Atlantic Institute for AIMS Market Studies

TESTING & ACCOUNTABILITY:
THE KEYS TO EDUCATIONAL EXCELLENCE IN ATLANTIC CANADA

CHARLES CIRTWILL
ROD CLIFTON
JOHN D'ORSAY

RESEARCH REPORT

February 2002

Atlantic Institute for Market Studies

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a) initiating and conducting research identifying current and emerging economic and public policy issues facing Atlantic Canadians and Canadians more generally, including research into the economic and social characteristics and potentials of Atlantic Canada and its four constituent provinces

b) investigating and analyzing the full range of options for public and private sector responses to the issues identified and to act as a catalyst for informed debate on those options, with a particular focus on strategies for overcoming Atlantic Canada's economic challenges in terms of regional disparities

c) communicating the conclusions of its research to a regional and national audience in a clear, non-partisan way

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John has served extended terms on the Boards of Oxfam-Canada and Voluntary Planning Nova Scotia. He has been employed as a researcher, representative, advocate and executive director with unions representing government employees, nurses and university faculty.

Executive Summary

When basic language, math and science skills are assessed, students from Atlantic Canada consistently perform below the level of their national and international peers. In the lower grades this gap is small, but as skill levels advance, the lag between Atlantic Canada and the rest of the country becomes significantly more pronounced. Quite simply, the longer a student stays in an Atlantic Canadian school the greater a competitive disadvantage they have to overcome when they enter the global marketplace looking for work.

It is very easy to say that this gap is the direct result of declining education spending in our region. In the furore over education expenditures, however, the achievement of students and schools has not been given the intense scrutiny that is required. There remains an insufficient level of consistent, reliable measurement of educational outcomes. Nevertheless, it is clear that taxpayers, and the students they help support, are clearly getting less for their investment in education than they deserve and certainly less than their counterparts in some other provinces.

Developing sound monitoring systems and using standardised examinations can be helpful in ensuring that effective teaching and administration of schools takes place. Governments cannot claim to be properly managing our educational resources, money and students, without using standardised tests for basic benchmarks. To be of value, however, these test results must be reported showing school, school board, and provincial achievement standards, so that teachers, parents, and taxpayers can determine how well students are functioning in comparison with other students.

None of the testing programmes put in place in the Atlantic Provinces provide an indicator of effectiveness. There is no published analysis which considers the impact of the differences in students' initial preparation, family advantages, or opportunities for learning outside the schools in establishing a school's score.

This paper assesses the performance of each of the Atlantic Provinces in undertaking suitable testing and reporting the outcomes as follows:

Prince Edward Island has no system of standardized testing at all. Parents and students are completely in the dark about the performance of their schools, in both comparative and absolute terms.

Nova Scotia has continuing serious deficiencies in its reporting programme and the intervals between tests. Nova Scotia Achievement Tests, designed to test achievement in language arts, mathematics, history, social studies, and science, were discontinued in 1997. The province's current programme provides less information and analysis for the managers and consumers of education than was available previ-

ously. While plans are in the works to provide more information to parents and taxpayers the fact remains that, at present, decisions at all levels about the second-largest public expenditure in the province are less informed than they were. The basis for meaningful debate and discussion about quality and improvement is weaker than it was.

Newfoundland and Labrador is committed to using standard tests for high-school completion, testing on a cyclical basis in core competencies at other levels, and has recently moved to reporting results at the school level. Lack of annual testing and reporting, however, creates significant data gaps.

New Brunswick's programme provides a better model than any other Atlantic province for reliable, comparable assessment. The province considerably enhanced its assessment programme following the recommendations of the 1991 Commission on Excellence. Even more notably, the effort to communicate assessment information to the public has been developed with annual "report cards" for the anglophone and francophone systems. The grades awarded at high-school completion are a composite of the provincial-examination marks and marks awarded by teachers. The average grade on the provincial examination, the teachers' marks, and the pass rates for each school are published as part of the annual report cards. In addition, the results on provincially administered tests in French for core and immersion students at the end of grade 12 and corresponding English evaluations for students in the francophone system are published in the report card.

While this is the best school accountability performance record in the region, it still falls well short of the ideal.

In each Atlantic province, detailed information for individual schools must be made more widely available if the education system is to be truly accountable for results. If such information is made available system-wide, this can form the basis for a policy of open choice of school by parents and students, with resources following the student. Evidence shows that where choice among public schools is possible within the context of comprehensive, relevant and accessible information about individual school performance, that performance is enhanced. Not only are good schools rewarded for their success, but poorly performing schools can be quickly identified and appropriate steps taken to put them on the path of improved results. Thus clear comparable information about the performance of each school in the region, based among other things on appropriate standardised testing, is absolutely crucial to a regime where schools are accountable for their results, parents and students have maximum choice based on relevant information, and educational excellence is the ultimate goal.

Section 1
Introduction

How do we know if the schools we rely on to teach our children are doing a good job? And what, if anything, can a parent do if their child is not receiving a good education? To answer the second question we must, of necessity, answer the first. The fact is we could know a lot more about how well children are performing in schools. The information we do have, however, shows that students in Atlantic Canada are being short-changed. Consider that:

- Atlantic Canadian students consistently under-perform relative to their peers elsewhere in the country.
- Education systems in Atlantic Canada prevent schools from being held accountable for the low achievement of their students.
- Standardised tests that can be used to inform teachers, parents, and education administrators about their programmes have not been fully implemented in the region.

These are serious issues, particularly at a time when many paths to social and economic well being, particularly for the Atlantic region, may be unavailable to those communities that lack a well-educated population. The Labour Force Surveys of Statistics Canada clearly show that, as educational levels (and proficiencies) of students increase, so do, at a later time, their average earnings and their rates of employment.

Not all children need to attend university, but all children need to be able to perform the most fundamental skills, skills that should be taught to them in the early, pivotal years of schooling (Heckman 1999). Unfortunately, it appears that the education systems in Atlantic Canada are falling short on this, their most fundamental obligation. Even worse, neither the departments of education nor the school boards are providing reliable accountability measures to identify problems and ensure that the educational needs of students are being properly met.

1. The Students Are Not Doing Well

In the early 1990s, the Council of Ministers of Education, Canada (CMEC) developed the Student Achievement Indicators Program (SAIP) to assess the performance of 13 and 16year-old students in mathematics, science, and language arts. The information derived from these exams, together with that derived from the testing systems of individual jurisdictions, was expected to give the ministers of edu-

cation, school superintendents, principals, and teachers a basis for examining curricula and student performances within and between provinces.

In the series of SAIP reports released to date, achievement is presented at five outcome levels, representing a continuum of proficiencies. Students in the Atlantic Provinces consistently perform below national averages.

