



ONTARIO PUBLIC
SCHOOL BOARDS'
ASSOCIATION

Leading Education's Advocates

EFFECTIVE PRACTICES IN ELEMENTARY MATHEMATICS EDUCATION

School Board: Kawartha Pine Ridge District School Board

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Name of Program/Initiative/Strategy: Math for Young Children

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

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.?

Math for Young Children (MAYC) was introduced in Kawartha Pine Ridge District School Board 4 years ago in partnership with Dr. Cathy Bruce, Professor at Trent University. *Math for Young Children* is a structure for professional learning that uses lesson study as a means to deeply explore and investigate a selected area of content in mathematics. Groups of six to eight K-2 educators from different schools meet in a geographical region approximately 4 to 5 times a year to learn with and from one another. Although the participants own the learning, these meetings are facilitated by a numeracy consultant, who supports participants in examining current and relevant research about the chosen content area and facilitates the learning through posing provocative questions, which extend and deepen student learning. This strategy is supported through the Ministry System, Implementation and Monitoring budget.

Indicators of Success

- Educators demonstrate increased learning of the chosen content area as measured by a pre and post audit trail and responses to the following questions:

- ❖ What do I know about this content area? What do I know about teaching this content area? What do students typically struggle with in terms of this content area?
- ❖ What questions do I have about this topic and/or how to teach it?
- Increased student understanding in the selected content area is measured by:
 - ❖ clinical interviews (pre and post)
 - ❖ shared educator observations of task field testing
 - ❖ classroom observations of students engaged in team developed tasks
 - ❖ depth of responses in conversations with students

What has been the impact on Student Learning?

Educator professional learning has a significant impact on student learning. Through the *Math for Young Children* professional learning structure, educators learn deeply about a specific area of the mathematics curriculum. It is through this learning that educators become better able to identify student thinking and then pose questions in the moment that may move that thinking forward. An audit trail of understanding of the content area explored is captured, both individually and collectively, as the educators' understanding deepens. Anecdotally, observations are made to reflect changes in educators' pedagogical decisions about materials, models, teacher talk moves and collaborative design.

Student learning is measured through clinical interviews before and after educator professional learning. In addition, student thinking and responses to provocative questions are captured through videotaping children during the learning. Please see <http://www.mathforyoungchildren.ca/> on the Trent Math Education Research Collaborative (TMERC) website for examples of KPRDSB student learning in the areas of spatial reasoning and number sense, in the areas of composing and decomposing numbers and using the number line as a powerful tool for developing understanding of number relationships.