



C.D. Howe Institute
Institut C.D. Howe

e-brief

Ontario's Best Public Schools: An Update to *Signposts of Success* (2005)

By David Johnson

February 28, 2007

How do parents, teachers, taxpayers and school administrators know if their children attend a good school? Parents, in particular, deserve more information than they can glean from parent-teacher nights or award-filled graduation ceremonies. More meaningful information would allow them to fairly compare their children's school with others in similar neighbourhoods throughout the province. This study is designed to provide exactly those answers for Ontario schools over the last three years, with a view to identifying schools worthy of emulation, or in need of improvement.

Standardized test results in reading, writing and mathematics offer one way of measuring school performance. In Ontario, the Education Quality and Accountability Office (EQAO) conducts standardized tests for all public school students in grades 3 and 6. Controversy surrounds the use of these tests when the raw results are used to rank the effectiveness of each school. Critics argue that such rankings reflect not the school's relative success in imparting skills, but rather the socio-economic characteristics of the school's community, unfairly giving lower scores to schools in disadvantaged neighbourhoods.

In a book published two years ago (*Signposts of Success*),¹ I developed a method to separate the influence of socio-economic factors from the influence of schools. That effort showed that the critics are partly right: 40 to 50 percent of the variation in schools' average test scores (averaged over many tests over many years) can be explained by variation in measures of schools' socio-economic environments. It is reasonable to infer that much of the remaining variation reflects factors at the schools themselves, the principals, the teachers and the other staff. Adjusting tests scores to remove the influence of these socio-economic factors yields measures of relative school performance that are more representative of a school's actual effectiveness than traditional rankings. This *e-brief* and the associated database update the school performance measures first reported in *Signposts of Success*, by drawing on the last three years of EQAO results up to school year 2005/06.

1 Johnson, David. 2005. *Signposts of Success — Interpreting Ontario's Elementary School Test Scores*. Toronto: C.D. Howe Institute.

In EQAO tests of reading, writing and mathematics, a student meets or exceeds the provincial standard if he or she achieves a Level 3 or a Level 4 on an assessment. The EQAO reports the percentage of all students at each school in Grade 3 and Grade 6 who achieve at Levels 1, 2, 3 and 4, so long as there are 15 or more students at that school in that grade. A “good” school is typically assumed to be one where, say, 70 percent of the students or more achieve Level 3 or 4.²

In *Signposts of Success*, however, I provided an alternative definition of a “good school.” To understand this definition, refer to Figure 1, which illustrates the relationship between a composite socio-economic factor — for instance the average parental education of students attending that school, but many more factors are included — and the difference between that school’s average pass rate on provincial tests and that of other schools. An adjusted pass rate of zero and a socio-economic measure at 50 represents the average school in Ontario. In the figure, Holy Rosary sits at the midpoint of the socio-economic index and has an adjusted pass rate of zero. It represents an average school in Ontario. But schools in Ontario do not all draw from populations of students that can be expected to pass at the same rate on the assessments — that is what the figure illustrates. Schools where parents are less well educated and/or where parents are poorer, for example, will likely generate fewer students achieving at Level 3 or higher than a school drawing on better-educated, better-off families, even if exactly the same group of teachers, administrators and other staff was involved. By linking the location of students’ homes to very small geographic units, we can use detailed socio-economic data in the Census to draw an accurate picture of the family backgrounds of students at any elementary school in Ontario.³

The next step is to estimate the statistical relationship between social and economic variables and average test scores in Ontario schools.⁴ This relationship is represented by the upward sloping line of dots in Figure 1. The line illustrates the statistical association between a school’s pass rate compared to the provincial average pass rate on all tests over the three-year period and all the economic and social variables constructed from the Census. In other words, it establishes a “predicted” pass rate for a given school and grade, given the socio-economic environment in which that school operates. That predicted pass rate allows a comparison of the pass rates actually achieved at each school and the pass rate at schools that operate in similar social and economic environments.

In terms of Figure 1, the methodology then establishes that Palgrave (in the Peel Board) is better than Iroquois Junior (Toronto District School Board — TDSB) and that Gladys Speers (Halton) is worse than Iroquois Junior. Holy Rosary,

2 The percentage of all students at a school with Level 3 or Level 4 is often referred to as the school’s pass rate.

3 The variables used to draw a picture of each schools’ socio-economic context are: average total school enrolment from 2002/03 to 2005/06; percentage of families with children with lone parents; percentage of the population speaking an official language at home; percentage of the population identified as aboriginal; percentage of the population that immigrated to Canada in the last five years; percentage of occupied dwellings that are detached homes; the logarithm of average household income in year 2000 dollars; percentage of the population that moved in the past year; unemployment rate of all persons 15 and over in private households with children; percentage of the population age 20 and over without a high-school diploma; and percentage of the population age 20 and over with some university education.

