



GECSDB School Improvement Plan for Student Achievement K to 12 – SMART GOAL Summary

Comprehensive Needs Assessment

Needs Assessment and Analysis of Evidence

Student Achievement

Over the past five years (2006 – 2011), our Gr. 9 Applied Mathematics students scored between 53% and 66% (Level 3 and 4) on the Gr. 9 EQAO Mathematics Assessment. In 2010-2011, our Applied Students scored 64%.

Over the past five years (2006 – 2011), our Gr. 9 Academic Mathematics students scored between 77% and 88% (Level 3 and 4) on the Gr. 9 EQAO Mathematics Assessment. In 2010 – 2011, our Academic students scored 87%.

Perceptual

In 2010-2011, student perception of their mathematical abilities varied between Applied and Academic students. On the Gr. 9 EQAO Mathematics Assessment, 61% of our Applied students agreed that they understood most of the mathematics that was being taught, 34% were undecided, and 5% disagreed. At the Academic level, 72% of our students agreed that they understood most of the mathematics that was being taught, 18% were undecided, and 10% disagreed.

Also of interest, 77% of our Applied students agreed that they tried to do their best in mathematics class, 12% were undecided, and 11% disagreed. At the Academic level, 89% of students agreed that they tried to do their best in mathematics class, while 7% were undecided and only 4% disagreed.

Board Improvement Plan

By June 2012, a 9% increase in the Grade 9 EQAO Applied Mathematics Assessment from 51% to 60% (Level 3/Level 4). Specifically, for students enrolled in Grade 9 Applied Mathematics courses:

- Increase the percentage of students who achieved Level 3 or 4 from 51% to 60% (SSS 64%)
- Decrease the percentage of students who achieve below Level 1 from 2% to 0% (SSS 0%);
- Decrease the percentage of students who achieve Level 1 from 8% to 3% (SSS 5%);
- Maintain the percentage of students who achieve Level 2 at 33% (SSS 31%);
- Increase the percentage of students who achieve Level 3 from 44% to 49% (SSS 59%);
- Increase the percentage of students who achieve Level 4 from 13% to 15% (SSS 5%).

Previous Year's School Improvement Plan

By June 2011, a 3% increase in Grade 9 EQAO Applied Mathematics Assessment from 60% to 63% (Level 3 and 4).

By June 2011, a 3% increase in Grade 9 EQAO Academic Mathematics Assessment from 88% to 91% (Level 3 and 4).

SEF Indicators and Evidence

SEF Gap Analysis

In 2011, our average Gr. 9 Applied Mathematics scores were variable: Number Sense and Algebra 57%, Linear Relations 66%, and Measurement and Geometry 57%. In the areas of Knowledge and Skills, our student scores were: Knowledge and Understanding 59%, Application 63%, and Thinking 55%.

In 2011, our average Gr. 9 Academic Mathematics scores were fairly consistent: Number Sense and Algebra 90%, Linear Relations 90%, Analytic Geometry 85%, Measurement and Geometry 89%. In the areas of Knowledge and Skills, our student scores were: Knowledge and Understanding 87%, Application 89%, and Thinking 89%.

SEF K to 12 Indicator

4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.

At the School

- Data is analyzed to identify gaps in literacy and numeracy achievement and to determine goals for school wide improvement;
- Comprehensive literacy and numeracy programs support student achievement through use of current Ontario curriculum and associated resources documents;
- Literacy and numeracy instruction is inquiry – based, challenging, and developmentally appropriate for all students.

In the Classroom

- Three – part mathematics lessons are designed for students to: solve problems, communicate their thinking in different ways, make sense of and question others' mathematical approaches and ideas, develop collective knowledge in relation to the lesson's learning goal, and practice their new learning;
- Instruction and inquiry engage students in developing deep conceptual understanding, procedural fluency, and strategic competence through tasks that require the use of the mathematical process (TIPS 4RM);
- Mathematics learning goals, success criteria and learning materials are visible and accessible.

Students

- Persevere to solve mathematical problems and demonstrate mathematical thinking in different ways;
- Participate actively with other students and the teacher.



GECD SB School Improvement Plan for Student Achievement K to 12 – SMART GOAL Summary

SMART Goal #1: By June 2012, a 3% increase in Grade 9 EQAO Applied Mathematics Assessment from 64% to 67% (Level 3 and 4).

By June 2012, a 3% increase in Grade 9 EQAO Academic Mathematics Assessment from 87% to 90% (Level 3 and 4).