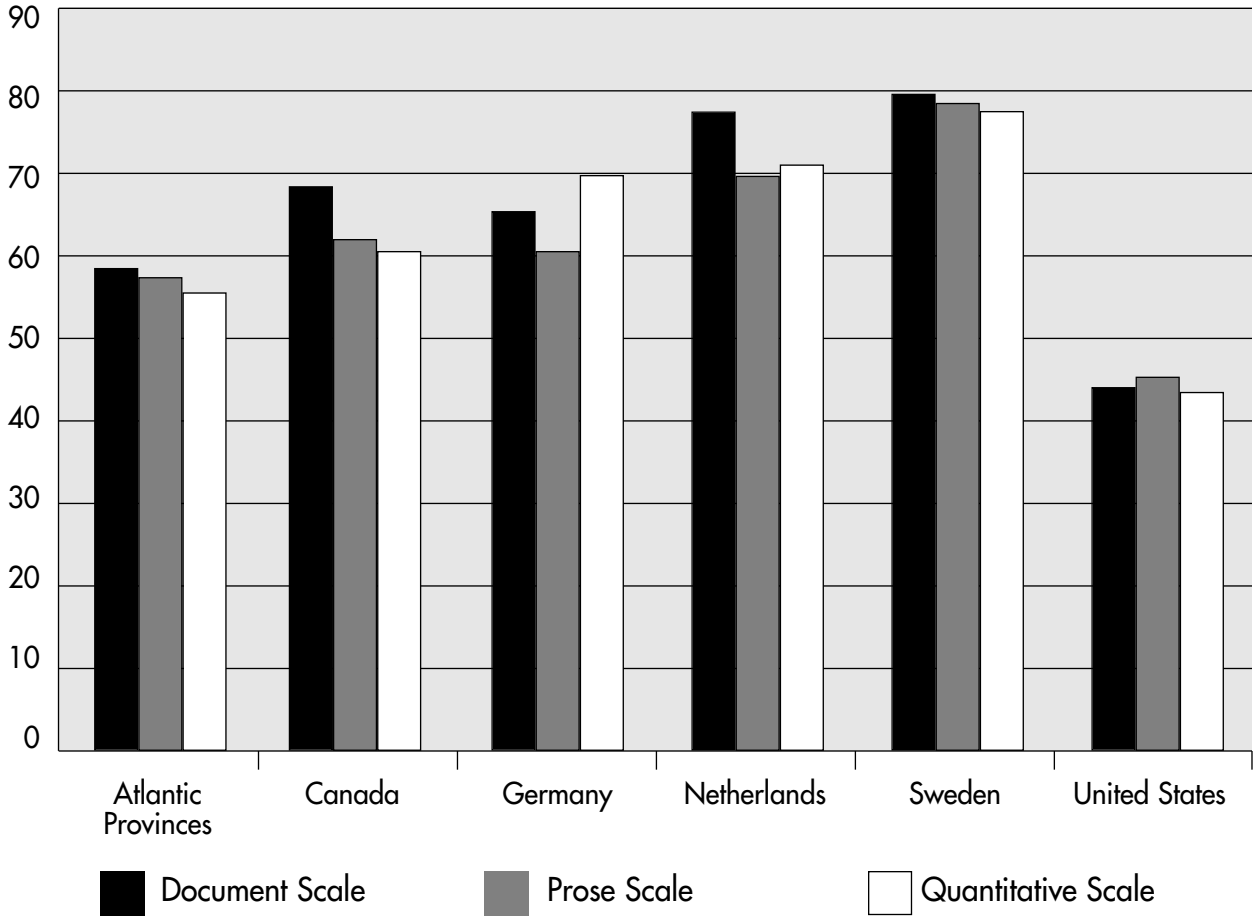
In 1996, the science exams were taken by roughly 37,500 13 and 16 year-old students, randomly selected from all provinces and territories in the country. In 1997, approximately 48,000 students in these age groups wrote the mathematics exams; in 1998, 46,000 students were tested for reading and writing skills; and in 1999, about 31,000 students wrote, for the second time, science exams. The evidence reported from these examinations (Statistics Canada 2000, 77-91) supports an earlier study by the Economic Council of Canada (1992) that suggests that students in Atlantic Canada are not doing as well academically as students in many other parts of the country.

For Atlantic Canada, in each of the years standardised testing occurred, the news was bad:

- For all three subjects and in all four provinces, the performance of both French and English students was consistently and often significantly below national averages.
- At the lowest measures of performance students in the Atlantic region were generally similar to, albeit a bit below, the rest of Canada.
- As the skill levels advanced, Atlantic Canadian students showed increasing lagging behind their peers in the rest of the country.
- These results are consistent with the lower comparative performance for the Atlantic Provinces, as opposed to Canada as a whole, in the International Adult Literacy Survey of 1994-95.

For all three subjects and in all four provinces, the performance of both French and English students was consistently and often significantly below national averages.

Percentage of the population aged 16–25 at level 3 (mid range) or above in the International Adult Literacy Survey 1994–95[1]



Source: *Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program 1999.* Ottawa: Statistics Canada and the Council of Ministers of Education.

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[1] IALS measured three types of literacy:

1. Prose literacy—the knowledge and skills needed to understand and use information from texts, including editorials, news stories, poems, and fiction;

2. Document literacy—the knowledge and skills required to locate and use information contained in various formats such as job applications, payroll forms, transportation schedules, maps, tables, and graphics;

3. Quantitative literacy—the knowledge and skills required to apply arithmetic operations to numbers embedded in printed materials, such as balancing a cheque-book, figuring out a tip, completing an order form, or determining the amount of interest on a loan from an advertisement.

The level of proficiency in each skill was determined using a five-point scale, which assessed abilities and strategies required to succeed at various literacy tasks. For example, a level three performance would be the minimum for efficient day-to-day living in an advanced democratic country.

Beyond the low level of relative performance is the question of comparative success in keeping youth in school at all. In all provinces and territories, students are forbidden to drop out of school, by law, before they reach 15 or 16 years of age, but some do so anyway. Unfortunately, the provincial departments of education do not collect very good data on the students who withdraw before completing their secondary education (Schweitzer *et al.* 1995, 22). Consequently, many of them calculate the secondary-school dropout rate by comparing the high-school diploma recipients as a percentage of grade-9 enrolment four years (and in Quebec, three years) earlier. Using this method, in 1990–91, approximately 32 per cent of the Canadian age cohort did not complete secondary school (Schweitzer *et al.* 1995, 22). The Canadian dropout rate is substantially higher than the rates for other G7 countries (Statistics Canada 2000, 89–92).

This method of calculating dropout rates often misrepresents students who withdraw from school and then return to complete their secondary education. To collect better data, in 1991 Statistics Canada surveyed 9,460 people between the ages of 18 and 20 and asked them whether they were still in school, had graduated, or had dropped out. Using these data, it was estimated that approximately 18 per cent of the 20-year-old cohort had not graduated from secondary school (Gilbert *et al.* 1993).

Dropout rates from Canadian schools seem to be higher than in many other industrialised nations. In 1991, the OECD calculated the percentage of 17-year-old children who were enrolled full time in secondary and post-secondary educational institutions in 20 industrialised nations. Canada was ranked ninth, with 79.3 per cent of its 17-year-old children in school; in top-ranked Japan, 88.8 per cent of 17-year-old children were in school (Schweitzer *et al.* 1995, 22).

