

Chapter 3

Section 3.04

Ministry of Education

Education Quality and Accountability Office

Background

The Ontario government established the Education Quality and Accountability Office (EQAO) as a Crown agency in 1996 in response to recommendations from its 1995 Royal Commission on Learning. The Commission had concluded that system-wide testing was necessary to monitor student achievement and as a vehicle for assuring people that all students, at specific points in the learning process, are being assessed according to the same yardstick. The government also wanted to respond to the public's demand for clearer information about, and greater accountability for, student achievement in Ontario's publicly funded schools.

The EQAO's mandate is to develop, administer, mark, and report on province-wide tests of student achievement. Such assessment results are intended to provide reliable, objective, and high-quality data that can be used by the Ministry of Education (Ministry) and the province's 72 school boards for student learning improvement planning. The EQAO is also responsible for managing and reporting on the province's participation in international and national student testing.

Each year, the EQAO tests students in all Ontario publicly funded schools in Grades 3, 6, 9, and 10. Grade 3 and Grade 6 students are tested in reading,

writing, and mathematics. Grade 9 students are tested only in mathematics. As a condition of high-school graduation, all students, including those in private schools, are required to pass the Ontario Secondary School Literacy Test (OSSLT), which is usually written in Grade 10.

The EQAO develops test questions based on the Ministry's school curriculum expectations. The questions are designed to provide an objective appraisal of student achievement. Tests must have a similar level of difficulty from one year to the next so that results can be compared over time.

The EQAO provides specific guidelines for school boards, principals, and teachers to follow in delivering the tests to students. The agency then oversees the test scoring, usually performed by elementary and secondary school teachers. The EQAO is required to report test results to the public and make recommendations to the Ministry for improvement on any matter related to the quality or effectiveness of elementary and secondary education in Ontario.

The assessment process is a large and complex undertaking, given that the EQAO must annually develop five different assessments in both French and English and then print, deliver, administer, collect, mark, and report on almost 600,000 tests given at approximately 4,300 schools. Each step in the process, from question development to public reporting, requires a number of procedures and

controls to ensure that the results accurately reflect each student's ability.

The EQAO employs approximately 140 permanent staff complemented by as many as 1,700 seconded and temporary staff during marking periods. It also relies on professional and technical expertise to help develop and administer the tests. As well, the EQAO has a Psychometric (the science of measuring intellectual capacity) Expert Panel staffed by academics from across North America to provide ongoing feedback on its assessment processes. The EQAO spent \$31.7 million in the 2008/09 fiscal year, all of it funded by the Ministry.

Audit Objective and Scope

The objective of our audit was to assess whether the Education Quality and Accountability Office had adequate systems, processes, and procedures in place to ensure that:

- student assessment results were comparable from year to year and accurately reflected student performance in regard to the Ontario curriculum;
- legislative and policy requirements were being fulfilled; and
- goods and services were acquired and programs delivered in an economic and efficient manner.

The scope of our audit included research on student assessment practices in other jurisdictions, reviewing and analyzing EQAO administrative directives, policies, and procedures, as well as interviewing agency board members and staff, including two psychometric experts engaged by the EQAO. We also interviewed personnel from four school boards—Peel District, Halton District, Hastings and Prince Edward District, and Peterborough Victoria Northumberland and Clarington Catholic District. Finally, we interviewed stakeholders such as personnel from the Elementary Teachers' Federation of Ontario, the Ontario English Catholic Teachers'

Association, and the Council of Ontario Directors of Education.

Our audit also included a review of the activities of the Ministry's Internal Audit Services Branch, including its recent audit reports. We relied on their work in some areas to reduce the scope of our audit.

Summary

We found that the EQAO had adequate procedures and controls in place to ensure that its tests accurately reflected the Ministry's curriculum expectations. We found that the EQAO, to ensure that the tests' level of difficulty was comparable between years, imposed strict criteria for the development and field-testing of questions, that test content was thoroughly reviewed, and that test questions received multiple edits before being considered for inclusion in a student assessment.

The general consensus among stakeholders, including principals and teachers, was that the tests were generally an accurate reflection of students' achievement in meeting the curriculum expectations. However, we felt that oversight of test administration would be strengthened by ensuring that, over time, all school boards and schools are visited during test periods and that significant changes in year-over-year test results by school boards and schools are fully investigated.

For the major areas in the testing and reporting process, we noted the following, including areas where we believe improvements can be made:

- The EQAO employs a number of quality assurance measures to provide credibility to its processes and procedures. These measures help to ensure that the questions presented to students are appropriate for their grade level and represent fairly the Ministry's curriculum expectations, and that the tests are consistent in their level of difficulty from one year to the next.