Planning, Design and Implementation Strategies	Targeted, Evidence-Based Strategies	Action Step #1
	Resources:	Teachers will instruct students using the three part mathematics lessons. Teachers will use math manipulatives provided by the Greater Essex County District School Board and TIPS4RM documents provided by the Ministry of Education. Teachers will use software programs such as Gizmos, Geometer's Sketchpad, and Smart Notebook, as well as instruments like graphing calculators and SMART Board interactive technology. School-wide anchor charts on "Graphic Organizers" (Barrie Bennett, 2006) and "The Writing Process"

		<p>(Angela Peery, 2009) were created with input from staff. In September 2011, the anchor charts were posted in all classrooms for students and staff.</p>
	<p>Professional Learning</p>	<p>Over the past few years, our Grade 9 Math teachers have participated in our Board's subject specific Professional Development Days (April). These PD days are typically geared toward instruction, assessment and the use of technology to improve student scores on the Grade 9 EQAO Assessment of Mathematics. Last year two staff members presented at various PD Days, explaining differentiated instruction in the mathematics classroom and the details of the full year GLS 10/MFM 1P course.</p> <p>In June 2010, our PLC Team facilitated a book review by John Barell (2003) <u>Developing More Curious Minds</u>, Association for Supervision and Curriculum Development. The book explores the importance of developing "critical thinking skills" in students. All staff received a copy of the book to read, reflect and improve their teaching practice.</p> <p>In June 2010, all Department Heads, selected teachers, and members of our PLC team were provided with a copy of the book by Dr. Barrie Bennett (2006) <u>Graphic Intelligence</u>, University of Toronto. The book introduces teachers to high yield instructional strategies (i.e. graphic organizers) and provides a number of samples created by students.</p> <p>From October 2010 – May 2011, twenty-one staff members participated in a three part Professional Learning Series with Dr. Barrie Bennett based on his book <u>Graphic Intelligence</u> (2006). Dr. Barrie Bennett believes that meeting the needs of a diverse student population requires an extensive instructional repertoire that should be integrated in multiple ways to facilitate the differentiation of instruction. This professional learning series focused on a variety of high yield instructional strategies (i.e. graphic organizers) that teachers can use to improve student achievement and engagement for all learners.</p> <p>In April-May 2011, Department Heads, D.I. Team, and members of the PLC Team were provided with a copy of the book <u>Writing Matters in Every Classroom</u>, by Angela Peery (2009) - The Leadership and Learning Center. The book explores the benefits of non-fiction writing by stating that it, "raises student achievement in all subject areas." (p.17). It further makes the distinction between writing-to-learn and learning-to-write strategies (p. 20-21).</p> <p>In June 2011, all teachers at Sandwich Secondary were engaged in a Non-Fiction Writing Professional Development session led by our Teacher Program Consultants. The Professional Development Session was based on the book <u>Writing Matters in Every Classroom</u>, by Angela Peery (2009).</p> <p>In September 2011, staff engaged in a Professional Learning Session on the Ministry's <u>Growing Success Document</u> (2010) with a focus on learning goals, success criteria and descriptive feedback to improve student achievement. The Professional Learning Session was facilitated by School Administration, selected teachers and Teacher Program Consultants.</p>
<p>Monitoring Strategies</p>	<p>Progress Monitoring</p>	<p>Math teachers will monitor the progress of their class throughout the year. Students will be encouraged to provide regular feedback on their understanding of mathematical concepts during instruction and on class assignments and activities.</p> <p>School Administration will monitor the use of math manipulatives, high-yield strategies and technology through informal classroom visits (ie. walk-about) and formal visits such as the Teacher Appraisal Process.</p>
	<p>Responsibility</p>	<p>Math teachers will incorporate the use of manipulatives, hands-on activities, anchor charts, graphic organizers, non-fiction writing, and technology as appropriate.</p>

