Are Private Schools?
There is widespread doubt about the ability of the nation’s public schools to prepare our children for the demands of the 21st century. Colleges and universities continually voice concerns about the quality of public school graduates. Although there are many fine public schools, even the most ardent supporters of public education concede that too many students from disadvantaged backgrounds are not being well served. For these children, test scores and dropout rates tell a generally dismal story. With the advent of No Child Left Behind, nearly all public schools are under the gun to effect dramatic improvements.

Some education reformers have embraced strategies such as school restructuring, small schools, reduced class sizes, and standards-based pedagogy in conjunction with outcomes-based accountability. Others have focused on alternatives to traditional public schools, looking to management by for-profit entities, charter schools, home schooling, and private schools.

Except for those wedded (ideologically or otherwise) to a particular strategy, it is commonsensical to ask for evidence that the alternative approach is yielding positive results. The question of whether private schools are more effective than public schools is especially contentious and deserves an answer based on more than anecdote and hearsay. Although there is insufficient data to settle the matter conclusively, there is useful information to be gleaned from data collected by the National Assessment of Educational Progress (NAEP).

NAEP is an ongoing series of national and state assessments that draws on representative samples of schools and students to yield measures of what students know and can do in a variety of academic subjects. NAEP is unique in that it is the only periodic source of nationally comparable data on student achievement.

In 2003, NAEP assessed public and private school students in grades 4 and 8 in both reading and mathematics. The U.S. Department of Education then used this data to issue two reports (Perle, Vanneman, and Goldstein 2005;
Braun, Jenkins, and Grigg 2006) comparing public and private schools. The first report provides straightforward descriptions of the data while the second employs complex statistical models to yield a more nuanced set of comparisons.

Before discussing these reports, we should make it clear that although NAEP is a valuable resource, it has some serious limitations. The most important of these is that NAEP assessments provide only a snapshot in time for each grade and subject. This means that comparisons drawing on NAEP data are based only on students’ current achievement levels, and not on how much they have learned in the past year. Moreover, since private schools are “schools of choice,” there is no way to fully account for initial differences in the student populations of the two school types and how those differences may be related to those observed on the NAEP assessments. Consequently, comparisons cannot speak directly to the question of the differential effectiveness of public and private schools.

Examining the Findings

The story based on comparisons of raw NAEP scores is straightforward: On average, public school students performed more poorly than private school students. In grade 4, the mean reading score in the typical public school was 15 points lower than the mean reading score in the typical private school. In grade 8, the private school advantage was 18 points. In mathematics, the differences are eight points in grade 4 and 12 points in grade 8. All of the differences were substantial, and rather larger in reading than in mathematics.

In addition to overall comparisons, the first report also compares groups of students classified by a single characteristic, such as gender or race/ethnicity. There are at least two good reasons for doing this. One is that there is legitimate public interest in such comparisons. Another, more technical reason is that the pattern of differences at these levels can differ from what is reported at the national level. In fact, the differences by race/ethnicity are somewhat smaller than the overall differences, particularly for white students and black students.

It is natural, then, to ask: What would comparison of public and private schools reveal if each were computed for groups of students classified by several characteristics simultaneously? For example, suppose students were placed into groups determined by gender, race/ethnicity, and parents’ education. One such group might be Hispanic females whose highest parental education level is a high school diploma. Such sector comparisons would yield a more nuanced picture of the difference between public and private schools.

Unfortunately, the NAEP sample sizes are not large enough to allow us to break down the sample into such homogeneous groups and still obtain statistically meaningful comparisons. However, there is an alternative that relies on a more sophisticated approach, hierarchical linear modeling (HLM). It was interest in applying this methodology to the NAEP data that was the impetus for commissioning the second report.

How HLM Works

Essentially, HLM is a type of regression analysis that allows us to model the relationship between NAEP scores and many student characteristics simultaneously by taking into account the fact that the NAEP sample consists of “clusters” of students from each school in the sample. By employing HLM, we are able to “adjust” the means for differences in the student populations.

