



Grade 9 EQAO Assessment of Mathematics 2006-2007

Overview of Results



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Grade 9 EQAO Assessment of Mathematics 2006-2007

Introduction

This report contains an overview of the 2006-2007 Education Quality and Accountability Office (EQAO) provincial assessment in mathematics for Grade 9. Copies of the full *Provincial Report* can be downloaded from EQAO's web site, which is located at www.eqao.com.

What is EQAO?

EQAO is an independent, arm's-length agency of the provincial government that provides parents, teachers, and the public with reliable and valid information about student achievement. EQAO reports provide information for improvement, which educators, parents, policy makers and others in the education community can use to improve learning and teaching.

EQAO conducts a range of province-wide assessments. The Grade 9 assessment of mathematics was introduced in 2000-2001. It involves all students, occurs annually, and provides information on what students have learned in mathematics. This assessment provides both individual and system data on student achievement. Parents receive an *Individual Student Report*, and schools and school boards produce local reports for parents and their communities.

What was the assessment?

The Grade 9 mathematics assessment measures how well students have met the provincial expectations in *The Ontario Curriculum*. The assessment covers knowledge and skills in mathematics that students are expected to have acquired by the end of the school semester in both academic and applied programs. Specifically, the assessment is based on the four curriculum strands of mathematics: Number Sense and Algebra, Linear Relations, Analytic Geometry (academic program only), and Measurement and Geometry. Students enrolled in the applied mathematics program complete a different assessment than students enrolled in the academic mathematics program. Students enrolled in first-semester applied and academic mathematics programs wrote the assessment in January 2007, and students enrolled in second-semester and full-year applied or academic mathematics programs wrote the assessment in May 2007.

Who participated in the assessment?

In total 9,693 Grade 9 Peel students (2,352 in applied mathematics; 7,341 in academic mathematics) participated in both the applied and academic assessments during regular classes. Exemptions were permitted only where students would be unable to respond to the assessment in any way and/or where they would be adversely affected as a result of participation. Exemptions were made only with the written informed consent of the parent(s) or guardian(s). In specific circumstances, teachers were allowed to provide certain kinds of assistance to students with special needs. Seven percent of Grade 9 students did not complete any part of the applied mathematics assessment (no data/exempt) and 1% of Grade 9 students did not complete any part of the academic mathematics assessment (no data/exempt).

How was student work marked?

EQAO reports on student achievement in mathematics using a four-level scale. The four levels describe how well students performed in each subject area. EQAO has aligned its four levels of achievement to those of the *Ontario Student Report Card*.

The Ministry of Education has set *Level 3* as the provincial standard for Grade 9 achievement. *Level 1* identifies achievement that falls much below the provincial standard. *Level 2* identifies achievement that is approaching the provincial standard. *Level 4* identifies achievement that surpasses the provincial standard.

Marking was done in July 2007 by specially trained principals and teachers. EQAO developed scoring scales by taking the four achievement levels established by the Ministry and applying them to actual student work. Markers used EQAO's scales to score student work. The scoring was monitored to ensure that it was objective, consistent, and reliable.

Some key messages about the EQAO assessments

- ✓ EQAO urges principals to ensure that school councils are fully informed about the assessment and are encouraged to play an active role in reviewing and updating the school's Action Plan for Improvement.
- ✓ EQAO encourages schools and school boards to include strategies in their Action Plans for Improvement that will help both females and males improve their achievement.
- ✓ Parents, educators, policy makers, and the public should use the overall results to measure improvements in student achievement over time.
- ✓ EQAO encourages schools and school boards to be proactive in reporting results to parents and their communities.
- ✓ The achievement data must be interpreted in relation to contextual data that schools and school boards have gathered.
- ✓ Teachers and principals should use samples of student work, anchor papers provided by EQAO, and Ministry exemplar documents, to help students and parents understand what work at Levels 3 and 4 looks like.
- ✓ School boards should provide opportunities for teachers and principals to share assessment expertise and successful assessment practices.

Grade 9 EQAO Assessment

Peel Board and Provincial Results 2006-2007

Background Characteristics

- 9,693 Grade 9 Peel students (2,352 in applied mathematics in 32 schools; 7,341 in academic mathematics in 29 schools) participated in the EQAO testing; seven percent of Grade 9 students did not complete any part of the applied mathematics assessment (no data/exempt), and 1% of Grade 9 students did not complete any part of the academic mathematics assessment (no data/exempt).
- Of those students who took the applied mathematics assessment, 10% were ESL/ELD learners and 24% were students with special needs (excluding gifted). Five percent of students who took the academic mathematics assessment were ESL/ELD learners, and 3% were students with special needs (excluding gifted).