		<p>The Learning Support Teacher will ensure that students receive the appropriate accommodations as per their Individualized Education Plan.</p> <p>School Administration will work through the Math Department Head to provide assistance, resources, and support to teachers.</p>
	Evaluation Cycle	School administration, along with the Math Department Head and teachers, will review student progress and achievement throughout the year (math credit accumulation, Gr. 9 EQAO Math Assessment Results). Data will be gathered, analyzed, and the Improvement Plan will be updated accordingly.
Planning, Design and Implementation Strategies	Targeted, Evidence-Based Strategies	<p style="text-align: center;">Action Step #2</p> <p>Unit tests, in – class activities and assignments will continue to be structured to closely resemble the Grade 9 Assessment of Mathematics in both the Academic and Applied stream (ie. Multiple choice, open response, format and question style). This will encourage students to connect various representations of information and allow students to make connections across strands of mathematics and into other subject areas.</p> <p>Learning Goals and Success Criteria will be clearly posted in each mathematics classroom, and will be discussed regularly. This will allow students to have a clear picture of what they are being evaluated on, and will allow teacher to begin structuring common assessments throughout a course.</p>
	Resources:	<p>Math teachers will incorporate the use of TIPS 4RM documents and sample EQAO Math Assessments as needed.</p> <p>Math teachers will also begin to share assessments to create consistency across sections of the same course.</p>
	Professional Learning	<p>Grade 9 mathematics teachers will attend four “Family of Schools” sessions throughout the year. The purpose of these sessions will be to bridge the gap between: grade eight and nine mathematics and Gr. 9 Academic and Applied EQAO Math scores. They will also develop common course learning goals and success criteria to ensure students share a common focus.</p> <p>Our mathematics teachers will also have the opportunity to work with Dr. Bruce White (GECDSB Enrichment Coordinator) on a weekly basis this year. The focus will be on improving opportunities for enrichment for students through the use of critical thinking and problem solving skills.</p>
Monitoring Strategies	Progress Monitoring	<p>Math teachers will monitor the progress of their class throughout the year. They will encourage students to reflect on their work and analyze mistakes by providing descriptive feedback regularly. They will also encourage students to make connections between mathematical ideas and across the curriculum into other subject areas.</p> <p>School Administration will view samples of student math work during informal classroom visits (ie. walk-about) and formal visits such as the Teacher Appraisal Process.</p>
	Responsibility	<p>Math teachers will meet regularly, both formally and informally, to share effective instructional practices and resources, and to align their learning goals and success criteria for each course.</p> <p>The Learning Support Teacher will provide appropriate accommodations for students as per their Individualized Education Plan.</p>
	Evaluation Cycle	School administration, along with the Math Department Head and teachers, will review student progress and achievement through the year. Data will be gathered, analyzed, and the improvement plan will be updated accordingly.

Planning, Design and Implementation Strategies	Targeted, Evidence-Based Strategies	<p style="text-align: center;">Action Step #3</p> <p>To provide instruction that is inquiry-based, challenging, and developmentally appropriate, a select group of students will be enrolled in a full year Grade 9 Mathematics and General Learning Strategy (GLS) Course. This combination of coursework will allow students the opportunity to bridge any knowledge gap so that they may reach their full potential. Within this course, students will be given multiple opportunities to gain confidence and become successful in math through the use of high yield strategies in the form of manipulatives, hands-on activities, group work, graphic organizers and non-fiction writing. Technology will also be integrated to engage students in mathematics.</p>
	Resources:	<p>A number of resources will be used by the classroom teacher:</p> <ul style="list-style-type: none"> • Pegis, J. (2007), <u>Learn Smart: Strategies to Succeed in School and in Life</u>, Edmond Montgomery Publications • <u>TIPS4RM Documents</u>, Ontario Ministry of Education • Bennett, B. (2006), <u>Graphic Intelligence</u>, University of Toronto • www.englishforeveryone.org • <u>OSSLT Practice Materials</u>, Education Quality and Accountability Office • <u>Grade 9 Assessment of Mathematics Practice Materials</u>, Education Quality and Accountability Office • Peery, A (2009), <u>Writing Matters in Every Classroom</u>, The Leadership and Learning Centre
	Professional Learning	<p>The teacher responsible for delivering this course has participated in a number of Professional Development opportunities offered by the GECDsb and Sandwich Secondary School. These include:</p> <ul style="list-style-type: none"> • Delivering Locally Developed Courses; • Dr. Barrie Bennett "Graphic Intelligence" Professional Development Sessions; • Angela Peery "Writing Matters in Every Classroom" Professional Development Session; • GECDsb Vision to Practice Summer Conference (Dr. Brandon Doubek and Mr. Ron Clark);
Monitoring Strategies	Progress Monitoring	<p>The Math/GLS teacher will monitor student progress throughout the year, providing frequent descriptive feedback and making regular contact with parents or guardians.</p> <p>School Administration will review samples of student work during informal classroom visits (ie. walk-about) and formal visits such as the Teacher Performance Appraisal Process.</p>
	Responsibility	<p>Guidance Counselors and the Student Success Teacher will visit elementary feeder schools and identify students that will benefit from the full year GLS/Math Program.</p> <p>The Learning Support Teacher will ensure that students receive the appropriate accommodations as per their Individualized Education Plan.</p>
	Evaluation Cycle	<p>School administration, along with the Math Department Head and teachers, will review student progress and achievement throughout the year. Data will be gathered, analyzed, and the improvement plan will be updated accordingly.</p>