



ONTARIO PUBLIC
SCHOOL BOARDS'
ASSOCIATION

Leading Education's Advocates

EFFECTIVE PRACTICES IN ELEMENTARY MATHEMATICS EDUCATION

School Board: Upper Canada District School Board

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Name of Program/Initiative/Strategy:

North Grenville District High School: Building Communities of Learners: Students and Staff

Hyperlinks to Documents or Website(s) Describing this Program/Initiative/Strategy

[North Grenville District High School Evidence of Effective Mathematical Practices](#)

Description of Program/Initiative/Strategy

The focus is on exemplary mathematics practices that excite, engage and increase student confidence and achievement. In the brief description please provide answers to the following questions: Where the program/initiative/strategy is delivered (school/board locations)? Who is responsible for delivering and monitoring the program/initiative/strategy? Who is the target audience? Are there any community partnerships involved? Are there any staffing or budget implications? Are there any special resources required? What are your indicators of success, etc.?

NGDHS focusses on building communities of student and teacher learners in grade 7 to 9 classrooms. Research-based practices are embraced by teachers leading to phenomenal student achievement in mathematics. The key: building relational trust. Nothing is assumed at NGDHS: Growth Mindset is taught, high expectations are the norm, process expectations' success criteria are co-constructed with students, and building student efficacy and conceptual understanding of mathematics is the focus. Teachers engage students in learning by making student thinking visible (Lucy West) using effective questioning (Ministry monograph). They explore mistakes with their "Spot the Error" challenges because brains grow when examining mistakes (Jo Boaler). The students use non-permanent vertical surfaces (Peter Liljedahl) and manipulatives to work collaboratively on their solutions of rich low floor high ceiling math tasks (Marian Small) co-created by teachers. Descriptive feedback to students and peer and student self-assessment help both students (assessment as) and teachers (assessment for) know their next steps (Growing Success). The parents also have a key role in the learning through regular communication of mathematics strategies. The teachers co-plan, co-teach, co-learn during common prep periods. Ministry resources and mathematical research at www.edugains.ca and www.ontariomathresources.ca support their work. These communities of learners yield unparalleled student achievement.

What has been the impact on Student Learning?

Students at North Grenville are achieving great success in mathematics. Their EQAO grade 9 math scores and graduation rates are evidence of this success:

North Grenville DHS	2006	2007	2008	2009	2010	2011	2012	2013	2014
Grade 9 Academic M2	97%	82%	79%	88%	85%	94%	90%	88%	94%
Province	71%	71%	75%	77%	82%	83%	84%	84%	85%
Grade 9 Applied M2	83%	55%	46%	62%	79%	69%	90%	61%	88%
Province	35%	35%	34%	38%	40%	42%	44%	44%	47%

	UCDSB Methodology					Ministry Methodology
Grade 9 Cohort	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Graduation Rate	84.5%	94.5%	87.9%	84.1%	93.5%	85.8%
Province	79%	81%	82%	83%	84.3%	85.5%

The grade 9 academic rates over the past 9 years at North Grenville are on average over 9% higher than the provincial average: this average jumps to over 30% higher for applied students. These results speak volumes about the impact of student and staff collaboration in the grade 7, 8, and 9 math classes. With one of the focusses of the Renewed Math Strategy on grade 9 applied students, North Grenville’s grade 7-12 school will be a great model for other schools in Ontario to aspire to.