Student Achievement

Achievement results in this report are expressed as the percentage of students achieving at each level. This percentage is based on all of the students in the grade (which includes the "no data/exempt*" category), and for students who participated in the assessment. The overall achievement results in mathematics reported for both the Peel Board and the province may not add to 100%, due to rounding.

**Students who were coded "exempt" were placed in the "no data" category.*

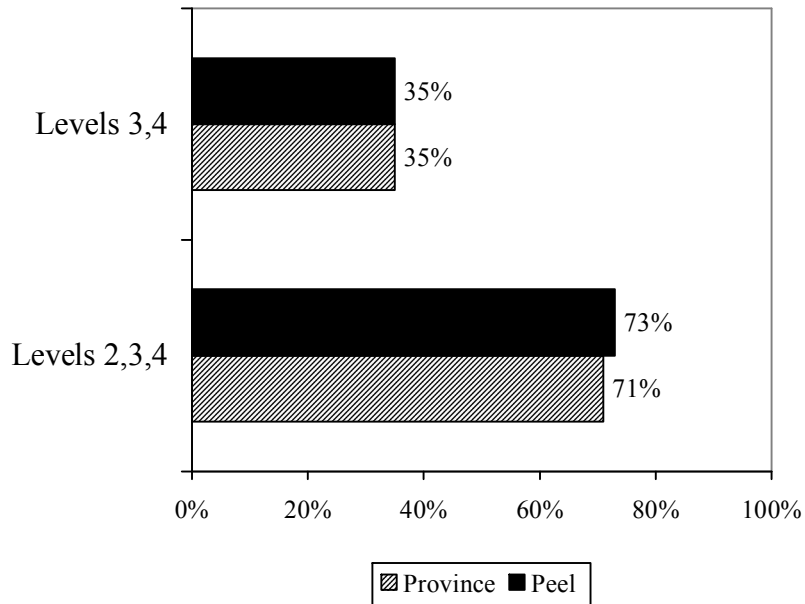
TABLE 1

EQAO 2006-2007 Grade 9 Results: Peel Board and Provincial Comparisons
 (All Students – Includes Levels 1-4, Below Level 1, No Data/Exempt* Categories)

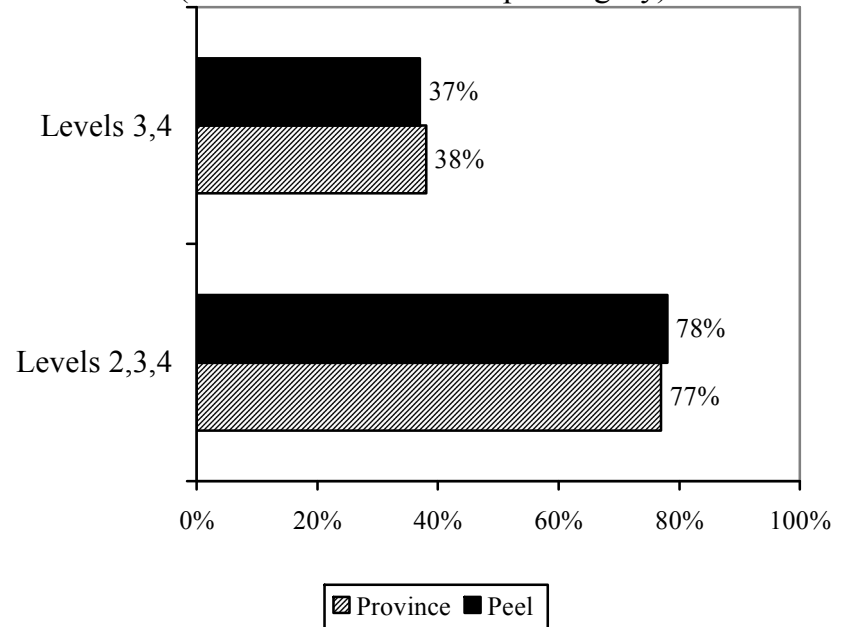
| | No Data/ Exempt* | | Below Level 1 | | Level 1 | | Level 2 | | Level 3 | | Level 4 | |
|-----------------------------|---------------------|----------|---------------|----------|---------|----------|---------|----------|---------|----------|---------|----------|
| | Peel | Province | Peel | Province | Peel | Province | Peel | Province | Peel | Province | Peel | Province |
| Applied Mathematics | 7% | 9% | 6% | 7% | 14% | 14% | 38% | 36% | 30% | 30% | 5% | 5% |
| Academic Mathematics | 1% | 2% | 1% | 1% | 9% | 9% | 18% | 18% | 63% | 64% | 8% | 6% |

