

## A Collaborative Math Community: Building Successes from Classroom to Leaders

Belinda Hammond, Dawn Gunter and Louise Caughell

This is our second year in the Mathematics Teacher's Inquiry Project. Working collaboratively, the three of us have built a strong foundation that has created successful teaching practices to promote student and teacher inquiry. Throughout the year Dawn and I have supported Louise in her role as a teacher leader to build teacher capacity within her own learning community. Dawn, with the support of Louise and I, has fostered student learning and communication to encourage students to create meaningful math connections and increase foundational numeracy skills within her kindergarten classroom. I worked closely with Grade 1 and 2 teachers to create Early Years Numeracy Kits for every student in the school division. Teachers were provided with the tools and professional development necessary to build foundational numeracy skills that are needed to move along the learning continuum.

This two-year journey has enabled me to create innovative lessons through short discussion routines to help students develop number sense, flexibility, and inquiry based mathematical practices. Teachers have developed a sense of confidence when teaching foundational numeracy skills in the early years' classroom. "Belinda has worked collaboratively with me to increase my ability to reach back to concepts I have already explored to ensure student understanding. By revisiting foundational outcomes, I was able to increase student understanding, and in turn reach my numeracy goals within the classroom" (Heidi Beauchemin, personal communication, May 9, 2019). Heidi was also part of the Early Years Numeracy Kit initiative. I worked closely with a Grade 1/2 classroom exploring the tools and creating engaging student-centred learning experiences to help students see their role in mathematics as one of understanding and sense making. The Mathematics Teacher Inquiry Project has enabled me to look closely at student engagement, communication, flexible thinking, and foundational numeracy skills to provide the best learning opportunities to all students. I continue to build and

reflect on my abilities as a leader, colleague, and teacher within the early years classrooms by exploring new impactful and effective teaching practices that allow for student voice, collaboration and engagement along their learning journey.

Louise has created a professional learning community within her school that has brought kindergarten teachers together to explore and create hands on inquiry-based lessons. "Louise gets you very excited about connecting learning to students and building on what students already know. Louise encouraged us to visit another kindergarten classroom (Dawn's) to observe and get ideas to teach fundamental math concepts to K students. I will definitely take what I have learned and infuse it into my math next year" (Natasha Penner-Loeppky, personal communication, May 9, 2019). The MTIP



program has given Louise a community to collaborate with and learn from. It has provided her the opportunity to build fluency between Kindergarten and Grade 1 within her school. Facilitating learning and change within the Kindergarten classrooms motivated Louise to continue to explore numeracy in her own Grade 1 class. Because of the work that has begun through the MTIP program, Louise and her colleagues have made a commitment to continue to work together to better meet the numeracy needs of all Kindergarten and Grade One students.

Dawn created a learning environment that has given students a safe place to engage in mathematical thinking and sharing. Students have grown into numerate thinkers that are able to work with an interactive math wall and show flexibility in their thinking. I interviewed Dawn's students asking them what they could tell me about math. I had a variety of tools (number balance, abacus, ten frames) that the students could use to show me their thinking. They shared their responses with openness and flexibility. Using the abacus one student showed me 50 by sliding the beads over in groups of ten, he then began to explain that he knew that it was half and there was 50. When asked how he knew that there was fifty, he responded with "because I counted by 10's" (personal communication, May 9, 2019). Being a part of the MTIP project has helped Dawn focus on her teaching specifically the foundational numeracy skills students need for Grade 1. Through backwards design, Dawn was able to design a program that allowed for manipulating, exploring, problem solving, and math talk. She came to the realization that if you teach it, they will learn. Dawn will take the knowledge and experience she has gained and apply it to her teaching in the upcoming school year.

Louise, Dawn, and I will continue our own personal quests for next year and provide each other with support, encouragement, and guidance. Collective intelligence is infinite rather than fixed, multifaceted rather than singular, and belongs to everyone, not just a few; the capacity for learning and improvement is magnified many times over. We strive to guide students on how to be active thinkers about their world and helping teachers to provide a space for students to articulate their thinking and develop a thinking vocabulary. Through this, we hope to give all members of the learning community confidence in building the foundational numeracy skills to foster mathematicians all throughout the division.



Dawn Gunter



Belinda Hammond



Louise Caughell