The Quality of Public Education in Canada

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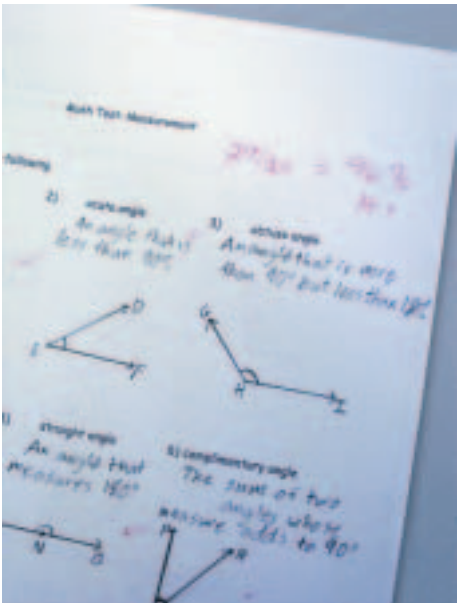
Measuring Success

All Canadians have a vital interest in education policy decisions. The health of our society depends on making the right choices.

The Learning Partnership seeks to engage Canadians in a wide-ranging discussion of education values, goals, and strategies to ensure that our children have the best public education possible. For this report, we have partnered with Canadian Policy Research Networks to provide an overview of where we are today.

Providing a snapshot of the state of public education is easier said than done. What shows up in the picture depends on which lens you choose and where you point the camera.



This is the first in a series of progress reports on the quality of public education in Canada. In this report, we tackle a number of key questions:

- What do we measure and how do we measure it?
- What can we learn when we consider other dimensions of success?
- What are some examples of success from across the country?

Celebrating Student Success

When it comes to figuring out a math problem or writing a report, Canadian students rank among the world's best.

Surprised? It's no wonder. For years we've heard little good news when it comes to education. But recent results from national and international tests give Canadians reason to celebrate school success. Testing through the 1990s shows that:

- Writing improved among 13- and 16-year-olds.
- Problem-solving skills in mathematics improved among 13- and 16-year-olds.
- Science achievement improved among 16-year-olds.

In international tests in 2000, Canada's 15-year-olds ranked second only to Finland in reading, to Korea and Japan in mathematics, and to Korea, Japan and Finland in science. The perception that academic achievement has been declining in Canada doesn't measure up against the facts.

Parents and governments have expressed a desire to know more about how much our children are learning in school – especially in the core areas of reading, writing, mathematics and science. In response, governments and educators have launched ambitious efforts to measure outcomes in language, mathematics and science.

But we also expect schools to produce good citizens, foster creativity, and ensure that students are prepared to continue to learn in the future. Yet, efforts to measure progress in many of these areas across the country have been limited.

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How Do We Measure Student Achievement?

Standardized tests have become an increasingly important tool to measure student achievement.

After falling out of favour in the '70s, province-wide testing was brought back in the '90s as part of ambitious efforts to address concerns that our children were falling behind those of other industrial countries.

Provinces do a lot of testing of their own students. In addition to the various provincial tests, there are a few that give a national perspective on results. In this report, we discuss three testing programs that tell us how Canadian students are doing. They provide comparative information on how students are performing over time, in different parts of the country, and how they compare to students in other countries. All three sets of tests measure student achievement at key grades and age groups in core subjects.

A National Test

The School Achievement Indicators Program (SAIP)

Since 1993, a total of 18 nationwide tests have measured the academic performance of 13-year-old and 16-year-old students in reading, writing, science and mathematics.

Among 13-year-olds:
- Writing improved.
- Reading showed almost no change.
- Science showed almost no change.
- Mathematics performance improved for problem-solving skills and showed little change for content.

Among 16-year-olds:
- Writing improved.
- Reading showed almost no change.
- Science improved.
- Mathematics improved in problem-solving.

Test results also show clear and consistent differences across provinces. Students in Alberta and Quebec generally perform above the Canadian average and students in the Atlantic Provinces and the Territories tend to perform below the Canadian average.

Outside of Quebec, in those provinces where there are both English- and French-language school systems, francophone students tend not to perform as well as students in English-language school systems.

Generally speaking, the SAIP results show stability in some areas and improvement in others.

Two International Tests

In an era of global competitiveness, governments and educators have been anxious to examine the achievement of Canadian students in comparison to students in other countries. Several such studies have been conducted over the years, including the *Third International Mathematics and Science Study (TIMSS)* and the *Programme for International Student Assessment (PISA)*.

