

THE MATH POD

The Math Pod was organized as a collaborative learning opportunity for educators who want to learn more about mathematics. It included live radio shows, podcasts, blogging, and Twitter chats. By December 8, 2017, its website (themathpod.ca) had 3,689 views and 1,294 visitors, its podcasts had 521 views (see Appendix).

As a continuation of a Not-a-Book Study organized during the summer of 2017, the Math Pod featured work of Dr. Cathy Fosnot. Previously, Cathy has mentored educators in deepening their understanding of the landscape for multiplication and division in delivering mathematics instruction. For this round, Cathy focused on conferring with students, inviting educators to choose one of the three selected units of study to guide their learning:

1. Groceries, Stamps, and Measuring Sticks – Grade 2/3 – transition from addition to
2. The Big Dinner – Grade 4 – emergence of use of a ratio table
3. Muffles Truffles – Grade 4 – emergence of use of an open array.

The Math Pod activity included live radio shows with Cathy, which were supported with Twitter chats, and followed by reflective blogging. The first phase of the Math Pod was organized in October and November 2017.

Overall, 116 educators registered for the Math Pod: 101 educators from 32 school boards, 3 educators each from a different school authority, 10 Ministry of Education staff, and 2 out of province participants.

The radio show had on average 40 listeners per week, with 170 podcasts downloaded per week. The breakdown of downloads by November 24, 2017 is as follows:

- Episode One—The Meaning of Context, downloaded by 271
- Episode Two—Questioning and Conferring, downloaded by 175
- Episode Three—The Math Congress, downloaded by 156
- Episode Four—Mini-lessons, downloaded by 78.

These data show that there were more than twice as many listeners as those who were registered users. Although the Math Pod was organized in collaboration between three regions in the Province of Ontario: Math Leadership and Learning Network (ML²N, Barrie Region), Mathematics Leadership Network (MLN; Northeastern Ontario Region), and Math Leadership and Learning Network (ML²N, Northwestern Ontario Region), educators from other geographic regions could also take part in learning. Educators, from across the province who were actively using Cathy Fosnot's resources, were invited to be guests on the podcast.

During the first week of the Math Pod, there were 85 live listeners and 141 downloads. The top three countries presented among the listeners were Canada (78), United States (42), and Sweden (5). The top three cities were Toronto (13 listeners), New York (8), and Sault Sainte Marie (7).

The Meaning of Context: Debbie Donsky's depiction of the first episode of the Math Pod and questions posted prior to a follow-up Twitter chat



@TheMathPod

TWITTER CHAT TONIGHT OCTOBER 15, 8 PM

USE #TheMathPod to join the conversation!

Q1

Math starts with a context. What contexts come naturally to the young mathematicians you work with? #themathpod

Q2

"Context prevents learners from getting lost in the abstraction" This can be a big mindset shift. What does it mean, to you? #themathpod

Q3

Having a context is the first step. It's not the crafting of the problem, it's the crafting of the sequence. How does the crafting of a sequence of tasks lead students to more elegant and efficient mathematizing? #themathpod

Q4

Cathy referenced the quote "Do the best you can until you know better. When you know better, do better!" by Maya Angelou. As we're working toward "doing better," what has been your greatest learning around rich tasks? #themathpod

Q5

For the next #themathpod we're asked to consider the difference between Qs to guide to the answer we want vs Q'ing to support mathematizing. What kind of questions can we ask to support development as a mathematician? What would you say to your students? #themathpod

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During the first week of the Math Pod, Cathy Fosnot asked educators to ponder over "the difference between asking questions to guide kids to the answer we want them to get versus conferring or questioning to support their development as a mathematician."

Questioning and Conferring: Debbie Donsky's depiction of the second episode of the Math Pod and questions posted prior to a follow-up Twitter chat



@TheMathPod

TWITTER CHAT TONIGHT OCTOBER 22, 8 PM

USE #TheMathPod to join the conversation!

Q1

How can a room of students evolve from a math classroom to a math community?