Considering the high dropout rates and the low level of comparative performance, it is perhaps not surprising that the confidence Canadian citizens have in public education has been declining since 1990. Specifically, the percentage of people rating their province's schools as doing "a good job" decreased from 56 per cent in 1990, to 48 per cent in 1992, and to 39 per cent in 1993 (Guppy & Davies 1999, 270).

Critics of the education system often complain that insufficient funding is the cause of many of the academic shortcomings in Atlantic Canada. In fairness, education funding has decreased across Canada, but to talk meaningfully about the consequences of educational cutbacks, we need to measure how students, and schools, perform on standardised exams such as the SAIP tests. Without standardised instruments for measuring the performance of students, it is impossible to demonstrate, negatively or positively, whether decreased funding affects student performance.

2. Taking Stock

The SAIP tests provide a basis for comparing provinces because they are based on samples of students drawn within each province. The SAIP does not, however, provide data on the performance of individual students, schools, or even school boards. In gauging the performances of individual students and schools, we need to measure educational outcomes of all students, at specified levels, within each and every school in all the provinces.

At present, in most Atlantic Provinces, a school can set its own benchmarks for performance and can only compare itself to itself at previous times. Moreover, the standards of any one school or school board may be quite different from those of other schools or school boards. There are instruments, however, that are available to establish comparable standards in education across provinces, school boards, and schools. As will be shown in Section 2, standardised tests are arguably one of the best monitoring instruments available. Without using these tests, we cannot have a reliable understanding of how our students, schools, and school boards are doing relative to each other.

This situation has been allowed to persist because none of the four Atlantic Provinces has fully implemented standardised testing in spite of efforts by the Atlantic Provinces Education Foundation (APEF) to get them to develop and use region-wide testing programmes.

An early step in improving student performance in the Atlantic region is to define the outcome desired. The APEF has developed detailed statements of the learning outcomes and standards of performance expected for students in various grade levels. These standards have provided the basis for developing a common curriculum for students from kindergarten to grade 12. This curriculum, called the Atlantic Common Curriculum (ACC), covers the subjects of mathematics, language arts, and science.

At the same time, the APEF has established standardised examinations at the grade 12 level. These exams will enable students, parents, administrators, and potential employers to know whether the students have achieved the anticipated level of learning. It now appears that neither the curriculum nor the tests will ever be fully implemented. Trials for region-wide standardised testing at the grade 12 level were conducted in 1997, but regional examinations have not been used. The prerogative to implement standardized examinations ultimately remains with each provincial department of education.

For example, Nova Scotia has already begun testing grade 12 students, using the APEF exams, in a number of subjects including biology, chemistry, and physics. English testing has been in place for two years, and math exams are now in the testing phase. Prince Edward Island, on the other hand, has not even committed itself to administering any of the exams designed by the APEF.

What has resulted from this piecemeal approach? In the ten years following the agreement to develop a common curriculum, schools in the Atlantic region have graduated a whole generation of students

without fully knowing if they left the Kindergarten to Grade 12 (K–12) system with an education that is on par with their peers (and competitors in the job market) nation wide. And, the education system still has little information to give to its students, their parents, and employers about how well the students, or their schools, are doing. Despite this, the little data that is available suggests the educational systems in the region have served their citizens poorly.

3. Atlantic Canada; lost in transition

Out of all this comes a heightened awareness that something inherently structural is drastically amiss in the region's K–12 education systems. It also becomes evident that taxpayers, and the students they help support, are getting less for their investment in education than they deserve and certainly less than their counterparts in some other provinces.

In the furore over education expenditures, the achievement of students and schools has not been given the intense scrutiny it deserves. There are two main reasons why this has been allowed to occur. First, the implementation of standardised testing in the region has been slow and unsteady. Provincial governments have, to varying degrees, let an important benchmarking instrument become mired in implementation difficulties. Consequently, there remains an insufficient level of consistent, reliable measurement of educational outcomes. Second, as described below, parents need to be made more accurately aware of the importance of standardised examinations for determining how well our students and their schools are doing.

4. Powerless Parents

As a result of this insufficiency of useful data, parents in Atlantic Canada are ill informed about the performance of their children and their schools. Moreover, even when there are clues that their children are missing out on a high-quality education, parents have little recourse. The provision of education remains highly centralised and monopolistic, and parents cannot improve their children's education without spending considerable time and money. As James Heckman (1999, 100, 107), one of the two Nobel laureates in economics for 2000, has noted, "Public schools are local monopolies with few competitors... The problem in public education is primarily due to muted incentives, not to inadequate resources." This is also the basic message of *The Reformation of Canada's Schools* by Mark Holmes (1998).

Giving parents the ability to choose which school their children attend is one way to introduce a certain degree of accountability into the education system (Holmes 1998; Hepburn 1999). With parental choice, schools and school boards face real consequences for the educational outcomes of their students. Good schools and good school boards will attract more students while poor ones will attract fewer students. Poor schools will be encouraged, if not compelled, to improve or to close.

Accountability is about consequences. In this particular context, it's about people in educational bureaucracies taking responsibility for both the positive and negative outcomes that result from the performance of their students. There are other ways to introduce accountability to the education-delivery system – awards, rewards, incentives, and penalties – but there is nothing in the current allocation of resources that indicates that teachers, principals, and superintendents face any consequences based on the quality of education they provide to our children.

5. What do we know?

Very little can be said with certainty about the K-12 education systems in Atlantic Canada, except that it is lagging behind those in Western Canada. But we won't know exactly how far it is lagging until proper testing has been implemented on a student-by-student and school-by-school basis. Considerable evidence suggests that standardised testing is the best way to monitor both student and school performances, but we don't know when, if ever, the Atlantic Provinces will fully implement appropriate assessment instruments.

Parents can find out through word of mouth that one school *might* be better than another, but they can't know for sure without proper information systems in place to provide them with sufficient performance data. Parents are also aware that they face a monopolistic, centralised education bureaucracy but do not have all of the information and resources they need to hold it accountable for its shortcomings in educating their children.

So what do we know? We know that blindly pouring more money into education will not result in educational outcomes on par with the level of expectations parents have. In fact, the total cost of education in Canada increased from 4.4 per cent of GNP in 1960 to 7.0 per cent in 1996. At present, Canada spends a greater proportion of its GNP on education than any other G7 nation - more than France, Germany, Italy, Japan, the United Kingdom, or the United States (Statistics Canada 1997, 99).

We know that without serious structural reforms in Canada, and especially in Atlantic Canada, badly needed improvements in schools and in the performance of students will not be achieved. And finally, we know that the keys to educational improvement are standardised examinations and the accountability that flows from reliable and valid programmes of testing. With some firm steps to test and enhance credibility, we could, in fact, go a long way towards meeting the needs of students, parents, and employers in Atlantic Canada.

Section 2
The Case for Standardised Testing

Developing effective monitoring systems and using standardised examinations can be helpful in ensuring that effective teaching and effective administration of schools takes place (Traub 1994). In fact, standardised testing is a very important means for ensuring that teachers are accountable for the things that they do in classrooms. Meyer and Rowan (1978) note that education is a "loosely coupled" institution, which means that teachers are under little supervision and can change the syllabi for any number of reasons. Under this condition, standardised tests help teachers to focus on the basic objectives of the syllabi and not to divert their attention to secondary objectives.

