

Ministry of Education

Deputy Minister

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Toronto ON M7A 1L2**Ministère de l'Éducation**

Sous-ministre

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Memorandum To: Directors of Education

From: George Zegarac
Deputy Minister

Date: January 21, 2015

Subject: 2014-15 Mathematics Action Plan

Ontario's students continue to show overall improvement in their achievement, with 72% of Grade 3 and 6 students meeting or exceeding the provincial standard in reading, writing and mathematics, only three percentage points from achieving Ontario's goal of 75%. In mathematics, provincial and international assessment results tell us that Ontario performs well compared to other Canadian provinces and international jurisdictions, including a slight improvement in mathematics score from 2010 to 2013 on the Pan-Canadian Assessment Program (PCAP). Nevertheless, there has been a decline in mathematics results over the last few years, as measured by both the Education Quality and Accountability Office (EQAO) and the Programme for International Student Assessment (PISA).

In our commitment to helping students gain the mathematics knowledge and skills they will need for their futures, increasing mathematics achievement will remain as the Ministry of Education's first student achievement priority. Last fall, we spoke with you about three areas of support: increased pre-service teacher mathematics knowledge and skills, increased in-service supports and professional pedagogical learning, and increased time on high quality mathematics in classrooms. We are calling on our district school board partners to expand this focus on increasing mathematics achievement in their schools and classrooms. We have taken a number of steps to work with you to help students build their mathematics skills, such as providing teachers and students more tools, resources and learning opportunities. We know that you are also making great efforts in the teaching and learning of mathematics.

We are asking you to continue to work with us to go deeper with our shared efforts through the 2014-15 Mathematics Action Plan. A detailed description of the elements of the 2014-15 Mathematics Action Plan is attached.

We look forward to discussing the 2014-15 Mathematics Action Plan and how we can continue to work together to integrate its implementation into the ongoing efforts of district school boards at the *CEO/CFO Annual Conference 2015* on Thursday, January 22, 2015.

We look forward to continuing to communicate and work together towards achieving our shared goal of increased mathematics achievement for all students in Ontario.

Sincerely,

A handwritten signature in black ink that reads "George Zegarac". The signature is written in a cursive style with a large initial 'G'.

George Zegarac
Deputy Minister

Attachment

c: Grant Clarke, Assistant Deputy Minister
Learning and Curriculum Division

Mary Jean Gallagher, Chief Student Achievement Officer, Assistant Deputy Minister,
Student Achievement Division

Jim Grieve, Assistant Deputy Minister
Early Years Division

Janine Griffore, Assistant Deputy Minister
French Language, Aboriginal Learning and Research Division

John Malloy, Assistant Deputy Minister
Leadership and Learning Environment Division

Ministry of Education: Ontario's 2014-15 Mathematics Action Plan

The Ministry of Education is committed to reaching its goal of 75% of all students achieving Level 3 or higher on provincial Education Quality and Accountability Office (EQAO) assessments in reading, writing and mathematics by the age of 12 or Grade 6, as well as 85% of all students graduating within five years of entering secondary school. However, overall achievement results for elementary EQAO mathematics assessments remain low and have declined over the last five years in English-language district school boards (DSBs). In addition, achievement in Grade 9 Applied mathematics remains low in both English- and French-language DSBs, creating a gap in achievement between Grade 9 Applied and Academic mathematics achievement.

The ministry currently supports an array of professional learning opportunities to support the teaching and learning of mathematics. There is no one single effective practice to improve achievement for all students, but rather, a number of practices that need to be in place at the system, school and classroom level.

The 2014-15 Mathematics Action Plan is not just the ministry's plan, but one that will have the greatest impact if shared and led by all across the province. For a DSB, the plan would come to life through the following elements:

1. **Leadership committed to mathematics.**
2. A mathematics plan with:
 - **Clearly articulated mathematics goals** based on **student** and **educator learning needs**.
 - **Early identification** and **ongoing intervention** for students who are struggling in mathematics.
 - Strategic **resource deployment**, including human, learning and financial.
 - **Dedicated staff** (i.e., mathematics instructional leaders) working on mathematics with educators and school and system leaders.
 - Professional learning supporting educators' and school and system leaders' **mathematics content knowledge for teaching, pedagogical knowledge, effective assessment** and **deep knowledge of the mathematics curriculum**. (*See below for the variety of resources and opportunities available from the ministry.*)
 - Explicit support for **principal** and **supervisory officer leadership** in mathematics.
3. Leadership that monitors the implementation of the plan, modifying based on successes and challenges, while **persisting** towards reaching their goals.
4. Clear and ongoing **communication with parents/guardians** about mathematics learning and teaching in their schools.

The 2014-15 Mathematics Action Plan is intended to support your efforts.

