EQAO

Education
Quality and
Accountability
Office

The Grade 3 and Grade 6 Assessments of Reading, Writing and Mathematics, 2002–2003

Report of Provincial Results

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Results at a Glance

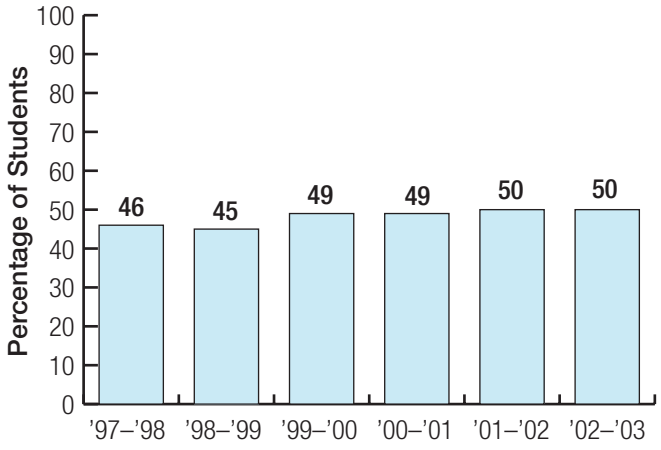
Achievement Highlights

Data Comparison over Time: Grade 3

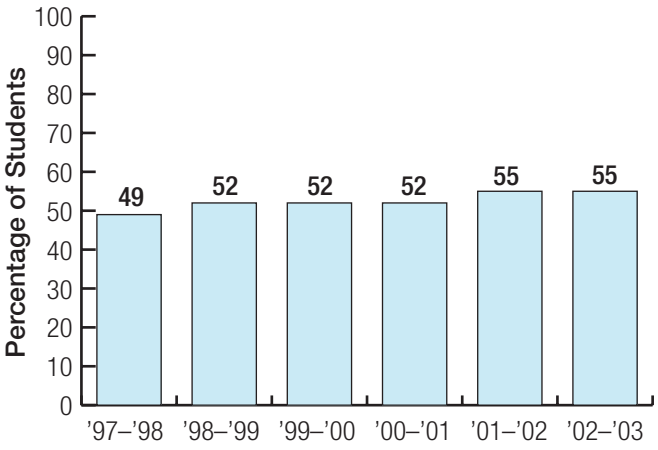
Overall Achievement: Level 3 and Above[1] (Method 1)[2]

	Reading	Writing	Mathematics
1997–1998 (# = 131 000)	46%	49%	43%
1998–1999 (# = 138 187)	45%	52%	56%
1999–2000 (# = 139 904)	49%	52%	57%
2000–2001 (# = 138 422)	49%	52%	61%
2001–2002 (# = 139 727)	50%	55%	58%
2002–2003 (# = 140 860)	50%	55%	57%

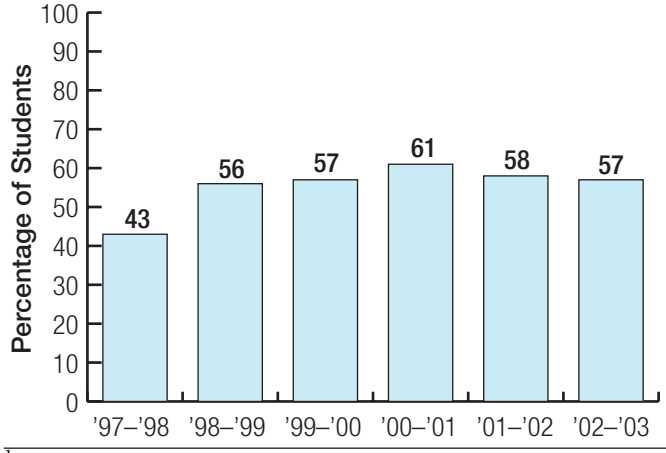
Reading



Writing



Mathematics



Observations:

- In Grade 3, half the students achieved the provincial standard in reading (50%) and more than half achieved the provincial standard in writing (55%) and mathematics (57%).
- There were improvements in Grade 3 reading, writing and mathematics achievement in the early years of the assessment; results have remained stable over the past two years.

[1] Percentages achieving Level 3 and above are reported here because *The Ontario Curriculum* sets Level 3 as the provincial standard.

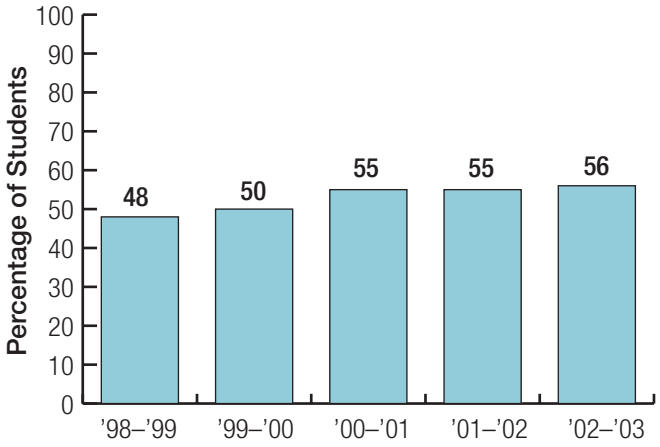
[2] Refer to page 11 for a description of Method 1 and Method 2.

Data Comparison over Time: Grade 6

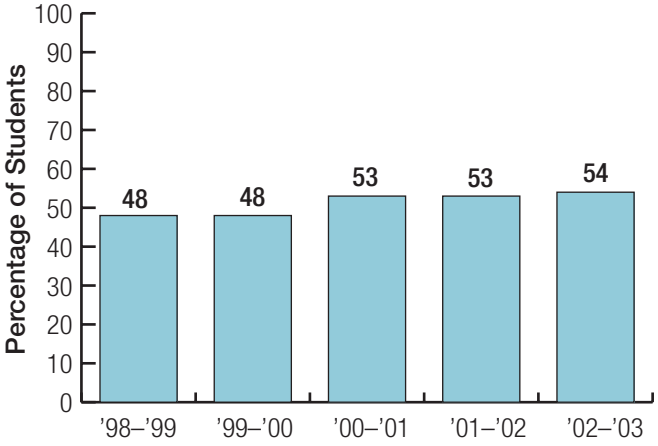
Overall Achievement: Level 3[3] and Above (Method 1)[4]

	Reading	Writing	Mathematics
1998–1999 (# = 131 439)	48%	48%	46%
1999–2000 (# = 135 578)	50%	48%	51%
2000–2001 (# = 138 191)	55%	53%	54%
2001–2002 (# = 145 351)	55%	53%	54%
2002–2003 (# = 144 676)	56%	54%	53%

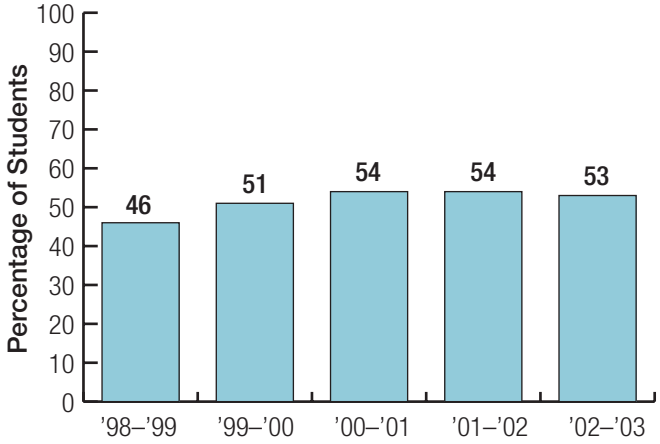
Reading



Writing



Mathematics



Observations:

- More than half the students achieved the provincial standard in reading (56%), writing (54%) and mathematics (53%).
- The results in reading and writing continue to show slow but steady improvement; results in mathematics have remained stable over the past three years.

[3] Percentages achieving Level 3 and above are reported here because *The Ontario Curriculum* sets Level 3 as the provincial standard.

[4] Refer to page 11 for a description of Method 1 and Method 2.

Key Observations

Achievement Results

- There were improvements in Grade 3 reading, writing and mathematics achievement in the early years of the assessment; results have remained stable over the past two years.
- The results in Grade 6 reading and writing continue to show slow but steady improvement; results in mathematics have remained stable over the past three years.
- In both Grades 3 and 6, females outperformed males in reading, writing and mathematics; in mathematics, the differences were less pronounced.
- Gender differences in the reading and writing results were larger in Grade 6 than in Grade 3.
- In Grades 3 and 6, over the past four years, there has been a slow but steady increase in the percentage of English as a second language and English literacy development (ESL/ELD) students meeting the provincial standard for reading and writing achievement; the percentage meeting the mathematics standard has remained relatively stable over the past three years.
- In Grades 3 and 6, over the past four years, there has been a slow but steady increase in the percentage of special needs students meeting the provincial standard for reading, writing and mathematics achievement.

Use of Results

- Principals reported they use the Grades 3 and 6 assessment results to determine where instructional and professional resources are needed and to revise school improvement or school action plans.
- Teachers reported they use the Grades 3 and 6 assessment results to identify areas of weakness in order to plan instructional improvements, to show their students what good work looks like, to develop their own assessments and to prepare students for provincial assessments.

Key Messages

- In the first few years of Grades 3 and 6 assessments, there were increases in the percentage of students reaching the provincial standard, Level 3.
- In the past two years there have been no significant increases in the percentage of students meeting the provincial standard, Level 3.
- Many factors and organizations contribute to improved student achievement: curriculum, resources, teachers, students, principals, parents, school councils, school boards, the Ministry of Education, faculties of education and the Ontario College of Teachers.
- School staff and school board staff must continue to implement school improvement plans, with the goal of increasing the number of students who reach the provincial standard. Staff in the other organizations should reaffirm their commitment to the contribution they make to supporting teachers in their work.
- School councils should work with school staff to reaffirm commitments to school improvement and to assist with implementing action plans.
- Partner organizations will be invited to conduct research to describe the approaches and conditions that have contributed to high levels of achievement and improvement. To support this research, EQAO will identify schools and school boards in which a high percentage of students have consistently performed at the provincial standard or in which there has been significant improvement in student achievement.

