This is a transcript of a video chat between Katherine Prince, vice president of strategic foresight, and Katie King, senior director of strategic foresight, at KnowledgeWorks. This transcript has been edited for clarity.

Prince: KnowledgeWorks is a national non-profit organization that seeks to co-create the future of learning alongside partners and learning communities, states and beyond. Today we’re going to be exploring a futures thinking and systems thinking tool called a Connection Circle. It’s really focused on observing interconnections among things that play in our systems and organizations. And we’re drawing upon ideas presented in a blog post called Observing Interconnections that was part of a “Futures Thinking Now” series that our KnowledgeWorks Strategic Foresight team wrote to help people apply concepts from futures thinking to navigating present day uncertainty.

Why is it important to think about the interconnections in our systems?

King: I think for me, one of the most Important things about looking at interconnections is to help us recognize that many things that we may see as a cause of an issue or a problem is also an effect of something else. And that’s really hard, at least for me personally, to hold those two things at the same time. If we can visualize it and draw out something that shows the interconnections between the issues and the components that we’re seeing in our systems, I think that helps us recognize that these things are connected. It’s not linear cause and effect, but it’s circular in things that are causing some of the outcomes that we see in our systems are the results of something else and being able to make that connection and hold those things together can help us better understand our systems and come up with solutions that really reflect what’s happening in the system more than we might if we were just looking at things in a linear way.
Prince: I agree. It’s really tempting just to look at things from one perspective or one angle and seek a quick fix based on that limited understanding of a problem or a situation but being able to see a broader and deeper sense of that complexity at play help feels like it sets the stage for having deeper conversations and creating more sustainable solutions.

King: I think it allows us to kind of sit with the issues in a different way. When we see that two things are related in a way that maybe didn’t occur to us at first, that causes us, a lot of times, to step back and say “Okay, this isn’t working necessarily the way I thought it was. What do I need to understand more about? How are those things related from where I sit in the system? How are those things related from where someone else sits in the system?” I think it invites us to get more perspectives and lived experiences into the conversation when we start to see that there are these really complex and sometimes messy relationships between things that we have to be navigating when we’re making decisions.

Prince: Yeah and those relationships aren’t always linear. At least on first glance, you know it can feel like two things are related and one is maybe the root cause, but then really examining their connections and stepping back can help us understand, “Well, actually, it’s this other thing over here that’s driving one of them or is more foundational or there’s some other kind of relationship that we didn’t see at first.”

King: I know one thing that is frustrating for me is: I want to be able to draw this out, create this circle, and then it’s obvious what to do or that makes it simpler. Unfortunately, I think sometimes recognizing the interconnections actually makes it more challenging and makes it clearer to us that there is no perfect solution or there is no solution that doesn’t have trade-offs. And while that can be really frustrating, I think it’s a more realistic view and allows us to understand that we’re making choices. We have a lot of competing interests that we’re navigating all the time. If we can just be honest with ourselves, each other and all of our stakeholders about that and we are constantly having to make trade-offs and choices, then I think we’re setting ourselves up for more transparency and just a more authentic decision-making process.

Prince: You and I each drew a connection circle related to an article that we read together, an EdWeek article, looking at educators being laid off as a result of COVID-19, and I know my circles were really messy. I have one that I’ll share in a little bit here, and it’s like version three or maybe four, and even then it’s got so many arrows. It’s embodying what you’re describing about the complexity of the real world, even though I left out some variables.

What was your experience like creating your circle?

King: It was interesting! I started reading the article and highlighting the things that seemed important, and then I wrote those down and tried to start making connections. Then, as I was doing that, I started to refine and maybe change the names of some of the components of my circle because, by re-framing it a little bit, it actually showed a connection that I didn’t have before. It was definitely a winnowing down process. I think I started with something like 15, then re-framed them, took out the ones that felt less central to the insights that were coming up for me, and then ended up with a final version that looks relatively nice and neat. But it’s the work of some thinking and refining over some time.

Prince: And, like you, I started with just listing the variables at play that the article was talking about and as I started mapping them in a Connection Circle, I started seeing, “Well, this variable and this are really talking about the same thing,” or, “This one seems more ancillary than this other one that’s similar.” I was making some choices, too, about what to include, just to make the circle readable.
**King:** I also started adding things that weren’t directly in the article but felt important, either as a way to connect to things that were in the article or that reflected the way that I see how these systems are working. I think that was another part of the process that I didn’t necessarily expect. I was expecting to just take those components from the article and map them, but it started to feel important to add some other elements that weren’t explicitly there but were underneath the surface of the dynamics that the article was talking about.