TIMSS: Achievement in Math and Science

Students in Canada are outperforming their U.S. counterparts in the TIMSS math and science tests and are holding their own against European students. While students from Asian countries still do better in the tests, Canadians have made significant improvements in achievement.

As recently as 1995, Canada ranked in the middle of the pack of 41 countries participating in TIMSS.

A repeat of the grade 8 TIMSS test in 38 countries in 1999 showed that Canada's performance had improved substantially. Canada was one of only two countries where students showed large improvements in both math and science. In science, only five countries had scores that were significantly higher than Canada's in 1999 and in math, only six countries had significantly higher scores.

Over the past decade, Canadian students have improved their academic performance in math, science, reading and writing and now rank among the best in the world.

PISA: Achievement in Reading, Math and Science

In a test given to students in 32 countries in 2000, Canadian 15-year-olds ranked in the top-scoring group of countries in mathematics and science, well ahead of countries such as the U.S., Sweden, Germany, and France. And in reading, only Finland showed higher scores than Canada.

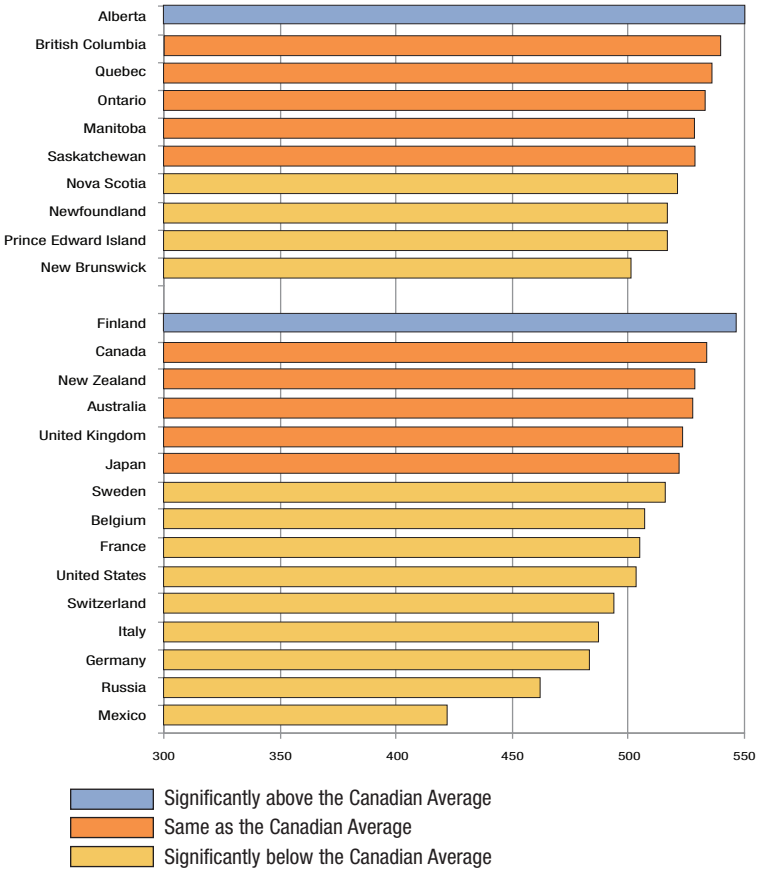
The PISA results can be looked at in three ways: we can compare Canada to other countries, provinces to other countries, and provinces to each other. It's important to highlight the following test results:

- Alberta, along with Finland, ranked best in the world in reading.
- Alberta and Quebec, along with Japan and Korea, ranked best in the world in math.
- Alberta and Quebec, along with Japan, Korea and Finland, ranked best in the world in science.

British Columbia, Manitoba, Ontario, Quebec, and Saskatchewan scored at about the Canadian average in reading, significantly ahead of such countries as the United States, Germany, France and Sweden. And, while the Atlantic Provinces performed below the Canadian average, they were at or above the international average in all three subjects.

What the three national and international tests tell us is that, over the past decade, Canadian students have improved their academic performance in math, science, reading and writing and now rank among the best in the world.

PISA Reading Scores in 2000 Comparing Provinces and Selected Countries



Accountability

The Secret to Alberta's Success

Implementing a culture of accountability has enabled Alberta to become one of the top learning systems in the world. Since 1994, jurisdictions at every level – including individual schools, districts and the province – provide annual reports on the state of education for the public. The reports include assessments of achievements over the past year, as well as a business plan that addresses ways to bring about improvement over the next three years.

