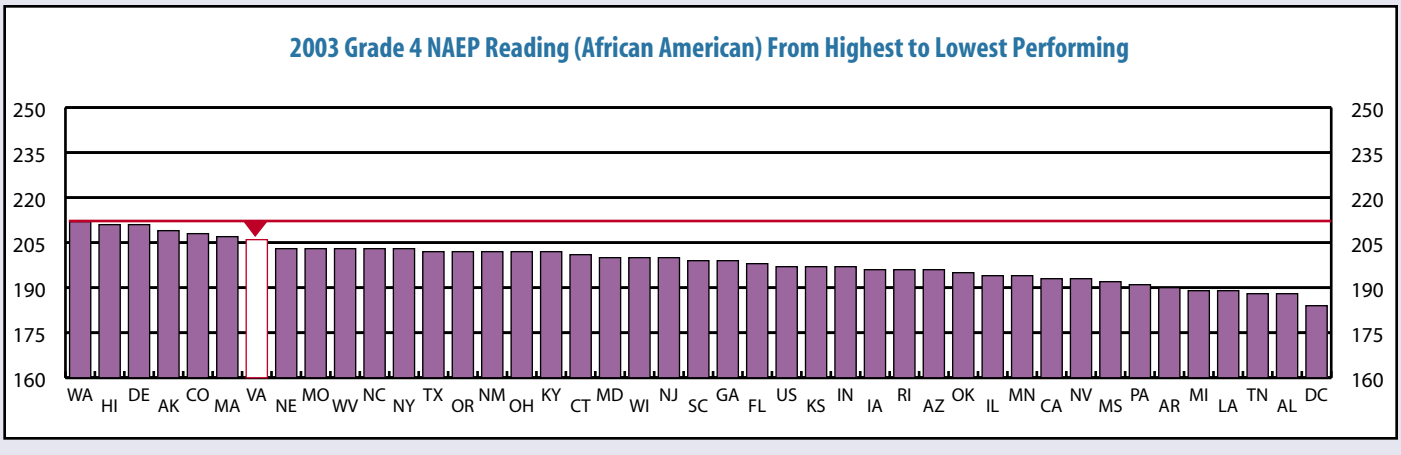
### How does your state's African American-White achievement gap compare?

The chart below shows the reading achievement gap between your state's African American and White fourth-graders on NAEP. The top of each bar represents the average scale score for White and the bottom is that for African American students.




### How do African American scores in your state compare?

Some states are far more successful teaching minority and low-income students than others. Indeed, the achievement gap between students of the same group in high- and low-performing states is often larger than the gap between white and minority or poor and nonpoor students within a state. The following chart shows the average scale scores of African American fourth-graders across states.




QUESTIONS to think about: How does the performance of this group of students in your state compare across states? How does the gap size compare across states?

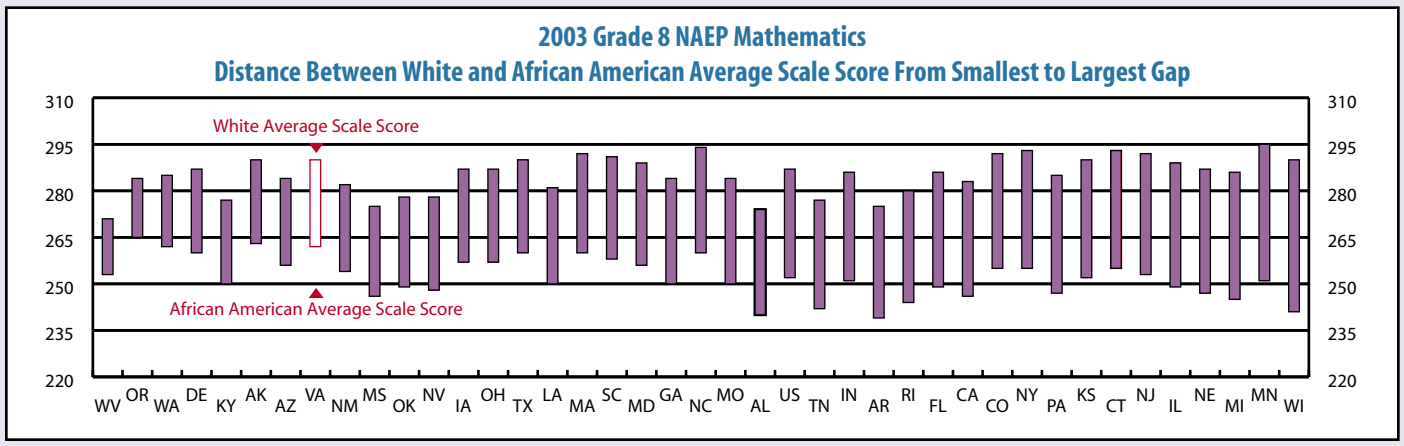
# How Does Virginia's Achievement Compare?