Figure 1**

Applied Mathematics - All Students



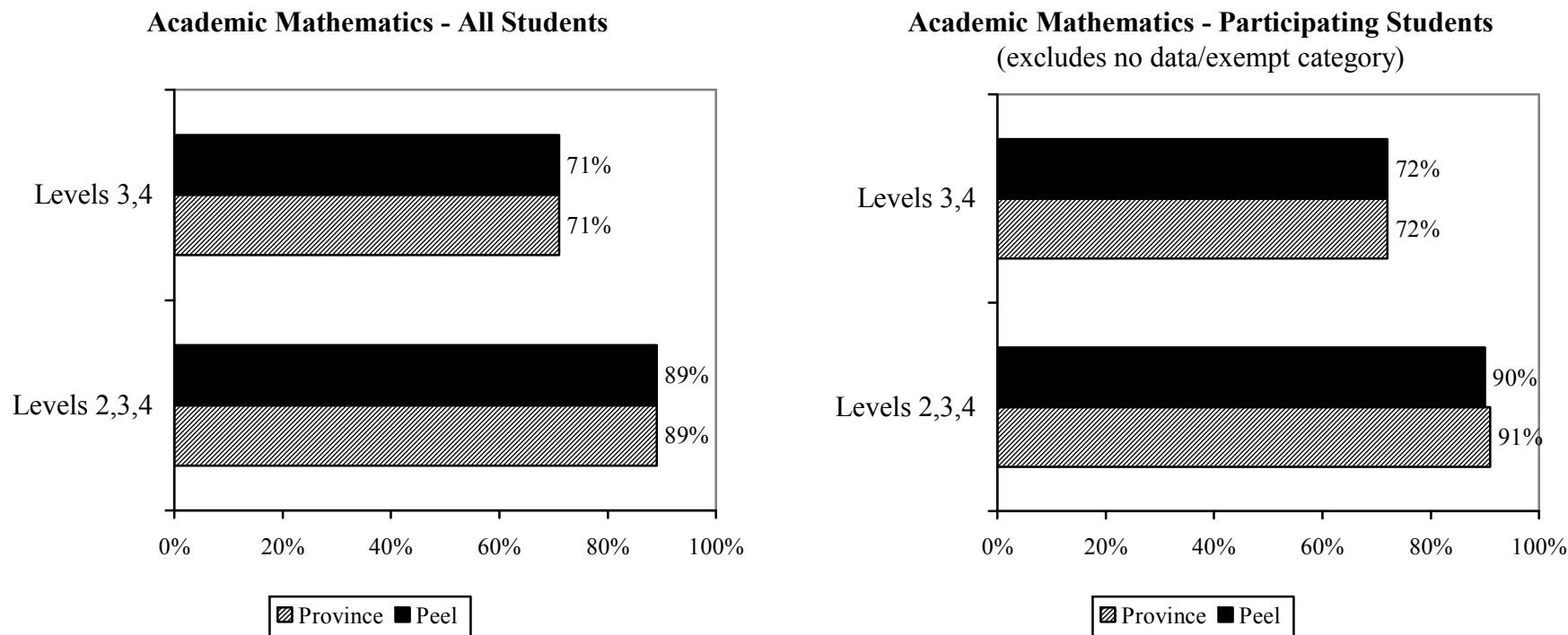
Applied Mathematics - Participating Students
 (excludes no data/exempt category)



*Students who were coded "exempt" were placed in the "no data" category.