Key Recommendations

EQAO recommends that

- each **school,** with the involvement of teachers, students and parents, design and implement school-wide initiatives to ensure student achievement of the provincial curriculum expectations in literacy and numeracy.
- **school councils** closely monitor student achievement and take an active role in school improvement.
- **school boards** establish school board improvement teams that review historical student achievement and contextual data to develop action plans for meeting school targets for achievement of the *Ontario Curriculum* standards in literacy and numeracy and to develop strategies that target areas and groups in need of additional support and improvement.
- **faculties of education** assist pre-service teachers in developing an awareness and understanding of the links among curriculum, teaching practices and assessment. Pre-service teachers must have exposure to a wide variety of assessment formats, including large-scale performance-based assessment.
- the **Ontario College of Teachers** ensure a balance of courses on core competencies through Professional Learning Program providers, to allow teachers across the province ample opportunities for professional development that focuses on the relationships among curriculum, teaching practices and assessment, which are essential to teaching and learning.
- the **Ministry of Education** use the Grade 3 and Grade 6 provincial assessment data accumulated over the past six years to further support literacy and numeracy, especially through the Early Reading and Early Math strategies, at the board, school and classroom levels.

The Grade 3 and Grade 6 Assessments of Reading, Writing and Mathematics, 2002–2003

Introduction

EQAO's purpose is to ensure greater accountability in the publicly funded education system and to improve the quality of education in Ontario. In order to fulfill its mandate, EQAO conducts several province-wide assessments, among them the Grade 3 and Grade 6 Assessments of Reading, Writing and Mathematics. Both of these assessments are conducted annually and involve all Grade 3 and Grade 6 students in publicly funded schools in Ontario. The results of these assessments provide individual, school and school board data on student achievement at two key stages of elementary education. Parents receive an Individual Student Report that provides information on their child's achievement on the assessment. Schools and school boards create their own reports, based on EQAO data, for distribution to parents and other stakeholders in the community. EQAO posts board and school results on its Web site for public access. As well, EQAO publishes an annual *Provincial Report on Achievement* for education stakeholders and the general public. Data from the assessments provide valuable information to support improvement planning at the school and school board levels.

Assessment Content

The Grade 3 and Grade 6 assessments measure how well students have met the provincial expectations in *The Ontario Curriculum, Grades 1–8*. Each assessment covers the knowledge and skills in reading, writing and mathematics that students are expected to have acquired by the end of the grade being assessed. The assessments contain performance-based activities requiring written responses, and multiple-choice questions. This combination of question types allows students to demonstrate both the depth and the scope of their learning and provides a variety of ways for students to demonstrate what they know and what they can do.

Reading

In the reading component of the assessment, students demonstrate their knowledge and skills by reading a variety of materials, both fiction and non-fiction. This part of the assessment measures how effectively students use various reading strategies and conventions and how well they understand concepts, make inferences and connect ideas.

Writing

In the writing component of the assessment, students demonstrate their knowledge and skills by writing in different forms and for different purposes. This part of the assessment measures how effectively students use writing strategies and language conventions and how well they understand assigned tasks, organize ideas and communicate with the reader. During the assessment, students produce two pieces of written work. One piece uses the writing process, while the other is an on-demand piece.

Mathematics

In the mathematics component of the assessment, students demonstrate their knowledge and skills by solving problems, applying procedures and explaining how they have arrived at their answers. This part of the assessment also tests students' knowledge and skills in the five strands of mathematics: number sense and numeration, geometry and spatial sense, measurement, patterning and algebra, and data management and probability.

Student Participation

All Grade 3 and Grade 6 Ontario students in publicly funded schools are required to participate in the assessments. Teachers and principals are therefore expected to make every effort to enable all students to participate in all aspects of the assessment. This may involve providing one or more permitted accommodations during the assessment. These accommodations must follow the policies of the Ministry of Education and EQAO to ensure the integrity of the assessments. The only students eligible for accommodations are students with special needs, or ESL/ELD students in the early stages of English-language acquisition. It is assumed that these students require accommodations for classroom assessment tasks throughout the school year.

ESL students are those who arrive in Canada from another country with a first language other than English and little or no previous experience with English. Most commonly, ELD students are those who arrive in Canada from countries where English is the first language, but varieties of English other than standard Canadian English are in common use.

Students with special needs are those who have an Individual Education Plan (IEP), who may or may not have been identified as "exceptional pupils" by an Identification, Placement and Review Committee (IPRC) and who are receiving special education programs and services (see Ministry of Education Policy/Program Memorandum No. 127).

Schools are required to document accommodations on the Student Information Form prior to the administration of the assessment, and the accommodations are noted on the Individual Student Report sent to schools.

In rare instances, a student needs to be exempted from participating in all or part of an assessment because the full range of permitted accommodations has been considered and it is determined that the student would still not be able to provide evidence of learning under these assessment conditions. Before granting an exemption, the principal must consult with the student's parents and teacher and obtain written parental consent.

Administration and Marking

The Grades 3 and 6 assessments are conducted annually in May. The assessments take place over five days for up to two and a half hours each day. In both grades, students take part in introductory activities with their classmates and then work independently to solve problems, write their responses and answer multiple-choice questions.

All teachers responsible for administering the assessments receive detailed guidelines in the Teacher's Daily Plans.

The Grades 3 and 6 Assessments of Reading, Writing and Mathematics, like all of EQAO's provincial initiatives, involve educators at every stage. Teachers and administrators from across the province participate in developing, field testing and validating the assessment materials. In addition, the assessments are marked by educators representing all elementary grades. Marking provides teachers with valuable professional development in assessing student achievement. During the 2002–2003 marking session, about 90% of the nearly 2000 English- and French-language teachers involved reported that the experience would have a positive impact on their classroom practice and was useful professional development. The comment of one marker summarized the opinion of many: "Great professional development! A great help and builder of confidence in my teaching."

For each assessment, the constructed-response sections (those requiring a written response) comprise approximately 80% of the assessment, while the multiple-choice sections comprise approximately 20%. The constructed-response sections in reading and writing are organized and marked according to the following four curriculum categories: reasoning, communication, organization and application of language conventions. In mathematics, the constructed responses are marked according to the five mathematics strands (see page 9) and the four categories (problem solving, understanding of concepts, application of mathematical procedures and communication of required knowledge). The multiple-choice components are scored mechanically.

EQAO uses a four-level scale to report on student achievement in reading, writing and mathematics. This scale is based on *The Ontario Curriculum, Grades 1–8* and sets Level 3 as the provincial standard. Markers are trained to assess student written work according to the four levels of achievement. Students may also be assigned "NEIS" (the student's work provides insufficient information to score or to be assigned a level of achievement), "NE1" (the student did not produce enough evidence to receive a Level 1), "exempt" (the student was formally exempted from participating in the assessment) and "no data" (EQAO received no completed assessment booklets).

In the Achievement Results section of this report, data are provided according to the achievement levels and the designations described above. Calculations are made in two ways, which EQAO terms Method 1 and Method 2.

Method 1

Data for all students in the grade are reported. Method 1 expresses the number of students in each reporting category as a percentage of all students in the grade (i.e., students at the four levels of achievement and those in the exempt, no data, NEIS and NE1 categories described above).

Method 2

An alternative way of presenting the data, Method 2 expresses the distribution of results as a percentage of those students who took part in the assessment (i.e., students at the four levels of achievement and those in the NEIS and NE1 categories described above). Students in the exempt and no data categories are excluded.

Generating Achievement Results

EQAO reports overall levels of achievement for each subject (reading, writing and mathematics) as well as more detailed results according to the categories and strands described earlier.

The overall results for each subject are derived by combining the results from the constructed-response section with those from the multiple-choice section. For reading and writing, the overall result is generated from five sources of data (the four categories applied to the written work and one multiple-choice section). For mathematics, it is derived from ten sources (the four categories and five strands applied to the written work and one multiple-choice section).

Quality Assurance

Quality assurance procedures help to ensure that EQAO's assessments produce valid and reliable data. These procedures are embedded in each stage of the assessment cycle: design and development, field testing, administration, marking and data management. EQAO uses quality assurance information collected during and at the end of each assessment cycle to review and improve assessment materials, policies and procedures. The following is a brief summary of the main quality assurance measures for the Grades 3 and 6 assessments.

Design and Development

The Grades 3 and 6 assessments are based entirely on the provincial expectations in *The Ontario Curriculum.* In the design and development phase, a committee of assessment experts provides advice to ensure the assessments are consistent with EQAO values and conform to sound assessment practices. EQAO personnel train teams of educators from schools and school boards across the province and monitor and support their work. A validation team composed of practising teachers examines test materials for bias and appropriateness.

Field Testing

The Grade 3 and Grade 6 assessment materials are field tested prior to their administration in May. Each fall, the Grade 3 materials are field tested in 25 Grade 4 classrooms across the province, and the Grade 6 materials are field tested in 25 Grade 7 classrooms. Altogether, approximately 500 Grade 4 and 500 Grade 7 students and their teachers are involved. During the field test, teachers are asked to complete a questionnaire regarding the appropriateness of all of the assessment materials, as well as the reaction of the students to them. Following field-test marking, EQAO analyzes all the information generated by the field test and compiles the final assessment materials.

Administration

EQAO quality assurance monitors visit approximately 10% of the participating classrooms to observe and collect data on how accurately and consistently teachers and principals follow the procedures outlined in the *Administration Guide for Teachers and Principals*. EQAO staff and data analysts are trained to detect irregularities during the administration of the assessments. EQAO staff, together with school board and school officials, investigate all reported or suspected irregularities. EQAO also makes follow-up visits to schools where irregularities were identified during the administration of the previous year's assessments.

Marking

During marking, various types of reliability checks are conducted. Questionnaires are administered to markers to gather feedback on the training process. Each morning, before marking begins, markers score orientation booklets to ensure marking procedures and standards are applied consistently from day to day. Each afternoon, all markers score a reliability booklet, and the results are analyzed to evaluate the degree of consistency and reliability of the marking. In addition, calibration booklets (random selections of students' booklets) are re-marked each day, and the results of the markings are then compared to generate statistics on marking reliability.