Nevertheless, many people have criticised the development and implementation of standardised examinations. Some critics have said that these tests are unreliable, some have said that teachers are being forced to "teach to the tests", and others have said that the tests are too expensive (see MacPherson 1994; Traub 1994, 20; Wiebe 1999). As the following section will demonstrate, many of these criticisms are either misplaced or based on common myths surrounding standardised testing.

1. What Are Standardised Tests?

Technically, standardised tests for educational achievement are *criterion-referenced tests* that have items derived from, and weighted in terms of, the objectives of the curriculum, which teachers expect, or should expect, students to achieve. To call a test "standardised" means that it is a relatively objective test that yields the same score for all students who achieve the same performance outcome irrespective of their school, school board, or province. To call a test "criterion referenced" means that it measures student achievement against a predetermined standard, or criterion, such as a specific set of grade-6 reading or mathematics skills. In other words, good standardised tests cover the material that the students were expected to cover in the curriculum at the level that the committees of teachers and specialists who developed the curriculum and designed the tests thought was adequate for the specific subject and the specific grade level.

In addition, proper procedures would have been used to ensure that the items were pre-tested on samples of students and rewritten to eliminate ambiguities and to ensure that the test represents, as fully as possible, the curriculum. In addition, the tests are marked by a number of teachers who are specifically trained and who follow protocols, so that, to the best of their judgement, the same level of achievement by students in various schools, school boards, and provinces receives the same score.

2. Do Other Professionals Use Standardised Tests?

Thousands of tests like this are used in many different fields. In fact, the history of science, both physical and social, has often been written as the history of the standardisation of measurement. In the physical sciences, we have learned to measure things like weight, distance, mass, and time, and for economists, concepts like value, marginal utility, and gross domestic product. Otis Dudley Duncan (1984) describes this phenomenon in his valuable book *Notes on Social Measurement: Historical and Critical.*

To cite a commonplace example, the police use a standardised criterion-referenced test to determine if people are drunk while driving. It is called a Breathalyser, and it determines, with a relatively narrow margin of error, the blood-alcohol content of drivers. Some years ago, police used another test, one that had a greater margin of error. They drew a line on the ground and asked drivers they suspected of being drunk to "walk the line." People who "fell off" the line would be charged with drunken driving. This test was not standardised; the performance of individuals was affected by a number of extraneous factors, their nervousness, whether they had the flu or an inner-ear infection, and, more importantly, the subjective judgement of the police officer conducting the test. Most of us would probably agree that a Breathalyser is a better instrument for judging the sobriety of drivers than the subjective judgements of police officers.

Another common criterion-referenced test that many people are familiar with is the instrument used by optometrists to help them prescribe glasses. You can, if you want, try on reading glasses and when you find a pair that help you see better, you can buy them. Glasses were obtained this way before prescriptions became the norm. Most of us would probably agree that optometrists using a standardised instrument are likely to do a better job of helping us obtain the appropriate lenses.

Standardised criterion-referenced tests are also used by medical, engineering, and law societies to determine if graduates from accredited university programmes have achieved acceptable standards of performance in both knowledge and skill. These professions need an examination that is independent of those given by universities for three reasons: first, they need to ensure that universities are providing students with enough of the knowledge defined as essential by those practising the profession; second, they need to protect citizens from those who are potentially incompetent; and, third, they need to protect the profession from lawsuits.

Again, standardised tests are relatively objective tests that yield the same score for people who have the same performance. Unstandardised tests, such as "walking the line," are more often than not scored differently by different people on different occasions. Consequently, unstandardised tests are inherently unfair to some of the people who have been assessed. In other words, standardised tests are more reliable and more valid than unstandardised tests. In fact, there is little debate about the effectiveness of these standardised instruments.

3. Do People Support the Use of Standardised Tests in Schools?

Most of us would rather have the police use Breathalysers to determine if we are inebriated and laser guns to measure the speed at which we are driving than have them use the subjective instruments they previously employed. We have a good reason to support these standardised, criterion-referenced tests. The reason is, of course, that we expect fairness and equality of treatment.

Nevertheless, when it comes to standardised tests used to assess the academic achievement of students, there are a number of vocal critics. Many critics charge that the emphasis on standardised tests has led to an epidemic of "teaching to the test"; others have charged that standardised tests "kill the creativity" in teaching and learning. For example, the Nova Scotia Teachers Union disputes "the claim that higher standards and better assessment tools will improve learning and produce higher achievement" and, like many other opponents, is of the opinion that standardised testing "drives the curriculum to the point where we lose sight of what we mean by learning." Moreover, it states: "it is obvious that teacher-made tests based on the curriculum taught in the classroom are neither respected nor considered sufficient" (Berryman 1995).

Likewise, the Newfoundland and Labrador Teachers' Association, while being less explicitly fervent in its opposition to standardised testing remains officially sceptical, drawing attention, in its position paper that preceded the 1999 provincial election (1999), to its concern that "an outcomes-driven curriculum, assessment and accountability measures, have been introduced without proper supports or consultation" and expressing doubt about the "process of teaching to outcomes" and worry that standardised tests are a time-consuming exercise that would "certainly interfere with time for regular instruction."

These criticisms are quite typical, but they are overblown. First, if the tests involve tasks that are closely related to the objectives of the course, teaching to the test is, in fact, teaching to the objectives. Second, the tests are often minimum-competency tests, which means that they cover the core objectives and there is considerable opportunity for teachers and students to be creative in moving beyond those objectives. There is also full opportunity for creativity in how students are enabled to acquire these competencies; testing whether the destination has been reached or surpassed does not require that everyone follow the same path. Teachers must, of course, help students achieve the core objectives, and if they do not, this fact will become self-evident when the students take the test. This is to be expected and accepted. It is surprising that we do not hear the same criticisms about Breathalysers, laser-guns, optometric instruments, the standard assessment of aircraft pilots, professional-certification exams, and the thousands of other standardised, criterion-referenced tests that are used in other professions.

A Gallup public-opinion poll (using standard procedures) conducted in the middle 1980s showed that approximately 94 percent of citizens supported the use of standardised tests for assessing the achievement of students. In fact, about 69 percent of the respondents were strongly supportive (Roberts & Clifton 1995, 289). In a smaller study of the residents of Winnipeg, 76 percent indicated that standardised tests

should be used to measure the performance of students (Forde *et al.* 1993, 8). In other words, the critics, even though they are often very vocal, do not seem to represent the concerns of most citizens. Far from being against standardised tests, the general public, particularly parents, are in favour of them.

4. Are Standardised Tests Adequate for Judging the Achievement of Students?

Good classroom assessment begins with a teacher's own observations and measurement of what students are learning. Teachers spend between 20 and 30 percent of their time assessing the work of students. For good teachers, teaching is a cycle of setting tasks for students, instructing them, and evaluating their progress to determine whether further instruction is needed or whether they are ready to move on to new learning tasks. The purpose of evaluation is to determine if the students know the material well enough that they can move on to new material.