For this report, we chose to feature the largest "minority" group in this state. While we focus here on one group's story, a complete picture of how your state is doing with all groups can be found on Ed Watch Online at www.edtrust.org.

## NAEP Grade 8 Mathematics

### How does your state's African American-White achievement gap compare?

The chart below shows the mathematics achievement gap between your state's African American and White eighth-graders on NAEP. The top of each bar represents the average scale score for White and the bottom is that for African American students.

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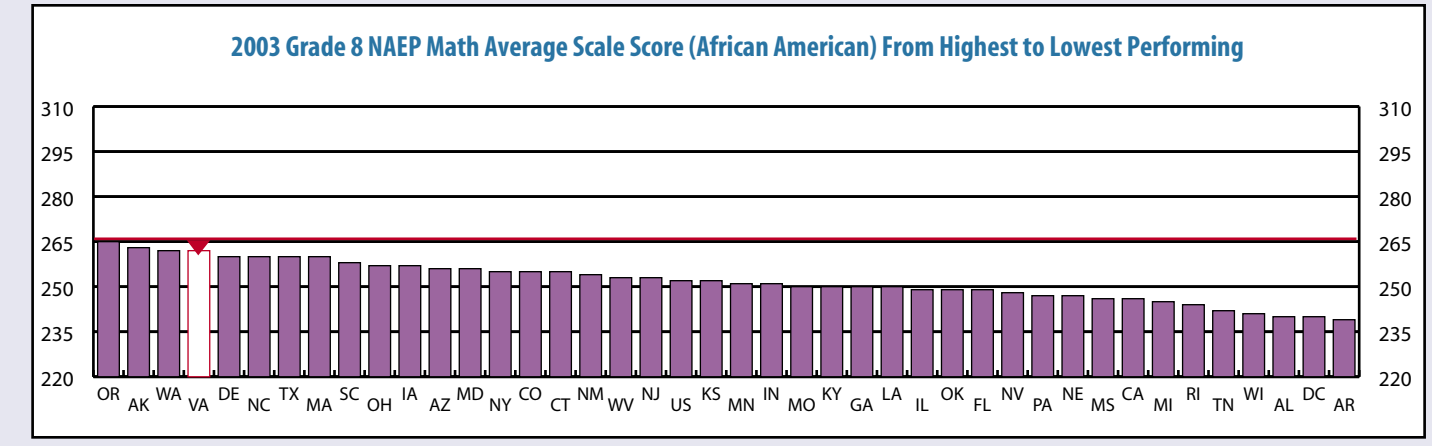



QUESTIONS to think about: How does the performance of this group of students in your state compare across states? How does the gap size compare across states?

# Virginia's High School and College Success

In earlier times, young people with weak reading and math skills could still find good jobs if they were willing to work hard. Now a high school diploma is the bare minimum for young people. Most will also want at least some postsecondary education or training in order to succeed in today's marketplace.