**Due to rounding, these percentages may not be the sum of Levels 2,3,4 and Levels 3,4 as noted in the above table.

Figure 1** (continued)



**Due to rounding, these percentages may not be the sum of Levels 2,3,4 and Levels 3,4 as noted in the above table.

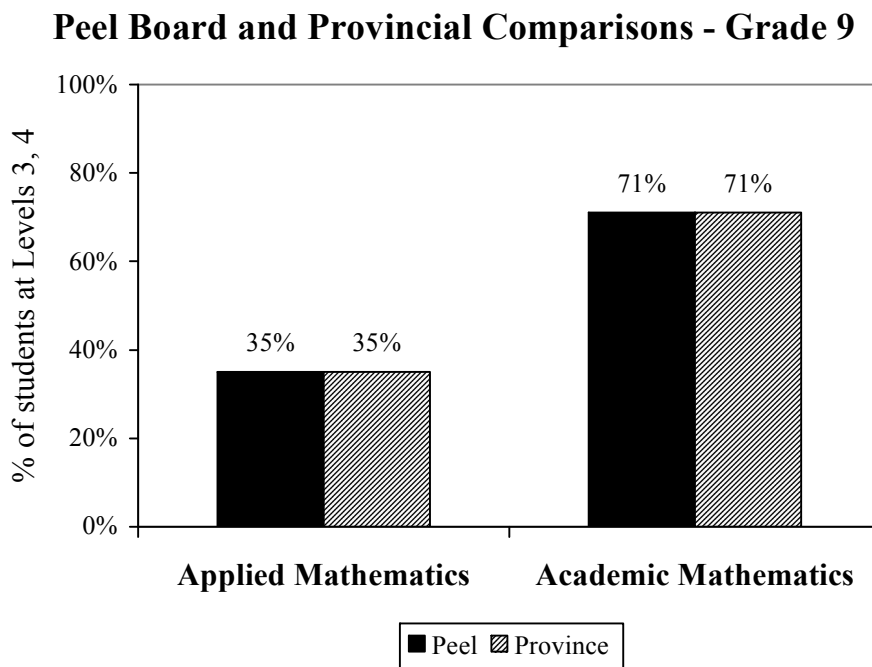
When compared to the province, Grade 9 Peel students scored¹:

- the same as the provincial average in Levels 3, 4 for applied mathematics.
- above the provincial average in Levels 2, 3, 4 for applied mathematics.
- the same as the provincial average in Levels 3, 4 for academic mathematics.
- the same as the provincial average in Levels 2, 3, 4 for academic mathematics.

¹ Scores are based on All Students.

FIGURE 2

EQAO 2006-2007 Grade 9 Results: Peel Board and Provincial Comparisons (All Students – Includes Levels 1-4, Below Level 1, No Data/Exempt Categories)



For Applied Mathematics (Levels 3, 4)

Peel students scored:

- the same as the province.

For Academic Mathematics (Levels 3, 4)

Peel students scored:

- the same as the province.