Making comparison between students or comparing student achievement to formal standards requires careful testing. Unfortunately, many teachers never take courses in psychometrics, which includes the theory and practice of developing and administering tests. Many never study ways of improving the reliability and validity of their assessment procedures. Consequently, many teacher-constructed tests have rather low reliability and validity coefficients, something that many teachers do not know. Many in the field believe that all teachers should know psychometric theory and should be able to demonstrate ways of creating reliable and valid assessment instruments for their students.

Committees of teachers, specialists in psychometrics, and specialists in the subject area usually create standardised examinations. Psychometric procedures for creating good tests are often followed during such collaborations, and the psychometric properties of the tests formally assessed. Consequently, standardised tests are generally fairer to students, particularly to disadvantaged students, than teacher-created tests, because they more adequately cover the curricula and more adequately measure the varying performances of the students. In fact, of all the assessment instruments that have been developed in the social sciences, the best instruments are standardised, criterion-referenced achievement tests. Well-designed achievement tests have much higher reliability and validity coefficients than do tests that have been developed to measure other social and psychological characteristics of students.

Teachers who participate in developing or marking standardized tests and comparing their evaluations with those of other teachers will normally improve their understanding of the standards and develop better skills in evaluating their own students. Later they can use this knowledge to improve the assessment of their own students in their classrooms. In addition, after the tests have been given, a department of education can publish school, school board, and provincial norms so teachers can determine how well their students are functioning in comparison to students of other teachers and in other schools. Information from standardised tests can be helpful to teachers, students, principals, superintendents, and parents because they supplement teachers' assessments with additional information.

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The information from standardised tests can never replace the formal and informal assessments that teachers make of students day-by-day and week-by-week. In other words, the results from standardised tests can supplement teachers' assessments with additional information; they cannot replace the assessments that teachers already use, even though, for many teachers, their understanding and use of testing procedures could be substantially improved.

What standardised tests offer us that we cannot get without them is, in a word, "comparability"– comparability in the context of the "big picture." It isn't enough for teachers to compare their students' achievement with that of students who are one room down the hall and then to use only that information to make decisions about instruction. It isn't very useful for parents to compare their children's performance with that of a few other children and then to make decisions about the effectiveness of the teachers and the schools. These comparisons are too limited. We need to back away from this type of comparison to understand the situation from a broader perspective. This is what standardised tests enable us to do – to back off a bit and to see the bigger picture. Evaluation and testing is not just about assessing whether an individual student is making progress in a subject, it is also about finding out if the school – or the school system – is providing the kind of environment and quality of support that students need. This is the big picture.

5. Are Standardised Tests Useful for Judging the Performance of Teachers and Schools?

There are two purposes in using standardised tests in education. While their most important role is in helping to identify the strengths and weakness in the learning of individual students, they are also useful in helping teachers, students, school administrators, parents, and other citizens evaluate the effectiveness of instructional programmes. Of course, there are more problems with the second purpose than with the first.

Some school administrators and teachers are justifiably concerned that the average performance of students in a single classroom, during a single year, will be used to evaluate the effectiveness of a teacher or a principal. But the achievement of students is affected by many variables other than the actual teaching that has taken place in the classroom. A number of students, for example, may be ill with the flu and this may affect their performances on a test, standardised or otherwise. In some classrooms, there is more than a 100 percent turnover rate of students during a school year. Some schools have advantages because their students' parents are better educated or are more willing or able to support their children's learning. Consequently, an assessment of students does not necessarily represent the effectiveness of a specific teacher.

All of this simply means that the results of standardised tests must be interpreted sensibly. Standardised tests can provide a valuable index of student achievement and of instructional effectiveness, but they cannot be used as the only measure of students' or of instructional programmes' strengths and weaknesses.

On their own, tests are incapable of harming students, teachers, or principals. The way in which the results of tests are misused, however, is potentially harmful. Critics of standardised tests often overlook this important distinction, preferring to target the instruments rather than the people who interpret the results of tests. It is irresponsible to blame all testing problems on the tests, especially if the tests are well designed, while absolving the people who interpret the results of tests – parents, teachers, principals, superintendents, and trustees – from all responsibility.

In education, people interpret the results of tests, and they need to understand what tests can and cannot tell them. Standardised tests can be helpful if they are well designed and if they are used properly. In order to balance the need for testing against intrusion into instructional time, testing may be done at intervals of several years, grades 3, 6, 9, and 12, for example. An OECD-supported review of testing practices notes that testing is inseparable from analysis and that "[a]ny published indicators of performance should be as varied as possible, and avoid single measures that rank schools' output with no reference to the quality of their intake" (Hirsch 1994, 50).

6. Are Standardised Tests Worth the Money?

The answer to this question depends on the value citizens place on having information about students and programs of instruction that is collected independently of the information amassed by teachers. Generally speaking, education expenditures represent one-fifth of the provincial budgets for all four Atlantic Provinces. In light of our massive public investment in education, second only to that in health (Source: Provincial budgets, 1999/00), it is just as a matter of prudence that we measure what value we are obtaining from educational expenditures.

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Independent auditors, who do not work for the investment managers, for instance, constantly audit investment portfolios. These people often spend more than one per cent of their company's income in audits, which is about the cost of developing and implementing an effective standardised testing program for students in four grades. In this respect, standardised tests represent a performance check on the teachers, principals, superintendents, and trustees who manage the education of our children and spend our school dollars.

7. Are Standardised Tests Enough?

Few people question the usefulness of standardised tests in other professions. Not many people would argue that standardised accounting procedures should be discontinued or that bar examinations should be eliminated. As with other professions, properly used, well-designed standardised tests can give teachers, school administrators, and parents feedback to determine whether students have attained the desired learning objectives and whether they are ready for new ones.

Without a doubt, the tests must be well designed, and the results must be interpreted with caution and must not be overgeneralised. Properly interpreted, the results of good tests can inform citizens about the effectiveness of instructional programmes. While no one can claim that standardised tests are flawless, one can claim that they are useful, because students' responses are assessed in a relatively objective manner on items designed to measure the core objectives of a course in a way that is consistent and fair for all students.

However, it is also important to recognise that standardised tests are not designed to predict the future. When a person passes a driver's test, a standardised instrument that measures both knowledge and skill, no one can say with certainty that the person will never speed, run a red light, or cause a serious accident. Similarly, no one can say that children who score well on a standardised English language-arts test will be good at reading and writing throughout their lives.

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What does one do with the results of standardised tests once they are known? Obviously, other pieces of information are needed to have effective educational reforms. There needs to be mechanisms that both compel and enable schools and school boards to use the results of standardised tests to improve their procedures. There should also be mechanisms to give parents and students an opportunity to do something about unsatisfactory outcomes. The standardised tests provide information that can be the basis for effectively managing schools and for making them and their managers more accountable to parents and students.