Goals are based on a combination of province-wide objectives with respect to literacy, numeracy and high school completion, for example, and other priorities determined by local schools and school districts.

The benefits have been numerous. Schools, school districts and the province can provide up-to-date information on their successes and failures. Refinements to plans can be directed to issues as they arise. And the public is informed about where the schools are and where they are headed.

All of this has built into the provincial culture a realistic set of expectations in student achievement. This focus on accountability allows the province, school districts, and schools in Alberta to make consistent and continuous improvements at all levels in the system.

Other Dimensions of Success

Test results are essential for telling us whether progress is being made in improving our public education systems. But, they focus on only one dimension – academic achievement in a small set of core subjects. There are many other dimensions to success. Two critical ones concern the progress we are making in achieving academic excellence for all students, regardless of their socioeconomic circumstances, and our progress in reducing the high school dropout rate.

Achievement for All

Typically, students from high socioeconomic status families score higher on tests of academic achievement than students from lower socioeconomic status families. But the evidence also shows that the populations that do best overall are the ones for which the gap in achievement between socioeconomic groups is small. In other words, success is associated with education systems that seek academic excellence for all, regardless of family circumstances.

On this front, Canada also is doing well. In fact, among the 14 countries that were analyzed, Canada, along with Finland and Japan, showed far less variation than other countries in test scores when students from high socioeconomic status families were compared to students from families that were the least well-off.

Canada is a very diverse society – one of the most diverse in the world in terms of the mix of cultures and ethnic groups. This puts Canada's strong international showing in a special light – one that demonstrates that valuing equity and achievement are complementary goals.

What Do Trends in Dropout Rates Tell Us?

Canadians have come to recognize the vital role played by high school graduation – the basic prerequisite for moving into post-secondary education or for entering the world of work. So, another way of measuring success is to look at the percentage of young people who graduate from high school.

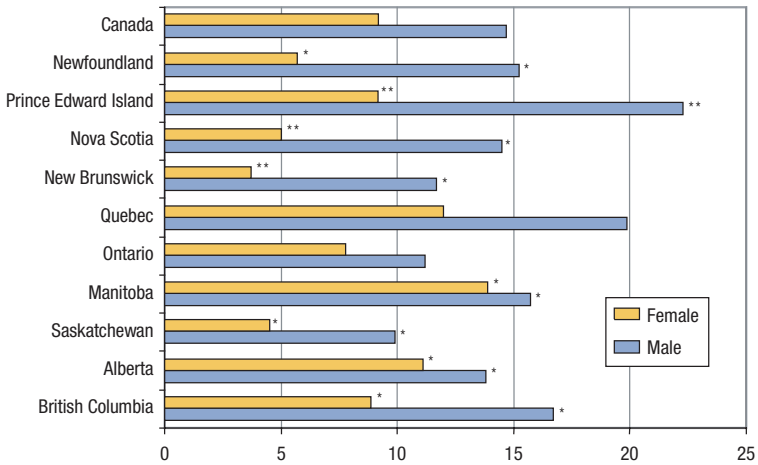
Substantial progress has been made in reducing the dropout rate in Canada. Nationally, it decreased to 12 per cent in 1999 from 18 per cent in 1991. Even with a more rigorous curriculum, students are staying in school longer in every province.

The largest reductions occurred in New Brunswick, Newfoundland and Labrador, Saskatchewan, and Nova Scotia. The smallest reductions were in Manitoba, Alberta, and British Columbia.

Societies that do best overall are the ones, like Canada, Finland, and Japan, for which the gap in achievement between socioeconomic groups is relatively small.

Despite the good news, dropout rates for boys remain high – a national average of 15 per cent, compared to girls at 9 per cent.

High School Dropout Rates Among 20-year-olds, 1999 (Percent)



Note: *The asterisks (* and **) identify estimates that have increasing levels of measurement error due to small sample sizes. Source:* Youth in Transition Survey 2000.

Dropout rates remain higher for boys than for girls and they are high in parts of the country and for some sub-groups.

And they are especially high in some parts of the country including locations in both rural and urban communities.

Why do young people drop out of high school? There are many reasons. Some relate to the school system itself and its ability to meet the needs of all students. They reflect family and social circumstances as well, with some students dropping out of school because they are experiencing problems in their personal lives. And others relate to economic conditions, with a strong local labour market attracting some youth to what they perceive to be jobs that pay them well.