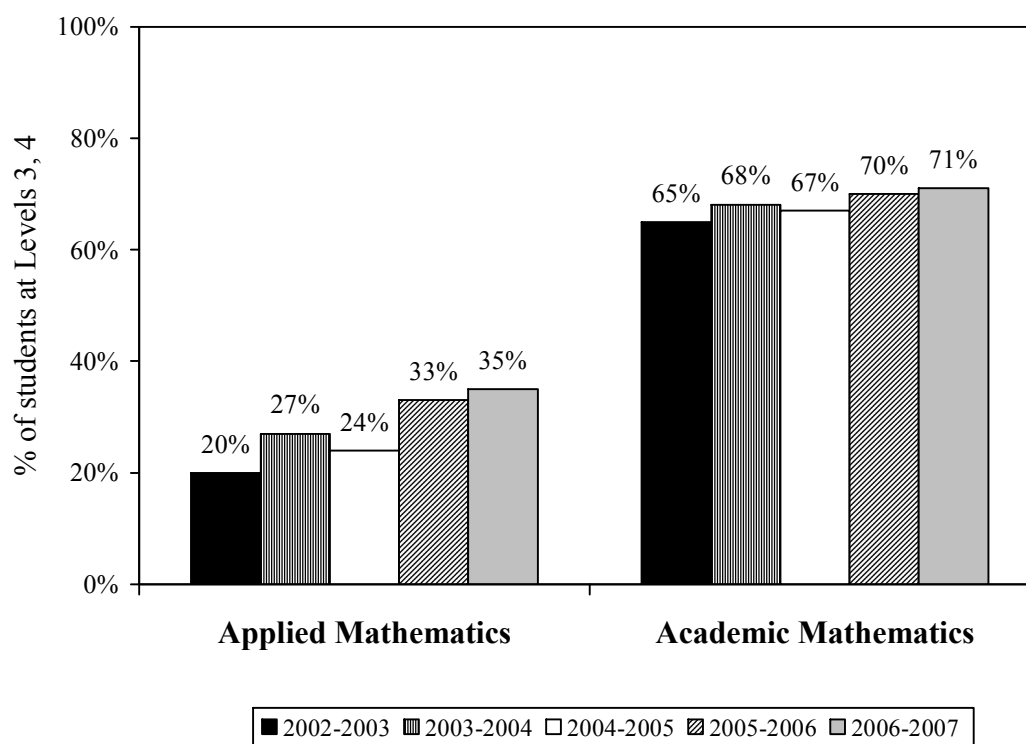
FIGURE 3

EQAO 2006-2007 Grade 9 Results:

Peel Board Comparisons of Change in Scores from 2002-2003 to 2006-2007
(All Students – Includes Levels 1-4, Below Level 1, No Data/Exempt Categories)

Levels 3, 4

Peel Board Comparisons of Change in Scores from 2002-2003 to 2006-2007



When compared to last year's results (2005-2006), Peel students scored:

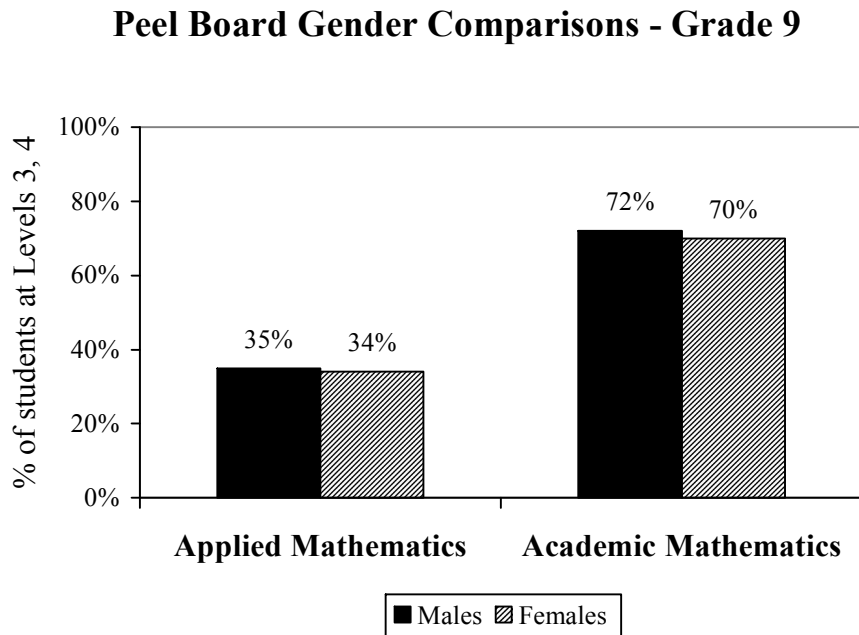
- 2% higher in 2006-2007 in applied mathematics.
- 1% higher in 2006-2007 in academic mathematics.

When compared to 2002-2003 results (5-year trends), Peel students scored:

- 15% higher in 2006-2007 in applied mathematics.
- 6% higher in 2006-2007 in academic mathematics.

FIGURE 4

EQAO 2006-2007 Grade 9 Results: Peel Board Gender Comparisons (All Students – Includes Levels 1-4, Below Level 1, No Data/Exempt Categories)



When comparing the results of Peel males and females:

- Peel males in Grade 9 scored above females in both applied mathematics and academic mathematics.

For Applied Mathematics (Levels 3, 4)

Peel males scored:

- 1% higher than females.

For Academic Mathematics (Levels 3, 4)

Peel males scored:

- 2% higher than females.

TABLE 2

Peel Board Gender Gap Analysis* – Grade 9

Extent to Which Males Outperformed Females in Levels 3, 4

| | | 2002-2003 | 2003-2004 | 2004-2005 | 2005-2006 | 2006-2007 |
|----------------|----------------------|-----------|-----------|-----------|-----------|-----------|
| Grade 9 | Applied Mathematics | 0% | -1% | 4% | 3% | 1% |
| | Academic Mathematics | 1% | 1% | 3% | 2% | 2% |

*Note: Gender Gap Analysis based on data from the EQAO report for the Peel Board.

- The gender gap in achievement in both grade 9 applied and academic mathematics has increased marginally since 2002-2003.