- To help monitor the administration of its tests, the EQAO hires an external contractor to visit selected schools to review pre-test preparation, ensure test booklet security, observe the administration of the tests, and undertake other quality assurance procedures. Overall, the external contractor has reported a high degree of compliance with EQAO administration procedures. However, although all boards had been visited for one or more of the assessments, an improved school selection process is required to reduce the risk of student cheating and non-compliance with administrative procedures. For example, 10 of the province's 72 school boards had not received a visit from the external contractor over the past five years to assess administration of the Ontario Secondary School Literacy Test (OSSLT). Yet the contractor visited a number of private schools, whose students are required to write the OSSLT, which had as few as five students taking that test.
- All students are expected to write the EQAO assessments, but exemptions can be granted. For example, principals can exempt students with special needs and those for whom English is a second language. The public reporting of the overall scores on EQAO tests includes exempt students, but exempt students are counted as not having achieved the provincial standard in the assessment scores. Consequently, those schools with a disproportionately high number of exempt students would receive lower overall scores than otherwise comparable schools with significantly fewer exempt students. The teachers and principals we interviewed almost unanimously stated that this policy was unfair and could significantly distort reported EQAO results.
- The EQAO hires and trains as many as 1,700 markers to grade test papers and must ensure consistency from one marker to the next. Validity papers, which are graded by an expert panel, are usually indistinguishable from regular tests and are seeded among the regular papers. The grades the markers give these validity papers are monitored to determine if retraining is required. The EQAO has a number of targets. One, which it consistently meets, is for 95% of the validity papers to be graded within one scoring level of the expert panel. However, for some questions, the EQAO does not always meet one of its other targets that 70% of the validity papers be graded in exact agreement with the expert panel—although, in recent years, the EQAO has moved closer to achieving this target.
- In the lower grades (Grades 3 and 6), the primary risk to the test's integrity is teacher or principal interventions, such as coaching. In high school (Grade 9 and OSSLT), the risk shifts from the principal/teacher to the student—there is a higher potential for students to engage in collusion and other forms of cheating. However, the EQAO uses substantially the same quality assurance processes for all assessments, rather than a varied approach that considers the unique risks associated with each assessment.
- As well as examining anomalies at the student level, the EQAO informally reviews results at the school and school board levels. However, formal analysis and follow-up may be required to assess the reliability of assessment results. For example, we noted that some schools' EQAO results fluctuated by as much as 50% from one year to the next, but these instances were not being systematically flagged for follow-up to determine what accounted for such a dramatic change.
- To help motivate applied math students who have consistently fallen short of the provincial standard, schools are allowed to incorporate the EQAO scores in student report card marks for Grade 9 math. However, we found that this was not consistently done throughout the province because EQAO scores accounted for anywhere from zero to 15% of a student's final mark.

- The EQAO annually reports on student testing results as well as the results from questionnaires on its activities given to students, teachers, and principals. However, the school staff we interviewed stated that the questionnaires did not sufficiently allow for feedback on ways to improve the testing process. Also, they agreed generally that the EQAO should take a bigger role in explaining to parents and other stakeholders the assessment process and how it can promote improvement in student learning.
- The major expenditures for the EQAO relate to the administration of student assessments, such as staffing and the hiring of temporary test markers, as well as test printing, warehousing, and delivery. We found that the EQAO had developed a good budgeting process to help control costs and had reduced its annual expenditures by over 20% during the past five years while delivering substantially the same service. The EQAO must follow Management Board of Cabinet Directives in the acquisition of goods and services, and we found that it complies with the required tendering practices and that the necessary procurement documentation and approvals were on file. In addition, the Ministry's Audit Services Team found that the travel expense procedures maintained by EQAO were, overall, operating effectively.

OVERALL EQAO RESPONSE

The EQAO plays an important role in Ontario's education system. The agency provides an independent check on all students at specific points in their learning, a measure of the quality and accountability of our publicly funded schools and important information for student, school, and system-wide improvements.

We are pleased that the Auditor General's audit attests to the rigour of the assessment practices and processes at the core of the

EQAO's work. The audit confirmed that the tests are an accurate reflection of the Ministry of Education's curriculum expectations, that their level of difficulty is comparable between years, and that the administration and marking processes ensure that results are valid, consistent, and a reliable indication of student achievement. We are also pleased with the finding that stakeholders are in agreement that the tests reflect the provincial curriculum expectations.

The EQAO is proud that the report confirms the agency's solid financial practices and acknowledges the reduction in annual expenditures by over 20% in the past five years, while delivering substantially the same service. In keeping with our commitment to continuous improvement, we welcome the Auditor General's recommendations and will closely consider each one in order to further strengthen the assessment program. As we do so, we will give particular attention to better explaining and promoting the assessment program to parents and the general public.

