

What's compelling about knowledge creation?

MS: [00:00] I think it's what's compelling about knowledge creation and how that fits with the notion that students are naturally curious. Um, I find an issue here that I—I don't think I can express very well because I don't understand it well myself. But I adore working in design communities. I get a sense of energy. Somebody comes up with a neat idea. I have the good fortune of—of working with, in a lot of classrooms with teachers and students, so there's this kind of, "Ah, if we could just do it this way, things would be better."

So you're in a design sense. How to do it better is just part of—of what you're contemplating. Much less talked about, "We did this," or, "Let's distribute this best practice, as if it's the best we're ever going to have, but wow, that worked really well and I—but you know, the part that didn't work so well ..." So you're always with this edge on design.

If you like design, you just get hooked on it. There's hardly a thing you see in this world where you think, "Gee, I wonder why that couldn't be better."

Female: Mm-hm.

MS: And I think if you thought of yourself being in a computer lab designing a computer, you would never think, "Wow, that's the best computer we're ever going to have in the world." Like, you just—you don't think like that in design communities. You think, "Hmm, so what about if—if this could happen differently?"

So I—I—I feel like maybe it's because I grew up, my father was an inventor. Now, he invented on the side; that wasn't his job. He—he had a—he was a—a draftsman, but there was hardly a thing that happened in our lives that you wouldn't see this interesting turn of mind. So there were five of us and we would fight about who would get the pair of skis, you know? And only two of—you know, well(?), no, we had one pair of skis, five of us. One person gets to go down the hill, and that person takes a long time. So he thinks, "Well, I'll put a seat on both and at least two can do down on one blade. But—but this was—everything was kind of up for grabs in terms of thinking how to just do things a little differently.

So I think I just grew up with this very natural sense of, "Ah, gee, that's how they did it—do that, but why wouldn't this do it this ...?" So any problem you touch, you think, "Gee, why not change things a little bit?" So people say people hate change; I don't think design people hate change. They see problems as clues to what it is that might be a breakthrough of a sort and sort.

But getting that kind of culture into classrooms that were invented to pass the knowledge, our cultural heritage, on from one generation to another; that's historically that's what they were built for. That's what they have been doing. It's a very modern, modern problem that schools should become knowledge-creating organizations. That is, schools were not built to generate new knowledge. This is a very modern problem. It's a very modern challenge for schools.

And so, the issue that comes up a lot is that, but they need the basics before they can get on to this 'higher order' competencies. But if you have design in your spirit, you take, "I don't understand why this word is spelled this way. I don't get the grammar

lesson.” Those are just design problems, too. And you can bring the power of design thinking, of knowledge creation, to any problem.

So this notion that we should get the students through the basics and then we will get them to higher order capabilities or we will get them to knowledge creation seems to me if you think about schools and how well we’re doing, that means by about Grade 9 to 12, maybe you’d get a little bit of the knowledge creation spirit. But then you’ve just missed so many years. You’ve missed so much time, where what we believe, what we—what we think that we are getting evidence for and we’re going to get a lot stronger evidence is that bringing design, knowledge creation from the very beginning is in fact what makes the work meaningful. And that’s where you get **[05:00]** students’ ideas, their voice, their power coming to the fore, always on this improvement trajectory.

I think the problem with this(?) natural curiosity as—as the whole is that it’s what comes easily. Kids are naturally curious. You’ll find questions. You’ll find that that part will come easily. There’s also a really interesting literature that’s very interesting. There’s a transliteracy literature which is starting to say, “Oh my gosh, our literate objects are out in the world distributed. There are massive information searches, and for any question any child asks, you know, you plug it into a web search browser and you get the answer.” So this feeds into I have a question, there’s the answer out in the world. I have another question, there’s an answer out in the world. That is the question/answer routine that’s not the beyond natural curiosity, sustained creative work with ideas.

So question asking, answering, natural curiosity. These are the basics. They’re glorious and they’re what we’ve got to build on. But really hard work with ideas, having ideas grow, most of them fail, which is just—it’s not saying anything other than it’s hard to grow new ideas. And, but if you work with ideas and work with ideas, you will learn more powerfully than if you’re not working deeply with ideas. That was what we believe we saw in the knowledge-transforming work. It’s by working those ideas, trying to get them to grow, that—that you really get on to this new trajectory.

So for us, trying to get students hooked on understanding, hooked on the working with ideas, and you would a—another thing you’d see in a knowledge-ca—creating class is instead of, “Oh, I’m bored. Let’s move on.” It’s kind of, “Wait, I don’t quite get this.” One idea just takes you deeper and deeper into another idea and I think anybody who’s worked in a design community knows that design doesn’t end. For us, the great glory is the deeper you go with ideas, the more you cross disciplines, the more you get deeper into the real meaningful ideas that are the deep, deep roots of understanding across the board. So if we would just let students go deeper, if we would create the structure for going deeper, they’ll go broader and then next time they have another thing to study, they’ll have better substance, better roots to take on—that on.

But of course, people get scared because they, “Oh, kids are spending too long on this.” The curriculum tends to want you to move on at a pace that’s incommensurate with really going deep and the power of going deep. So it—it’s a challenge. We feel like natural curiosity is the base, but getting beyond that—that to the cultures of sustained creative work with ideas is really the knowledge-building challenge and why we call it deep constructivism. You’ve got to construct the very spaces in which you grow ideas, not just grow ideas.

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