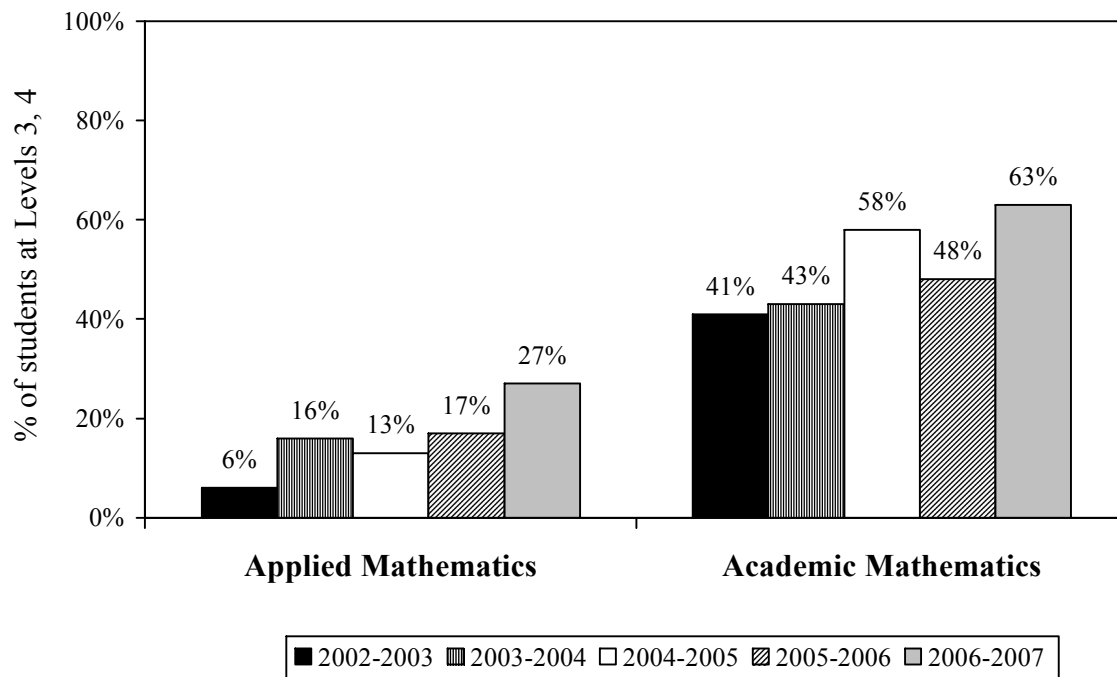
FIGURE 5

EQAO 2006-2007 Grade 9 Results:

Peel Board Comparison of ESL/ELD Scores from 2002-2003 to 2006-2007

Levels 3, 4

Peel Board ESL/ELD Results from 2002-2003 to 2006-2007



When compared to last year's results (2005-2006), Peel Board ESL/ELD students scored:

- 10% higher in 2006-2007 in applied mathematics.
- 15% higher in 2006-2007 in academic mathematics.

