

Knowledge Builders

Episode 2 – All Ideas are Improvable!

[MUSIC]

>> Welcome to Knowledge Builders, a podcast about education for innovation.

If you haven't already, go back and listen to episode 1 for an introduction to the two KB principles we'll be discussing. Throughout this series, you're going to get to hear exactly what it sounds like inside a knowledge building classroom, and hear directly from students and educators.

In this episode, listen for how the teacher fosters a culture of idea improvement, and how students feel empowered in a knowledge building classroom.

>> So you're going to get your binder; you all know that's for your first KBC, okay? If you have your sticky notes, take two each to add. Remember, any new knowledge that someone talks about, you're going to add to. Okay? If you can go to the assignment outlined for me, okay --

>> Jason Frenza starts his grade eight science class buzzing around on his rolling chair to students investigating in small groups. They're in the middle of their unit on fluids, and Jason is looking for key points from their inquiry on oil spills.

>> Did you know that used brake fluid is a hazardous waste and cannot be released into the environment, right? But if it is not used and it hasn't reached that boiling point, it won't have as much of an effect on the environment.

>> So how do you think we would get rid of that?

>> If it did leak?

>> No, like after we've used it, after it's serviced. What do they do with the brake fluid that they've taken from the car?

>> I'm guessing it goes through some sort of system that kind of --

>> Did we search that out?

>> Yeah, let's search that out.

>> These types of inquiry-based conversations like the one you just heard between Anthony and Abigail have become the norm in Jason's class. Creating

this type of environment where ideas are respected and shared freely is the foundation for implementing KB in the classroom.

Since September, Jason has worked with his students to implement two of the twelve KB principles; the first being knowledge building discourse. He's created a classroom that fosters community and collaboration.

>> The students in this class that I teach are very inquisitive. They've got an amazing sense of humour. They definitely have a love of learning. They really respect each other, and they respect me, and we have a great relationship between each other. We do have a lot of fun in the classroom, which really helps to support the learning.

>> The high level of student engagement and interaction partly has to do with the physical space. Looking around, you won't see any rows of desks in this classroom.

>> Five sets in a "U" kind of shape, where three quarters of my class face each other, and there's one row in the front of them. Or if I'm presenting a new concept or a theory, it's done in a circle format.

>> This shape is important to support KB discourse.

>> When you get knowledge building discourse happening powerfully, the ideas keep going deeper and deeper. It's not the answer, but it's that idea leads to another idea, and that leads to another idea. So you're really in the heart of the discipline.

>> That's Marlene Scardamalia. She's been developing knowledge building theory and pedagogy for more than 30 years. We'll be hearing from her throughout this series, and she'll be commenting constructively on Jason's practice and sharing her expertise.

Another principle he's trying to bring to life is improvable ideas. In KB practice, it's important for students to understand that there really is no wrong answer, and that everyone's ideas are improvable and respected.

>> Historically throughout the world and across decades and millennia, ideas have been improved. So kids get this sense of, "Oh, Einstein's idea was improved," like if Einstein's idea can be improved, so can mine. So you just get onto a different sense about not, oh, I was naïve, or I was wrong, or I had it stated poorly, but it's so natural to improve ideas.

>> One way Jason tries to support this principal is with the improvable ideas wall. It's a board of scattered stickies with ideas ready to blossom.

>> I have an improvable ideas board, where students each have a white card with their name on it, and their initial theory is posted on that card.

>> Some original theories:

>> My theory about fluids is that they can provide alternate energy sources by also minimizing side effects, compared to a system that would be powered by fossil fuels.

>> My theory is that the same fluid could run in two different systems, and the flow rate would be different.

>> As we move throughout the unit, students are given a different colour sticky note, where they will add to the original theory and idea of the original student. That board is there for them. I don't -- not one of those ideas are on there because I gave them the idea, like, I drive, I support, I instruct.

[MUSIC]

>> So after getting students' curiosity brewing, Jason moves them into a knowledge building circle to start sharing their ideas.

