

Innovations in Thinking and Learning

Marlene Scardamalia – Discourse in Math

MARLENE: If you look at mathematicians, how they work with ideas, you will find an awful lot of discourse around how things work, why they don't work, how to engage with mathematics. So anything that gets us more discourse around mathematics is going to help. And so I think the notion that we would actually have students finding mathematical ideas in the world -- so this is a flip, we tend to give students math problems. What is really important for understanding some of the joy of mathematics in the world is that it actually helps you solve problems that you're trying to solve. It's actually an extremely empowering way of engaging with ideas. So the notion that students could be encouraged to take issues that they're thinking about and bring them to teams where, in fact, a mathematics discourse could go on, I've even imagined that we might build a space for math ideas, and that we might co-host this with teachers in Ontario, so that if students are building something at home, if they're wondering about a span of a bridge, if they're talking about endangered species, they would tend to think, hmmm, what does endangerment mean in terms of the rate of growth, that would actually endanger a society?

So they would be thinking mathematically, not that they had to solve a problem, but they could bring a problem to a space where they could imagine engagement and something that they're thinking about growing. So it's a flip where problem finding is another thing that you will find people who actually solve problems doing. They're not just always solving given problems. They are finding problems of consequence. So I've imagined a world of problem finding, where students are actually engaged in this. I've thought that it would be actually quite interesting to have teams of teachers, students work with us in creating a space of mathematics ideas and problems that we could work on collectively.