Detailed Audit Observations

OVERVIEW OF EQAO TESTING

Since the 2000/01 school year, the EQAO has administered approximately 600,000 tests annually. Figure 1 illustrates the test breakdown for the 2008/09 school year. The Grade 3 assessment began in 1997, followed by the Grade 6 assessment in 1999, and the first assessment of Grade 9 mathematics in 2001. In October 2000, the EQAO administered the first trial Ontario Secondary School Literacy Test, required for high-school graduation. The English and French version of all tests have the same number and type of questions, but reflect variations in the curriculum for the two languages.

With the exception of the OSSLT, where the student either passes or does not, the tests are scored on a four-point scale with four being the highest mark and roughly equivalent to an A grade. The Ministry's overall goal is to have 75% of 12-year-old

students score at least at a Level 3 standard, equivalent to a B average, on province-wide EQAO testing for reading, writing, and mathematics.

Province-wide results for all tests since 1999/2000 are shown in Figures 2, 3, and 4.

Figure 1: EQAO Testing – 2008/09

Source of data: EQAO

	# of Students
Grade 3 – Reading, Writing, Math	
English-speaking	125,500
French-speaking	6,500
Grade 6 – Reading, Writing, Math	
English-speaking	136,100
French-speaking	6,300
Grade 9 – Academic Math	
English-speaking	101,000
French-speaking	4,000
Grade 9 – Applied Math	
English-speaking	48,500
French-speaking	1,500
Grade 10 – OSSLT	
English-speaking	142,400
French-speaking	5,500
Total Tests Administered by the EQAO	577,300

TEST DEVELOPMENT AND ADMINISTRATION

Development of Assessment Questions

As noted above, the EQAO annually develops separate tests for reading, writing, and mathematics for Grades 3 and 6, as well as tests for Grade 9 mathematics and Grade 10 literacy (OSSLT). These tests are designed to produce an accurate and reliable evaluation of student performance, to be in accordance with Ontario's curriculum for each subject area, and to be of similar difficulty from year to year.

Annually, as well, the EQAO prepares a framework outlining the basis of each test. From these frameworks, more detailed assessment blueprints are prepared and used to produce multiple-choice and open-response questions. The consistency of the framework and blueprint design over the years helps to ensure that the number and types of questions,

Figure 2: Grades 3 and 6 – Percentage of Students Achieving Provincial Standard (Levels 3 and 4) – 1999/2000–2008/09

Source of data: EQAO

School Year	Grade 3						Grade 6					
	English-speaking			French-speaking			English-speaking			French-speaking		
	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing	Math
1999/2000	49	52	57	45	50	41	50	48	51	58	58	57
2000/01	49	52	61	41	51	40	55	53	54	54	57	60
2001/02	50	55	58	44	55	47	55	53	54	58	61	63
2002/03	50	55	57	47	58	47	56	54	53	58	63	66
2003/04	54	58	64	49	63	55	58	54	57	63	68	70
2004/05	59	61	66	49	68	57	63	59	60	67	70	74
2005/06	62	64	68	56	72	59	64	61	61	68	73	76
2006/07	62	64	69	54	73	61	64	61	59	68	74	76
2007/08	61	66	68	60	74	62	66	67	61	75	80	78
2008/09	61	68	70	66	76	66	69	67	63	77	79	80

Figure 3: Grade 9 Mathematics – Percentage of Students Achieving Provincial Standard (Levels 3 and 4) – 2000/01–2008/09

Source of data: EQAO

School Year	English-speaking		French-speaking	
	Academic	Applied	Academic	Applied
2000/01	49	13	45	10
2001/02	64	21	65	22
2002/03	66	21	66	20
2003/04	68	26	68	27
2004/05	68	27	69	24
2005/06	71	35	70	32
2006/07	71	35	70	33
2007/08	75	34	67	34
2008/09	77	38	68	40

the coverage of the Ontario curriculum, and the level of difficulty are comparable from year to year.

The EQAO recruits and trains educators with expertise in literacy and mathematics to apply the blueprints on “item-writing” committees that devise the test questions. The EQAO provides committee members with its Development Specification Guide to assist them in drafting possible questions for future EQAO tests.

The EQAO employs several different quality assurance processes to ensure that the questions are appropriate before they are included in a formal EQAO test. For example, designated teachers could give some proposed questions to students and, based on the results, modify or eliminate them from the bank of draft questions. Another field-testing process is to include proposed questions that are indistinguishable from actual EQAO questions for possible inclusion in subsequent assessments. Although the answers to these questions would not be part of a student’s formal score, the overall results would be used to maintain consistency in the difficulty level of questions from year to year.

Before a question is included in an EQAO test, it is reviewed by education professionals on two EQAO committees. The Assessment Development Committee ensures questions are based on the

Figure 4: Grade 10 – Percentage of Students who Passed the Ontario Secondary School Literacy Test – 2000/01–2008/09

Source of data: EQAO

School Year	English-speaking	French-speaking
2000/01	68	54
2001/02	75	67
2002/03	72	79
2003/04	77	78
2004/05	82	80
2005/06	84	81
2006/07	84	83
2007/08	84	83
2008/09	85	84

Ontario curriculum. The Sensitivity Committee ensures that the questions are culturally fair to the broadest range of students and are free of any bias based on factors such as gender or race.