Data Management

EQAO has data management procedures in place to ensure that data are correctly recorded and attributed to students, schools and school boards. EQAO has also developed a formal process for reviewing individual students' results when requests or appeals are received.

Year-to-Year Comparisons

With the publication of this report, educators, parents, policy-makers and the public have six years of Grade 3 achievement data and five years of Grade 6 achievement data based on the current curriculum expectations. They also have six years of contextual data from the questionnaires that students, teachers and principals complete during administration. The data also form part of the Education Quality Indicators Program that was designed to measure and describe a range of important features of the Ontario education system that affect student learning, at the school, school board and provincial levels.

Through an examination of these data, it is possible to identify some important trends over time. However, it is important to emphasize that some comparisons are valid and meaningful, while others should be avoided. For instance, the overall levels of achievement are comparable from year to year; the method EQAO uses to calculate the overall levels of achievement in reading, writing and mathematics allows these scores to be reported on the same scale from one year to the next.

On the other hand, modifications and refinements in the design and marking of the performance-based components of the assessments create potential sources of variation in results from year to year for the category and strand scores. Although the category and strand scores are not directly comparable from year to year, parents and teachers are encouraged to examine students' category and strand scores, using test booklets and the samples of student work provided by EQAO. This will help them to determine students' strengths and weaknesses in the categories and strands in comparison to all students who wrote the test. It is useful for school

boards to analyze their category and strand results in terms of the provincial results, and schools are encouraged to analyze their results in terms of both the provincial and school board results to gain an understanding of strengths and weaknesses in their students' achievement relative to the larger population.

The multiple-choice component of the assessment includes some questions that are used from year to year. These questions are not subject to change. The analysis of student responses to these questions from the previous year indicates whether there are any changes in student performance. This information, along with the distribution of scores from the previous years, provides a mechanism for measuring year-to-year consistency and a basis for adjusting results where necessary to ensure this consistency.

For further information about the various aspects of the Grades 3 and 6 assessments, please refer to the EQAO Web site (www.eqao.com).

Profile of Students in Grades 3 and 6

This section of the report provides information about the students who were in Grade 3 and Grade 6 in 2002–2003.[5]

Grade 3

Number of Students (# = 140 860)

Gender	Percentage[6]
Female	48%
Male	51%
No Response	1%

Student Status	Percentage
ESL/ELD	5%
Special Needs	17%

Preschool Experience Students who had attended nursery school or kindergarten	Percentage
Yes	91%
No	3%
Don't Know	5%
No Response	1%

First Language	Percentage
English	79%
Other	19%
No Response	1%

Student Mobility Number of schools attended since Grade 1	Percentage
1 School	64%
2 Schools	24%
3 Schools	6%
4 or More Schools	2%
Don't Know	2%
No Response	2%

Observations:

- A very high percentage of Grade 3 students had preschool experience.
- Approximately one-fifth of Grade 3 students who wrote the assessment have a first language other than English.

[5] Data in the following tables derive from the 2002–2003 EQAO Student Information Form.

[6] Percentages may not add to 100, due to rounding.

Grade 6

Number of Students (# = 144 676)

Gender	Percentage[7]
Female	49%
Male	51%
No Response	1%

Student Status	Percentage
ESL/ELD	3%
Special Needs	16%

Preschool Experience Students who had attended nursery school or kindergarten	Percentage
Yes	90%
No	3%
Don't Know	5%
No Response	2%

First Language	Percentage
English	81%
Other	18%
No Response	2%

Student Mobility Number of schools attended since Grade 1	Percentage
1 School	40%
2 Schools	30%
3 Schools	14%
4 or More Schools	10%
Don't Know	3%
No Response	2%

Observations:

- A very high percentage of Grade 6 students had preschool experience.
- Approximately one-fifth of Grade 6 students who wrote the assessment have a first language other than English.
- Almost one-quarter (24%) of Grade 6 students have attended three or more schools.

[7] Percentages may not add to 100, due to rounding.

Participation

This section of the report provides information about the students who participated in the Grade 3 and Grade 6 Assessments of Reading, Writing and Mathematics, 2002–2003.

Reading

	Eligible Population[8]	Percentage No Data	Percentage Exempted[9]	Percentage Participating
All Students				
Grade 3	138 198	1%	6%	93%
Grade 6	144 676	1%	4%	95%
Grade 3				
Gender				
Female	66 564	1%	4%	95%
Male	70 888	1%	7%	92%
Student Status				
ESL/ELD	7479	1%	21%	77%
Special Needs	23 926	2%	26%	72%
Grade 6				
Gender				
Female	70 297	1%	3%	96%
Male	73 155	1%	5%	94%
Student Status				
ESL/ELD	4930	1%	27%	72%
Special Needs	23 646	1%	20%	79%

Observations:

- In both grades, nearly twice as many males as females were exempted from reading.
- In Grade 3, the percentage of ESL/ELD students exempted from reading has decreased from 25% last year to 21% this year.
- The percentage of Grade 3 special needs students exempted from reading has remained about the same.
- In Grade 6, the percentage of ESL/ELD and special needs students exempted from reading has remained about the same.

[8] These data derive from the EQAO Class Tracking Sheet. Eligible population numbers can vary from table to table because different numbers of students participated in reading, writing and mathematics. The numbers of males and females do not add up to the eligible population, because gender was not reported for some students.

[9] These data derive from the 2002–2003 Student Information Form.

Writing

	Eligible Population	Percentage No Data	Percentage Exempted	Percentage Participating
All Students				
Grade 3	138 198	1%	5%	94%
Grade 6	144 676	1%	4%	95%
Grade 3				
Gender				
Female	66 564	1%	4%	95%
Male	70 888	1%	7%	92%
Student Status				
ESL/ELD	7479	1%	20%	79%
Special Needs	23 926	2%	24%	75%
Grade 6				
Gender				
Female	70 297	1%	3%	96%
Male	73 155	1%	5%	94%
Student Status				
ESL/ELD	4930	2%	26%	72%
Special Needs	23 646	1%	20%	79%

Observations:

- In both grades, nearly twice as many males as females were exempted from writing.
- In Grade 3, the percentage of ESL/ELD students exempted from writing has decreased from 23% last year to 20% this year.
- In Grade 6, the percentage of ESL/ELD students exempted from writing has decreased from 28% last year to 26% this year.
- The percentage of Grades 3 and 6 special needs students exempted from writing has remained about the same.

Mathematics

	Eligible Population	Percentage No Data	Percentage Exempted	Percentage Participating
All Students				
Grade 3	140 860	1%	4%	95%
Grade 6	144 676	1%	4%	95%
Grade 3				
Gender				
Female	68 142	1%	3%	96%
Male	71 956	1%	5%	94%
Student Status				
ESL/ELD	7491	1%	17%	82%
Special Needs	24 148	1%	21%	78%
Grade 6				
Gender				
Female	70 297	1%	3%	96%
Male	73 155	1%	5%	94%
Student Status				
ESL/ELD	4930	1%	22%	77%
Special Needs	23 646	1%	20%	79%

Observations:

- In both grades, nearly twice as many males as females were exempted from mathematics.
- In Grade 3, the percentage of ESL/ELD students exempted from mathematics has decreased from 20% last year to 17% this year.
- The percentage of Grade 3 special needs students exempted from mathematics has remained about the same.
- In Grade 6, the percentage of ESL/ELD and special needs students exempted from mathematics has remained about the same.

Students Receiving Accommodations

Students Who Received One or More Accommodations in Reading[10]

	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Grade 3	22%	24%	25%	18%	11%	12%
Grade 6	n/a	24%	17%	12%	10%	9%

Students Who Received One or More Accommodations in Writing

	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Grade 3	22%	29%	29%	19%	10%	11%
Grade 6	n/a	34%	17%	15%	10%	10%

Students Who Received One or More Accommodations in Mathematics

	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Grade 3	27%	38%	31%	22%	12%	13%
Grade 6	n/a	28%	21%	17%	10%	10%

Observation:

- The percentage of students who received accommodations has decreased over time, though it has remained stable over the past two years.

[10] These data derive from the 2002–2003 EQAO Student Information Form.

Achievement Results

This section of the report summarizes provincial results from the 2002–2003 Grades 3 and 6 assessments. The reading, writing and mathematics results for both grades are presented to illustrate patterns in each subject and between grades. Taken together with the questionnaire data, these results present a comprehensive picture of student achievement on the Grades 3 and 6 assessments.

Overall Level of Achievement in Reading — Grade 3

	# =	Exempt	No Data	NEIS[11]	NE1[12]	Level 1	Level 2	Level 3	Level 4
Method 1	138 198	6%	1%	8%	<1%	8%	28%	45%	5%
Method 2	129 008	n/a	n/a	8%	<1%	9%	30%	48%	5%

Overall Level of Achievement in Reading — Grade 6

	# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Method 1	144 676	4%	1%	5%	<1%	7%	27%	47%	9%
Method 2	137 483	n/a	n/a	6%	<1%	7%	29%	49%	9%

Observation

- In reading, half the Grade 3 students achieved the provincial standard (50%), and more than half the Grade 6 students achieved the provincial standard (56%) (Method 1).

Overall Level of Achievement in Writing — Grade 3

	# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Method 1	138 198	5%	1%	4%	<1%	2%	33%	48%	8%
Method 2	129 661	n/a	n/a	4%	<1%	2%	36%	51%	8%

Overall Level of Achievement in Writing — Grade 6

	# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Method 1	144 676	4%	1%	3%	<1%	5%	33%	43%	10%
Method 2	137 451	n/a	n/a	3%	<1%	5%	35%	46%	11%

Observation

- In writing, more than half the students in both grades achieved the provincial standard (55% in Grade 3 and 54% in Grade 6)[13] (Method 1).

[11] Not enough information to score.

[12] Not enough evidence for Level 1.

[13] The differences between these percentages and those obtained by combining the percentages at Levels 3 and 4 in the table above are attributable to rounding.