What this means, in effect, is that the model first estimates the statistical relationship between NAEP scores and the nine student characteristics collected by NAEP. It then uses these estimates to derive an adjusted school mean that represents what we would expect to find if all the schools had a student population with the same, typical, set of characteristics.

To take a simple example, we observe that the higher the level of parental education, the higher the student’s NAEP performance tends to be. Therefore, schools enrolling students with higher than average levels of parental education would have adjusted means somewhat lower than their actual means. Conversely, schools enrolling students with lower than average levels of parental education would have adjusted means somewhat higher than their actual means.

In practice, the amount of adjustment to a school mean depends on the full profile of the students in the school, the strength of the relationship between the factors and NAEP performance, the number of students in the school, and so on. This adjustment is one way of “leveling the playing field” when comparing public schools and private schools.

What HLM Found

Using HLM, we carried out four sets of analyses for reading and mathematics in both grades 4 and 8. What we found in looking at the adjusted means was that the private school advantage based on raw means was substantially reduced and, in one case, actually reversed. Specifically, we found no difference in reading in grade 4 and a private school advantage of about seven points in grade 8 reading. The reverse occurred in mathematics for grade 4, with public schools having an advantage of about four points. There was no difference between public and private schools in grade 8 mathematics.

An immediate conclusion is that a
The Bottom Line

What our analyses show is that comparing public and private schools based on differences in average NAEP scores can be misleading because students in the two sectors differ substantially on a variety of measured characteristics associated with academic achievement. When those differences are taken into account through statistical adjustment, the magnitude and even the direction of the comparisons can change.

Statistical analyses always involve choices of the mathematical model and the characteristics to be adjusted for. Despite criticisms directed at the choices (Bracey 2006), suffice it to say that the results reported here are quite robust.

As we mentioned earlier, data from a single time point cannot tell us how much schools contribute to student growth in achievement. At best, HLM’s adjusted school means can serve as a rough proxy for what we really would like to measure. So we should be conservative in drawing strong policy implications from these analyses, whatever the outcomes.

The need for caution is heightened when we note that the NAEP analysis was drawn from a sample of only 542 private schools for grade 4 and 568 private schools for grade 8, and that response rates were lower for private schools than for public schools. Although the private school sample is certainly large enough to produce meaningful estimates at the national level, it is not designed to offer useful information at the state level. Local comparisons using data from other tests (e.g., state tests) could yield different results.

Ideally, well-designed randomized experiments could generate data that would speak directly to the question of public and private school effectiveness. In fact, a few such experiments have been conducted. However, the vicissitudes of carrying out field studies in real schools means that these studies have yielded ambiguous results.

The clearest message from the 2003 NAEP assessment is that there is no “magic bullet” in education. Viewing the pattern of differences in adjusted school means between public and private schools, as well as the variation in outcomes among schools, it is obvious that there are schools in both sectors that appear to be doing an excellent job and others that appear to be much less effective.

As principals are all too aware, building and leading schools, public or private, that promote learning among all students is a daunting task. Therefore, declarations of superiority for either type of school are neither warranted nor constructive.

References

Bracey, G. “Public or Private?” Principal Leadership, November 2006.

WEB RESOURCES

The National Center for Education Statistics has posted a 66-page report, “Comparing Private Schools and Public Schools Using Hierarchical Linear Modeling.”

The Program on Education Policy and Governance at Harvard University’s Kennedy School of Government provides a 50-page report comparing data on public and private school achievement.
www.ksg.harvard.edu/pepg/PDF/Papers/PEPG06-02-PetersonLaudet.pdf

The National Center for the Study of Privatization has published a 48-page analysis of math achievement data that shows public schools performing as well as, and often better than, private and charter schools.
http://eps.lasu.edu/epru/articles/EPRU-0601-137-OWi.pdf

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