4 Chapters 4 and 6 in *Signposts of Success* go through that methodology in detail.

Iroquois Junior and Blythwood (all in the TDSB) as well as Lakewoods (Durham), are equivalent schools, because they all have pass rates equal to what we would expect at schools with their socio-economic characteristics. Despite its much higher adjusted pass rate, Blythwood is no better than Lakewoods — the higher adjusted pass rate at Blythwood is simply because it draws its students from a more privileged neighbourhood.

Once this relationship along the upward sloping line in Figure 1 is established, it becomes straightforward to calculate the differences between the predicted and actual scores for every Ontario school. We can also calculate a measure of “value added”, which is a better measure of a school’s quality than an absolute score. Value-added can be expressed as a percentile. A percentile score of 50 indicates that, compared to schools with students that have similar social and economic characteristics, a school is average: half of other schools are better and half are worse. On the other hand, a percentile score of 90 says that a school is better than 90 percent of schools whose students have similar social and economic characteristics. This would be a good, indeed a great, school.

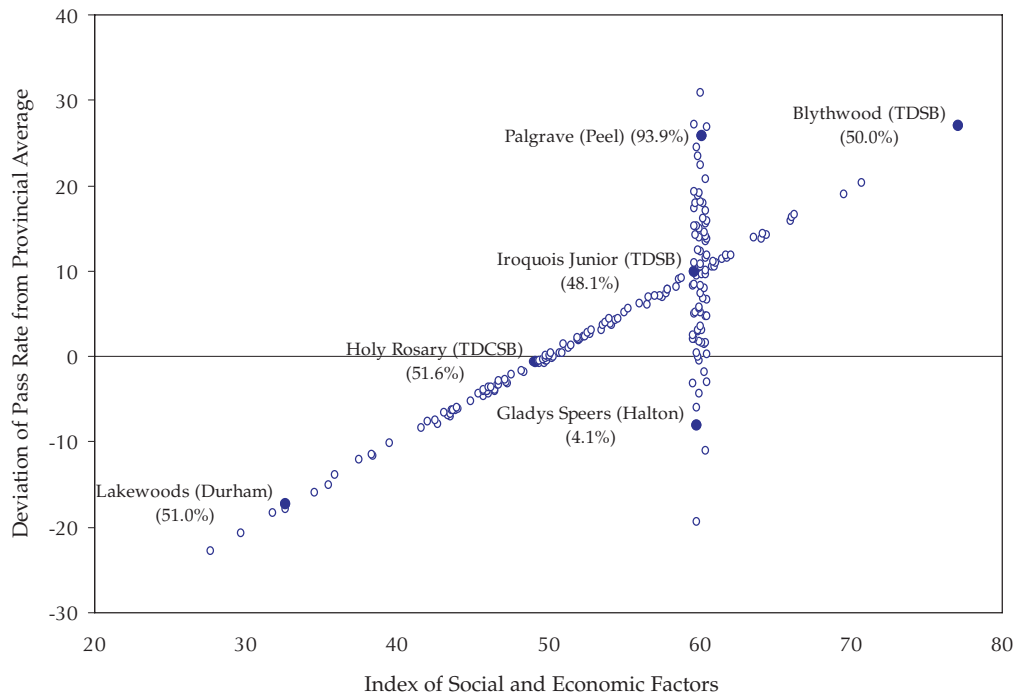
Percentile scores for all Ontario schools where data are complete for the three years can be found in *Ontario Public Schools Performance — Updated with Results up to 2005/06*, a document published with this e-brief and available at www.cdhowe.org/signposts.cfm.⁵ In Figure 1, percentile scores are shown in parentheses for the schools included as examples. Notice that Lakewoods, Holy Rosary, Iroquois Junior and Blythwood all have a percentile score at or near 50, meaning that they offer little value-added when taking into account their socio-economic context. Palgrave has positive value-added and scores at the 94th percentile, while Gladys Speers has negative value-added and registers at the 4th percentile.

Why do these performance indicators matter? Arguably, they are most useful to school board administrators and education officials who wish to see which schools need more supervision, and identify schools whose practices deserve imitation. Parents can also use them to evaluate whether their children’s schools are doing a commendable job when compared to other schools in the province in similar socio-economic environments. If their school is in a high percentile, say 80 or over as is Palgrave, then the principal, teachers and staff at their school should be praised. On the other hand, if their school is in the 20th percentile or less, as is Gladys Speers, then they know there is likely to be considerable room for improvement and they could and should expect a better performance — because a better performance is entirely possible.

My hope in this project is that these performance indicators will lead school administrators and parents to identify schools that perform well — and hold to account those schools where performance is clearly sub-standard.

5 The file explains the construction and interpretation of the performance measures in more detail.

Figure 1: Comparing Grade 3 Schools in Ontario: An Example



This *e-brief* is a publication of the C.D. Howe Institute. For more information contact: **David Johnson**, Professor of Economics, Wilfrid Laurier University and Education Policy Scholar, C.D. Howe Institute, 416-865-1904, e-mail cdhowe@cdhowe.org. The *e-brief* is available at www.cdhowe.org.

Permission is granted to reprint this text if the content is not altered and proper attribution is provided.