Overall Level of Achievement in Mathematics — Grade 3

	# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Method 1	140 860	4%	1%	7%	<1%	4%	27%	47%	10%
Method 2	133 214	n/a	n/a	7%	<1%	5%	28%	50%	10%

Overall Level of Achievement in Mathematics — Grade 6

	# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Method 1	144 676	4%	1%	6%	<1%	8%	28%	41%	12%
Method 2	137 759	n/a	n/a	7%	<1%	8%	29%	43%	13%

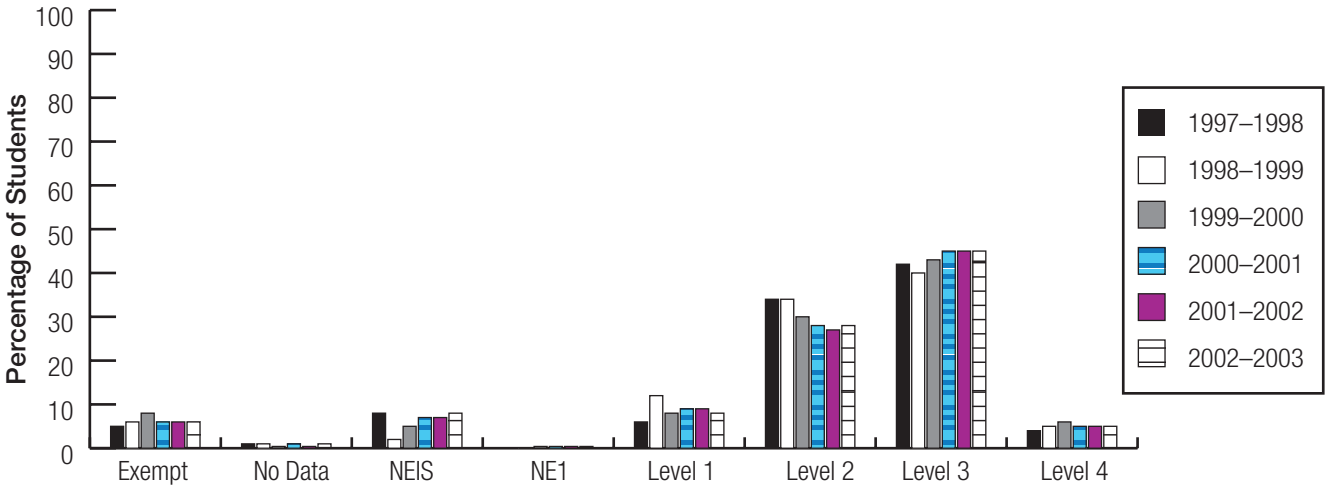
Observation

- In mathematics, more than half the students in both grades achieved the provincial standard (57% in Grade 3 and 53% in Grade 6) (Method 1).

Year-to-Year Comparisons

Six-Year Trend in Grade 3 Reading

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
1997–1998	5%	1%	8%	n/a	6%	34%	42%	4%
1998–1999	6%	1%	2%	n/a	12%	34%	40%	5%
1999–2000	8%	<1%	5%	<1%	8%	30%	43%	6%
2000–2001	6%	1%	7%	<1%	9%	28%	45%	5%
2001–2002	6%	<1%	7%	<1%	9%	27%	45%	5%
2002–2003	6%	1%	8%	<1%	8%	28%	45%	5%

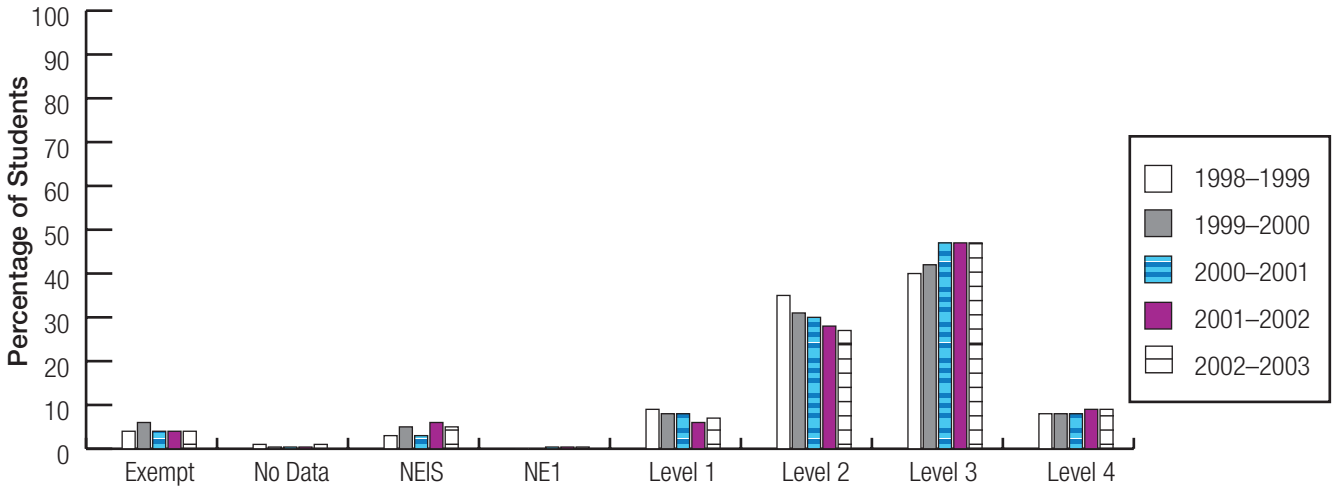


Observation:

- The percentage of Grade 3 students attaining each level of achievement in reading has remained stable over the past three years.

Five-Year Trend in Grade 6 Reading

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
1998–1999	4%	1%	3%	n/a	9%	35%	40%	8%
1999–2000	6%	<1%	5%	0%	8%	31%	42%	8%
2000–2001	4%	<1%	3%	<1%	8%	30%	47%	8%
2001–2002	4%	<1%	6%	<1%	6%	28%	47%	9%
2002–2003	4%	1%	5%	<1%	7%	27%	47%	9%

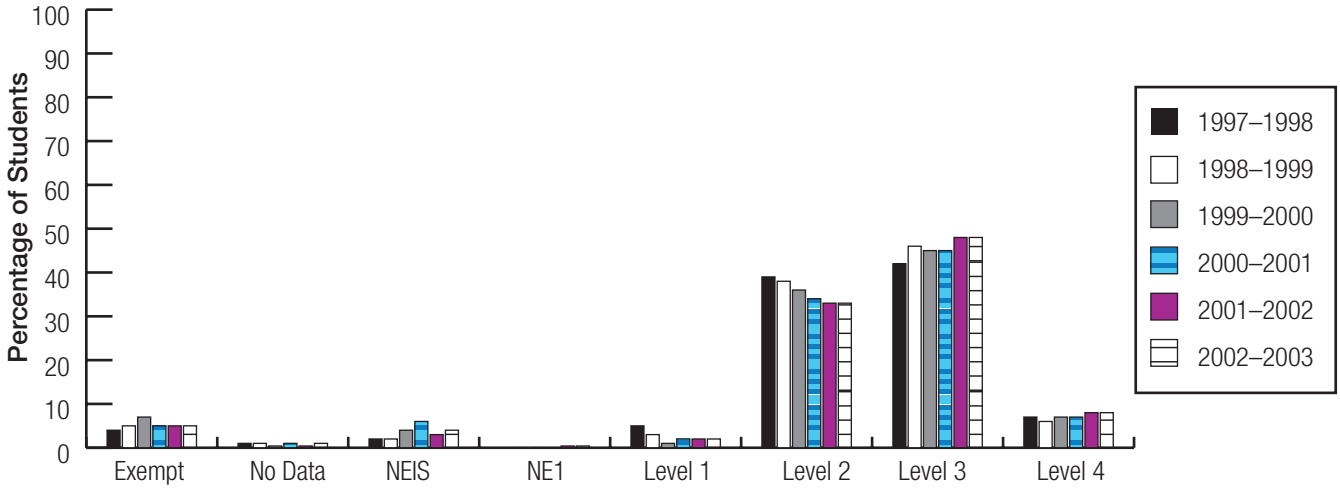


Observation:

- The percentage of Grade 6 students attaining each level of achievement in reading has remained relatively stable over the past three years, with the exception of students at Level 2, where the percentage of students continues to decrease.

Six-Year Trend in Grade 3 Writing

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
1997–1998	4%	1%	2%	n/a	5%	39%	42%	7%
1998–1999	5%	1%	2%	n/a	3%	38%	46%	6%
1999–2000	7%	<1%	4%	0%	1%	36%	45%	7%
2000–2001	5%	1%	6%	0%	2%	34%	45%	7%
2001–2002	5%	<1%	3%	<1%	2%	33%	48%	8%
2002–2003	5%	1%	4%	<1%	2%	33%	48%	8%

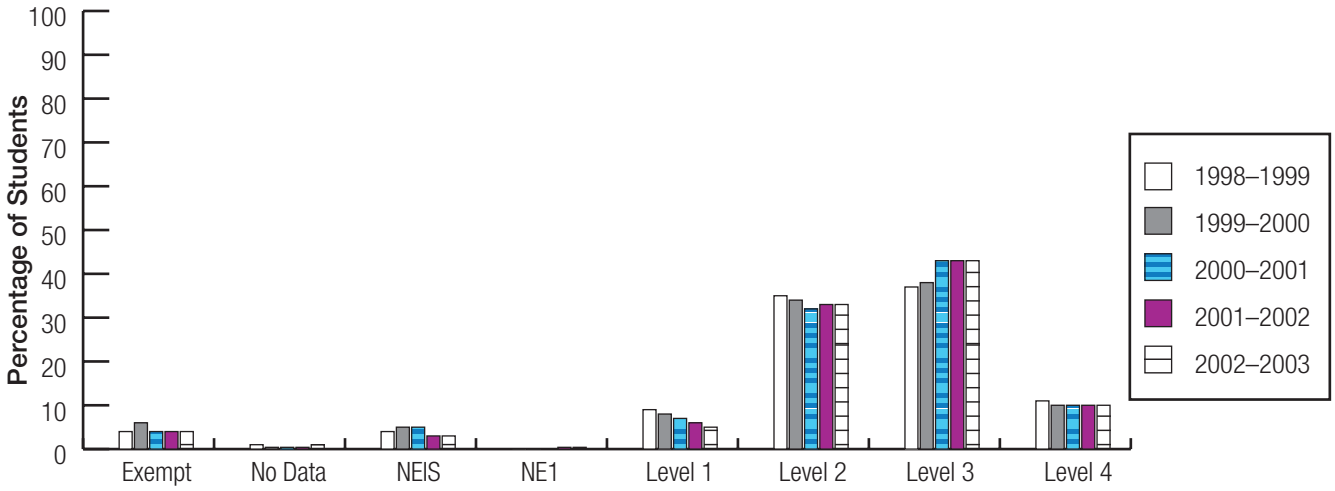


Observation:

- The percentage of Grade 3 students attaining each level of achievement in writing has remained relatively stable over the past three years.