## Student demographics, 2001-2002

**Population and enrollments:** These data offer a picture of the student population in this state. Comparing the demographic distribution of students across each educational level shows what happens to children as they journey through the education system. Significant differences should raise questions about equity.

| | Population, age 5-24 | Public K-12 | Two Year Colleges | Four Year Colleges |
|---|---|---|---|---|
| African-American | 22% | 27% | 21% | 17% |
| Asian | 4% | 4% | 5% | 5% |
| Latino | 6% | 5% | 4% | 2% |
| Native American | 0% | 0% | 1% | 0% |
| White | 62% | 63% | 68% | 68% |
| Other | 6% | NA | 1% | 8% |
| Total | 100% | 100% | 100% | 100% |
| Number | 2,024,371 | 1,163,091 | 248,870 | 295,715 |

## Participation and Success in Advanced Placement, 2003

**Composition of AP test takers:** Students take Advanced Placement (AP) exams after completing year-long AP courses, typically among the highest level offered in high schools. In a system where all students have equal access to these opportunities, the percentage of test-takers by race and ethnicity would be proportional to their representation in public K-12 enrollment.

### Who Takes AP Tests?

*Example: Of all AP test takers, this proportion were African Americans*

| | Public K-12 Enrollment | Calculus AB | English Language and Composition | Biology |
|---|---|---|---|---|
| African American | 27% | 7% | 8% | 8% |
| Asian | 4% | 14% | 12% | 17% |
| Latino | 6% | 3% | 3% | 4% |
| White | 63% | 76% | 77% | 72% |
| Total | 100% | 100% | 100% | 100% |
| Number | 1,159,830 | 4,275 | 4,195 | 2,733 |

**Success rates of AP test takers:** While AP test taking offers a picture of access to AP coursework, relative achievement on these exams is an important measure of student/teacher preparedness. Huge variability in the proportion of test takers that earn a 3 or greater should raise questions about the quality of instruction or educational resources provided in courses labeled Advanced Placement.

### Who Scores a 3, 4 or 5?

*Example: Of all African Americans who took the AP Calculus exam, this percent scored a 3, 4 or 5.*

| | Calculus AB | English Language and Composition | Biology |
|---|---|---|---|
| African American | 38% | 32% | 31% |
| Asian | 55% | 63% | 59% |
| Latino | 47% | 45% | 41% |
| White | 65% | 69% | 57% |
| Total | 61% | 64% | 55% |

*Data is not reported where there were less than 25 test takers in the state.

# Virginia's High School and College Success

## Who makes it through high school?

### High School Graduation Rates, 2001

| | |
|---|---|
| African American | 64% |
| Asian | 84% |
| Latino | N/A |
| Native American | N/A |
| White | 77% |
| Total | 74% |

The high school diploma represents a basic certification of knowledge and skills. This table shows what percentage of students who entered the ninth grade in 1997 graduated with a standard diploma four years later.

## Who makes it through college?

For young people today good jobs increasingly require at least some postsecondary training with the greatest advantage going to those with a B.A. or better. In the last decade, college-going rates skyrocketed. Below we offer several indicators of postsecondary trends in your state compared to the performance of the top states on each indicator.

### Participation and Persistence in Postsecondary

| | Virginia | Top States* |
|---|---|---|
| H.S. freshmen enrolling in any U.S. college w/in 4 years | 39% | 52% |
| 1st year Community College students returning their 2nd year | 59% | 61% |
| Freshmen at 4 year colleges returning their sophomore year | 80% | 84% |
| First-time full-time freshmen completing a BA w/in 6 years | 63% | 64% |

*Top States= median of top 5 performing states

In order to determine equity in attainment rates, we have compared freshmen enrollments to bachelor's degrees awarded four years later. We also provide official six-year graduation rates for students in your state's largest public university. Taken together, these indicators should paint a fairly representative picture of who makes it through college.