The kind of information available from testing lets us move beyond school inspectors to create and support new ways to involve citizens and more meaningful ways to discuss education as a government programme. The OECD has reviewed testing programmes in member states and declared that "public authorities can perform a significant function in providing better information about schools, which otherwise tends to be available through informal sources not equally obtainable by all parents and pupils"(Hirsch 1994, 50). It is not just a matter of creating the data and letting the schools disclose as they please. To be effective, a comparison of schools should follow a consistent method: "Excessive reliance on self-presentation by individual schools may also be undesirable, and the possibility of parent information centres providing neutral guidance merits attention" (Hirsch 1994, 50).

Public authorities can perform a significant function in providing better information about schools, which otherwise tends to be available through informal sources not equally obtainable by all parents and pupils. Any published indicators of performance should be as varied as possible, and avoid single measures that rank schools' output with no reference to the quality of their intake. "Excessive reliance on self-presentation by individual schools may also be undesirable, and the possibility of parent information centres providing neutral guidance merits attention." (Hirsch 1994, 50).

Section 3
Accountability

So, what exactly does it mean to be accountable for something? Well, where there is accountability, there are consequences. That is, accountability can ensure that good performance is positively rewarded and poor outcomes have negative repercussions. For instance, accountability could mean that, if students failed to pass a certain number of examinations, they would not progress to the next grade. If a school failed to achieve a set level of performance standards, it could face a range of consequences, from being reviewed or audited, to perhaps being put under close supervision by the superintendent and trustees for the school board.

Instituting accountability mechanisms also means going beyond merely gathering data and actually using the information to make judgements about where there is a need to adjust behaviours, both for individuals and institutions, that do not measure up. It requires a continual cycle of assessment, analysis, and action to improve future performance of individuals and institutions (Holmes 1998; Raham 1999). In fact, many provinces, states in the U.S.A., and the national educational systems in other countries, use some form of standardised tests for improving educational programmes and schools (Traub 1994, 16-18).

Accountability is a key element to raising student performance. All schools, to be sure, have some kind of standards that they set for their students and teachers. However, these standards are often not set at an appropriate level of proficiency.

Even though some teachers and principals may object, ways can be designed to encompass enforceable accountability mechanisms and deliver the kind of critical motivators required to ensure that educational systems meet and maintain the standards demanded by the parents, employers, and post-secondary institutions they serve.

One approach, rather than instituting a bureaucratic-like, top-down change in behaviour, is school choice, which allows marketplace signals to trigger necessary reforms. It redistributes power away from a highly centralised, monopolistic administration and gives families the leverage to demand greater quality, effectiveness, and efficiency in the schooling system. In this way, the clients of the education system are able to hold teachers, administrators, and school boards responsible for the results they are producing.

Section 4
Let Parents Choose

"Let parents choose" seems a simple and straightforward approach to promoting school quality (Holmes 1998). If parents want the best possible outcome for their children, setting up structures in which successful schools can attract students and gain resources while the others lose students and resources will soon have the local decision-makers and providers powerfully motivated to enhance the achievement of students in their schools.

For the great majority of parents, school choice can be an immediate antidote to complacency and lethargy in teachers, and principals in local public schools. No more politics, complex agendas, bureaucratic turf wars, or empire building. Children move to schools that provide the type of education they and their parents want. Holmes (1998) and Hoxby (2000), for example, both demonstrate that broadening choice generates welcome responses by public schools. Schools compete with each other to hire better-qualified teachers, and increased resources are directed to literacy, math, and science. In addition, teachers and principals begin, once again, using assessment instruments to demonstrate that students are achieving at established standards of proficiency.

Scholarly analysis of school choice appropriately explores the extreme possibilities associated with school choice, as well as what we might take to be common sense. For example, Epple and Romano (2000) show that it is theoretically possible that everyone can lose from school choice. They do not, however, provide empirical evidence that the parameters to make this possible are present in the real world. Others claim that "choice" has reinforced religious sectarianism and racial or social stratification, and they suggest that other public values may be put at risk by such policies (Levin 1992; Parker & Margonis 1996; Reay & Ball 1997; Walford 1995). However, the programmes and models that have these degenerate outcomes have not been focussed on the effectiveness of education as the basis for choice. This is most clearly evident in Epple and Romano, who use differences in test scores themselves rather than measures of effectiveness developed from those scores in their models.

The usefulness of the modelling exercise employed by scholars is that it helps us to develop policies and programmes that avoid as many of the negative consequences as possible while strengthening the incentives to improve the quality of education. Systematic measurement of outcomes is legitimate for any programme, even those that do not focus – as this analysis does – on educational outcomes, but have other objectives. Well-designed choice policies can avoid many of these negative consequences and provide effective built-in incentives to improve the quality of education.

The kinds of testing and reporting discussed here are absolutely necessary for promoting educational achievement through a sound choice model. Three forms of choice are available already in Atlantic Canada: individual mobility, independent schools, and transfer protocols. Can enhancing these opportunities improve educational achievement?

1. Move to a New Neighbourhood

One market opportunity is for parents to move into a particular neighbourhood in order to obtain access to schools that are perceived to be of high quality. However enthusiastic real estate agents may be about this strategy, it clearly hasn't been sufficient to generate a focus on educational quality. Its deficiencies make us more sensitive to the limits of market-based approaches. Readers of this paper will likely know families who have moved to obtain access to particular schools. They are individually better off as a result. However, the time lag between their choice of residence and a schooling decision diminishes the direct impact that this form of choice has on educational administrators and undermines the possibility that there may be an effective feedback response.

The costs associated with moving are a constraint. If quality of schooling were a predominant factor, neighbourhoods with better schools would extract premiums and declining quality would generate a penalty. Taken together, moving to enhance educational opportunities would involve substantial costs.

The utility function for choice of residence is also multi-faceted, with links to employment and services other than schools to be considered. The distribution of school facilities is, in turn, laid over these historical settlement patterns, with a resulting segmentation of schools by socio-economic status, ethnic, religious, and racial communities. As noted earlier, the level of educational achievement, as demonstrated in raw test scores, is a consequence of the advantages and disadvantages of those communities and the interaction of the students in the schools, as well as the quality of the teaching in the schools.

Within the public system, the major management decisions are about the location of facilities and corresponding catchment areas. This process by itself unavoidably reproduces the patterns of inequality embedded in the distribution of housing, unless there are articulated and measurable initiatives to redress them. (The extreme response is to distribute students among schools on a lottery basis, so that there is no bias resulting from community effects. However, there is no choice, and hence, no basis to promote effectiveness in such a regime.)

Most school boards provide for transfer protocols, which enable students to move from their assigned schools to others, subject to an enrolment cap at the receiving school. To the extent that facilities are already closely matched to needs of their catchment areas, these opportunities are limited. These transfers take place on a terrain that is already laid out in the decisions about distribution of school facilities, with the result that school boards are managing their organizations based on geography and demo-

graphics, rather than effectiveness in achieving educational objectives. For developers and planners to consider "school effectiveness" in the continuing process of responding to demands for new facilities in newly developed areas and the apparent oversupply in established areas would begin to actively manage quality in the public system.

