Exploring Structures that Support Success in Regional Collaborative Inquiry
EOSDN Closing the Gaps in Mathematics Study: Year 4

Danielle LaPointe-McEwan, Tammy Billen, Eleanor Newman, & Don Klinger

Our Learning Context

EOSDN, a consortium of Eastern Ontario District School Boards and the Faculty of Education at Queen's University, provides ongoing collaborative professional learning opportunities for administrators, teachers, and researchers in the region. Supported by funding from the Ontario Ministry of Education, EOSDN is coordinating a multi-year regional mathematics study that aims to enhance professional discourse, instructional practice, and outcomes for students. The nine Eastern Ontario district school boards (DSBs) are networking across the region and within their districts with a collective focus on building educator fluency (i.e., applying understanding in practice) in mathematical *big ideas* and the process of representation in mathematics. System leaders in math from each DSB meet monthly to learn more about strategic implementation and monitoring with support from recognized experts in mathematics education, Queen's University researchers, Ministry of Education Student Achievement Officers, and colleagues with experience in special education, technology, and school leadership. As a result, Eastern Ontario math leaders are enhancing their own fluency with regards to supporting research-based classroom practices within their DSBs. During 2016-2017, 21 schools and approximately 150 educators engaged in the project, collaborating across the region, focusing on local specific needs that related to the parameters of the regional project and the provincial Renewed Math Strategy (RMS) introduced in Spring 2016. This collaboration extended to include working partnerships with math and research experts to develop, refine, and reflect on collaborative leadership in the areas of math content knowledge, understanding *students of mystery*, instructional strategies, and approaches to assessment at regional, district, and school gatherings. The project is continuing in 2017-2018.

Our Inquiry

How will a regional focus on educator fluency, proportional reasoning, and student representation impact math teaching and learning in Eastern Ontario?

Our Guiding Questions

(1) How might we transfer facilitator fluency to school fluency with respect to assessment, monitoring, data literacy, and coaching to enhance math teaching, learning, and leading?

(2) How might we cultivate collaborative leadership for shared ownership among educators in our region, DSBs, schools, and classrooms to sustain, deepen, and spread the learning, teaching, and leading in mathematics?

(3) How might a focus on key practices (e.g., understanding learner profiles, diagnostics, pedagogical documentation, reflection) help us name and notice student learning to inform, sustain, and spread precise, personalized assessment and instruction in mathematics?

(4) How might precise, personalized assessment and instruction in mathematics respond to the needs of each learner?

Our Data

Participant Group	Data Collected
Project Leads • Director, Coordinator, Research Partner	Questionnaire (1) Focus Group (n=2) Documentation (9 Steering Committee sessions) Artifacts
District Facilitators • 25 representing 9 DSBs in EOSDN region	Surveys (18) Questionnaires (11) Documentation (9 Steering Committee sessions) Exit Cards (9) Artifacts
Teachers • 66 teachers from 9 DSBs in EOSDN region	Surveys (52) Questionnaires (18) Exit Cards (66) Artifacts
Administrators • 21 administrators from 21 schools across 9 DSBs in EOSDN region	Surveys (18) Exit Cards (21)

Project Lead Perspectives

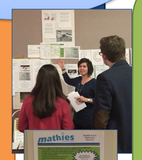
Powerful professional inquiry begins with the intention to improve outcomes for students and thrives in a culture of support that builds on the knowledge and experiences of others.
~Project Director

Impacts

- Increased focus and precision in our regional work, stemming from provincial Renewed Math Strategy (RMS)
- Enhanced focus on cultivating collaborative leadership through a whole-school approach
- Purposeful focus on understanding, supporting, and monitoring the mathematical learning of *students of mystery*

Supports

- Promoting alignment among regional project goals, the RMS, BIPSAs, and SIPSAs
- Including district educators across departments (math, student support, and TELT leads) at monthly regional meetings
- Including school teams (administrators, support teachers, and classroom teachers) at selected regional meetings
- Co-developing learner profiles and monitoring plans with school teams at regional meetings



We have built collaborative leadership into our project this year. The targeted support of administrators, support teachers, and classroom teachers at regional meetings is contributing to spread and promoting a whole-school approach.
~Project Coordinator

The student has always been at the centre of our professional learning in this project, but this year, with the RMS, it was important to make explicit that students' needs are actually determining our learning and practice
~Research Partner

Teacher Perspectives

Impacts

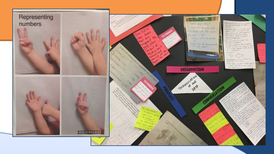
- Developed asset-based learner profiles to support and monitor mathematical learning of two *students of mystery* in their class
- Leveraged developmental/conceptual continua, technology, and manipulatives
- Triangulated student assessments over time—observations, conversation, products
- Noticed and named math strategies and processes in their classrooms
- Recognized that what is "necessary for some is good for all"

Supports

- Learning from and with district facilitators at regional and school-based sessions
- Formal time to collaborate with school teams, especially grade and divisional colleagues
- Resources shared at regional and school-based sessions
- Co-developing learner profiles and monitoring plans with district facilitators and school teams

Next Steps:

- Continue to focus on understanding, supporting, and monitoring the mathematical learning of their *students of mystery*
- Provide rich, continuous professional learning at Steering Committee meetings (e.g., math content and continua, LD, assessment, technology)
- Increase opportunities for facilitated professional learning in schools to support implementation, especially with grade or divisional colleagues