Five-Year Trend in Grade 6 Writing

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
1998–1999	4%	1%	4%	n/a	9%	35%	37%	11%
1999–2000	6%	<1%	5%	0%	8%	34%	38%	10%
2000–2001	4%	<1%	5%	0%	7%	32%	43%	10%
2001–2002	4%	<1%	3%	<1%	6%	33%	43%	10%
2002–2003	4%	1%	3%	<1%	5%	33%	43%	10%

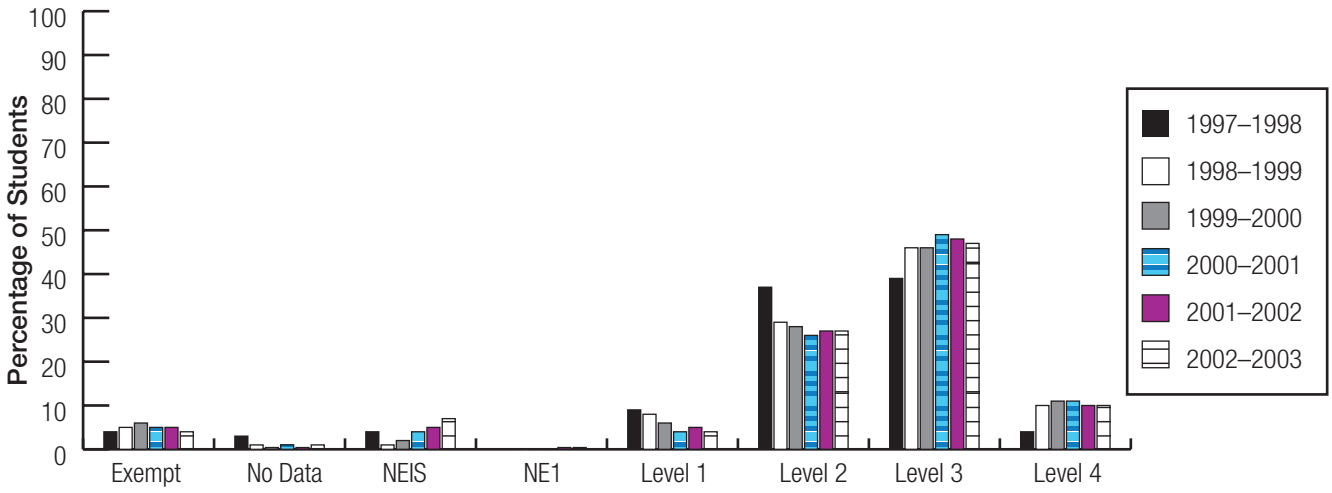


Observation:

- The percentage of Grade 6 students attaining each level of achievement in writing has remained relatively stable over the past three years.

Six-Year Trend in Grade 3 Mathematics

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
1997–1998	4%	3%	4%	n/a	9%	37%	39%	4%
1998–1999	5%	1%	1%	n/a	8%	29%	46%	10%
1999–2000	6%	<1%	2%	0%	6%	28%	46%	11%
2000–2001	5%	1%	4%	0%	4%	26%	49%	11%
2001–2002	5%	<1%	5%	<1%	5%	27%	48%	10%
2002–2003	4%	1%	7%	<1%	4%	27%	47%	10%

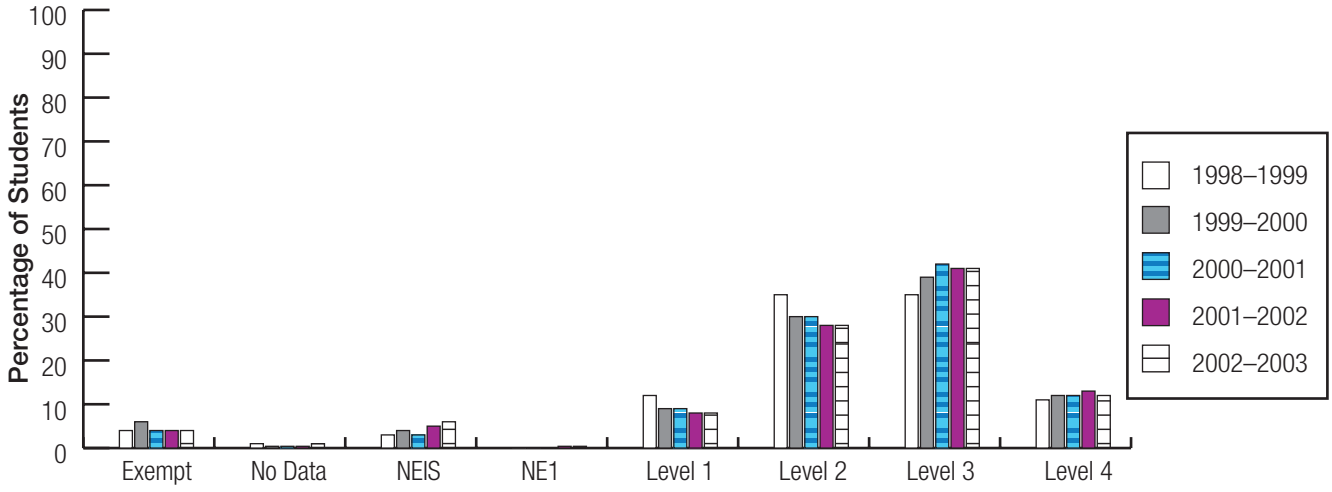


Observation:

- The percentage of Grade 3 students attaining each level of achievement in mathematics has remained relatively stable over the past three years.

Five-Year Trend in Grade 6 Mathematics

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
1998–1999	4%	1%	3%	n/a	12%	35%	35%	11%
1999–2000	6%	<1%	4%	0%	9%	30%	39%	12%
2000–2001	4%	<1%	3%	0%	9%	30%	42%	12%
2001–2002	4%	<1%	5%	<1%	8%	28%	41%	13%
2002–2003	4%	1%	6%	<1%	8%	28%	41%	12%



Observation:

- The percentage of Grade 6 students attaining each level of achievement in mathematics has remained relatively stable over the past three years.

Reading: Detailed Achievement by Category

School principals and school board officials can use the following data on reading, writing and mathematics to compare school, school board and provincial results to identify areas of relative strength and weakness for improvement planning.

Grade 3

Category	# =	Average Score	Maximum
Reasoning	127 762	11.6	20
Communication	124 150	10.2	20
Organization of Ideas	124 267	9.5	20
Application of Language Conventions	127 132	12.5	20

Grade 6

Category	# =	Average Score	Maximum
Reasoning	136 420	9.7	20
Communication	134 459	9.4	20
Organization of Ideas	137 149	9.3	20
Application of Language Conventions	137 276	9.1	20

Writing: Detailed Achievement by Category

Grade 3

Category	# =	Average Score	Maximum
Reasoning	128 941	5.1	8
Communication	128 977	5.1	8
Organization of Ideas	128 971	4.9	8
Application of Language Conventions	128 983	5.1	8

Grade 6

Category	# =	Average Score	Maximum
Reasoning	136 724	5.1	8
Communication	136 734	5.3	8
Organization of Ideas	136 736	5.2	8
Application of Language Conventions	136 740	5.5	8

Mathematics: Detailed Achievement by Category and Strand

Grade 3

Category	# =	Average Score	Maximum
Problem Solving	129 163	8.5	20
Understanding of Concepts	132 971	10.0	20
Application of Mathematical Procedures	129 145	9.3	20
Communication of Required Knowledge	131 362	10.0	20
Strand			
Number Sense and Numeration	131 578	13.6	24
Measurement	131 422	12.0	24
Geometry and Spatial Sense	132 465	13.0	24
Patterning and Algebra	132 000	13.0	24
Data Management and Probability	129 811	11.8	24

Grade 6

Category	# =	Average Score	Maximum
Problem Solving	136 448	10.1	20
Understanding of Concepts	135 595	10.2	20
Application of Mathematical Procedures	136 749	11.7	20
Communication of Required Knowledge	135 522	9.3	20
Strand			
Number Sense and Numeration	136 572	13.1	24
Measurement	137 130	13.8	24
Geometry and Spatial Sense	135 275	12.5	24
Patterning and Algebra	136 158	14.2	24
Data Management and Probability	135 468	12.9	24

Reading: Overall Achievement by Subgroup[14]

Grade 3

		# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Gender	Female	66 564	4%	1%	6%	<1%	7%	26%	49%	6%
	Male	70 888	7%	1%	9%	<1%	9%	30%	41%	3%
Language	In ESL/ELD	7479	21%	1%	7%	–	14%	31%	24%	1%
	All Other Students	130 719	5%	1%	8%	<1%	8%	28%	46%	5%
Special Needs	Special Needs	23 926	26%	2%	12%	<1%	17%	28%	15%	1%
	All Other Students	114 272	1%	1%	7%	<1%	6%	28%	51%	6%

Grade 6

		# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Gender	Female	70 297	3%	1%	4%	<1%	5%	24%	51%	12%
	Male	73 155	5%	1%	7%	<1%	8%	31%	42%	6%
Language	In ESL/ELD	4930	27%	1%	7%	<1%	13%	27%	22%	3%
	All Other Students	139 746	3%	1%	5%	<1%	6%	27%	48%	9%
Special Needs	Special Needs	23 646	20%	1%	10%	<1%	19%	34%	16%	1%
	All Other Students	121 030	1%	1%	5%	<1%	4%	26%	53%	10%

Observations:

- In both Grade 3 and Grade 6, females outperformed males in reading.
- In Grade 6, the gender difference for achievement in reading is greater than in Grade 3.
- One-quarter of ESL/ELD Grades 3 and 6 students achieved the provincial standard for reading.
- Among special needs students, 16% in Grade 3 and 17% in Grade 6 achieved the provincial standard for reading.