Overall, we found that the EQAO imposed strict criteria for the development and field-testing of questions, that test content was thoroughly reviewed, and that any question received multiple edits before being considered for inclusion in an EQAO assessment.

To further enhance the credibility of its tests, the EQAO has created a psychometric expert panel composed of seven university professors and experts from different organizations across Canada and the United States. The panel semi-annually reviews EQAO procedures and provides recommendations to improve its assessment-development process.

Several teachers and school principals who we interviewed expressed general satisfaction with the EQAO tests. However, some expressed concerns in regard to the complexity of some questions and improving cultural/socio-economic sensitivity. For example, one teacher stated that the school’s students had difficulty with a question about a menu because the school was in a very low-income community where few of the children went to restaurants.

We also interviewed two of the psychometric experts who provide ongoing advice to the EQAO on matters related to testing models and the more technical aspects of assessments, such as Item Response Theory, which provides a framework for evaluating how well an assessment works and how well it measures student achievement by allowing comparisons of assessment results over time. Both experts agreed that the EQAO process is thorough and ensures consistency from one year to the next.

Also, based on our interviews with a number of stakeholders, including the teacher federations, we found that despite philosophical concerns with universal testing, they voiced general satisfaction with the test-development process and agreement that EQAO tests reflected provincial curriculum expectations.

Administration of EQAO Testing

EQAO assessments are administered in thousands of schools across the province at scheduled times during the school year. By necessity, the EQAO counts on the co-operation and professionalism of school principals and teachers to administer the assessments in accordance with its guidelines. Each guideline contains the procedures to be followed by assessment administrators.

School principals are responsible for ensuring that teachers are prepared to administer the test, that the test administration process is well organized, and that all eligible students write the assessments. Principals also must ensure the security of test booklets before and after the tests and that all are collected and returned to the EQAO.

It is expected that students will work independently to solve questions and write their responses during the assessment. Teachers must not say or influence student responses or encourage students to alter their responses. Any circumstance that could affect the validity of student performance is to be reported promptly to the EQAO.

Based on our interviews at a number of primary and secondary schools, we found that procedures

existed to maintain the security of all test materials and that test administrators had received adequate training. Teachers and principals commented that the EQAO's call centre was very helpful and that EQAO staff responded to concerns in a timely fashion.

We also found general satisfaction with all of the test administration guides. Teachers and principals commented that the EQAO had made significant improvements to the guides in recent years, increasing clarity and ease of implementing all requirements. The teachers' only common concern was a desire to see all significant changes from previous guides bolded, highlighted, or otherwise communicated in a way to ensure that nothing of consequence is missed.

To monitor whether EQAO guidelines are followed and to reduce the risk of improprieties, the EQAO has hired an external contractor to send quality assurance monitors to visit selected schools at the time of testing. The monitors review pre-test preparation, ensure test booklet security, observe the actual administration of the tests, and undertake other quality assurance procedures to ensure that the schools are following the EQAO's requirements. Although the majority of schools are selected at random, some schools are visited because of concerns expressed regarding the prior year's test administration. In the past five years, monitors have visited over 1,300 schools or about 260 schools annually. Overall, the external contractor has reported a high degree of compliance with EQAO administration procedures.

However, although all boards had been visited for one or more of the assessments, we found that 10 of the province's 72 school boards had not received a visit from a quality assurance monitor to check, for example, the OSSLT during those five years. One of the boards that had not received a visit during OSSLT assessments had over 20 high schools. In addition, we noted that 14 of the 30 private schools the contractor visited had fewer than 20 eligible students—some with as few as five students—writing the OSSLT test. Meanwhile,

other private schools with more than 100 eligible students were not visited.

Assessment Exemptions and Accommodations

All students are expected to write the EQAO assessments, but principals can grant exemptions to students with special needs and to those attending English schools where that is their second language. However, many students with special needs can demonstrate their level of competence in EQAO tests with the special accommodations that they would normally receive in school. For example, visually impaired students can be given EQAO tests in a Braille format and those with learning disabilities may be able to complete answers if given more time than is normally allotted.

In Ontario, a school receives no advantage by exempting students from EQAO assessments. The exempted students are assessed as not achieving the provincial standard and are included in a school's overall results. Consequently, it is to the school's advantage to encourage students to write the tests. However, the teachers and principals we interviewed almost unanimously stated that this policy was unfair because schools with a disproportionate number of exempt students—some schools have exempted as many as 10% of their students from EQAO testing—could significantly distort its overall EQAO results.

