FRONTIER CENTRE FOR PUBLIC POLICY
FRONTIER Backgrounder
BRIEF ANALYSIS

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Educational Achievement in Canada:

Alberta's choice-based model leads provincial comparison

Executive Summary

- The Canadian Education Statistics Council (CESC) has published a report on educational achievement in Canada.
- This report uses data from a variety of assessments. These include: the OECD Programme for International Student Assessment (PISA), the School Achievement Indicators Program (SAIP), and the Third International Mathematics and Science Study (TIMSS).
- While Canada does quite well when benchmarked against other developed nations, different provinces within Canada demonstrate are significant variations.
- Alberta consistently outperforms all other provinces in the assessed subject areas of mathematics, reading and writing and science. The CESC report notes that Alberta's students perform *significantly* better than those in other provinces.
- Stakeholders, including teachers' unions, have long argued that low pupil-teacher ratios will lead to increased educational achievement. However, Alberta has the highest pupil-teacher ratios in the country.
- Alberta's educational system is distinct from other provinces in two significant ways. It offers more parental choice and more accountability through standardized provincial examinations.
- Parents in Alberta have more educational choice than in any other province. Research indicates that increased parental choice leads to improved student academic performances.
- Alberta students write more provincial standardized examinations than those in any other province. This means that schools are held accountable in a very public way.
- Other provinces could emulate Alberta's success by enhancing parental choice and increasing accountability through standardized examinations.

Introduction

A quality education system is vital to the health and well-being of a nation and, as expressed in our public commitment to free schooling, is one of our most important

national values. An increasingly knowledge-based global economy dictates that Canadian students need to receive a solid education in order to be competitive.

The task of assessing educational achievement, and determining which programs for delivering skills are more successful than others, is therefore crucial. Fortunately, there is a way to compare achievement across provinces. The Canadian Education Statistics Program, a joint initiative of the Council of Ministers of Education and Statistics Canada, is governed by the Canadian Education Statistics Council (CESC).[i] The program collects student achievement results in the subject areas of mathematics, language arts, and science across the country. The data is sorted by province and made available to the general public. It reveals a number of patterns and trends.

Gathering the Data

CESC uses three main data sources to report educational achievement. They are the OECD Programme for International Student Assessment (PISA), the School Achievement Indicators Program (SAIP), and the Third International Mathematics and Science Study (TIMSS). While all provinces participate in the PISA and SAIP assessments, only five provinces, Alberta, British Columbia, Newfoundland and Labrador, Ontario, and Quebec, elected to have a statistically significant sample of students participate in TIMSS.[ii]

PISA is an international standardized assessment administered to fifteen-year-old students. Over forty countries participate. Areas assessed by PISA include mathematical literacy, problem solving, reading literacy and scientific literacy.[iii] The results from the PISA assessment in 2000 are used by CESC in its report.

SAIP is unique to Canada and has been conducted by the Council of Ministers of Education since 1993. Students aged 13 and 16 are assessed in the areas of mathematics content and problem-solving, reading and writing and science. The different subject areas are assessed on a cyclical basis and results are made available to the public.[iv] Results from the 1999 and 2001 assessments appear in CESC's report.

TIMSS is administered once every four years and assesses the mathematics and science skills of Grade 8 students. It was developed by the International Association for the Evaluation of Educational Achievement and currently has over sixty participating countries.[v] The CESC report makes use of data from the 1999 TIMSS report.

The Canadian Results

As one might expect, results vary quite widely across the country. Nevertheless, as a whole Canada does quite well compared with other developed nations. In fact, only Japan and the Republic of Korea significantly outperformed Canada in mathematics, while these two countries and Finland were the only nations to have substantially higher science scores than Canada. Overall, Canadian results are significantly higher than the OECD average in each of the subject areas tested.[vi]

The provincial results in the areas of reading, mathematics, and science are as follows. Provinces are listed from highest average score to lowest average score.

Reading Literacy Combined Scale (15-year-old students) PISA (2000)[vii]	**Mathematics Problem Solving (13-year-old students) SAIP (2001)[viii]**
Alberta	Alberta
British Columbia	Quebec
Quebec	Ontario
Ontario	British Columbia
Manitoba	Manitoba
Saskatchewan	Saskatchewan
Nova Scotia	New Brunswick
Prince Edward Island	Newfoundland and Labrador
Newfoundland and Labrador	Prince Edward Island
New Brunswick	Nova Scotia

***Science Written Component (13-year-old students)* SAIP (2001)[ix]**	**Science Assessment (Grade 8 students) TIMSS (1999)[x] [xi]**
Alberta	Alberta
British Columbia	British Columbia
Saskatchewan	Quebec
Prince Edward Island	Ontario
Quebec	Newfoundland and Labrador
Ontario	
Manitoba	
Nova Scotia	
Newfoundland and Labrador	
New Brunswick	

Analysis

One fact immediately stands out from these results. The Province of Alberta comes out on top of each of the assessments. Considering that the PISA, SAIP, and TIMSS assessments are independently designed and administered, it is highly improbable that one province would consistently have the highest results unless its education system is in some way superior. That conclusion is reinforced by the fact that in the CESC report the Alberta results were *significantly* higher than the Canadian average in all the categories.[xii]

What makes Alberta's public schools so uniquely successful that the province outperforms all others by a significant margin in each subject area? Teachers' unions across Canada have long argued that a significant determinant of educational success is pupil-teacher ratios.[xiii] The argument is made that smaller class sizes will lead to a better education for students. If this is the case, one would expect to find that Alberta has the lowest teacher-pupil ratios in the country since it clearly has the highest level of student educational achievement. Here is how the provinces compare on this item.