[14] Since, in certain reporting categories, the number of students is insufficient to avoid potentially divulging individual student results, some percentages in these tables are not presented and are replaced by a dash.

- In Grades 3 and 6, over the past four years, there has been a slow but steady increase in the percentage of ESL/ELD students meeting the provincial standard for reading achievement (from 21% in 1999–2000 to 25% in 2002–2003 in Grade 3, and from 18% in 1999–2000 to 25% in 2002–2003 in Grade 6).
- In Grades 3 and 6, over the past four years, there has been a slow but steady increase in the percentage of special needs students meeting the provincial standard for reading achievement (from 11% in 1999–2000 to 16% in 2002–2003 in Grade 3, and from 12% in 1999–2000 to 17% in 2002–2003 in Grade 6).

Writing: Overall Achievement by Subgroup[15]

Grade 3

		# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Gender	Female	66 564	4%	1%	3%	<1%	1%	27%	53%	11%
	Male	70 888	7%	1%	4%	<1%	2%	39%	42%	5%
Language	In ESL/ELD	7479	20%	1%	4%	<1%	2%	39%	31%	3%
	All Other Students	130 719	4%	1%	4%	<1%	2%	33%	49%	8%
Special Needs	Special Needs	23 926	24%	2%	7%	<1%	5%	47%	15%	1%
	All Other Students	114 272	1%	1%	3%	<1%	1%	30%	55%	9%

Grade 6

		# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Gender	Female	70 297	3%	1%	2%	–	3%	27%	50%	14%
	Male	73 155	5%	1%	4%	<1%	7%	39%	37%	6%
Language	In ESL/ELD	4930	26%	2%	4%	–	10%	35%	21%	3%
	All Other Students	139 746	3%	1%	3%	<1%	5%	33%	44%	10%
Special Needs	Special Needs	23 646	20%	1%	6%	<1%	17%	43%	12%	1%
	All Other Students	121 030	1%	1%	3%	–	3%	31%	50%	12%

[15] Since, in certain reporting categories, the number of students is insufficient to avoid potentially divulging individual student results, some percentages in these tables are not presented and are replaced by a dash.

Observations:

- In both Grade 3 and Grade 6, females outperformed males in writing.
- In Grade 6, the gender difference for achievement in writing is greater than in Grade 3.
- Among ESL students, 34% in Grade 3 and 24% in Grade 6 achieved the provincial standard for writing.
- Among special needs students, 16% in Grade 3 and 13% in Grade 6 achieved the provincial standard for writing.
- In Grades 3 and 6, over the past four years, there has been a steady increase in the percentage of ESL/ELD students meeting the provincial standard for writing achievement (from 24% in 1999–2000 to 34% in 2002–2003 in Grade 3, and from 15% in 1999–2000 to 24% in 2002–2003 in Grade 6).
- In Grades 3 and 6, over the past four years, there has been a slow but steady increase in the percentage of special needs students meeting the provincial standard for writing achievement (from 12% in 1999–2000 to 16% in 2002–2003 in Grade 3, and from 10% in 1999–2000 to 13% in 2002–2003 in Grade 6).

Mathematics: Overall Achievement by Subgroup[16]

Grade 3

		# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Gender	Female	68 142	3%	1%	6%	<1%	4%	27%	48%	10%
	Male	71 956	5%	1%	7%	<1%	4%	27%	46%	9%
Language	In ESL/ELD	7491	17%	1%	5%	–	7%	29%	34%	6%
	All Other Students	133 369	4%	1%	7%	<1%	4%	27%	48%	10%
Special Needs	Special Needs	24 148	21%	1%	8%	<1%	10%	33%	25%	2%
	All Other Students	116 712	1%	1%	6%	<1%	3%	26%	52%	11%

[16] Since, in certain reporting categories, the number of students is insufficient to avoid potentially divulging individual student results, some percentages in these tables are not presented and are replaced by a dash.

Grade 6

		# =	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Gender	Female	70 297	3%	1%	5%	<1%	8%	29%	42%	13%
	Male	73 155	5%	1%	7%	<1%	8%	27%	40%	12%
Language	In ESL/ELD	4930	22%	1%	7%	0%	11%	23%	26%	9%
	All Other Students	139 746	3%	1%	6%	<1%	8%	28%	41%	12%
Special Needs	Special Needs	23 646	20%	1%	11%	<1%	21%	30%	16%	2%
	All Other Students	121 030	1%	1%	5%	<1%	5%	27%	46%	14%

Observations:

- In both Grade 3 and Grade 6, females outperformed males in mathematics, but the differences are much less pronounced than in reading and writing.
- Among ESL students, 40% in Grade 3 and 35% in Grade 6 achieved the provincial standard in mathematics.
- Among special needs students, 27% in Grade 3 and 18% in Grade 6 achieved the provincial standard in mathematics.
- In Grades 3 and 6, the percentage of ESL/ELD students meeting the provincial standard for mathematics has remained relatively stable over the past three years (around 40% in Grade 3 and around 35% in Grade 6).
- In Grades 3 and 6, over the past four years, there has been a slow but steady increase in the percentage of special needs students meeting the provincial standard for mathematics achievement (from 23% in 1999–2000 to 27% in 2002–2003 in Grade 3, and from 14% in 1999–2000 to 18% in 2002–2003 in Grade 6).

Overall Achievement in Grade 3 French Immersion

For Grade 3 students in French Immersion classes, school boards must choose one of the following three options:

Option A: Students complete all components of the assessment (reading, writing and mathematics) in English;

Option B: Students complete the reading and writing components in English and the mathematics components in a French translation or

Option C: Students complete only the mathematics component, in a French translation. (These students do not complete the reading and writing components and receive results only for mathematics.)

Option A: Reading, Writing and Mathematics in English (# = 2811)

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Reading	3%	1%	8%	0%	7%	26%	50%	5%
Writing	3%	1%	3%	0%	1%	29%	53%	11%
Mathematics	2%	1%	8%	0%	4%	26%	52%	8%

Option B: Reading and Writing in English; Mathematics in French (# = 3113)

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Reading	1%	1%	8%	<1%	6%	27%	51%	5%
Writing	1%	1%	4%	<1%	1%	31%	53%	9%
Mathematics	1%	1%	11%	0%	2%	26%	51%	9%

Option C: Mathematics in French Only (# = 2662)

	Exempt	No Data	NEIS	NE1	Level 1	Level 2	Level 3	Level 4
Mathematics	<1%	1%	5%	0%	2%	18%	59%	16%

Observation:

- More than half the French Immersion students achieved the provincial standard in reading (55% for Option A and 56% for Option B), writing (64% for Option A and 62% for Option B) and mathematics (60% for Options A and B and 75% for Option C).

Grade 3 Students' Learning Environment[17]

Response Rate

All Students	Completed Questionnaires	Response Rate
140 860	134 796	96%

Student Computer Use and Language Spoken at Home

Percentage of students indicating that,	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
at home, they speak mostly or only English.	81%	80%	81%
at home, other people speak mostly or only English to them.	79%	78%	79%
at home, there is a computer for them to use for school work.	53%	55%	52%

Observations:

- Approximately one-fifth of Grade 3 students speak mostly or only a language other than English at home.
- A little more than half of Grade 3 students said there was a computer at home for them to use for school work.

Reading

Student Attitudes Toward Reading

Percentage of students indicating that	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
they think they are good readers.	66%	68%	63%
they like to read.	67%	76%	59%

Observations:

- More Grade 3 females than males thought they were good readers.
- Fewer Grade 3 males than females indicated that they like to read.

[17] Data in the following tables derive from the 2002–2003 Grade 3 Student Questionnaire.

"I am a good reader."						
	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Yes	55%	62%	63%	62%	66%	66%

Observation:

- In Grade 3, there has been a modest improvement in student self-regard with respect to reading over the past six years; however, the percentage has remained stable over the past two years.

"I like to read."						
	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Yes	70%	76%	76%	75%	72%	67%

Observation:

- In Grade 3, there has been a slight overall decline in students' attitudes toward reading.

Student Reading Habits

Percentage of students indicating that	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
they read by themselves at home.	62%	66%	59%
they use a computer for reading activities at school.	26%	26%	26%

Observation:

- In Grade 3, a substantially larger percentage of females than males indicated that they read by themselves at home.

Writing

Student Attitudes Toward Writing

Percentage of students indicating that	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
they think they are good writers.	50%	55%	45%
they like to write.	58%	66%	51%

Observation:

- A substantially larger percentage of Grade 3 females than males indicated each of the following: that they think they are good writers and that they like to write. This has remained consistent through the years.

Student Writing Habits

Percentage of students indicating that	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
they use a computer for writing at school.	22%	22%	22%

Observation:

- There were no gender differences in Grade 3 students' use of a school computer for writing.

Mathematics

Student Attitudes Toward Mathematics

Percentage of students indicating that	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
they think they are good at mathematics.	51%	42%	60%
they think mathematics is easy.	34%	26%	41%
they like mathematics.	61%	57%	65%

Observations:

- A substantially larger percentage of Grade 3 males than females reported each of the following: they think they are good at mathematics, they think mathematics is easy, and they like mathematics.
- Although the majority (61%) of Grade 6 students say they like mathematics, only a little over one-third say they think mathematics is easy.

Application of Mathematics

Percentage of students indicating that	All (# = 134 796)	Female (# = 65 683)	Male (# = 68 375)
they use a computer to learn mathematics at school.	26%	26%	27%
they use mathematics to solve problems outside school.	38%	38%	38%

Observation:

- In Grade 3, there is no significant gender difference in the use of school computers as learning tools for mathematics.

