The Good News Behind Average NAEP Scores

Achievement Gains by Children of Color Are Masked by Overall Numbers

A peculiar thing often happens when test scores of groups of students are put together to produce an overall average: the average score gain for students as a whole can be lower than the gains for each subgroup. In other words, specific groups of students may show more progress than is evident if only the composite score is reported.

To understand this phenomenon, let’s look at the National Assessment of Educational Progress (NAEP) report on mathematics released in October 2005. For 4th grade math, the average scale score for all students increased by 18 points between 1992 and 2005, but the average scores for each racial/ethnic group went up more than this overall increase. White students showed a 19-point gain, Asian students a 20-point gain, and Hispanic students a 24-point gain. African American students made the greatest improvement, with a 27-point increase between 1992 and 2005. A similar pattern of subgroup gains outpacing the overall average increase exists for NAEP 8th grade math and 4th and 8th grade reading scores between 1992 and 2005, although some year-to-year fluctuations have occurred in the performance of subgroups.

Why is the progress by subgroups masked by the overall average? When the NAEP math report was released, Russ Whitehurst, then Acting Commissioner of the National Center for Education Statistics in the U.S. Department of Education, pointed out that this occurs “because the groups had differing average scores and the relative size of the groups has been changing.” For example, he explained, the percentage of Hispanic students in the public school population has increased, while the percentage of White students has declined. “The average score for Hispanic students tends to be lower than the overall average, while the average score for White students tends to be higher,” said Whitehurst. “Thus, the increased percentage of students who, on average, had lower scores offsets the fact that all the groups were improving their performance.” Figure 1 displays the total average scores for all students and the average scores of White, Asian, Hispanic, and Black 4th grade students on the NAEP mathematics test. While the average scale score for all students rose by 18 points between 1992 and 2005, the disaggregated data show that the average scores for each of these subgroups increased by 1 to 9 points more than the overall 18-point gain.

Still, wide racial/ethnic achievement gaps remain and must be addressed.

Test Scores Rise As Numbers of Low-Income Students and Children of Color Increase

Another important point to consider about the recently released NAEP scores is that not only are the percentages of public school students who are low-income students or children of color rising, but more of these students are improving their achievement enough to move from below the NAEP Basic performance level to the Basic level or above.

These statistics suggest that public schools are succeeding more than they are being given credit for when test scores alone are reported without demographic data. Public schools are helping many thousands of low-income students and students of color do better academically.

As displayed in Figure 2, the percentages of 4th grade children of color and low-income students scoring at or above the Basic level of achievement in mathematics increased at the same time the percentage of test-takers who are students of color grew by 14 points between 1990 and 2005 and the percentage of test-takers from low-income families grew by 8 points between 1996 and 2005. The percentage of Hispanic and Black students scoring at or above the Basic level increased by 35 and 43 points respectively between 1990 and 2005, and the percentage of Asian/Pacific Islanders scoring at or above Basic rose by 27 points between 1992 and 2005. The percentage of low-income students reaching at least the Basic performance level increased 27 points between 1996 and 2005. These increases are noteworthy because many children of color and children from low-income families arrive at school from historically disadvantaged backgrounds with additional needs that must be addressed.

A similar trend can be seen in 8th grade math, where the percentage of children of color and low-income students scoring at or above the NAEP Basic level also increased at the same time the percentage of those tested who were of color or were low-income grew by 12 and 9 percentage points respectively. The percentage of Hispanic and Black students scoring at or above the Basic level increased by 18 and 20 points respectively between 1990 and 2005, while the corresponding percentage of Asian/Pacific Islanders rose by 5 points between 1992 and 2005. The proportion of low-income students reaching at least the Basic level increased 13 points between 1996 and 2005. On the NAEP 4th and 8th grade reading assessments, the overall percentages of students scoring at or above the Basic level remained fairly constant between 1992 and 2005, even as the percentages of test-takers who are students of color and low-income students increased.
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Detailed NAEP data can be found at http://nces.ed.gov/nationsreportcard/.
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