

# Engaging Thought Leaders

## *An interview with Nancy Love*

### Unleash the Power of Data Through Collaborative Inquiry

by Chris Quinn

**Nancy Love is the Program Director at *Research for Better Teaching*, a small consulting group outside of Boston, Massachusetts. For the past 15 years, Nancy has been working with data coaches and data teams to unleash the power of data to help improve teaching and learning.**



**Learning Forward Ontario:** We live in a 'data rich' world, however some would say we are 'data rich' but 'information poor'. How do we extract useful information (that would help us produce better results for students) from data?

**Nancy Love:** That's a pretty accurate statement. There's increasing amounts of data available and yet there's a big gap between the data we have and the results we want to help our students produce. What seems to be lacking is a process of collaborative inquiry in order to connect all of this data, whether summative assessments, benchmark assessments, formative assessments or survey data, in a way that will actually put those data sources to work to benefit students. We know that what really makes the data come alive is when teachers can engage in making sense of that data together and then bringing multiple perspectives to bear to both identifying what the issues are for students and to generate solutions and test them. It's this process that I think is lacking, not the data, but turning the data into powerful information that really transforms practice.

We often use the image that there is data on one shore and results on the other, and an ocean in between. It's our students who are 'drowning' in the 'data divide'. We need to build the capacity of educators to make the most of effective use of data.

Teachers need to engage in a process where they can own the data as their own. This can involve dialogue and/or going visual with large, colorful, easy-to-interpret displays of data that really help with sense-making. "Data in your daily diet" are frequent and in-depth pieces of data, starting with daily formative assessment data, the 'ticket-to-leave', the 'over-the-shoulder' conference, the clickers, the red-yellow-green cups, the thumbs up/thumbs down, all of those ways of getting a quick read on to what extent students are mastering the learning objective the teacher has set out for them. Some of those sources can be brought to a teacher learning team for analysis (e.g., student work related to a math problem-of-the-week, a writing prompt, a quick quiz). When you bring those types of data to a team, that are tied so closely to the curriculum and directly to your learning targets, teachers can engage in some very productive analysis. What needs to follow is a commitment to action to do something different in response to the data analysis.

Three types of productive data analysis are:

#### 1. ERROR ANALYSIS

What errors are students making? What might have they been thinking to make those errors? How can we find out? How are we going to align our re-teaching to target the essence of the error? This can be done with multiple choice and open response questions as quick ways for weekly analysis leading to immediate implications for re-teaching.

#### 2. CRITERIA ANALYSIS

This requires being very clear with students about the learning objective, and what the criteria are for success in meeting the learning objective, through our communication with students. We then need to collect evidence to determine to what extent students have met the criteria. Students can be partners in developing the criteria and they can then also assess their own work, with teachers and students being very clear about what those criteria look like in pieces of student work and what 'success' (or lack of it) looks like if students have mastered the learning objective. The learning objective must be clear to students, using student-friendly language, as students cannot 'hit the target' if they don't know what the target is. The evidence of learning is then collected by teachers and it is analyzed based on the same criteria students have helped to co-construct. This helps the teacher to be crystal clear about who needs what type of additional assistance and who is ready to move on with their learning.

#### 3. DISAGGREGATED DATA

This is where we get to make 'visible' the students who been 'invisible' in some ways in our schools, perhaps having been under-served. For example, there are tremendous implications with our English Language Learners when we disaggregate the data by new arrivals and by students who were born in this country but are not strong in either of the languages that might be spoken at home. We need to 'drill down' deeper within the demographic groups. This will help us find out which specific groups within the population we're serving and which specific groups we need to serve better.

**Learning Forward Ontario:** For facilitators who want to get started with collaborative inquiry, what advice do you have to offer?

**Nancy Love:** There must be a commitment to an inquiry model, a clear process. Just like doctors have a model that they use when working with the human body, a process to address tough problems, we recommend an inquiry model for teachers that guides the investigation and helps them to diagnose when there is a problem.

The approach that we teach has five components:

### 1. BUILDING A FOUNDATION

Begin by establishing a clear purpose for the teams, norms, making a commitment to develop cultural proficiency, clarity about mission and values – all of those fundamentals for launching data teams.

### 2. IDENTIFYING A STUDENT LEARNING PROBLEM/GOAL

Then the teams use multiple data sources to identify – and be very clear about – a student learning problem and a focus for improvement.

### 3. VERIFYING CAUSES

“Look before you leap!” This is a process where you take the time to gather a little more data or research about what might be causing the problem before leaping to a solution.

### 4. GENERATING MULTIPLE SOLUTIONS AND COMMITTING TO ONE OR TWO

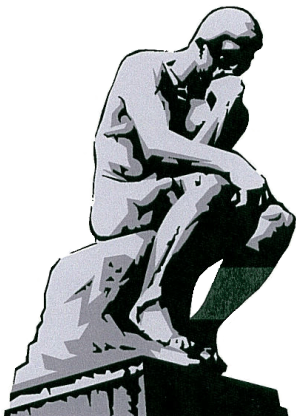
It is so important that the teams make a commitment and take collective action.

### 5. MONITORING

This is such a critical part of the process. Did we do what we said we were going to do? What difference did it make for student learning and achievement?