Grade 3 Teachers' Professional Learning Environment

Teaching Practices[18]

Language

Teaching and Assessment Resources for Reading and Writing

Percentage of teachers indicating that	Reading (# = 6779)	Writing (# = 6779)
the following resources are "accessible" or "very accessible" to them:		
classroom materials or resources	94%	80%
library or resource-centre language materials	85%	70%
computers	73%	69%
language-related computer software	60%	57%
board resource personnel	59%	56%
board language-assessment materials	73%	65%
school or library language-assessment materials	66%	59%
classroom resources for assessing language	81%	74%
the following resources are "very useful" or "indispensable" to them:		
the Ontario Curriculum Unit Planner	15%	14%
the four-level achievement chart in the curriculum	44%	42%
EQAO assessment materials	43%	40%
Ministry exemplars and rationales	43%	42%
assessment tools they have developed	69%	66%
assessment tools developed by teachers in their school	40%	38%
assessment tools developed by their boards	28%	26%
assessment tools developed by other boards	14%	14%
commercially published language-assessment tools	31%	27%

Observations:

- Grade 3 teachers generally reported that instructional and assessment resources for reading were more accessible than those for writing.
- Grade 3 teachers generally reported that the reading and writing assessment tools that they had developed themselves were the most useful to them.

[18] Data in the following tables derive from the 2002–2003 Teacher Questionnaire.

Mathematics

Teaching and Assessment Resources for Mathematics

Percentage of teachers indicating that	All (# = 6779)
the following resources are "accessible" or "very accessible" to them:	
mathematics textbooks and/or workbooks	88%
manipulatives	86%
library or resource-centre mathematics materials	57%
calculators	77%
computers	73%
mathematics computer software	64%
board resource personnel	50%
teacher mathematics manuals	83%
board mathematics-assessment materials	57%
school or library mathematics-assessment materials	45%
classroom resources for assessing mathematics	78%
the following resources are "very useful" or "indispensable" to them:	
the Ontario Curriculum Unit Planner	17%
the four-level achievement chart in the mathematics curriculum	42%
EQAO mathematics-assessment materials	44%
Ministry exemplars and rationales	40%
assessment tools they have developed	65%
assessment tools developed by teachers in their school	37%
assessment tools developed by their boards	22%
assessment tools developed by other boards	13%
commercially published mathematics-assessment tools	33%

Observations:

- Just over half the Grade 3 teachers indicated that mathematics resources are accessible in the school library.
- Grade 3 teachers generally reported that the mathematics assessment tools that they had developed themselves were the most useful to them.

Percentage of teachers indicating that they	All (# = 6779)
have been teaching for **more than two years.**	85%
have taught in the primary grades for **more than two years.**	77%
have taught Grade 3 for **more than two years.**	57%

Observation:

- 85% of the Grade 3 teachers had been teaching for more than two years; only 57% had been teaching Grade 3 for more than two years.

Percentage of teachers indicating that they have had the following professional development:	Reading (# = 6779)	Writing (# = 6779)	Mathematics (# = 6779)
school-related activities	82%	76%	67%
board-related activities	87%	79%	70%
Ministry-related activities	27%	23%	20%
EQAO-related activities	55%	52%	51%
self-instruction or professional reading	79%	76%	71%
seminars, workshops or conferences	79%	71%	65%
graduate studies	13%	9%	6%

Observations:

- Professional development through school-related activities, board-related activities, self-instruction or seminars, workshops or conferences was most common among Grade 3 teachers.
- Grade 3 teachers reported more professional development in reading than in writing, and more in writing than in mathematics.
- An encouraging percentage of Grade 3 teachers indicated that EQAO-related activities supported their professional development.

Additional Qualifications (AQ)

Percentage of teachers indicating that they have completed or are presently working toward the following:	AQ Courses in Reading (# = 6779)	AQ Courses in Mathematics (# = 6779)
Part 1	15%	4%
Part 2	5%	1%
Specialist	6%	1%
	All (# = 6779)	
other AQ courses with a focus on reading and writing	36%	
other AQ courses with a focus on mathematics	17%	
other specialized training courses in reading, writing or mathematics	52%	

Observation:

- Grade 3 teachers reported more participation in AQ reading courses than in AQ mathematics courses.

Grade 6 Students' Learning Environment[19]

Response Rate

All Students	Completed Questionnaires	Response Rate
144 676	139 082	96%

Student Computer Use and Language Spoken at Home

Percentage of students indicating that,	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
at home, they speak mostly or only English.	85%	84%	84%
at home, other people speak mostly or only English to them.	82%	81%	82%
at home, there is a computer for them to use for school work.	79%	80%	77%

Observations:

- A majority of Grade 6 students reported each of the following: that they speak English at home and that they have access to a computer for school work.
- Approximately 15% of Grade 6 students reported that they speak mostly or only a language other than English at home.

[19] Data in the following tables derive from the 2002–2003 Grade 6 Student Questionnaire.

Reading

Student Attitudes Toward Reading

Percentage of students indicating that	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
they think they are good readers.	62%	66%	59%
they like to read.	54%	63%	46%

Observation:

- A larger percentage of Grade 6 females than males indicated each of the following: that they like to read and that they think they are good readers. This has remained consistent through the years.

"I like to read."					
	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Yes	63%	64%	64%	60%	54%

Observation:

- In Grade 6, there has been a decline in students' attitudes toward reading over the past two years.

Student Reading Habits

Percentage of students indicating that	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
they read at home.	55%	63%	47%
they use a computer for reading activities at school.	17%	16%	17%

Observation:

- More Grade 6 females than males indicated they read at home.

"I read at home."					
	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Yes	64%	67%	65%	65%	55%

Observation:

- The percentage of Grade 6 students indicating that they read at home decreased substantially this year.

Writing

Student Attitudes Toward Writing

Percentage of students indicating that	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
they think they are good writers.	43%	47%	39%
they like to write.	44%	52%	36%

Observation:

- A substantially larger percentage of Grade 6 females than males said each of the following: that they are good writers and that they like to write. This has remained constant over the years.

Student Writing Habits

Percentage of students indicating that	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
they use a computer for writing at school.	30%	31%	30%

Observations:

- Nearly one in three Grade 6 students use computers for writing at school.
- There are no gender differences in Grade 6 students' use of computers for writing at school.

Mathematics

Student Attitudes Toward Mathematics

Percentage of students indicating that	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
they think they are good at mathematics.	48%	38%	58%
they think mathematics is easy.	26%	18%	34%
they like mathematics.	48%	40%	55%

Observations:

- Almost half the Grade 6 students said each of the following: that they are good at mathematics and that they like mathematics.
- A substantially larger percentage of Grade 6 males than females reported each of the following: that they are good at mathematics, that they think mathematics is easy and that they like mathematics. This gender difference has been consistent over the years.
- Although almost half the Grade 6 students said they like mathematics, just over one-quarter said they think mathematics is easy.

Percentage of students indicating that	All (# = 139 082)	Female (# = 68 036)	Male (# = 69 821)
they use a computer to do mathematics at school.	13%	13%	13%
they use mathematics to solve problems outside school.	40%	37%	43%

Observations:

- A larger percentage of Grade 6 males than females reported using mathematics to solve problems outside school.
- The percentage of Grade 6 students who indicated that they use a computer to do mathematics at school has increased from 6% last year to 13% this year.
- There are no Grade 6 gender differences in reported use of computers to do mathematics at school.

Grade 6 Teachers' Professional Learning Environment

Teaching Practices[20]

Language

Teaching and Assessment Resources for Reading and Writing

Percentage of teachers indicating that	Reading (# = 6574)	Writing (# = 6574)
the following resources are "accessible" or "very accessible" to them:		
classroom materials or resources	93%	82%
library or resource-centre language materials	82%	70%
computers	70%	67%
language-related computer software	48%	49%
board resource personnel	55%	52%
board language-assessment materials	68%	65%
school or library language-assessment materials	61%	57%
classroom resources for assessing language	77%	71%
the following resources are "very useful" or "indispensable" to them:		
the Ontario Curriculum Unit Planner	15%	14%
the four-level achievement chart in the curriculum	44%	43%
EQAO assessment materials	39%	37%
Ministry exemplars and rationales	41%	40%
assessment tools they have developed	73%	69%
assessment tools developed by teachers in their school	43%	41%
assessment tools developed by their boards	29%	28%
assessment tools developed by other boards	16%	16%
commercially published language-assessment tools	31%	30%

Observations:

- Grade 6 teachers generally reported that instructional and assessment resources for reading were more accessible than those for writing.
- Grade 6 teachers generally reported that the reading and writing assessment tools that they had developed themselves were the most useful to them.

[20] Data in the following tables derive from the 2002–2003 Teacher Questionnaire.

Mathematics

Teaching and Assessment Resources for Mathematics

Percentage of teachers indicating that	All (# = 6455)
the following resources are "accessible" or "very accessible" to them:	
mathematics textbooks and/or workbooks	87%
manipulatives	79%
library or resource-centre mathematics materials	53%
calculators	78%
computers	71%
mathematics computer software	58%
board resource personnel	53%
teacher mathematics manuals	82%
board mathematics-assessment materials	62%
school or library mathematics-assessment materials	48%
classroom resources for assessing mathematics	80%
the following resources are "very useful" or "indispensable" to them:	
the Ontario Curriculum Unit Planner	16%
the four-level achievement chart in the mathematics curriculum	43%
EQAO mathematics-assessment materials	43%
Ministry exemplars and rationales	40%
assessment tools they have developed	69%
assessment tools developed by teachers in their school	40%
assessment tools developed by their boards	27%
assessment tools developed by other boards	17%
commercially published mathematics-assessment tools	37%

Observations:

- Just over half the Grade 6 teachers indicated that mathematics resources are accessible in the school library.
- Grade 6 teachers generally reported that the mathematics assessment tools that they had developed themselves were the most useful to them.

Percentage of teachers indicating that they	All (# = 6921)
have been teaching for **more than two years.**	84%
have taught in the junior grades for **more than two years.**	71%
have taught Grade 6 for **more than two years.**	56%

Observation:

- 84% of the Grade 6 teachers had been teaching for more than two years; only 56% had been teaching Grade 6 for more than two years.