We reviewed the number of EQAO assessment exemptions granted over the past five years and noted an almost 40% decline in the number of Grade 3 and Grade 6 exempted students. For example, exemptions for the Grade 3 writing assessment fell from 8,100 in the 2003/04 school year to 4,800 students in the 2007/08 school year. This trend has resulted from a number of school boards making concerted efforts to ensure that as many students as possible write the tests. However, we noted several boards where the number of exempt students has remained relatively constant year over year, or even increased.

RECOMMENDATION 1

To improve the Education Quality and Accountability Office's (EQAO's) test development and administration process and to ensure that student assessments continue to be reliable and objective and that all students are given the opportunity to demonstrate their competence, the EQAO should:

- highlight to principals and teachers any significant changes in the compliance requirements outlined in the guides to administer EQAO testing;
- improve the process for selecting the schools visited by quality assurance monitors to ensure that all school boards and large private schools are periodically monitored;
- assess the equity of including exempt students in the overall assessment results as having not met the provincial standard; and
- identify schools and school boards where the number of exempt students appears to be relatively high and follow up to ensure that exemptions are justified.

EQAO RESPONSE

The EQAO is pleased that educators have recognized the improvements to the administration guides in recent years and that they feel these changes have increased clarity and ease of implementing the requirements. The EQAO agrees that significant changes year to year should be highlighted in the administration guides.

The EQAO agrees with the recommendation to introduce additional elements to the process for selecting schools to be visited by quality assurance monitors. Currently, in the random selection of schools for quality assurance visits, schools are stratified to ensure proportional representation across the six regional districts and by type of school (public, Catholic, and private). The EQAO will ensure representation across

school boards for the upcoming assessment in 2009/10.

The policy of accounting for every student reflects the overarching principle that Ontario schools are responsible for the achievement of all students attending their schools. Principals make the determination, together with parents, about which students are unable to write the assessment even with accommodations or special provisions. If the EQAO were to exclude exempted students when reporting a school's results, those schools that ensure that all students are included would consider the practice inequitable should other schools not have the same approach. It is important that all students have the opportunity to demonstrate their achievements. The current practice provides for valuable insights into all students' learning and it supports accountability for student and school performance. In addition to results for all students, the EQAO does provide separate reports for participating students in each school's public report. Both sets of results are valid and provide different information.

The agency agrees that it should follow up with school boards and schools where exemption rates remain high. It is important to recognize that there are some schools where high exemption rates are appropriate due to specific student populations, such as specialized schools or classes within schools that service children with multiple disabilities. Where this is not the case, the EQAO will take appropriate action.

ASSESSMENT MARKING AND ANALYSIS

Marking of EQAO Assessments

School principals are responsible for collecting all completed test papers, sealing them in bins that are bar-coded, and shipping them to the EQAO. The papers arrive at the marking area in the sealed bins to ensure they have not been tampered with in tran-

sit. The EQAO rents space at a large convention centre to house as many as 1,700 markers to grade the test papers. The marking for all Grade 3, 6, and 9 assessments takes place in the summer. As a result, the EQAO is able to hire qualified elementary and secondary school teachers as markers. For the OSSLT, which is graded in the spring of the school year, although many of the markers are qualified current or retired teachers, the EQAO hires markers who have a required minimum education level equivalent to an undergraduate university degree.

EQAO tests consist of closed-response (multiple choice) and open-response (written answers) questions. The closed-response answers are machine read, eliminating any human variability in marking. However, the marking of open-response questions is more subjective because two markers may have different opinions on an appropriate grade.

In an attempt to heighten consistency, the EQAO has established several different quality control procedures. These procedures begin with a framework termed a Quality Management Plan designed to ensure that the marking process is run efficiently and effectively. The plan, updated annually, includes the process for recruiting markers, outlines their training, and schedules the daily activities required to ensure quality grading. It also deals with ongoing supervisory review and signoff procedures.

At the beginning of the marking process, all markers are provided training to develop a common understanding for interpreting and applying the requirements. Markers are trained to grade only one question, using anchor papers that give examples of answers at various grade levels and a scoring rubric that describes what is expected from student answers. Finally, assessment markers are required to pass a qualifying test.

Over and above these safeguards and procedures, a consultant hired by the EQAO in 2004 recommended that on-line training would help maintain more consistent standards because all markers would receive identical instructions. In addition, on-line training would allow markers to

set their own pace and to train at home prior to the start of the marking process. We also noted that on-line training could improve productivity and provide timelier feedback to assessment markers. However, the EQAO has not implemented this procedure.

The EQAO uses “validity papers” to monitor each marker’s accuracy. Validity papers are pre-marked by experts and normally circulated unidentified throughout the marking session to enable monitoring on both a daily and cumulative basis. The purpose is to determine if markers are grading questions according to standards established by the expert panel and if retraining is required.