Across the country, 'second-chance' opportunities are made available to allow young people who have dropped out to return to complete the requirements for high school graduation.

Minimum educational requirements are rising for most jobs and the long-term prospects for young people who don't finish high school are dismal. So we need to continue to work to ensure that all students graduate from high school. And we need to understand better why dropout rates remain high in some parts of the country and for young men in particular.

The Challenge of Pursuing Success on Many Fronts

Pursuing many goals at the same time presents challenges for our educational systems. We can ask ourselves, for example:

- At what point does raising academic standards result in more of the weaker students dropping out?
- To what extent do efforts that focus on increasing the high school retention rate come at the expense of overall achievement levels?
- What steps do we need to take to ensure high school graduation with high achievement for all students?

Alberta and Quebec ranked above the Canadian average in the PISA science, math, and reading tests. But, those provinces made less progress than some others in reducing the high school dropout rate through the 1990s.

In New Brunswick, smaller percentages of students achieved high scores in reading, math and science tests, but a lot of progress was made in reducing dropout rates to levels that are among the lowest in the country for both boys and girls.

Provinces and territories can and do have different priorities and these will change over time. They also have different strategies for achieving success.

The ultimate goal is high school graduation with high achievement for all. The challenge is to identify the most effective tools for achieving that goal.

Reducing the Dropout Rate in New Brunswick

In July 1999, New Brunswick introduced legislation that raised the compulsory school attendance age to 18 years or graduation. The first of its kind in Canada, the new law has resulted in a further decrease in the dropout rate in New Brunswick.

At the same time, the province introduced new programs to serve students at risk of dropping out. One of these is the Enterprise Program. Housed in a section of a high school, Enterprise is a school-district-run program that uses an adult-learner approach. It offers a new chance for students 17-19 who have had little success in the regular classroom setting and who may even have been out of school for several years. Enterprise is a self-paced, high-school-equivalency program based on continuous choice, high expectations, and a workplace-like ethic. The curriculum, which takes an average of 240 hours to complete, enables students to master basic academic subjects and gain 150 hours of work experience, job-readiness skills, and exposure to computers and other technology. Instructors facilitate the learning of up to 15 students who can join the program at any point during the school year.

The testimonials of students indicate why the program worked for them:

- "When you needed help you always got it."
- It was "a way to get my grades without having to compete with 30 other students – I didn't feel pressured to perform."
- "You are treated like an adult."

Measuring Achievement: the Bigger Picture

We expect a lot of our schools. Strong achievement in core subjects is one of those expectations. Reducing dropout rates is another. Ensuring that all students, regardless of their family situations, are able to achieve their best is another.

While considerable progress has been made in recent years in preparing statements of desired student achievement, much less progress has been made in assessing how well these results are being achieved. For example, while we often lament low levels of student knowledge of Canadian history, poor physical fitness or lack of critical thinking or problem-solving skills, little attention appears to be paid to finding out what students actually learn in these areas.

Illustration: Devon O'Leary, Student, Darcel Sr. P.S.

In fact, all the provinces and territories are developing statements of performance expectations that move beyond academic achievement in core subjects. For example, Alberta has identified 20 desirable outcomes, including social/cultural development, utilitarian skills, attitudes, personal well-being and skills for lifelong learning. The Atlantic Provinces have developed similar statements of expectations that go beyond the traditional core subject areas. British Columbia has begun to look at hard-to-define areas such as "social responsibility," while Manitoba is focusing on "improving outcomes especially for less successful learners."

Parents, the public, and governments all have roles to play in understanding the challenges and deciding on priorities.

Measuring Achievement on Many Fronts

Ideally, there should be some way to measure all valued goals of schooling. In practice, we have chosen to measure only a narrow range. Critics argue that this practice leads to excessive emphasis being placed on the few school subjects – math, language skills and science – that are measured. Often, an unintended result is that other valued outcomes are seen as being of lower priority. That can be reflected in cutbacks to funding for those programs or to the space allocated to them in the school curriculum.

The expectation is that our schools should meet all of the goals set for them. In a context of competing demands and fixed resources, this is a challenge. The role of parents, the public, and governments is to understand what these challenges are and to decide what the priorities should be, both at a system-wide level and at the level of individual schools.

System-wide testing will be most effective when used to develop improvement strategies that are focused on achievable goals to enhance student success.

Where Do We Go from Here?