Percentage of teachers indicating that they have had the following professional development:	Reading (# = 6921)	Writing (# = 6921)	Mathematics (# = 6921)
school-related activities	77%	73%	64%
board-related activities	80%	75%	70%
Ministry-related activities	24%	21%	21%
EQAO-related activities	52%	50%	49%
self-instruction or professional reading	74%	72%	67%
seminars, workshops or conferences	71%	66%	62%
graduate studies	13%	10%	7%

Observations:

- Grade 6 teachers reported participating in more school- and board-related activities than other types of professional development.
- Grade 6 teachers reported more professional development in reading than in writing, and more in writing than in mathematics.
- An encouraging percentage of Grade 6 teachers indicated that EQAO-related activities supported their professional development.

Additional Qualifications (AQ)

Percentage of teachers indicating that they have completed or are presently working toward the following:	AQ Courses in Reading (# = 6921)	AQ Courses in Mathematics (# = 6921)
Part 1	11%	4%
Part 2	3%	1%
Specialist	4%	1%
	All (# = 6921)	
other AQ courses with a focus on reading and writing	29%	
other AQ courses with a focus on mathematics	17%	
other specialized training courses in reading, writing or mathematics	43%	

Observation:

- Grade 6 teachers reported more participation in AQ reading courses than in AQ mathematics courses.

Administrative Learning Environment

Principals' Experience and Professional Development[21]

Percentage of principals indicating that	All (# = 3383)
they have been a principal for more than **five years.**	37%
in the past two years, they have had the following professional development in reading and/or writing instruction:	
graduate studies	3%
seminars, workshops or conferences	89%
self-instruction or professional reading	70%
reading and/or writing assessment and evaluation:	
graduate studies	3%
seminars, workshops or conferences	89%
self-instruction or professional reading	67%
mathematics instruction:	
graduate studies	1%
seminars, workshops or conferences	62%
self-instruction or professional reading	59%
mathematics assessment and evaluation:	
graduate studies	1%
seminars, workshops or conferences	63%
self-instruction or professional reading	58%

Observations:

- Among principals, professional development occurred most frequently through seminars, workshops and conferences.
- Professional development was more common in reading and writing than in mathematics.

[21] Data for the following table derives from the 2002–2003 Principal Questionnaire.

Recommendations

The following recommendations and instructional suggestions are based on

- the 2002–2003 Grade 3 and Grade 6 achievement results;
- the patterns and trends emerging from the overall results from year to year;
- the data collected from the various questionnaires and
- suggestions from the teacher markers at the EQAO marking centres.

EQAO recommends that

- each **school,** with the involvement of teachers, students and parents, design and implement school-wide initiatives to ensure student achievement of the provincial curriculum expectations in literacy and numeracy. Such initiatives could include the following:
  - **all staff** give attention to students who are performing at Level 2 and determine what strategies or interventions would be needed to have them achieve Level 3.
  - **principals** establish school improvement teams, in which school councils participate, to review student achievement and contextual data, to develop action plans for meeting school targets for achievement of the *Ontario Curriculum* standards in literacy and numeracy and to develop strategies that target areas and groups in need of additional support and improvement. Valuable planning resources for this activity include
    - *EQAO Guide to School and Board Improvement Planning*
    - *Early Reading Strategy: The Report of the Expert Panel on Early Reading in Ontario*
    - *Early Math Strategy: The Report of the Expert Panel on Early Math in Ontario*
    - *The Ontario Curriculum, Grades 1–8: Language*
    - *The Ontario Curriculum, Grades 1–8: Mathematics*
    - The *Ontario Curriculum* exemplars for Grades 1–8
  - **principals,** with support from school boards and the Ministry of Education, provide opportunities for all teachers to be involved in the analysis of student achievement information and the development and implementation of improvement strategies.
  - **principals,** with support from school boards and the Ministry of Education, provide teachers with opportunities for professional development in assessment literacy and in using assessment data in conjunction with best practices to develop strategies for improvement.
  - **principals,** with support from school boards and the Ministry of Education, provide teachers with opportunities for professional development in literacy and mathematics competencies and in using assessment data in conjunction with best practices to develop strategies for improvement.
  - **principals** encourage their staffs to become involved in important EQAO activities (such as assessment development, pilot testing, field testing and marking) that have been viewed by educators as excellent professional development.
- **school councils** closely monitor student achievement and take an active role in school improvement.
- **school boards** establish school board improvement teams to review historical student achievement and contextual data to develop action plans for meeting school targets for achievement of the *Ontario Curriculum* standards in literacy and numeracy and to develop strategies that target areas and groups in need of additional support and improvement.
- the **faculties of education** assist pre-service teachers in developing an awareness and understanding of the links among curriculum, teaching practices and assessment. Pre-service teachers must have exposure to a wide variety of assessment formats, including large-scale performance-based assessment.
- the **Ontario College of Teachers** ensure a balance of courses on core competencies through Professional Learning Program providers, to allow teachers across the province ample opportunities for professional

development that focuses on the relationships among curriculum, teaching practices and assessment, which are essential to teaching and learning.

- the **Ministry of Education** use the Grade 3 and Grade 6 provincial assessment data accumulated over the past six years, to further support literacy and numeracy, especially through the Early Reading and Early Math strategies, at the board, school and classroom levels.

Instructional Suggestions

EQAO's assessments are based entirely on expectations in *The Ontario Curriculum*. It is important, therefore, that teachers in all grades focus their reading, writing and mathematics instruction and assessment on the expectations in *The Ontario Curriculum, Grades 1–8*.

Reading

EQAO suggests that

- teachers provide students with reasoning activities. These should require students to demonstrate understanding by selecting, describing, interpreting and analyzing relevant ideas from both fiction and non-fiction and restating them in their own words. For example, as they read or are read to, have students
  - select supporting information;
  - identify the main idea and
  - describe story elements such as plot, setting, characters and conflict.

- teachers provide students with opportunities to communicate about what they have read. For example, have students ask themselves the following questions:
  - "Have I ever been in this situation?"
  - "What does this remind me of?"
  - "How can I use this information?"
  - "Would I want the main character as my friend?"

- teachers provide students with activities that require them to identify and describe how different types of texts are organized to aid understanding. For example, as they read or are being read to, have students
  - identify and explain characteristics of the text and
  - identify organizers and explain why the author has chosen to use them.

- teachers provide students with activities that require them to identify and explain the use of language conventions in text. For example, as they are reading or being read to, have students
  - recognize punctuation and
  - explain how it helps them understand the text.

- teachers ensure their reading programs
  - attend to all the components of the reading curriculum as outlined in *Early Reading Strategy: The Report of the Expert Panel on Early Reading in Ontario*;
  - offer different types of reading materials;
  - offer both fiction and non-fiction and
  - offer a variety of genres.

- teachers work together within each school to ensure that reading skills are reinforced in all subject areas.

Writing

EQAO suggests that

- teachers provide students with opportunities to demonstrate reasoning in their writing by ensuring that they understand the purpose of the task and develop ideas that relate to the purpose. For example, to encourage students to recognize the purpose they are writing for, have them
  - write in a variety of forms and
  - respond to a variety of tasks.
- teachers provide students with opportunities to communicate clearly, ensuring that the students are developing the ability to use appropriate techniques in their writing. For example, have students
  - use an appropriate voice;
  - use descriptive vocabulary, aided by a dictionary and thesaurus; and
  - recognize and address the audience.
- teachers provide students with opportunities to organize their ideas for writing. For example, have students
  - plan an introduction, a sequence of ideas and a logical conclusion;
  - use paragraphs to connect ideas and
  - develop skills in using organizers, both visual and written, for different kinds of writing.
- teachers provide students with opportunities to write and apply language conventions. For example, have students
  - recognize that punctuation and grammar affect a writer's message;
  - proofread work carefully and
  - edit to ensure their message is accurate.
- teachers ensure that their writing programs provide students with opportunities to write
  - for a variety of authentic purposes and audiences and
  - within a time limit.
- teachers model writing forms and processes for their students.
- teachers teach the writing process. For example,
  - planning, focusing on the characteristics of the form being used;
  - writing an introduction, a body and an ending;
  - revising the draft;
  - proofreading—attending to punctuation, grammar and spelling;
  - editing for correctness and
  - publishing for an audience.

- teachers use reading to teach writing. For example,
  - when students read narratives aloud, have them identify specific story elements;
  - when students read poetry, have them discuss imagery and descriptive language and
  - when students read non-fiction, have them identify organizers and explain how they clarify the author's message.
- teachers work together within each school to ensure writing skills are reinforced in all subject areas.

Mathematics

EQAO suggests that

- teachers provide students with problem-solving opportunities within and across the mathematics strands by requiring them to analyze problems and to select and apply strategies that lead to accurate solutions. For example, have students
  - brainstorm and discuss strategies for solving problems;
  - construct solutions, using mathematical knowledge and experience; and
  - recognize that they can use several strategies to solve a problem.
- teachers provide students with opportunities to demonstrate their understanding of mathematical concepts across strands by requiring them to incorporate mathematical ideas and relationships in their explanations. For example, have students
  - explain their thinking about a mathematical idea or relationship through math journals and problem-of-the-week activities and
  - demonstrate their understanding through projects, peer tutoring and co-operative tasks.
- teachers provide students with opportunities to apply procedures within and across mathematics strands by requiring them to select and complete procedures and operations accurately. For example, have students
  - focus on identifying the problem;
  - select appropriate procedures and operations;
  - apply appropriate operations and
  - select and apply appropriate tools and methods for solving the problem.
- teachers provide students with opportunities to communicate their mathematical understanding within and across strands by requiring them to justify their solutions using correct mathematical terminology and symbols. For example, have students
  - explain and justify their solutions, both orally and in writing, and
  - maintain a math journal.
- teachers organize the mathematics program to
  - allow the acquisition of knowledge and skills between and among strands;
  - regularly address the knowledge and skills required across the strands throughout the year and

– integrate and transfer knowledge and skills between and among strands.

- teachers model
  – responses that use numbers, pictures, symbols and/or words;
  – the use of manipulatives and technology to understand and solve problems and
  – the solution of real-life problems through mathematics.
- teachers work together within each school to ensure that mathematical skills are reinforced in all subject areas.