

## **Innovations in Thinking and Learning**

### **Suzie Milinovich – Assessment in a Knowledge Building Mathematical Classroom**

SUZIE: A huge part of my role is to actually determine, through my observations and reflections, what the students need next. And that's the difference. It's no longer planning how this lesson will go; it is guiding and matching up what the students are pulling out of the curriculum under the big ideas, and really providing the next step in the following lesson. What will I pose for these questions? What problems will I pose for these students to think about? How will this relate to where we're headed to? Where the big idea is --? Where our big idea is actually aligned?

I thought, because it was true, that the students were engaged in this fabulous discourse. And we were making games on theories and ideas. And it was when I pulled the Word Cloud from Knowledge Forum -- what a wonderful tool -- where I clicked on it and it generates the vocabulary that the students actually used through a discussion online. And it -- there was hardly anything there. And so through the support for Dr. Monica Resendes, it was amazing that she showed me how to take the vocabulary from the curriculum at that point -- expert vocabulary -- and really make the connections. And show the students, "Here's the data; here's what the experts in the Ontario curriculum are saying -- the terms and the vocabulary that we use in mathematics. Here's what we've been using to describe and justify our thinking." And so it's from that point where I really realised what I thought that had been happening, it still needed some work. And through that, the students are empowered now because they're able to further their contributions and really refine what it is that they're trying to explain in mathematics.

So assessment is, you know, very -- it's no longer a struggle. It's very transparent. When I think about the triangulation of data, and I think about observations and conversations and product, it's happening through discourse with students. Through the discourse, the conversations that they're engaging in -- it's very transparent. And it's embedded. And the rate in which it's happening is very rapid for students. Students are receiving feedback immediately, and they're able to process how they're contributions are making the group advance with the mathematical concepts or knowledge. So that's pretty amazing.

Another way that assessment is very transparent is through the digital tools. So, Knowledge Forum. Students have been able to share their thoughts. So that quiet person who doesn't seem to contribute maybe in a knowledge-building circle today, might, next period, really share their thoughts and ideas about the strategies on this digital tool. And then engage in discourse right in front of us. So we can see the visible thoughts and thinking of our students.

It's very evident that the learning is deep because the students are actually uncovering mathematical principles. They are taking ideas and theories of the group, and really uncovering that decimals are a part of a whole -- decimal numbers can be part of a whole. They are connecting decimal numbers to fractions, to percentages. And that is all through their inquiry and their questioning of each other.