On Computational Thinking: A Perspective From Rural Saskatchewan

Episode 2: Kim Fick Interview Script and Transcript

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SH: A slight detour from my expository episodes, I had the opportunity to interview a few folks about computational thinking. These episodes provide different perspectives and experiences with computational thinking and computer education in our province. I am really inexperienced at this interviewing thing, so I'm hoping the questions are enlightening, I know my guests did an excellent job with the information and questions that I threw at them. I really enjoyed hearing from them about this topic.

I'm Stephen Hadden and this is my first interview episode with Kim Fick. Here's Kim:

KF: I'm Kim Fick and I'm Superintendent of school operations at Sun West school division. So, I look after nine schools, as well as I have a portfolio that includes a variety of other topics, including parent engagement, school community councils, and all those kinds of good things.

SH: Kim was principal of Biggar Central School for a number of years, including 7 of the 8 years that I have worked in Biggar. We have had lots of great conversations about educational philosophies, practices, and experiences over the years that we both worked in Biggar.

I wanted to get Kim's thoughts on computational thinking as a superintendent, as someone who has to visit and work across multiple schools. I led with this definition from Peter Denning and Matti Tedre (2019, p. 16), “Computational thinking is the mental skills and practices for:

• designing computations that get computers to do jobs for us, and

• explaining and interpreting the world as a complex of information processes.”

I followed up with the question, how do we make that definition work for elementary students? Here's Kim:

KF: I was wondering if design thinking was included in that, because what I see as doing probably in most of the schools, I do get to go into my nine schools, I'm in classrooms across those schools. What I see happening in more of them now than I think we would have seen five or 10 years ago is the design thinking process. So how do we work through this? What are some of your entrepreneurial skills, things like the Power Play program that we work towards? That's not tech geared? And it's not computational thinking, but it is more of that? How do I get something from start to finish? I think that's a piece of it. How do we make it fit for elementary students? What I see people doing right now, we have things that are still very extracurricular, I think so we still we have coding clubs, we have some infusion in some of our classrooms of using coding programs and computational programs. For the most part, our kids are still from what I see, doing more consuming of the of the media and participating in learning apps and things like that. But they're not, they're not quite there for the most part in creating.

SH: One program that Sun West has been involved in providing is Power Play, an entrepreneurship program focused on grades 4-8. It's part of Kim's portfolio, so she has a variety of experiences with different schools and their successes with Power Play. Kim had some interesting examples of ways that creativity and problem solving are explored through a program like Power Play. Ways that may lead to understanding or seeking out connections with technology, and developing creative solutions (PowerPlay Young Entrepreneurs, 2023).

KF: they really do like creating something that, like, I'll use that power play program, as an example, they find the whole idea of that program is that they find an opportunity to build something that that's fixes a problem for somebody. So, where it is that application of, there's a reason we need this, there's a problem that we have, how can we solve it, they like being able to find the solution to

that. And because kids vary on the creativity spectrum, typically, some kids love looking outside the box for that. Other kids struggle finding that creative side, and we've talked as a division about how creativity is the 21st century skill that has to be taught and practiced. And you definitely see that in there too. Because some people actually some of the kids feel a lot of anxiety when they're faced with that. They need to create something. So, I guess one of the ways that we've moved towards computational thinking for our kids is even just encouraging that process of identifying the problem, trying to find the solution. And practicing creativity might be a good starting point. Because we certainly have a range just like we do in anything. But that might move kids towards more of the idea of the computational side.

SH: I really like this idea that entrepreneurship and computational thinking have similar end goals - the consideration of a need or a problem, and working towards a useful, practical, and well thought out solution. Computational Thinking often gets compared to the design thinking process, or an engineering problem solving process. It sometimes gets treated like some new way of thinking, but that is not really the case. Computational thinking, algorithmic thinking, design thinking, and entrepreneurship all share similarities of process. All of these ways of thinking just apply a different filter to the way we approach the question or the problem. I wanted to know what are the things that we need to do as educators, and as larger bodies like school divisions, to see better integration of computational thinking and consideration of how technology can help us reach our problem solutions more effectively.

I wanted to know what might be some barriers to better technology integration, and adoption of the process or ideas of computational thinking.

KF: When you wait, if you present the phrase computational thinking to most of our teachers, many I shouldn't the word most is challenging many of our teachers, if you show them that phrase, they would say I have no idea what you're talking about. And that gives me a little bit of maybe my own anxiety, it might give me a burst of energy, because I'd love to learn more about it. But it also, I sometimes just see it and say, I don't know how to do that. So, I'm going to stick with what I know. And I'm going to teach all the things I've done, right. And that's kind of just human nature to stick with what you know, often unless you're a person who really challenges that. So, I think some of it is comfort and skill set time. And then just when we look at how we typically have been teaching, and now we got number of kids and a number of needs, diversity is increased. Framing and like, it would potentially be viewed as the extra instead of maybe it's actually a tool to help some of these kids grow in their learning and be able to assist them. Sometimes that's hard to get to when you have if you're if your teachers feeling like their system is overloaded, right. So I think time is, it's always the biggie, but I think it's related to some of those other factors. When I, we use a model for complex change that I really appreciate, and if you the idea is that you have to have the skills, you have to have the resources, you have to have, you know, a number of different pieces to manage complex change, if any one of those pieces is missing. And you've probably seen this model, if any one of those pieces missing, it results in frustration or a number of different responses. And when I think about what's missing for computational thinking, probably for lots of teachers is that skills, like what? And also why do they know why it benefits kids? Right?

SH: Ultimately, teachers want what benefits their students, and that comes from their own places of strength. For me, I'm going to want to explore coding, robotics, design and engineering style challenges with my students because these are areas that I enjoy and love. But a topic like reading instruction is not something that I have personal interest in, but for the sake of students I want to know

more, and as I start to explore it, I realize it's actually a fascinating topic. We teach from what we know. Sometimes our journey to knowledge starts as a passion, and sometimes it starts as a necessity. I am hoping that for some of my listeners, this series is a step or two in the journey towards understanding computational thinking and its value in education.

I want to thank Kim for her time, and her willingness to take part in this little project of mine. It was really encouraging to hear about the successes of students in the PowerPlay program, and Kim's perspectives as a previous school administrator and now as a division administrator.

Thank you for listening, I hope you can join me next time. Next episode I will be exploring why we need to explore computational thinking. I'm Stephen Hadden.

References

Denning, P. J., & Tedre, M. (2019). *Computational thinking*. The MIT Press.

PowerPlay Young Entrepreneurs. (2023). *Program Overview*. PowerPlay Young Entrepreneurs. https://www.powerplay4success.com/programs