>> Okay, ladies and gentlemen, we're going to get our knowledge building circle in action. You need to come with your research, and your new research and your sticky notes --

The knowledge building circles the students really like. We come to them when they're at a comfortable place in order to do them. And the students really find them interesting and intriguing, because it's a form where they're able to share their learning with each other, and they take the lead in the circle, where I kind of sit back and kind of guide them a little bit. But they're bringing their research and their idea to the forefront of the circle.

>> The very configuration conveys that people are equals in this enterprise. The ideas they bring to it bring a great deal of rich diversity and importance.

>> Okay, guys, are we ready? You guys all remember our prompts? I'll have them here again for you to help you, okay? Today, I'm going to challenge you guys, though. Of all of our prompts, which ones should I be hearing? Now I want you guys to start challenging each other --

>> So right now, Jason's reading off chart paper in the front of the class that lists the knowledge building scaffolds. It's a series of verbal prompts that helps drive deep discussion.

>> And I want to hear a little bit about my new knowledge, because I'm sure every single one of you have a new knowledge piece of information that you can contribute to our circle. So who's going to start? Anthony? All right, Anthony, let's go.

>> I have learned that around our world, in our very own country, there's 750 million gallons of motor oil in need of being recycled. We didn't go --

>> I would like to build off Anthony's knowledge. Even if a car is leaking motor oil or brake oil just onto the asphalt, from rainwater and runoff onto the streets, it can be transferred into storm drains which could be --

>> I'd like to build off of Abigail's knowledge. As I was researching, I found a lot of information on that -- like, a lot of our oceans are polluted with both brake oil and oil, crude oil from oil spills. And that can really --

>> I really liked building off of my peers. That would really help me understand the topic more.

>> It's not something I have driven. It's not something that I have given them from a textbook. It's their own ideas, and it's them taking the lead. And it's something that they're curious about.

>> What stood out to me is how when somebody said something about their topic, it immediately got me thinking not only connections to my topic, but how it affects me as a human in this world, and what my responsibility is in order to improve this problem or find a solution.

[MUSIC]

>> In the circle, there are students that are quiet. There are students who don't wish to speak, where they're either shy or intimidated by maybe some of the other students in the class.

>> Selina was one of those students. But lately, Jason has been noticing a big change.

>> I take a look at that one student in the back corner of my room who, honestly, truly, I'm telling, finds signs of absolute struggle, who really struggles to talk in my class, who is very shy and very intimidated. And she was absolutely terrified to talk, and she did.

>> Now, remember, Selina is sitting at the very back corner of the classroom, so you can't hear her that clearly. But our mics were just able to pick up her soft voice, when she began sharing her ideas.

>> Why do you think [INAUDIBLE] so fast? Selina, why?

>> Because it's not also hurting the plants, it's also hurting animals, because in my research, when the water all spills, it's been hurting a lot of fish that you may not be able to see --

>> Hearing from Selina shows that the culture of improvable ideas is alive and well. She feels safe contributing, without any fear of being wrong.

>> She was smiling and she wanted to take that risk. It wasn't me coming up the top of the classroom and bringing the ideas to them, it was her peers bringing the ideas to them. And I'm telling you, if that opportunity wasn't there for her, she would have continued to sit back and just watch. And someone even added on to her and built off of her idea, and I just watched her smile and glow right in for me. That was the top of my class. Then the knowledge building circle, and in the knowledge building classroom community, her ideas are valued and trusted and respected.

>> My son says he conveyed that this was a safe place to get ideas out there. And my guess is, when Selina first got an idea out, it was a rewarding experience.

>> It's taken Jason a few years to get comfortable with KB practice. He'll be the first to admit he took the plunge without really knowing where it would lead. But now he's committed to creating knowledge building communities.

>> I think it just builds continuity, and it builds their self-esteem and their self-worth in the classroom. So if you think about the trust and the respect in creating a classroom culture where students' ideas are at the forefront, and encouraging other students to take risks in their learning, right? And that's what my class is all about.

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>> Knowledge Builders was produced by MediaFace on behalf of the Ministry of Education Student Achievement Division. For more educational resources, visit TheLearningExchange.ca.

Coming up next time...

>> That's what I do during create mode. So I go from partner group to partner group and I make anecdotal notes, and I record where they're at for assessment purposes.

>> We dug deeper into Jason's role in a KB classroom, and see how students' ideas and theories have evolved.

Thanks for listening!