### 6-Year Graduation Rates at Largest State University, 2002

(1996-97 first-time, full-time freshmen)

| | Virginia Polytechnic Institute |
|---|---|
| African American | 62% |
| Asian | 71% |
| Latino | 75% |
| Native American | 62% |
| White | 75% |
| Total | 74% |

### Freshmen* vs. Degrees Awarded Statewide

*first-time, full-time and part-time freshmen

freshmen – 1998-1999, degrees - 2002

| | Freshmen | Bachelor's |
|---|---|---|
| African American | 10,570 | 4,693 |
| Asian | 2,506 | 1,816 |
| Latino | 1,479 | 812 |
| White | 35,528 | 24,392 |
| Other | 1,412 | 1,235 |
| Total | 51,495 | 32,948 |

# Opportunity Gaps in Virginia

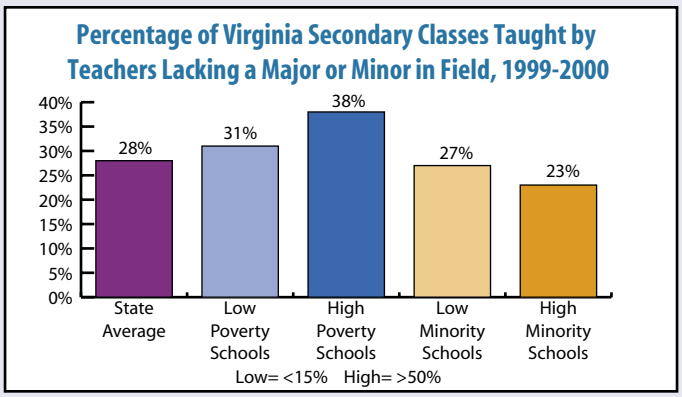
Differences in achievement and attainment between groups of students are often rooted in differences in the availability of educational resources. To begin to understand achievement gaps between groups of students, states and districts should look at the distribution of qualified teachers, challenging curriculums, and funds.

## Qualified Teachers

### Who teaches whom?

Research is very clear: good teachers make good schools. Students who get several effective teachers in a row will soar no matter what their family backgrounds, while students who have even two ineffective teachers in a row rarely recover.

Under the No Child Left Behind Act (NCLB), every state and school district must make sure that low-income students have their fair share of qualified and experienced teachers. Readers should investigate their state's plan for doing this.




This chart shows one measure of the distribution of teacher talent in this state. According to national survey data, about 1 in 4 of all secondary classrooms are taught by teachers lacking either a major or minor in the subject area. Classrooms in high-poverty schools and high-minority schools are far more likely than those in low-poverty or low-minority schools to be taught by teachers out of their field of expertise.

## Challenging Curriculum

Employers have joined higher education in the demand for individuals with high-level knowledge and skills. All students need a rigorous curriculum in order to be prepared for success whether they choose college or work after high school. Yet too few students have the opportunity to gain these skills through rigorous math and science courses.

### High Level Course-Taking, 2002

Course-taking is an indicator of the amount of access students have to challenging subject matter. States should examine differences in access for different student groups.

| | Virginia | Top States* |
|---|---|---|
| 8th graders taking Algebra | n/a | 35% |
| 9th-12th graders taking at least 1 upper-level math course | n/a | 59% |
| 9th-12th graders taking at least 1 upper-level science course | n/a | 41% |

*Top States= median of top 5 performing states

# Opportunity Gaps in Virginia

## Special student placements, 2000

School programs vary a great deal in their level of curriculum and instruction. If there is equity in placements, the number of Latino students, for example, placed in gifted and talented programs should be proportional to Latinos enrolled in K-12. Although suspensions are not precisely an academic program, we include data about them because too often they represent a placement out of the system altogether.