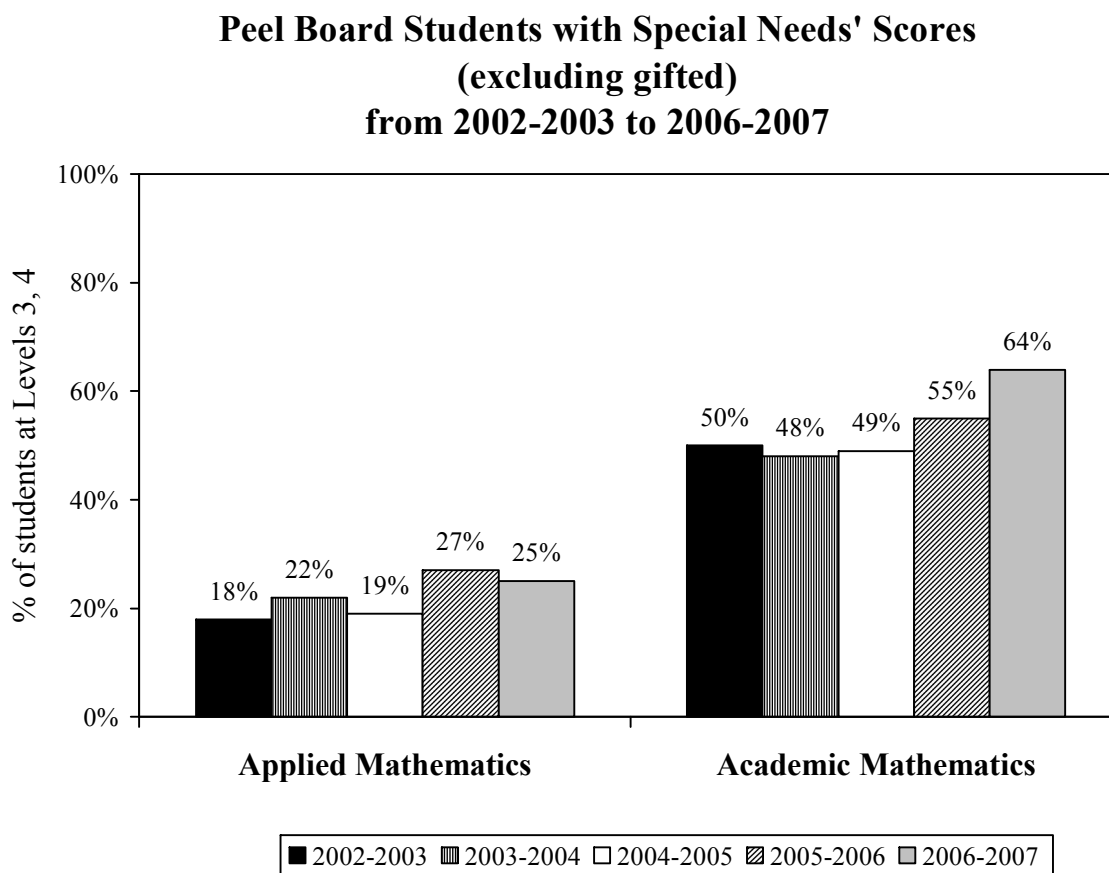
When compared to 2002-2003 results (5-year trends), Peel Board ESL/ELD students scored:

- 21% higher in applied mathematics.
- 22% higher in academic mathematics.

FIGURE 6

EQAO 2006-2007 Grade 9 Results: Peel Board Comparisons of Change in Students with Special Needs' Scores (excluding gifted) from 2002-2003 to 2006-2007

Levels 3, 4



When compared to last year's results (2005-2006), Peel students with special needs (excluding gifted) scored:

- 2% lower in 2006-2007 in applied mathematics.
- 9% higher in 2006-2007 in academic mathematics.

When compared to 2002-2003 results (5-year trends), Peel students with special needs (excluding gifted) scored:

- 7% higher for applied mathematics.
- 14% higher for academic mathematics.

Summary of Results, 2006-2007 for Levels 3, 4

1. Peel Board and Provincial Results

- Grade 9 Peel students scored the same as the province in applied mathematics.
- Grade 9 Peel students scored the same as the province in academic mathematics.

2. Yearly Comparisons (Peel Board)

- Grade 9 students scored 2% higher in applied mathematics when compared to last year.
- Grade 9 students scored 1% higher in academic mathematics when compared to last year.

3. Five-Year Comparisons (Peel Board)

- Grade 9 students scored 15% higher in applied mathematics than in 2002-2003.
- Grade 9 students scored 6% higher in academic mathematics than in 2002-2003.

4. Gender Yearly Comparisons (Peel Board)

- Males scored 1% higher than females in applied mathematics.
- Males scored 2% higher than females in academic mathematics.

5. ESL/ELD Yearly Comparisons (Peel Board)

- Grade 9 ESL/ELD learners scored 10% higher in applied mathematics when compared to last year.
- Grade 9 ESL/ELD learners scored 15% higher in academic mathematics when compared to last year.

6. ESL/ELD Five-Year Comparisons (Peel Board)

- Grade 9 ESL/ELD learners scored 21% higher in applied mathematics than in 2002-2003.
- Grade 9 ESL/ELD learners scored 22% higher in academic mathematics than in 2002-2003.

7. Students with Special Needs' (excluding gifted) Yearly Comparisons (Peel Board)

- Grade 9 students with special needs (excluding gifted) scored 2% lower in applied mathematics when compared to last year.
- Grade 9 students with special needs (excluding gifted) scored 9% higher in academic mathematics when compared to last year.

8. Students with Special Needs' (excluding gifted) Five-Year Comparisons (Peel Board)

- Grade 9 students with special needs (excluding gifted) scored 7% higher in applied mathematics than in 2002-2003.
- Grade 9 students with special needs (excluding gifted) scored 14% higher in academic mathematics than in 2002-2003.