2. Open Markets

Independent schools are another growing option, but these currently enrol less than two percent of students in the Atlantic region. As a benchmark for the extent to which this could be expanded, consider that 5.2 percent of students in Canada as a whole are enrolled in private schools (Pagliarello 1994; Statistics Canada 1997, 100) and that 70 percent of students in the Netherlands attend independent schools receiving subsidies.

In a market-choice model families would be allowed to use publicly provided resources, sometimes called "vouchers", to secure a place in any school. A variation would be to allow a tax credit for the fees charged by private schools; this effectively transfers the foregone tax income to the school. One would expect that creating such an option would encourage new entrants who would offer options in addition to those now available at existing public and private schools. As the resources would follow the students, those who attracted students would be rewarded and those in charge at schools who couldn't hold their enrolments would be forced to change their behaviour. Hoxby (2000) has documented the encouraging responses of public-school administrators to a more competitive environment - hiring better teachers and adding more teachers and resources for achieving established standards for students in literacy, mathematics, and sciences.

Could open markets be relied upon to promote educational achievement? The short answer is *No*. As economists know, "consumers" enter "markets" to maximise "utility". There is every reason to expect that independent schools will continue emphasising features that are easier to demonstrate to potential clients than effectiveness in education - like extracurricular activities or discipline. In other words, some parents will send their children to schools with high academic standards while others will send their children to schools that deliver the intellectual equivalent of junk food (Tyack 1999). The disjunction between "utility" and "effectiveness" is demonstrated by surveys of people's reasons for enrolling in independent schools: religion leads academic quality; religion and discipline together account for more than twice as many choices as quality (Frey 1992, 427-8).

To achieve the public purpose of enhancing educational quality in a market-choice model, government intervention to narrow the focus to effectiveness must follow the money. In the Netherlands, government has intervened to secure a substantial reduction in religious content, increased government supervision of a common curriculum, and constraints on the ability of independent schools to be selective in the admissions process (Walford 1995, 251). To the extent that independent schools can select stu-

dents, they could exclude students on the basis of race or religion (Walford 1995, 254), which are also manifestations of individual utility.

3. Public Choice

A more systematic approach would be to follow the procedures used by jurisdictions that have moved away from assigning students to schools based on catchment areas in order to give priority to the choices of parents within the public system. Great Britain and New Zealand, for example, have adopted system in which funding is awarded to schools on a per-student basis, so attracting and retaining students generates incentives. In Canada, a number of provinces (Alberta and Manitoba among them) allow students to enrol in any school, as long as there is room, with the per-capita grant following them to the schools that they and their parents choose.

Some of the subsequent research findings are encouraging. Public-choice policies open opportunities to a broader range of socio-economic groups (Echols *et al.* 1990, 216). This is not only a step toward greater equity for citizens but also a major step toward shifting resources that affect decision-makers. For example, if the only alternative to the assigned school is a fee-based school, the proportion of families who can actually opt for that alternative is likely to be quite small. In lower-income neighbourhoods, the option is often ineffective. Free movement amongst public schools allows people at all income levels to participate. In Scotland, low-income groups, who had been excluded from choice when the only alternative was fee-based schools, accounted for a majority of the transfers within the public system. In the studies of the early years of the arrangement, they were still less likely to have children in schools outside their area than the highest income groups, but more than six per cent were electing to use the option. A manager in a better school might seek to recruit students from several other schools. If resources follow the students, then the rewards for attracting students are substantial, and the losses for those unable to retain students are significant.

The predominant basis of choice within public systems is achievement indicators (Echols & Willms 1995, 144; Parker & Margonis 1996, 723-5). However, the indicators relied upon are likely to be either raw test scores or the socio-economic status of the students, because distilling a sense of the effectiveness of schools is so opaque (Catteral 1992, 411). Attention must be directed to providing indicators that enable people to focus on schooling effectiveness in the choice process.

A continuing problem is the skills of those making the choice. A family from a professional background may go so far as to study the literature on school effectiveness or curriculum design in order to select schools for their children. Those with lower levels of educational preparation may simply look for newer facilities or assume that schools in better neighbourhoods are more effective (Reay & Ball 1997, 91-9; Willms & Echols 1992, 347). A clearly defined and accessible measure of school effectiveness will aid the choice process by making the impact of schools on achievement levels transparent.

A policy based only on achievement measures, such as raw test scores, will undermine the effectiveness of choice as a means of achieving quality and thereby reinforce existing advantages. Resources will be moved to schools in higher-socio-economic-status neighbourhoods from those in lower-socio-economic-status neighbourhoods. There will also be conflict over excluding disadvantaged students from the schools with advantages, because they will be perceived as diluting the average achievement of the school. There will be further harm to the disadvantaged schools as the more-motivated students are withdrawn from the resource pool for their fellow students and the financial resources are reduced (Epple & Romano 2000, 21-33). A choice policy without a foundation in school-effectiveness measures will probably lead to a degeneration of the quality of education in many schools.

A focus on the quality of education is best served through expanding choices within the public system, based upon knowledge of educational effectiveness rather than upon overall utility. Thus, indicators of school effectiveness are an essential link to ensure that parents choose schools that have high-quality instruction. Standardised tests can help parents make better choices in the schools to which they send their children.

Section 5
Real Choice Requires Good Information

Buying a used car can be extremely stressful, especially in a private sale. One has to wonder if the car was well cared for. Has it ever been in an accident? Is the odometer accurate? Does the car really belong to the seller, or is it stolen? Some of these questions or concerns can be answered by documentation, such as service records or ownership papers, but buying in the used-car market remains a considerable leap of faith that chances to be disappointing. Unfortunately, if one ends up with a lemon, there is often little recourse.

In economics, when individuals need to make decisions based on incomplete information, there is said to be an "information asymmetry." Information asymmetries are distortions that cause inefficient or less-than-optimal behaviour from people as they bargain for goods and services in the marketplace.

In the used-car example, a seller can distort the market by giving potential buyers misleading or incomplete information about the car. Sellers are motivated to do this because they are interested in getting rid of the car, come what may. The buyer who must rely on this information might decide to purchase the car, which could turn out to be a mistaken (i.e. inefficient) use of his or her resources (i.e. money). And yet the buyer is motivated to take a chance because, if one needs a car, one has little choice but to hope that the information provided by the seller is correct.

Information asymmetries often leave individuals worse off than if they had been fully informed prior to making their decisions. Whether talking about the market for used cars or that for education, the problem is the same: consumers are ill informed, and providers have few incentives to inform them better.

But at least those people in the market for used cars can easily obtain some published information, based on the experience of other consumers, on which to base their choices. The same cannot be said for parents in search of good schools for their children. In order for parents to make appropriate decisions about their children's education, they must have the comparative tools necessary to be fully informed. At present, our school systems are simply not fulfilling this need. Consequently, many parents have difficulty choosing the best schools for their children and often send their children to the neighbourhood school, instead of another school, because it is easier to do so.