*Example for reading this chart: Of all public K-12 enrollments in your state, this proportion were African Americans.*

| | % Public K-12 Enrollment | % Gifted And Talented | % Special Education | % Suspensions |
|---|---|---|---|---|
| African American | 27% | 9% | 32% | 50% |
| Asian | 4% | 7% | 2% | 1% |
| Latino | 5% | 2% | 5% | 3% |
| Native American | <0.5% | <0.5% | <0.5% | <0.5% |
| White | 64% | 81% | 61% | 45% |
| Total | 100% | 100% | 100% | 100% |
| Number | 1,144,915 | 116,914 | 96,050 | 88,494 |

# Investments

## Funding Gaps: Education Dollars by District Poverty Enrollment, 2001

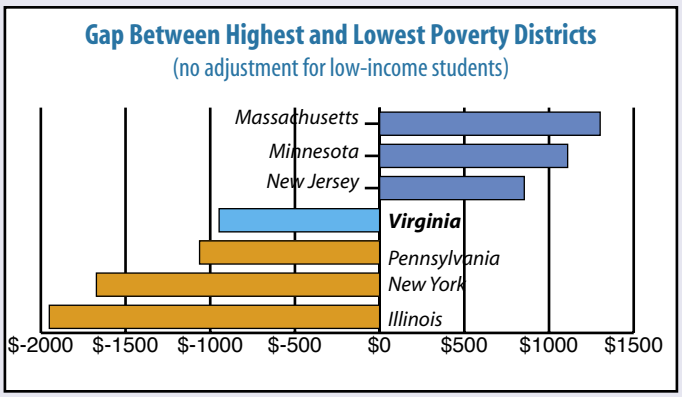
Many states spend considerably fewer state and local resources on the education of poor children than they do on other children.

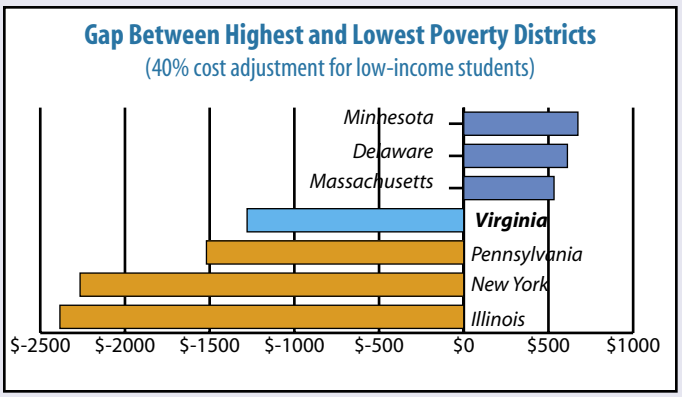
The chart on the left shows the absolute dollar difference between per-student funding in high- and low-poverty districts in your state. Some states, like Illinois, have gaps of $1500 per student or more. Other states, like Massachusetts, actually provide more resources to high-poverty districts.

The chart on the right also compares high- and low-poverty districts, but includes the additional 40% adjustment for low-income students that federal law uses to determine whether states have "leveled the playing field" in high-poverty schools. This measure is a more accurate comparison of the relative capacity of different districts to effectively serve their students.

Your state has an effective funding gap of:

- $1,271 per student;
- $31,975 for a typical classroom of 25 students; and,
- $511,600 for a typical elementary school of 400 students.



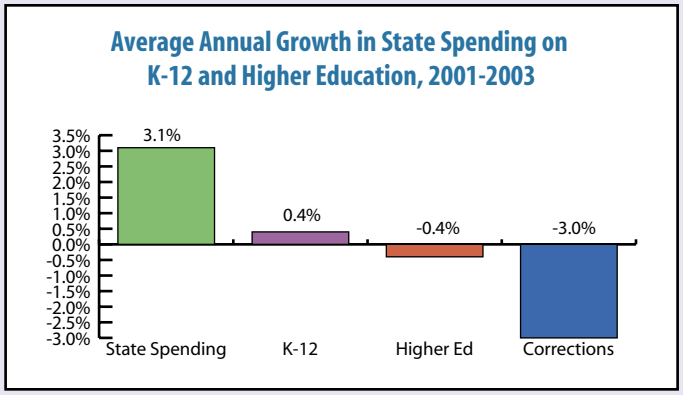




All funding gap figures are adjusted for local cost of living and cost of serving students with disabilities.