**Prince:** I think I forced myself to stick closer to the article. I was trying to really say, “How can I map it from the article’s view?” There were times when I wanted to draw connections that I didn’t let myself draw because I said, “Well, that’s me imposing my judgment or my making a connection.” I think both are valid, and they’re telling us different things. In a sense, the way you did it is: you’re being more in conversation with the article as if you were in conversation with another person and you’re comparing perspectives and together getting to that deeper understanding.

**King:** I think when we look at our circles, we’re going to see some similarities and some differences, and talking about those and unpacking those is part of what this is about. These circles and the other tools related to systems thinking are not about having a truthful or accurate representation of the system because that’s not possible when you’re drawing something from your own mind. It’s really in the conversation and the comparison and what came up for you and what came up for me and where do our experiences and how we see the system differ and what do we need to do about that as we’re working together to think about these problems or think about any solutions that we might want to enact. These are learning tools and conversation tools. I think it’s probably even more useful when people start from a place where we can really see some clear differences because that’s the starting place for conversation to see, “Okay, you’re seeing it really differently than I am,” or, “You came at this in a really different way, so let’s start talking about that.”

**What does your circle look like, and what are some variables?**

**King:** I ended up with nine variables, and, again, some of these were explicitly in the article, others weren’t and some of them I reframed. I highlighted where there was a closed loop – so where we have a feedback loop, where everything is a cause and effect of something else in that same loop.
I think what was interesting about this process is that I had some insights that, when I say them out loud, don’t sound particularly profound, but it helped me think about them in a different way. I think this idea around layoffs affecting the teacher turnover rate – and in the article they talked about how that churn of teachers really has an effect on the stability for students and really affects them in a negative way, particularly when we’re talking about low-income schools and schools that primarily serve Black and Latinx students. That is just a really big issue. One thing that wasn’t in the article explicitly but came to me is: If we are having these very unstable environments for kids, at some point they’re going to need some kind of support – either academic, social emotional intervention – to help deal with the effects of that instability, which then has effect on the resources. From this article’s standpoint, part of the causes of these layoffs are these decreases in budgets and revenues from local and state budget. That was an interesting sort of reframing of it for me: the layoffs are happening as a result of lack of resources but, ultimately, we’re going to be using more resources to deal with the consequences of those layoffs. Though that doesn’t bring more money through the door, it helped me think a little bit differently about those consequences of some of the decisions that we might be making. And do we want to make different decisions? Can we make different decisions? Or can we at least anticipate that is something that may happen as a result of the decisions we’re forced to make now and start making plans to deal with that?

**Prince:** I’m curious on your circle: between “level of virus risk” and the “number of students per classroom” you have some arrows that go between, and you highlight it.

**King:** Yeah so this was another feedback loop that the level of the risk obviously influences how many students schools are going to feel comfortable putting in a classroom at one time. And then how many students are in a classroom also affects what the risk is. If we have more students, then that risk is higher, and so those are things that influence one another. What’s also interesting is that the number of teachers available also influences how many students can be per classroom. So that was another insight that also seemed sort of obvious but I thought about in a different way, that obviously the actual objective virus risk is part of what we’re using to make decisions but that there’s all these logistical realities that are also influencing that. Then if we just don’t have the number of teachers that we need in order to have safe numbers of students in each classroom, then that’s going to have an impact
on the risk of kids and teachers and people in a community contracting the virus. That was another feedback loop that was also influenced by some other outside factors. Do you want to share your circle now, and we'll compare?

**Prince:** I have 11 variables on here. You know, they were interacting with one another in a lot of ways. It's demonstrated by all the overlapping arrows.

The article really kind of positioned the prevalence of layoff notices as the driving force of what it was examining, but as I mapped it, it was really more the pandemic itself. Again, I was thinking pretty close to variables in the article and trying not to add too much of my own interpretation as I drew it, so you're really kind of trying to use it to analyze the text presented there. But there was a lot of interplay, so of course the pandemic's creating more need for social distancing and at the same time it's creating more trauma for children. Similar to you, I drew an arrow between the level of children's trauma to the number of educators employed, which is also affected by the prevalence of layoff notices. I think I've detailed more than you did the pandemic's impact on the amount of state income and sales tax revenue and therefore on the level of public education spending.