The bottom line is that we finally have some good news in education. We should be proud of our achievements – and we should learn from them too.

How do tests contribute to positive change? They do this when test results are used to identify areas for improvement – whether in terms of curriculum, addressing the special needs of individual schools or other factors – and when that is followed by action directed at improving performance.

We can learn from our successes too. Success stories can be found at all levels of the education system. By sharing information across provinces, across school boards and districts, and across schools, we can learn how innovative approaches developed in all parts of the country can lead to improved performance.

Systematic efforts are underway nationally and within individual provinces and territories to establish priorities for education and to determine the scope of the outcomes to be measured. These have yielded valuable results, as demonstrated by the gains that have been made in student achievement.

But, in working toward the goals we set for our educational systems, it is important to recognize that schools, educators, and governments are not the only essential ingredients of success. Parents and communities also play vitally important roles.

Schools, educators, and governments are not the only essential ingredients of success. Parents and communities are also vital players.

We need to understand better all of the factors that contribute to strong learning outcomes. What policies and practices make for effective schools? Does class size matter? What is the appropriate role for technology in the classroom? What role can parents play in helping their children to achieve their best? What is the role of early childhood education in preparing children for school? How can communities and business contribute to achievement in individual schools? How can we provide better educational opportunities for Aboriginal children? These are all important questions. But, beyond the experts, few of us have much information on how different factors contribute to educational success.

The Learning Partnership plans to produce a series of Progress Reports on the Quality of Public Education in Canada. These Progress Reports will highlight the multiple ingredients of success and point to ways in which we all can contribute to providing the best public education possible for our children.

Our children deserve our best. The quality of the society we create depends on it.

Community Involvement Leads to Success in Manitoba

Student success is being improved in a northern Manitoba school division by having the school become part of the community and the community part of the school. Innovative programming developed in partnership with parents, elders and community members has transformed the Wapanohk-Eastwood Community School in Mystery Lake School Division from an isolated institution where parents were at one time reluctant to enter, into a vibrant centre of community activity and learning.

A Cree bilingual program has been locally developed with three dialects re-shaped into a single standardized syllabics font. Throughout the curriculum, the six seasons of the Cree have been incorporated and a traditional Aboriginal outdoor component added. Emphasis is on developing culturally-proficient teachers, providing culturally-relevant teaching materials, giving parents meaningful input into the operation of the school, and working with the community to make the school a hub for social activities.

As the school and community come together, students are finding school to be an enjoyable place and learning an exciting activity. A solid foundation for facilitating enhanced student academic achievement has been successfully created.

How to Use this Report

We encourage you to use this report in a variety of ways:

- **Share it with your neighbours and colleagues**
- **Discuss it at parent council and student council meetings**
- **Use it at parent-teacher interviews**
- **Talk to members of your local school boards and business partners**
- **Discusss these issues with your local community groups**

Canadians care about the quality of their public schools. Let this report inform the dialogue!

Let Us Know What You Think

As stated at the outset, we seek to engage people in a wide-ranging discussion of educational values, goals, and strategies to ensure that our children have the best public education possible. We therefore want to hear from Canadians about what they think about the issues raised in this report. We also want to know which topics would interest you for subsequent reports in this series. Please contact us:

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Who We Are

The Learning Partnership (TLP)

Our mission is to champion a strong public education system. We pursue this goal by conducting research and developing policy alternatives, by introducing innovative programs that help children to learn and by maintaining constructive dialogue with government, educators, business and the community about publicly funded education.

Canadian Policy Research Networks (CPRN)

Our mission is to lead public debate on social and economic issues important to the well-being of Canadians. CPRN's trademark is its ability to help policy makers and citizens debate the values, policies, programs and 'ways of doing' that will help the country cope with social and economic change.

Acknowledgements

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Related Readings

At a Crossroads: First results for the 18 to 20-Year-Old Cohort of the Youth in Transition Survey (2002). Ottawa: Human Resources Development Canada and Statistics Canada.

Measuring up: The performance of Canada's youth in reading, mathematics and science. OECD PISA Study – First Results for Canadians Aged 15 (2001). Ottawa: Human Resources Development Canada, Statistics Canada, and Council of Ministers of Education, Canada.

Some questions to think about

- What kinds of student achievement do you think should be measured?
- How can we balance multiple demands on our school systems and decide where to concentrate scarce resources?
- How can Canadian parents, taxpayers, communities work together with educators and governments to achieve educational success for our children?