Innovations in Thinking and Learning
Marlene Scardamalia – Advancing Ideas in the World

MARLENE: One of the key pieces of knowledge building, which is really part of this issue about the world of knowledge and knowledge creation, mostly education has been about individuals and learning that comes through with the better performance on tests. So we look for have students, individually, have they grown? Do they understand something more profoundly than they understood before?

If you'd look at what it takes to create knowledge, you're really talking about the creation of public artefacts. Things live in the world. The new bridge spans a greater distance. The airplane is more economical in terms of its use of fuel. There are inventions and advances, and they live in the world. And other people can take that idea, that invention, that knowledge to some other level.

So this notion that this is not just about me and what I understand, it's about the creation of something that is usable, is in the world, is knowledge for public good. So this notion that advancing an idea -- well, an idea for what? Of course if the idea has no utility, it tends not to be -- it tends not to have a very long life. If no one picks it up, then it also doesn't have a very long life.

So people really -- it's very much about ideas. And I think this gets us to the point of deep intersect of knowledge building and deep learning. That is, you can't build knowledge if you don't understand what's already out there and deeply engage in it. So in the words of a very young child who was asked, well, what's the difference between knowledge building and how you've experienced school in the past? She says, well, you know, there are ideas, and some were more accepted than the other. But until you deeply understand, you don't know. You've got to experience it. You've got to know it. And then you feel like you know something, and then you discover there's an awful lot you don't know. And so you go deeper. And then after you go deeper, you understand a lot more. But you understand there's a lot more you don't understand. And this keeps happening, the deeper you go. And I think that's just the understanding that you learn more, you get deeper, but you learn there's more you don't understand. But when you've gone deep, you're actually at the intersect of disciplines. So you have more multi-discipline, interdisciplinary spirit.

So while lots of people are concerned if you go this deep, then you'll never cover the whole curriculum. But if you flip that around and realize that when you go deep, you've got the heart of interdisciplinarity. You pick up speed, you understand, and that actually gets you great speed when you are moving forward. Likewise, it gets you great power

when you're trying to do inventions in the world. When you literally see that the history of knowledge itself means that we continue to grow, we continue to understand things, and you're part of that energy. So it's not, oh dear, there's more to do, there's more to do. It's not like you're going to fail a test because there's more to do. It's actually, wow, I'm getting deeper. I understand that better. I see where to go next. I see who's making an advance here. I'm going to talk with them, I'm going to be there. It's a sense of power. It's also one of the most powerful pieces of any group, is where are the problems? Because when you learn to like problems, they're really powerful clues for where to go next.