Q2

Cathy suggested that we "must be able to sit WITH the students in order to assess them." How do we make sure we're in the same moment as the student when we're assessing?

Q3

Understanding the landscape of learning makes us stronger questioners. What does this mean? What shift(s) take place in questioning?

Q4

When conferring with students, Cathy shared her 3-part sequence; clarify, celebrate, and up the ante. How do these moves support the mentor role?

Q5

Changing how we question and confer might be a big shift in how we currently teach. Cathy's advice: "Just start somewhere - you don't know need to know it all." Where will YOU start this week?


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Do the best you can, until you know better, and when you know better, do better. (Maya Angelou)

*....So many people are saying... 'the landscape looks way too hard and I do not know where to start.'
 ...As you start, if you give yourself permission to say, 'I do not need to know it all,' ...and you just start—you do not have to know it all, you just have to start, ...along the way you learn more and more.... WE are all learning, and we just need to give ourselves the permission and a gift to learn with the children and that joy is where the drive comes from. (Cathy Fosnot)*

The Math Congress: Debbie Donsky's depiction of the third episode of the Math Pod and questions posted prior to a follow-up Twitter chat





@TheMathPod

TWITTER CHAT TONIGHT OCTOBER 29, 8 PM

USE #TheMathPod to join the conversation!

Q1

How do you work to shift dialogue in your math class from being between teacher and student, to being between the students themselves?

Q2

Cathy said that math congress is about doing what mathematicians do in real life. How does this resonate with you when thinking of your students?

Q3

Cathy mentioned the "humanity of mathematics." What is the human element when learning and teaching maths?

Q4

Sometimes, a congress could be called on the spot to surface some big ideas that the whole community may be ready for. How could you or how do you encourage mathematical growth DURING a task?

Q5

Stephen asked Cathy "How do you know that a congress has been successful?" and she replied "If learning happened." What do you look for in your community to know whether learning has happened?

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Steven Hurley: "How do you know a math congress has been successful? What are the some of the looks for criteria, the gut feelings?"

Cathy Fosnot: "You either see learning or you don't."

Mini lessons: Debbie Donsky's depiction of the fourth episode of the Math Pod and questions posted prior to a follow-up Twitter chat



@TheMathPod

TWITTER CHAT TONIGHT NOVEMBER 5, 8 PM

USE #TheMathPod to join the conversation!

Q1

The heart of the mini-lesson is a carefully crafted string. What is the purpose of the string, and how do we get there?

Q2

Cathy's advice is to "Let the string do the work for you." But it can't do ALL the work! What needs to happen during the string to make sure students are learning?

Q3

As students master various markers along the landscape, how can they best practice what they've learned?

Q4

When learners share their story or learning journey, they make the learning come alive. Why is this important in a classroom (with students), and/or in a discussion forum like #themathpod (with teachers)?

Q5

Cathy encourages us to not focus on individual strategies, but to focus on the big ideas. What big ideas are YOU taking away and hoping to introduce into your practice?

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*What a nice way to end this series with a mini lessons, because when teachers are going through these units with kids, we are so used to [as teachers] to think that our unit had to have **an IT**--what everybody was supposed to get by the end of the unit, ... then we worry if all the kids did not get it, now we need to differentiate and make sure that they all do... These units are crafted quite differently than that—they are open, there are a lot of strategies that come up—every child must be growing learning as a unit is progressing, but not all kids are learning the same thing. So, what I often suggest, when the unit is over, is that you carry on with a lot of mini lessons that are similar to the ones that were in the unit, to keep strengthening the children. (Cathy Fosnot)*

Overall, there were 393 tweets, with 58 persons following and 377 followers of the [#themathpod](https://twitter.com/themathpod). Check out the podcasts at themathpod.ca/podcasts. The next cycle of the Math Pod starts in January 2018.

Join us for Cycle 2: January 17-February 7 and for Cycle 3: April 4-April 25!

APPENDIX: The 2017 statistics from the first phase of the Math Pod.



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