The Plan is organized around the [Seven Foundational Principles for Improvement in Mathematics, K-12](#). Actions addressing each of the principles are listed below. These and others are among the actions DSBs may want to draw upon as they reflect on their DSB mathematics plan:

1. Focus on Mathematics:

- Engage the system at multiple levels and through multiple entry points, including:
 - Partner with senior leadership on the importance of mathematics.
 - Provide ministry staff support for mathematics initiatives, improvement planning and implementation.
 - Provide centrally-facilitated professional learning and support from capacity building and research and evaluation staff in the area of mathematics.
 - Fund mathematics focused initiatives, including Small and Northern Boards (SNB) numeracy facilitators and *Stratégie provinciale d'accompagnement en mathématiques de la 7e à la 10e année* (CSLF).
 - Encourage mathematics as a priority in Ontario Focused Intervention Partnership (OFIP), School Support Initiative (SSI) schools and Student Work Study Teachers (SWST) initiative.
 - Expand a numeracy focus in the Summer Learning Program for primary and junior students.
 - Fund mathematics tutoring programs available to students throughout the school year.
- Review and renew the mathematics curriculum considering education research, consultation, and mathematics expertise in other jurisdictions as per the ministry's curriculum renewal cycle.
- Encourage the use of PA day time in a way that is integrated with a DSB's mathematics plan, which will deepen understanding of the mathematics curriculum and create opportunities for numeracy learning across the curriculum.
- Determine the amount of time spent on mathematics in schools and boards and work to establish a norm of increased time on task in mathematics – including the integration of numeracy into other subject areas.

2. Coordinate and Strengthen Mathematics Leadership:

- Support mathematics goals in improvement planning through Board Improvement Planning for Student Achievement (BIPSA).
- Promote and support mathematics as a priority in K-12 System Implementation and Monitoring (SIM) planning and K-12 Literacy and Numeracy Leaders initiative.
- Fund a mathematics-focused leader in 37 Small and Northern Boards (SNBs) across the province.

- Provide principal support through Leading Student Achievement (LSA), including building mathematics leadership capacity, coordinated by the principals associations.
- Provide support to secondary school principals to address performance in targeted schools where pass rates in Grades 9 and 10 Applied mathematics courses are below the provincial rate.

3. Building Understanding of Effective Mathematics Instruction:

- Invest to provide opportunities for K-12 teachers' and principals' professional learning, spanning the 2013-14 to 2014-15 school years, including:
 - Subsidies for teachers' acquisition of specific additional qualifications (AQ) courses, additional basic qualifications (ABQ) and pre-requisites in mathematics.
 - Summer learning for teachers and teacher-directed, problem-based collaborative inquiry teams in mathematics and mathematics pedagogy.
 - Learning for principals in mathematics, mathematics pedagogy and instructional leadership in mathematics in their schools.
 - Sharing among intermediate and secondary school mathematics leaders about successful practices in Grades 7 and 8 and Grades 9 and 10 Applied mathematics courses.
- Work with the Ontario College of Teachers (OCT) regarding the Transition to Teaching survey of graduates, and the accreditation and verification processes of the Faculties' of Education new, two-year teacher education programs to monitor and provide input to the ways in which the mandatory core content and format/structure of the new programs are designed to appropriately prepare new teachers for instruction and assessment in mathematics in Grades K–12, and provide support through the Building Futures program.

4. Support Collaborative Professional Learning in Mathematics:

- Continue to support on-going, classroom-based professional learning for teachers that is locally planned and directly related to the learning challenges of their own students, in order to increase content knowledge and pedagogical skill, including skills in assessment and differentiated instruction, in the specific areas of mathematics challenges.
- Provide supports to identify and intervene with students performing at level 2 or below, and to share knowledge of practices proven to be effective.
- Ministry staff, along with its partners, to explore the feasibility of establishing a goal of having more teachers with advanced mathematics qualifications (to be defined) in elementary schools.

5. Design a Responsive Mathematics Learning Environment:

- Provide focused interventions through the Ontario Focused Intervention Partnership (OFIP) and School Support Initiative (SSI), encouraging mathematics as a priority.
- Investigate what our specific challenges in mathematics are, including undertaking case studies of schools with a track record of improvement in mathematics and holding dialogue(s) about mathematics to more precisely address what is causing the downward trend

in mathematics performance as measured by EQAO's Grade 3 and Grade 6 assessments, as well as what contributes to increased effectiveness in mathematics learning and teaching.

- Expand the Summer Learning Program to offer engaging mathematics and literacy learning combined with recreational activities for more students in disadvantaged communities for Grades 1–6.
- Investigate perspectives, experiences and promising practices in mathematics learning and teaching through a Pan-Canadian liaison network.

6. Provide Assessment and Evaluation in Mathematics that Supports Student Learning:

- Continue to build teachers' capacity for assessment for, of and as mathematics learning, including communicating with students and parents and planning and delivering instruction to increase the learning of each student.

7. Facilitate Access to Mathematics Learning Resources:

- Continue to develop and make available mathematics classroom and professional learning resources for educators across the province.
- Expand usage of mathematics supports for students and parents with resources at *mathies.ca* and additional programming for students and parents via TVO's *Homework Help* and, *SOSDevoirs*.
- Continue to support parents and guardians to be a part of their children's mathematics learning, including developing, with our education partners, a parent outreach strategy with mathematics-focused resources for parents including tip sheets and a toolkit, and distributing and promoting *Doing Mathematics with Your Child/ Les mathématiques avec votre enfant*, an updated parent's guide to helping their children learn mathematics, as well as *Partnering With Your Teen in Mathematics*, a parent's guide to supporting older students to learn mathematics.