It all Began with a Quill Box

- Dr. Lisa Lunney Borden
- John Jerome Paul Chair for Equity in Mathematics Education
  - St. Francis Xavier University
  - Bridges 2023, Kjipuktuk (Halifax)
Beginning in a good way...

• Mekite’temek Wskijinuk, Maqamikew, Wksitqamuk, Msit Nokmaq

• Let us honour the people, the land, the earth, all my relations

• Whose territory do you live on? What do you know about the history of the treaties that made this possible?
• What do we know about the ongoing story of the lands we live on?
In this talk I will share my own stories of coming to know and transforming my pedagogical practice to align with the ways of knowing, being and doing of my students.

I am NOT an expert on Indigenous knowledges; I speak as a Settler who is journeying alongside Indigenous Peoples and communities to unlearn colonialism.
Mi’kmaw Kina’matnewey
My students, my teachers...

Always a learner
Framing

- Netukulimk
- https://youtu.be/NmBmcJwYzXk
- Tepiaq
Dianne’s Quill Boxes

• The late Dianne Toney was a Mi’kmaw elder who made quill boxes like the one in the picture. She always made them by starting with a circle of bark for the top on which she made her pattern. She would always start at the centre of the circle to make her pattern. After that, she would make the ring for the top from strips of wood. To ensure the ring was the right size, Dianne said she would measure three times across and add a thumb. She claimed this would make a perfect ring every time.
• Does this always work?
• https://teacher.desmos.com/activitybuilder/custom/563159e8adf49b1e06d63c4a
Let’s try it!
Show Me Your Math!

- Began in 2007
- Inviting Children to be the mathematics researchers
- Where is the math in your community?
- Local Math Fairs
- Annual Regional Math Fair
Waltet
MAKING A CANOE PADDLE... “IT MADE ME FEEL REAL MI’KMAQ MAKING MY OWN PADDLE.”

Paddle Making with Grade 8s
Reconciliation

Goal is to “restore what must be restored, repair what must be repaired, and return what must be returned” (Truth and Reconciliation Commission of Canada, 2015, p. 6).
Space is for Survival; Number is for Play!

- Complexity of Number in Mi’kmaw language
- Tepiaq – Enough
- What do we value in mathematics teaching and learning? Why are the goals of mathematics learning?
Making Basket Strips

- [http://wisqoq.ca/](http://wisqoq.ca/)
“I’m the last one who can do this…”

- Dr. Margaret “Granny” Johnson & Caroline Gould
- Birch Bark Biters
- Picture from: http://www.danielnpaul.com/MargaretGrannyJohnson.html
Making Math Matter

• Combining good rich mathematics with intentional identity work
• How can math help us to understand complex issues?
• Mathematics has been used as a tool of oppression and it needs to be used as a tool to challenge oppression
• More on this Tuesday…
Relationships first!

• What are your relationships in your own territories?
• Who are your Elders and Knowledge Keepers?
• How do you nourish these relationships through respect, reciprocity, responsibility, and reverence?
• How do you honour the knowledges that are and have always been rooted in your territory?
Emergent from Place

Our intent in teaching and learning is not to begin with STEM expectations or outcomes but rather to begin in a place we knew had the potential to teach. Though we cannot guarantee that STEM will emerge, we know the potential is in place. In each of our stories, the activities opened up spaces from which explorations, questions, and conversations could emerge and live for a while. When these spaces open up, what we find is important is taking the time to be with what they teach, to pay keen attention to the possibilities for teaching and learning. In this way, we see STEM as an artifact of teaching and learning, not a framework imposed upon it. (Lunney Borden & Wiseman, 2016, p. 150)

What stories, practices, traditions, places, hold promise for mathematics to emerge?
But perhaps not enough...

• Moving Achievement Together Holistically (MATH) focuses on exploring intersections of Indigenous languages and values with pedagogical approaches to teaching mathematics

• Focus on verbings mathematics and spatial reasoning

• Aligning pedagogy with L’nui’ta’simk (Ways of knowing, being, and doing)

• But that’s a topic for another day…

3 x 4 = 12
2 x 6 = 12
4 x 3 = 12
1 x 12 = 12
Questions?

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