The EQAO has established validity targets to be achieved in the marking process. One target is for 95% of the validity papers to be marked either in exact agreement or within one scoring level of the expert panel’s assessment. For the 2008 Grade 3, 6, and 9 assessments and for the 2009 OSSLT, the EQAO met its 95% validity target for nearly all questions marked.

However, for some questions, the EQAO does not always meet one of its other targets that 70% of the validity papers be marked in exact agreement with the expert panel—although, in recent years, the EQAO has moved closer to achieving this target.

Another aspect of meeting validity targets is to ensure that markers grade a sufficient number of validity papers during the marking process. For the 2008 assessments, we noted that markers were not marking enough validity papers early in the process to identify those who did not meet the required accuracy targets for potential retraining. In 2009, for the OSSLT, the EQAO increased the validity reads per marker, but the number varied dramatically as some markers graded more than 150 validity papers while others graded fewer than 40.

We noted that a process called backreading is employed in other jurisdictions whereby supervisors read a certain percentage of the papers that have already been graded in order to focus on the work of markers who are not meeting validity targets. Supervisors can intervene, retrain, or even

dismiss markers who fail to grade papers accurately and consistently.

Overall, we concluded that, although there is room for improvement, the assessment marking process is sufficiently controlled to ensure that results are valid, consistent, and reliable.

RECOMMENDATION 2

To improve the assessment marking process to ensure that results continue to be valid, consistent, and reliable, the Education Quality and Accountability Office should:

- consider adopting on-line training for assessment markers;
- examine different methods to increase the number of validity reads for each marker, especially early in the marking process; and
- consider implementing supervisory back-reading to help improve marker accuracy.

EQAO RESPONSE

The EQAO continually looks for ways to enhance its scorer processes. The 2004 recommendation regarding on-line training was in the context of an image-based scoring approach. Image-based scoring was thoroughly considered but deemed not to be appropriate at that time. The EQAO continues to explore technology solutions that will address the requirements of the EQAO’s Ontario-based program, including various approaches to on-line training.

The EQAO agrees with the recommendation regarding validity reads and introduced improvements to the process in 2009. The changes to the process resulted in an increase in the number of validity papers scored by each scorer. The EQAO sets its validity targets for each item on an assessment to ensure accurate and reliable student achievement results. In 2009, 95% of validity papers were either in exact agreement with the expert panel’s score or within one scoring level of the expert panel’s score. The EQAO also sets a validity target for exact agreement (same score)

as the expert panel's score. This is a performance target that the EQAO has established as a best practice and, through various process improvements, has improved over the past five years. We are the only jurisdiction that sets this target and publicly reports against it.

The EQAO agrees that backreading is one of many scoring procedures that can be used to ensure validity and reliability of scoring. Jurisdictions normally choose either the process of validity paper insertion or backreading. The EQAO, in consultation with its Psychometric Expert Panel, will consider backreading as a possible additional measure to monitor and support scorers identified as requiring further training.

Assessment Analysis and Follow-up

For some parents, EQAO test results are the only public information they have to assess local school and school board performance. In the 2007/08 school year, about 1,000 out of the 3,500 elementary schools had less than 50% of their students attain Level 3, the provincial standard, in Grade 3 reading. The top performing board in the province had 73% of its students achieve Level 3 or better; the lowest performing board stood at 49%.

Many teachers and principals commented that as EQAO results take on broader acceptance, there is ever-increasing pressure to improve results that form the basis of ministry and school board interventions and private organization rankings. In fact, others often rely on rankings for non-education purposes. For example, real estate agents use them to attract parents to areas with high performing schools.

To ensure that reported results are valid, reliable, and accurate, the EQAO employs several different quality assurance procedures. Such procedures include integrity software to identify unusual school response patterns in multiple choice questions that would suggest collusion among students, the review of some open-response answers

from 5% of the schools to determine if there are any patterns that indicate collusion, and the investigation of complaints to determine if there is any evidence of impropriety. Although the EQAO does not have a formal complaints process, the majority of the 14 investigations in 2007/08 arose from concerns expressed by principals, teachers, and school board staff.

In regard to potential cheating by its students, British Columbia has a formal complaints process that outlines the responsibilities of students, schools, and school boards with standardized forms that are to be completed to describe each incident and what actions were taken.

If the EQAO identifies a problem with the results of a school or school board, the results are not reported publicly. In 2006, for example, four elementary schools in different boards had their results withheld due to an investigation that determined that the students had been inappropriately coached. In 2007, on the basis of complaints from staff, all 24 schools in one board had their results withheld because test materials were inadvertently distributed by the board office. In 2008, no school results were withheld.

