

Leaders in Mathematical Thinking

Christine Suurtamm - Supporting Teachers

>> I think that every teacher is capable of teaching mathematics. I think every person is capable of being a math person, and I think that we all have mathematical ability. However, quite often I find that the way that teachers have been taught when they were students, sometimes might limit the richness of their mathematical understanding. So I think that working on developing teachers' mathematical understanding is going to have a strong impact on student learning. So I guess I've kind of twisted the question, but I think it's really important that we continue to work on us all having a deep understanding of mathematics. There's no magic bullet. So a lot of the work I've been doing over the past two years has been working with nine school teams across the province. And when I say "school teams," it's a team of about eight people made up of administrators, teachers, special education resource teachers -- and they have been working within a professional learning community to enhance their teaching in grade nine applied mathematics. And I find, and they report, that that has been supportive in the sense that they have their colleagues -- they have their colleagues to work with, they can come into the discussion, they meet once a month and spend a day. They're co-teaching, they're co-planning, they're doing lesson studies, they're doing book studies. And they're trying out new ideas in their classroom and coming back and sharing how those worked. So having that supportive community for teachers, I think, is important. Having a safe place for them to talk about things that worked and things that didn't work. You know, I think, actually, thinking about teachers as communities of learners is not that much different than thinking about what we want math class to look like, which is really a community of learners, where there is a safe place for them to try out their ideas, and to compare them with what other people are doing. So I think that's an important piece, the professional learning communities. And we've also found that in those communities, sometimes you need sort of the injection of new ideas, so that could come from what is termed in the literature and knowledgeable "other," but it actually doesn't have to be a human being. It could be, for a book study, they might be reading about somebody's research, which is injecting new ideas into their thinking. So I really have seen those sorts of things really work quite well. So I've been engaged quite a bit in terms of helping schools set up, or to participate in family math nights. And I find that family math nights are set up not just to stand and talk to parents about what their students are doing in math, but we actually set up activities that are age-appropriate to their children, where the parents and the children engage in the math activity together. So all of a sudden, the parents are engaged in an activity where they might also be using mathematical thinking tools, or manipulatives, to help to solve a problem. They might be having a discussion with their student. They might be looking at what another parent is doing with their student. And they start to actually feel what it means to solve problems, to use manipulatives to solve problems, and to have conversations about mathematics. So they actually get to experience the kinds of things that their student might be experiencing. And they can see that this not just about playing with blocks, or discovery it for yourself; it really is about developing some strategies on your own,

and developing your own mathematical thinking. So I find that those kinds of things tend to be fairly successful. And the same would be true with principals and superintendents, directors of boards of education -- it really helps them to engage in the kinds of things that the students are being engaged in to get an understanding as to why we're doing what we're doing.