Leaders in Mathematical Thinking
Lisa Lunney Borden – The Importance of Language

>> For me, language is at the heart of everything we do. I said one time, you know, when I went to the Mi'kmaw community and started working there, I wanted to learn the language because I wanted to honour the language of the community out of respect. But what I didn't realize is, that it would be the best professional development I ever had. Because when you understand language, you understand world view. So how we speak the world is how we see the world. And so for me, when I started to understand the language, when I would ask questions like, "What's the word for this?" Or, "How do you say that?" Or, "Is there a word to explain...?" And so I would get ideas, and I would have these beautiful conversations with people who would say, "Well, now tell me how you would say that, and what would you use it for?" And then we'd get into these deep conversations about ways of thinking about something. And it was that that really influenced my teaching. And I've said many times, Mi'kmaw is a verb-based language, as are all indigenous languages in Canada. And so it has this sense of motion and action and forming in it. So I noticed that in my kids. As I started showing them the language, I realized, you know, they were seeing things, they were verbing their words all the time. Like, "Garbage this, miss," or, "On the light." So it became this notion of, okay, we need to bring in some action and some process here. And so really exposing the verb nature. And mathematicians do verbs. They do action and process and change. And then when they figure it out, they name it. But what we do is, we go in and we have these name fixed frozen ideas and we give them to kids. So then it's, like, "Here, unpack this." But why can't we use more of that action and process and verbing, so that it helps kids to understand a concept. And then when they figure it out, like mathematicians, they can name it. And then they can do new things with it. But that, for me, has been a huge piece of my understanding. I think if there's one thing people could do, it's to have conversations with community members and speakers about how is the language structured? How do you describe some of the mathematical concepts in your language? Even if you can't speak the language, if you can understand how it's structured and how it flows, and kind of some of the ideas embedded in it, then that'll help you to improve your ways of teaching mathematics for kids. I think like anything, you need to honour kids' ways of thinking. And that's true of assessment as well. When we think about the things like the language, different ways of communicating, or different ways of describing a similar concept. You know, I often tell the story about asking for a word for "flat." And when I was collecting mathy type words, and one of the elders said, "Well, what's flat?" And I said, "Like the bottom of a basket. It's flat." She said, "No, it can sit still." And then I said to my friend, I said, "Well, what if you had a flat tire?" And he said, "No, I'd say it's losing air." And so just those little things, those little expressions sometimes in our assessments actually can get kids confused, because it's not how I would say it, or it's not how I would describe it in my community or in my context. So I think we need to be mindful of those things. And that's the thing that worries me about assessment in particular, is that sometimes it's not that kids don't understand, it's just that maybe they didn't understand in the way it was asked. And so I think taking

the time to really -- you know, as teachers, we need to get to know kids and really explore where their thinking is at. And how do we -- what do they really understand versus what can they fill in on some sort of test.