A second recommendation is for facilitators to make developing capacity their priority. You might be excited about data and you might be very facile in working with data, but that

is not necessarily the case for all teachers. Many of us may not have had an opportunity to hone our skills around collaborative inquiry and use of data. Leave lots of room for teachers to make sense of the data. Give them one slice of data to look at and engage them in a process of predicting what they think they are going to see in the data before they actually analyze it. Help teachers to go visual with the data, making it



colourful and easily accessible through a visual. Encourage them to be rigorous about observing the data, separating their interpretations from what is actually there to see and then moving to making inferences and questions. The facilitator is structuring the process of sense-making so that she/he is building the capacity of others to be as excited about and as confident with data as he/she is.

A third recommendation for facilitators is to make sure the teachers have the time, the structure and the space for regular team meetings. Ideally, we recommend 45 minutes per week for teams to meet. One of the biggest problems we run into in schools is teachers not having the time to do the deep work through regular analysis of data. There are structural barriers to this occurring and it's really not up to teachers to have to create the necessary time and space. As we have a long list of researchers who are recommending that collaboration among teachers absolutely makes a difference when it comes to student learning and achievement, then there is really no excuse not to create a schedule in which teachers have regular time to collaborate. Teaching means far more than just standing up in front of students. Teaching is at least a three-part process: planning, teaching, and reflecting. A schedule for teacher collaboration needs to honour all of those parts of the process. We work with a high school in Buffalo, New York that just received their State algebra assessment results back and they achieved a 15 percentage point increase this year. All of the teachers in that school, in the major content areas, had an opportunity to meet and work together for 30 minutes every day. The principal of the school indicated that the way they accomplished this was by putting common planning time into the master schedule first, and then working out the rest of the schedule. Thus, it can be done and can make a significant difference for teacher practice and student learning.

**Learning Forward Ontario:** What are some obstacles facilitators should be made aware of when trying to implement collaborative inquiry in school settings?

**Nancy Love:** There are three kinds of barriers: structural, cultural, and capacity.

### 1. STRUCTURAL BARRIERS

As mentioned earlier, there is a need for a structure that really supports teacher collaboration. We know that if learning is the work and collaboration is one of the main ways that teachers get to learn together, then it's critical that time is available to teachers. Another structural barrier is the timely access to robust data sources. Gone are the days of waiting until the end of the year or the beginning of the next year to get test results. What we really need are quick 'turn-arounds', twenty-four hours or less, of frequent assessments and related results. It's important that these are common assessments, requiring teachers to commit to a common curriculum and to periodic use of common assessments. Quick turnaround of assessment results allows for immediate analysis and adjustments in teaching strategies.

## 2. CULTURAL BARRIERS

These are a little more challenging. One of the biggest ones is failure to attend to the foundation that I spoke about earlier. What underlies collaborative inquiry is a moral imperative. The old paradigm was about using data to sort student and now we are shifting our practice to using data to serve students. We have moved toward embracing a purpose for education that is not just about 'teaching every student' but that 'every student learns'. This reflects a huge cultural shift that involves being willing to critically examine our assumptions about race, class, language learners and students' capacity to learn, and moving from a fixed mindset paradigm (i.e., Carol Dweck's work) to a growth mindset. It embraces a view that 'smart' is something that you get as a result of effective effort. These fundamental beliefs (i.e., data used to serve, not to sort and the capacity of all students to get smarter) are important to embrace to help ensure that we don't get stuck in the 'blame game'. We need to shift away from blaming toward taking collective responsibility for students' success in learning.

Another cultural barrier is the lack of trust (in using data) that sometimes exists among teachers, as a result of data having been used to criticize teachers, criticize schools, and label schools. We need to clearly communicate what I am describing as a very different use of data. This is data for teachers to use to continuously improve their practice and to better serve students. So it's important for administrators to help create a safe environment where teachers can look at data together, but not fear being part of a 'gotcha game'.

## 3. CAPACITY BARRIERS

Teachers need the opportunity to learn protocols and to have access to resources that will help them engage in productive collaborative inquiry. Originally, this was not part of any teacher or administrator preparation. One big pitfall is jumping to conclusions prematurely when teams identify a problem but fail to verify the causes of that problem before leaping to solutions. For example, I was with a team recently where they had correctly identified that their students were not doing well in a particular strand in their science curriculum, called Living Environments, and they had come up with several possible explanations. Firstly, students didn't have the vocabulary they needed. Secondly, they were having trouble decoding and understanding some of the diagrams in the questions. Thirdly, they lacked test-taking strategies. Fourth, these particular questions came near the end of the test and maybe students were exhausted by then. Finally, students were holding some misconceptions and had some fundamental confusion about some core science concepts. So which were the real causes? You might need to collect more data, maybe interview some students, collect more student work, ask students to explain their responses, observe them again as they do their work, so that you act on a cause that has actually been verified through the collection of additional information. We need to investigate deeply what might be causing the problem in our own practice.

A final capacity-related pitfall is the 'paralysis of analysis'. Some teachers will admit that they are collecting, looking at and analyzing data frequently, but a commitment to action is lacking. At almost every team meeting it is important that there is a collective commitment to an action the team members will take and agreement about how they will hold each other accountable to take that action. ■

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