Pupil-Teacher Ratios—Smallest to Largest[xiv]	
Newfoundland and Labrador	14.1
Manitoba	14.7
Quebec	15.0
Nova Scotia	15.9
Ontario	16.3
New Brunswick	16.7
Prince Edward Island	16.8
British Columbia	16.9
Saskatchewan	16.9
Alberta	16.9

This makes it clear that there is no correlation between low pupil-teacher ratios and high educational achievement. While Alberta students consistently score highest on various achievement tests, the province's classrooms have more students per teacher than all other provinces except British Columbia and Saskatchewan. Viewed from the revese, Newfoundland and Labrador has the lowest pupil-teacher ratio, yet consistently had one of the worst rankings in the CESC report. Something other than pupil-teacher ratios must be responsible for Alberta's high achievement.

The Province of Alberta stands out from other provinces in two important respects. One of these is the level of educational choice. Research has shown that parents in Alberta have more choice in schooling than in any other province in Canada.[xv] [xvi] A number of public school districts in Alberta allow students to attend schools outside their neighbourhood. The Edmonton Public School Board goes even further, in that schools are encouraged to diversify in order to adapt to the needs of different parents and students. This willingness to allow parents to exercise choice has led to an increase in the number of students remaining in Edmonton public schools while the student achievement results on provincial exams have continued to show improvement.[xvii]

In addition, to encouraging regular public school districts to allow parental choice, Alberta is the only province to enact legislation permitting the establishment of charter schools. While the legislation only permits a small number of them to exist simultaneously, student achievement in charter schools has been impressive. For example, Foundations for the Future Charter Academy, a K-12 charter school with five campuses in Calgary, has had such impressive success in student achievement that it now has a waiting list of over 4,500 students.[xviii] Since research studies indicate that the provision of choice in other jurisdictions has a positive effect on student achievement, it is a reasonable conclusion that this dynamic is working for Alberta as well.[xix]

Along with allowing for the greatest amount of parental choice, Alberta also has the strongest level of educational accountability. Students in Alberta write more province-wide standardized exams than those in any other province. Students in Grades 3, 6, 9, and 12 are required to write annual standardized exams in four core subject areas, mathematics, language arts, science and social studies. In addition, Grade 12 students write standardized exams in their core subject areas that count for 50% of

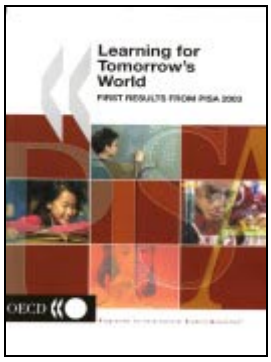
their final marks.[xx] Again, it is probably no coincidence that the province with the highest level of accountability for its schools also has the highest level of student achievement. The fact that its public school system is rigorously and objectively tested means that teachers and administrators quite simply try harder.

Conclusion

The Canadian Education Statistics Council (CESC) has provided an important service for the educational system in Canada by publishing data on student achievement in the various Canadian provinces. By using data from a variety of independent sources (PISA, SAIP, and TIMSS), the results can be given significant weight. One of the most notable results of these assessments is that the province of Alberta consistently comes out on top and performs significantly above the Canadian average.

While teacher unions have argued that one of the most significant factors in educational achievement is a low pupil-teacher ratio, this belief does not fit with the evidence CESC provides. The top-performing province, Alberta, is tied with two other provinces for having the highest pupil-teacher ratio in Canada while the province with the lowest pupil-teacher ratio, Newfoundland and Labrador, has some of the worst results on the assessments.

In contrast, Alberta's educational system has two things that make it distinct from all other provinces. Parents have more educational choice in Alberta than anywhere else and Alberta is the only province to have enacted charter schools legislation. In addition, students in Alberta write more provincial standardized exams than students in any other province. These two factors are at least partly responsible for Alberta's superior results in student achievement.



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Endnotes

[i] Canadian Education Statistics Council, *About CESC*. http://www.cesc.ca/aboutE.html
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[viii] *Ibid.*
[ix] *Ibid.*
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[xi] Results not available from Manitoba, Saskatchewan, Nova Scotia, New Brunswick, and Prince Edward Island.
[xii] *Ibid.*
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