The results of standardised tests can provide the kind of information that is required. As noted earlier, these tests offer one of the most valid and reliable ways to measure the varying performances of all students. Moreover, they boast the important characteristic of "comparability," allowing for a reasoned assessment of students' and schools' relative academic achievements. Consequently, disseminating information derived from standardised tests, about schools and their relative performance, could hardly be easier with the advent of the Internet. Parents, knowing these results, would have the option of placing their child with a better school or would at least have enough influence to hold their child's current school accountable should it fall short of meeting adequate educational standards.

Section 6
Conclusion: Leaders and Laggards

At present in Atlantic Canada, we are only part way down the road to having standardised testing implemented in ways that are useful for students, parents, teachers, and principals. This is not the time to be timid about taking steps to ensure that the common learning objectives and the curricula established for the region through the APEF are consistently followed by schools that are accountable for the performances of students. The APEF plan will provide tests at high-school completion. Clearly not just the final outcome but also the key stages in the learning programme need to be joined to an evaluation of the schools.

1. Current Programmes

The four Atlantic Provinces are not equally committed to standardised testing either for individual students or for programme evaluation. Their willingness to share data in order to support informed discussion, analysis, and decisions also varies. Looking at the current assessment practices in each of the Atlantic Provinces, and ranking them in order of worst to best, we find as follows:

Prince Edward Island

Prince Edward Island has no province-wide assessment. Each school board in the province develops and administers its own tests in each subject for high school and there is similarly no indication of a province-wide testing programme at other grade levels.

Nova Scotia

For many years, Nova Scotia Achievement Tests were administered annually to all students in grades 3, 6, 9, and 12. These tests were designed to test achievement in language arts, mathematics, history, social studies, and science. The programme, however, was discontinued in 1997.

The province has begun using the grade12 level examinations developed by the Atlantic Provinces Education Foundation in the subjects of the common curriculum. The exam is incorporated as 30 per cent of the final grade awarded to the student. The examination results are provided to the students and their schools. Publishing results at the school, school board, or provincial levels has been discussed.

A programme of rotating testing for reading, writing and mathematical achievement of students in Grades 5, 6, 8 and 9 has begun. The subject and grade level tested, are alternated each year. The first report of results at the provincial and school board levels were available in 2000. Analysis at the school level has not been released.

The province's current programme provides less information and analysis for the managers and consumers of education than was available previously. While plans are in the works to provide more information to parents and taxpayers, the fact remains that, at present, decisions at all levels about the second- largest public expenditure in the province are less informed than they were. The basis for meaningful debate and discussion about quality and improvement is weaker than it was.

Newfoundland

Newfoundland discontinued annual provincially developed and marked examinations at the grade 12 level in 1996, but re-introduced them in 2001. The examinations are incorporated as 50 percent of the students' final grade.

This provincial testing programme adds credibility and comparability to the certification of the competence of graduates. However, testing only at the exit stage does not provide the feedback on the development of students' abilities required to manage the school programme in the early and middle years. Since basic literacy and numeracy skills develop during these years, assessing the performance of students and schools before the students are ready to graduate is essential.

While annual testing is not yet fully in place for languages, mathematics and science. Newfoundland is moving in that direction with annual testing in Grade 3, planned annual testing in Grade 6, and a three year cycle in Grade 9. The absence of annual testing means that it is unlikely that any one cohort of students will write tests at each of Grades 3, 6 and 9, making it impossible to assess their progress during their school career.

The department of education's website presents data for individual schools. A template is also provided to enable schools to prepare reports to their communities that incorporate their own data.

New Brunswick

New Brunswick has considerably enhanced its assessment programme, following the recommendations of the 1991 Commission on Excellence. Even more notably, the effort to communicate assessment information to the public has been developed with annual "report cards" for the anglophone and francophone systems.

Students at the end of grade 11 must successfully complete provincially administered and marked tests in language and mathematics in order to graduate from high school. The grades awarded at high-school completion are a composite of the provincial-examination marks and marks awarded by teachers. The average grade on the provincial examination, the teachers' marks, and the pass rates for each school are published as part of the annual report cards.

In addition, the results on provincially administered tests in French for core and immersion students at the end of grade 12 and corresponding English evaluations for students in the francophone system are published in the report card.

A further graduation requirement in New Brunswick is successful completion of a language test when students enter grade 8. An assessment in mathematics is also done at this stage, although successful completion is not a requirement. The pass rates for these tests, by school boards, are also published in the annual report cards for the anglophone and francophone systems.

There are further province-wide tests in language arts, mathematics, and science for grade 3 and 5 students. The percentage of students in each region scoring "acceptable" and better is published in the report card. The superintendents of schools for each region receive data indicating the distribution of scores over five levels, on a school-by-school basis.

2. How Do the Provinces Measure Up?

True commitment to improvement in the quality of education will be demonstrated in the quality of the assessment programme. Informed decisions and discussion about the education process by managers and consumers requires:

- the use of standardised tests to ensure that performance against established learning goals is known;
- having information on the key stages of students' progress, rather than merely at the end of the schooling process, so that the delivery of the learning programme within a school level can be identified and evaluated;
- ensuring that at least the levels of achievement of students in reading, writing, and mathematics are monitored;
- reporting of the test results on a school, district, and provincial basis to students, parents, teachers, and managers of the schools;
- reporting each student's individual performances to parents, teacher, and principal;
- that, if students are not progressing at an acceptable level, school boards pay for the remedial work that students require, even if they need to be sent to private agencies (tutors, private learning centres, etc.);

- that teachers use the Canadian Tests of Basic Skills, or some other similar instrument, year by year (perhaps at the beginning and again at the end of each school year), to gauge the progression of students;
- that teachers have required courses in educational evaluation as part of their teacher-education programmes in the faculties of education, and be provided inservice programmes in the evaluation of student performances;
- that, for the purpose of monitoring the progress of education and providing reports on a school basis (i.e. to identify and evaluate the impact of the programme within the school), testing must be done at grades 3, 6, 9, and 12.

None of the testing programmes put in place in the Atlantic Provinces provides an indicator of effectiveness. There is no published analysis, which considers the impact of the differences in students' initial preparation, family advantages, or opportunities for learning outside the schools in establishing a school's score. Despite this, there is, to varying degrees, some potential to use the existing testing programme to create an effectiveness indicator, which can then inform processes of accountability and choice.

In looking at the four programmes it is possible to ask:

- Is there a comprehensive standardised testing programme?
- Is the testing designed to measure achievement against defined outcomes?
- Does the programme allow progress between intervals to be assessed?
- Are the results published at the level of individual schools?

Weighing the performance of the provinces against these standards, we find the following:

- Prince Edward Island has turned in a blank sheet.
- Nova Scotia has continuing deficiencies in its reporting programme and the intervals between tests.
- Newfoundland's commitment to using provincial tests at high-school completion, and testing on a cyclical basis in core competencies at other levels, does not fully meet the necessary standards. Lack of annual testing and reporting creates significant data gaps.
- New Brunswick's programme provides reliable, comparable assessment linked to articulated learning criteria. Although the choice of assessment intervals may not be ideal, the emphasis on collecting data in the elementary levels is welcome. Making the detailed results for individual schools more widely available would more fully meet the needs of a model assessment programme. Students, parents, and teachers must have access to this information if New Brunswick is to reach the honour roll.

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