There is no public disclosure of why results are withheld, although more complete and open communication would no doubt act as a deterrent to help ensure compliance with assessment guidelines. The teachers and principals we spoke to indicated that they were unaware of the results-suppression policy. They suggested that the administration guide should be more explicit on the repercussions of policy violations. We noted that the Massachusetts administration guide is very clear and explicit on penalties, such as the loss of a teaching licence, for violating the assessment administration guide.

Based on a review of past concerns and discussions with EQAO staff, we noted in the lower grades (Grades 3 and 6) that the primary risk to the test's integrity is non-compliance with administrative procedures by teachers and principals. In high school (Grade 9 and OSSLT), the risk shifts from

the principal/teacher to the student where there is a higher potential for students to engage in collusion and other forms of cheating. However, although there are some variations in the OSSLT quality-assurance process, the EQAO uses substantially the same processes for all assessments rather than a varied approach that considers the unique risks associated with each assessment.

As well as examining anomalies at the student level, the EQAO informally reviews results at the school and school board levels. However, more formal analysis and follow-up may be required to ensure that the testing process is effective in improving student performance. For example, some EQAO board members expressed concern that over the past three years only about 35% of Grade 9 applied mathematics students achieved Level 3 on the EQAO assessment. Several wanted the EQAO to formally investigate whether these students were not motivated to write the tests, received inadequate instruction, or whether there were problems with the curriculum.

In an attempt to motivate Grade 9 students, the EQAO has allowed school boards across the province to incorporate Grade 9 EQAO results into a student's end-of-course mark. Ministry policy states that the end-of-course exam can count for up to 30% of a student's final mark. In the 2008/09 school year, one of the school boards we visited decided that EQAO results would count for 15% of the student's final Grade 9 math mark. The degree to which these test results form part of the final mark is inconsistent province-wide, ranging from zero to 15%.

In our audit, we found significant variations in year-over-year assessment results. For example, we found that some 10% of the schools' Grade 3 results over the past four years decreased by more than 20%, while another 10% increased by more than 20%. This demonstrates that although there may be a gradual overall upward trend in provincial EQAO results, there can be significant fluctuations at the school level that may warrant following up to assess whether the changes are reasonable.

For some schools, the change in assessment results was greater than 50% from one year to next. For example, in one school, fewer than 40% of Grade 3 students achieved the provincial standard from 2004 to 2007, but its results increased to 100% in 2008. Although one might question the reasonableness of such a dramatic improvement, such significant swings could be caused by many legitimate factors, such as a different cohort of students, a change in staff, improvements initiated by the Ministry, or interventions by the school board or school to improve results.

The EQAO does not undertake a formal analysis or investigation to determine the cause of sudden and significant changes to ensure their legitimacy. Such analysis could identify whether significant variations are justified or result from the testing process and are areas the EQAO should consider for intervention.

RECOMMENDATION 3

To ensure that assessment results continue to be reliable, consistent, and valid, the Education Quality and Accountability Office (EQAO) should enhance its quality assurance procedures by:

- implementing a formal complaints process to help determine if there are any trends and to identify potential actions that could prevent non-compliance with assessment guidelines or student cheating;
- considering more complete disclosure when test results at a particular school are withheld as a deterrent against non-compliance with assessment guidelines;
- outlining in its administration guides potential penalties for violating EQAO policy;
- tailoring its quality assurance processes to address unique risks associated with different assessments;
- reviewing Grade 9 applied mathematics results to assess whether incorporating EQAO results into the student's final mark

is effective in motivating students and, if so, suggest a more consistent approach; and

- investigating any abnormally large variations in school assessment results from year to year and ensuring that they are justified.

EQAO RESPONSE

The EQAO takes complaints regarding non-compliance of assessment guidelines very seriously and has rigorous quality assurance processes to ensure that the administration of the assessment is consistent across the province. The EQAO has always followed up complaints at the school and board level and in 2009 introduced a standardized format for investigating at the school and board level. The EQAO now has a clear protocol for investigating and withholding results when warranted and will continue to review approaches in other jurisdictions.

The EQAO agrees with the recommendation that in instances where non-compliance with assessment administration guidelines have been confirmed, it should disclose the reason that results are being withheld. The EQAO will also outline potential consequences for non-compliance with its administrative guidelines.

The EQAO applies all quality assurance procedures to all assessments because it is important to consider the same elements, such as proper administrative procedures, security of materials, principal and teacher compliance, and student cheating. However, for some assessments, certain procedures are used more extensively, such as when comparing student results for collusion in Grade 9 math and the OSSLT. The EQAO will continue to examine its quality assurance processes and tailor specific strategies to meet the varying conditions of the assessments.

The EQAO agrees with the recommendation to review the practice of applying EQAO results to Grade 9 math school results. In 2010, it will

include on the Grade 9 teacher questionnaire questions about the practice of counting EQAO results for course marks and will then correlate this information with student achievement results to determine the best course of action.

