

Overview:

The Near North District School Board - *Great to Excellent* initiative has worked to develop teacher capacity using web-based (hosted on the Provincial LMS) math resources designed to increase student engagement and improve student achievement, credit accumulation and EQAO results.

The project has facilitated numerous, differentiated opportunities for teachers to access training, support and to collaborate within and across schools. The District e-Learning Contact (DeLC), e-Learning Contact (eLC) and [Blended Learning] Math Coaches delivered over 100 classroom-level support sessions to enrich teacher capacity and confidence using the online teaching tools.

Digital math resources include multi-modal formative activities and “rich tasks” designed to engage learners and foster critical thinking and collaboration. Through the GtE initiative, teachers have utilized new LMS tools such as the “discussion tool” – to facilitate global, meaningful and relevant open-ended math challenges.

Teachers and Student Success teams have used data generated through diagnostic assessments to inform planning, differentiate instruction and align teaching and learning resources with individual student needs.

An online research portal has been established to facilitate the GtE collaborative inquiry and acts as a cross-mediated database of project artifacts - to identify effective practices and develop profiles of success.

The diagnostic math resources have been exported to the Bulk Course Export utility - enabling other boards to import the math contents to their own LMS environment.

Highlights:

Improving student achievement...

The Near North District School is pleased to acknowledge the efforts of our Grade 9 math students and teachers as we celebrate a 3% increase in EQAO achievement at the Applied level and an 8% increase at the Academic level.

- ▶ **The GtE initiative has expanded student access to online math resources and increased frequency of use.**
- ▶ **[Blended Learning] Math Coaches have completed 110 classroom support sessions; co-planning, instructional support, capacity building, etc.**
- ▶ **The majority of students found the LMS Math resources easy to access and 56% “agreed” or “strongly agreed” they were “helpful” - another 29% responded “neutral”.**
- ▶ **66% of students “agreed” or “strongly agreed” that they felt ‘more confident’ completing similar/future math tasks after completing the online LMS math assessments and activities.**
- ▶ **37% of students accessed the online math resources from home.**
- ▶ **33% of students accessed the online math resources using their personal cell phone.**
- ▶ **Teacher participants agreed, working with the [Blended Learning] Math Coaches helped to develop 21st century pedagogy and increased their confidence and frequency of use of the LMS resources.**



GREAT TO EXCELLENT

Innovation in Teaching Mathematics

“...student centred pedagogies, student engagement in learning, extending learning beyond the classroom and instructional technologies use.”



Plan:

- ▶ The e-Learning Contact (eLC), District e-Learning Contact (DeLC) and Math Coaches worked with teachers to co-plan and prepare the online math activities.
- ▶ The [Blended Learning] Math Coach role description was developed in consultation with the NNDSB Human Resources Department - a formal posting was created.
- ▶ School level meetings were conducted with Math teams and Student Success teachers to introduce the *Great to Excellent* initiative and provide an awareness of the associated resources. In each instance, an implementation plan was developed to accommodate school culture, timetable and technology.
- ▶ Math Coaches participated in an orientation/training session. Each math coach was aligned with a school.

Collaborative Inquiry

Teachers have collaborated within and across schools to co-plan and co-construct teaching and learning resources.

Act & Observe:

- ▶ Course “shells” were created for each grade nine math teacher - the formative math activities, TIPS resources and diagnostic assessments were added. LMS reports were configured to export data related to student login (participation), dropbox submission, content viewing, and achievement.
- ▶ Ongoing classroom support sessions, facilitated by the District eLearning Contact (DeLC), eLearning Contact (eLC) and Technology Integration Coaches enriched teachers knowledge and application of the online teaching tools.
- ▶ Student and teacher surveys were used to monitor the various models of access and implementation. Students used a range of technologies, accessing the math resources from a variety of settings.

Assessment for Learning

Online, diagnostic assessment tools enable teachers to quickly and accurately capture data related to student achievement in mathematics.

Reflect:

- ▶ The SharePlus App and SharePoint portal are used to document changes in teaching practice, evidence of learning and thinking. iPads, through the use of the mobile app, “SharePlus” were able to record photos, videos, audio files and examples of student learning processes and products.
- ▶ Teacher participants agreed, working with the [Blended Learning] Math Coaches was a highly effective form of capacity building, improving teacher confidence and frequency of use of the LMS resources.
- ▶ According to students, laptops and/or desktop computers were the best technologies to access the online activities - compatibility with resources, consistent access, ease of use, student familiarity, etc. As tablet computers evolve, this may change.

Research Portal

A rich, cross-mediated database of project artifacts has been utilized to identify effective practices and develop profiles of success.