# Opportunity Gaps in Virginia

## State Funding for K-12 and Higher Education

Most states have struggled with budget shortfalls in recent years. By examining the percentage change in total state spending on K-12 and higher education from state fiscal year 2001 to 2003, and comparing those changes to other budget areas, a picture emerges of state priorities in times of fiscal stress.




## College Affordability Gaps, 2002

College costs often discourage students with limited means from seeking further education. States can lessen this problem by targeting their aid dollars to low-income students and by providing affordable colleges within the reach of low-income families.

| | Virginia | Top States* |
|---|---|---|
| State grant aid targeted to low-income familes as % of Pell | $0.37 | $0.94 |
| Share of income that poorest families need to pay for tuition at lowest priced colleges | 8% | 8% |

*Top States= median of top 5 performing states (Measuring Up 2002)

## Education Watch Interactive State and National Data Site

Much of the data in this report and many additional education indicators are available on EdWatch Online—our interactive State and National Data Site, which allows users to compare student achievement and opportunity data across states and for the nation. To access the site, visit our website at www.edtrust.org.

## Dispelling the Myth Online

While these reports focus on state-level data, Dispelling the Myth Online—another of our online data tools—allows users to mine school-level achievement data in almost every state. This easy-to-use, fully interactive website allows you to use school demographic and performance criteria of your choice to conduct rapid searches for high-performing or high-improving schools in nearly every state in the nation for all subjects and grade-levels where state assessment data is available.

To access the full collection of Dispelling the Myth analyses, tools, and documentation, go to our website at www.edtrust.org.

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.

# References

## Achievement

- National Assessment of Education Progress (NAEP)
  - National Center for Education Statistics, NAEP web tool, 2004. http://nces.ed.gov/nationsreportcard/

  Notes:
  - NAEP data are not reported for race/ethnic groups where the sample size is too small for a reliable estimate.
  - NAEP scale score changes on pages 2 & 3 may not be statistically significant.
  - NAEP cross-state tables on pages 4 & 5 are presented for either African American or Latino students, whichever group represents a greater proportion of 2001-02 public K-12 enrollment. Where neither African American nor Latino students comprise at least 3% of the public K-12 enrollment in a state, data for low-income students, as defined by eligibility for the federal free- and reduced-price lunch program, is presented.
  - On NAEP cross-state tables, states that share the same gap size or minority scale score are ordered alphabetically.
- State Assessments

  Data collected from state department of education websites.

## Attainment

- Population, Age 5-25

  U.S. Census, American Fact Finder, 2000. http://www.census.gov
- Public K-12 Enrollment

  National Center for Education Statistics, Statistical Analysis Report: Public School, Student, Staff, and Graduate Counts by State: 2001-02, May 2003. http://nces.ed.gov/pubs2003/snf_report03/table_04.asp
- Two Year College Enrollment
- Four Year College Enrollment

  U.S. Department of Education, Integrated Post-Secondary Education Data System.

Note: Unlike the population age 5-24, two year college, and four year college data, the public K-12 enrollment data does not have an "other" category. Therefore, caution should be taken when making direct comparisons across the four categories.

- Participation and Success in Advanced Placement

  The College Board, AP Summary Reports, 2003. http://collegeboard.com/student/testing/ap/exgrd_sum/2003.html.

Note: AP data does not include non-respondents. In states in which Native Americans represent more than 5% of the general population, Native Americans were included in the total test takers and public K-12 enrollment.