But you captured the churn that all of this creates in the system and the impact on children, both in terms of their trauma and their academic outcomes, then also the kind of community morale that came up in the article. As I've been reflecting on this, one thing I didn't put on here that I think is actually even more of a root cause than anything that I've drawn might be the class sizes, which is similar to your number of teachers available in normal times, not pandemic times. If I think about some of the plans I'm seeing. For example, in in my area in Central Ohio, the schools that are less crowded to start with have more options for social distancing and having all or more children in the building at a time according to different levels of public health emergency than the ones who already have very overcrowded classrooms. That again is related to school funding, and there's a whole host of intersecting factors there.

**King:** I think that's interesting that we're facing challenges that are new in some ways because of the pandemic, but in a lot of ways they're compounding challenges that already existed and people
have been talking about that a lot. I think that it’s powerful to actually map that out. What are those challenges that are getting compounded that already existed that we haven’t dealt with? We’re now facing the consequences of that in this situation because it can all be so overwhelming. While creating these can be overwhelming in their own way, I do think that it can lead us to some insights and some some conversation beyond, “Everything’s really challenging.” We can get more specific.

As you were mapping, was there anything else that you hadn’t been expecting or that you thought was missing from the article’s presentation of the system dynamics?

King: I think the article did a really good job of outlining a lot of examples in a lot of different scenarios that different communities are facing, and I think that was helpful. It was trying to unpack what really is happening. I think that’s something when we’re reading the news right now can be really challenging. We’re hearing lots of examples and quotes, and all of that is really helpful to help us contextualize. Sometimes I find it helpful to narrow down and say, “Okay, that’s an example; that’s someone’s experience of this challenge, but I want to focus on that challenge itself.” And that can help me wrap my arms around what’s going on in some ways. I think it’s just knowing that I was going to create this helped me read the article in a different way. That, I think, helped me really narrow in on what felt important and critical. That’s going to be different for every individual and particularly as communities are really making these choices kind of having that process of narrowing down what really feels important and what are we talking about right now, as opposed to trying to talk about all of it at once, seems useful.

Prince: That’s always important in any kind of systems analysis or intervention to say you know we’re working on an element, and there’s going to be dynamics and things that need attention outside our sphere of control and influence. But trying to make it manageable while also effective is part of the art of applying these tools.

King: Definitely. How about you? Did you find anything from the article that’s still standing out to you or anything else that you hope to see?

Prince: There were levels of detail in the article that I just ended up kind of taking out of the Connection Circle because they didn’t feel as central. They came probably mostly from some of the kind of testimonials from people who’d been interviewed for the article. Because I was sticking close to what was literally said there, as much as I could of course since I’m still interpreting it, but I was really tempted to draw an arrow between the variable I had, “the amount of churn and mobility within and across schools” and in “community morale,” but the article didn’t directly make that connection. It linked the “community morale” to “the prevalence of layoff notices,” so I stopped myself from drawing that. Again, it’s just a kind of a question of what perspective you’re taking in the moment that you draw on these circles.

King: So that becomes a point of conversation. Does anyone else who would be part of this conversation see a direct connection between this variable and this variable? Do others not? I think highlighting those things that we feel are connected but we’re not really sure that becomes a topic of conversation to get other people’s experiences and what their understanding of the system and how it’s operating might be.

I think it’s a matter of getting started and writing things down on a piece of paper and drawing arrows and circles and scratching it out and starting over. As I said before, our learning tools are not necessarily public communications tools, so I would just invite people to give it a try and start with just a few things that seem interconnected. Can you actually visualize how they are connected? Can you
have conversations with others about those connections and how their experiences maybe reflect
that same thinking or a different set of thinking? If we can just all get more in the habit of doing that, I
think we’re going to have a lot more robust and inclusive conversations about solutions and how we
might proceed from here and just get more comfortable sort of recognizing and grappling with the
complexity of the world and the systems that we’re operating in.

Prince: Yeah that kind of process you describe can help us really challenge the assumptions that each
of us brings to a situation and look at it more broadly and from multiple perspectives.

King: Yeah, definitely.

Prince: If you’re interested in digging more into some thinking tools, KnowledgeWorks recently
published a guidebook called Looking Beneath the Surface: An Education Change Maker’s Guide to
Systems Thinking. For a shorter read there’s the “Observing Interconnections” blog post
that we were referring to most directly in this conversation, all of which is now available on