When given the opportunity to engage with colleagues to understand our shared classroom experiences and co-learn about practices, it improves my practice and, in turn, my students' learning and achievement.
~Teacher

Facilitator Perspectives

Impacts

- Aligned DSB inquiries with RMS and BIPSAs
- Increased collaboration across DSB departments (math, student support, TELT)
- Co-developed meaningful school inquires with school administrators, tied to SIPSAs
- Focused facilitation with school teams on understanding, supporting, and monitoring the mathematical learning of *students of mystery*
- Leveraged asset-based learner profiles, developmental/conceptual continua, assessment *for* learning, technology, and manipulatives

Supports

- Monthly Steering Committee sessions for formal and informal co-learning and professional dialogue among regional, DSB, and school-based educators
- Continued partnerships with math and research experts to support implementation and monitoring of new learning and practices
- Focus on *students of mystery* and learner profiles
- Research-based resources and approaches

Next Steps:

- Continue to focus on *students of mystery* and cultivating whole-school approach
- Increase depth of learning at Steering Committee sessions, supported by relevant experts
- Ensure regional learning targets facilitators, school administrators, and teachers as appropriate and provides opportunities to apply the learning to one's own context of practice
- Provide more time for cross-DSB collaboration at Steering Committee meetings and facilitated collaboration in schools

It's no longer about what students can't do, but asking questions about what students can do—if this is the issue, then what are we going to do?
~Facilitator

I am very pleased to see the focus on students of mystery and LD in math this year—we can bridge this between EOSDN project and RMS—learning in one contributes to learning in the other. It's not seen as an "add on", but flows through all of the work in our board.
~Facilitator

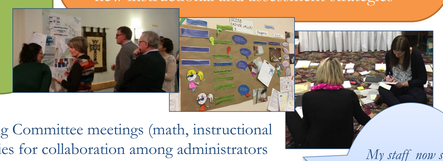
Administrator Perspectives

Impacts

- Aligned school inquiry with RMS, BIPSA, and SIPSA priorities
- Increased engagement and ownership of school inquiry due to participation in regional Steering Committee meetings
- Increased confidence as math instructional leaders
- Participated in or led school-based professional learning in math to spread project learning
- Encouraged support teachers' roles in supporting classroom teachers' implementation

Supports

- Co-developing school inquiry with district facilitators
- Inclusion in regional meetings to build relationships with district facilitators and gain regional perspective
- Focus on *students of mystery* and learner profiles
- Teachers' willingness to explore and implement new instructional and assessment strategies



Next Steps:

- Provide rich professional learning at Steering Committee meetings (math, instructional and monitoring strategies), with opportunities for collaboration among administrators
- Increase opportunities for facilitated professional learning in schools to support planning, implementation, and reflection among teams
- Require less time out of school for administrators

My staff now sees me as an instructional leader in math because I am part of this project.
~Administrator

Participants' Learning and Practice

Year 1 (2013-2014)

What matters most?

Readiness-Recognizing and addressing educators' mindsets and previous learning experiences supports their engagement.

Ownership-Educators identify their own area of inquiry so the learning is meaningful and relevant.

Alignment-Strategically aligning learning to a meaningful focus promotes depth and spread.

Relationships-Building trusting, supportive relationships among participants promotes a culture of risk-taking.

Intentionality-Devoting time and personal resources contributes to meeting professional learning goals.

Year 2 (2014-2015)

What matters most?

Loose-Tight Structure-Focusing on common project goals while supporting related, nested district, school, and classroom inquires responsive to local needs and priorities fosters educator engagement.

Sustained Focus-Maintaining regional focus on project goals and research-based strategies cultivates depth and spread.

Increased Precision-As educator fluency develops, the focus of learning and implementation becomes increasingly precise.

Supported Implementation-Providing responsive, context-embedded support for educators promotes transfer of learning into practice.

Collaborative Leadership-Educators working together within and across regional contexts supports the development and attainment of professional learning goals, shifts in learning culture, and educational leadership.

Year 3 (2015-2016)

What matters most?

Educator Fluency-Educators leverage previous learning and experiences, exercising sound professional judgement, based on knowledge of math content and processes.

Embedded Learning-As fluency increases, educators prioritize personalized learning opportunities, embedded within their context of practice and rooted in local needs and goals.

Evidence-informed Practice-Collecting, analyzing, and using multiple sources of data over time enhances and demonstrates impacts on math teaching and learning across the region.

Collaborative Leadership-Educator fluency, coupled with embedded learning opportunities and trusting relationships, contributes to collaborative leadership among educators.

Collective Ownership-As educator fluency and collaborative leadership emerge, collective ownership of shared professional learning goals is increasingly important.

Year 4 (2016-2017)

What matters most?

Purposeful Alignment-Aligning regional project goals with provincial, DSB, and school priorities supports educators' ownership and engagement in networked regional professional learning.

Precise Focus-Articulating a precise regional focus on supporting *students of mystery* enables targeted professional learning and responsive implementation among educators within and across classrooms, schools, districts, and regional contexts.

Whole-school Approach-Engaging school administrators, support teachers, and classroom teachers at regional and school-based sessions cultivates a whole-school approach and promotes spread throughout schools.

Conceptual Assessment-Monitoring struggling students' conceptual understanding through multiple forms of assessment (observations, conversations, and products) supports learning and informs instruction for all students.

School-based support-Formal time for facilitated, school-based support of planning, implementation, and reflection helps administrators, support teachers, and classroom teachers apply new learning in their own contexts of practice.

Year 5 (2017-2018)

Moving Forward…