- High School Graduation Rates

  Jay Greene and Greg Forster. *Public High School Graduation and College Readiness Rates in the United States.* The Manhattan Institute for Policy Research, September 2003.

Note: Graduation rates are calculated from a cohort analysis of enrollment data and diploma counts from the U.S. Department of Education's Common Core of Data. The number of first-time 9th graders in 1997 is compared to the number of students who received a regular diploma four years later. GED recipients are not counted. The calculations account for state population changes, as well as for the tendency of 9th grade students to be held back more than students in other grades.

- High School Freshmen Enrolling in Any U.S. College Within 4 Years

  Tom Mortenson, "Chance for College by Age 19 by State in 2000." Postsecondary Education Opportunity. No. 123, September 2002. http://www.postsecondary.org
- 1st Year Community College Students Returning their 2nd Year
- Freshmen at 4 Year Returning their Sophomore Year
- First-time Full-Time Freshmen Completing a B.A. Within 6 Years

  National Information Center for Higher Education Policymaking and Analysis, 2002 data from ACT, "Institutional Data Questionnaire," unpublished analysis by ACT, Iowa City, Iowa. http://www.higheredinfo.org

Note: "Top states" defined as the median value of the five highest-performing states on each indicator.

- 6-Year Graduation Rates at Largest State University

  U.S. Department of Education, Integrated Post-Secondary Education Data System, Graduation Rate Survey.

Note: Percentages represent the proportion of students who enrolled as first-time, full-time, degree-seeking freshmen in the Fall of 1996, and received a bachelor's degree from that institution on or before spring 2002.

- Freshmen vs. Degrees Awarded

  U.S. Department of Education, Integrated Post-Secondary Education Data System.

## Opportunity

- Who Teaches Whom?

  National Center for Education Statistics, 1999-2000 Schools and Staffing Survey.

  Calculations by Richard Ingersoll, University of Georgia, published by the Education Trust, *All Talk No Action*, August 2002.

Note: Teacher distribution data refers to secondary classes in the core subjects.

- High-Level Course-Taking

  Council of Chief State School Officers, unpublished
- Public K-12 Enrollment

  National Center for Education Statistics, Overview of Elementary and Secondary Schools and Districts: School Year 2000-01, April 2002.

Note: Public K-12 enrollment data on the Special Student Placements table reflects the 2000-01 school year to provide the most accurate context for the gifted and talented, special education, and suspensions data. Public K-12 enrollment data elsewhere in the report reflects the 2001-02 school year.

- Gifted and Talented, Special Education and Suspensions

  U.S. Department of Education, Office for Civil Rights, 2000 Elementary and Secondary School Civil Rights Compliance Report, 2003. Calculations by the Education Trust.

Note: The total number of students in special education include those students classified as having mental retardation, serious emotional disturbance, and specific learning disabilities.

- Investments

  Education Trust analysis of district-level state and local revenue data for the 2000-01 school year collected by the National Center for Education Statistics and the U.S. Census Bureau. For a detailed explanation of the methodology used to calculate state funding gaps, see *The Funding Gap*, and accompanying *Technical Appendix*, The Education Trust, 2003.
- State Funding for K-12 and Higher Education

  National Association of State Budget Officers, 2002 State Expenditure Report.
- Amount State Provides to Low-Income Students for Every $1 of Federal Pell Grants

  U.S. Department of Education, Office of Postsecondary Education, Title IV/ Pell End of the Year Report, 2001-02.

  National Association of State Student Grant and Aid. Analysis by the Education Trust.
- Share of Income that Poorest Families Need to Pay for Tuition at Lowest Priced Colleges

  The National Center for Public Policy and Higher Education, Measuring Up 2002: The State-by-State Report Card for Higher Education, 2002. http://measuringup.highereducation.org/2002/reporthome.htm.

Note: "Top states" defined as the median value of the five highest-performing states on each indicator.