The EQAO has always had a practice of reviewing significant changes in school results and contacting directors of education for those schools with such changes. A more formal analysis was introduced in summer 2009, whereby superintendents responsible for schools identified with large variations are contacted and asked to conduct a review and provide a written report outlining explanations for any large gains. As noted in the Auditor General's report, significant swings could be caused by many legitimate factors. In the review of such schools to-date, those with large variations have been attributed to such factors.

Reporting on EQAO Assessment Results

The EQAO is required by legislation to report to the public and to the Minister of Education on the results of its testing and, generally, on the quality and effectiveness of elementary and secondary school education. For both English and French language students, EQAO assessment results for each subject area are reported by school, school board, and on a province-wide basis. These results are compared to prior years and are also reported by gender, by English-language learners, and by special needs students. More detailed contextual results are available to schools and school boards through a secure website. Parents also receive an individual student report detailing their child's results.

In addition to the statistical data reported annually, the EQAO also provides a series of reports that include a summary of high-level trends, school success stories, and strategies for student improvement. These reports provide principals and

teachers insight into areas that may need attention, and the principals/teachers we spoke to indicated that EQAO results helped them plan strategies to enhance classroom learning. Teachers also commented that the EQAO gave them feedback on how well they conformed to the curriculum.

These EQAO annual provincial reports also include the results of questionnaires filled out by students, principals, and teachers. For example, the teachers' questionnaire asks whether they make use of EQAO data and other specific resources such as the school library and computer software. Many of the teachers we interviewed stated that the questionnaires were repetitive from year to year and did not allow for general feedback or the opportunity to raise other issues. In 2009, the EQAO initiated a pilot communications strategy to obtain more open feedback from a number of school staff on the EQAO's student assessment process.

In 2007, the EQAO expanded its outreach program to provide, on request, workshops and seminars to assist school board and school staff in understanding and using EQAO data to improve student achievement. EQAO outreach staff conduct regional workshops that all boards can attend and visit boards individually. Some boards have been visited as many as 10 times, while other school boards across the province have received relatively few visits from outreach staff.

In January 2009, the EQAO Board of Directors requested that its management initiate a bolder communications strategy with the public and school communities. In particular, the board wanted parents and the general public to better understand the benefits of the assessment process to promote improvements in student learning. Several of the school principals and teachers we interviewed agreed that the EQAO should take a larger role in explaining and promoting the assessment process.

RECOMMENDATION 4

To further improve its policies and processes and the procedures designed to produce accurate and reliable reports that can be used to improve student performance, the Education Quality and Accountability Office (EQAO) should:

- consider formalizing its pilot initiative to provide more open-ended questions for principals, teachers, and students to obtain better feedback on any concerns with the assessment process and ways to improve it;
- develop a more formal outreach strategy to give all schools and school boards an opportunity to gain further insight into the value of EQAO data and how it can be used to improve student learning; and
- increase the understanding of parents and the general public of how the assessment process enhances student learning.

EQAO RESPONSE

It is important to ask the same questionnaire questions each year so that comparisons over time can be made. The EQAO has conducted research on factors that are related to student achievement and will be revising its questionnaires to gather data on these factors. Revised questionnaires will be implemented in 2010 for the primary and junior assessments. The EQAO recognizes the value of gathering feedback from educators and does this through a variety of outreach techniques, including focus groups, educator feedback on the public web site, the EQAO WebMag, monitor visits by the Council of Ontario Directors of Education, and OSSLT shadow activities.

The EQAO's outreach program was established with the goal of helping all schools and school boards understand the value of EQAO data and how best to use this information in their improvement-planning processes. The EQAO agrees with the recommendation and will

continue to enhance its outreach activities to ensure that schools and boards are able to use this valuable data.

The EQAO agrees with the recommendation to increase understanding of how the assessment process enhances student learning. It will continue to enhance its public reporting practices and communications materials for parents. The EQAO Board of Directors established this as a priority in its 2009/10 business plan.

ADMINISTRATION COSTS

The major expenditures for the EQAO relate to the administration of student assessments such as staffing and the hiring of temporary test markers, as well as test-printing, warehousing, and delivery. The EQAO spent almost \$32 million to deliver its services during the 2008/09 fiscal year. We found

that the EQAO had developed a good budgeting process to help control costs and had reduced its annual expenditures by over 20% during the past five years while delivering substantially the same service. Major cost reductions were achieved in the assessment marking process, print production, warehousing, and test distribution.

The EQAO is obliged to follow Management Board of Cabinet Directives in the acquisition of goods and services, and we found that it complies with the required tendering practice and that the necessary procurement documentation and approvals were on file. In addition, in 2008, the Ministry's Audit Services Team reviewed selected EQAO financial processes and found that its travel expense procedures were operating effectively, overall, and that all expenses were supported prior to payment in accordance with the Management Board of Cabinet's Travel, Meal, and Hospitality Expense Directive.