

## Iris Carl Travel Grant

### Conference Summary: Cathy Chaput

Having the opportunity to travel to Washington to participate in NCTM's 50<sup>th</sup> Anniversary Conference, *Leading Mathematics Into The Future*, was incredible, and the conference exceeded my high expectations! I hope this summary of my experiences will capture both my professional growth and my deep gratitude for having had this opportunity.

From the time I received the great news that I had been awarded the Iris Carl Travel Grant, I could not wait for the conference to start. Arriving early on Sunday, April 22, I made my way immediately to the Washington Convention Centre to pick up my registration materials and solidify the preliminary choices I had made for speakers. So much choice! So many experts from so many places! How could I decide? I had downloaded the app, been poring over the conference program for weeks, and made some decisions, but as I read the rich descriptions in the program book, I realized again the depth of this conference. I soon knew that it would be impossible to make the wrong decision!

Of course, I attended the newcomer session first thing on Monday morning! There were many great tips, as well as gifts and prizes (can you believe it?!), and an opportunity to meet others who were first-timers too. I started my networking that morning, meeting new friends from Alaska, and it continued for three action-packed days. People exchanged email addresses and we promised one another documents and artefacts and links to websites from our local context.

Following the orientation, I rushed to hear Pedro Noguera's keynote. What a great message to launch our learning! He shared a great analogy: we want teachers who are good with all students, not just those (students) who learn easily...just like we want doctors who will treat all patients, not just those who are well. He discussed challenges to equity and reminded us that signs of disengagement appear early. He was encouraged that we were bringing lessons from brain science into the classroom. One lasting take-away was around the efficacy of engagement. We need to stop focusing on achievement and focus on the means to get there. An inspiring call to action as we started our sessions!

One of the aspects of the conference that I was most excited about was learning from math heroes who I follow online or through books and reference materials. I could not believe how many of my heroes were at NCSM! My first workshop was with Robert Kaplinsky, whose website and thinking are inspiring. I found his DOK (Depth of Knowledge) perspective (and problems) really exciting, and immediately began tweeting out ideas and sending links to colleagues back home!

I will admit that having the opportunity to hear Tracy Zager speak was something that I had not dreamed would be possible! I *consumed* Tracy's book last summer, and our district has been studying it this year as a book club...and we are all huge fans of her warm and respectful style. The book is like talking with your best teacher-friend! While they say you should never meet your heroes, hearing Tracy speak and briefly chatting with her was a privilege! One message I took away, and have shared with fellow educators, is that in spite of our best intentions, we need to recognize that from a personal perspective, we continue to fight against the 12-16 years we spent in math classrooms as a student. Another rich take-away (there were too many to list them all!) is that we need to recognize that learning environments won't be risk-free, but more importantly, they will be safe environments for taking risks.

What were other take-aways from Monday? Megan Franke's presentation on CGI made me consider her statement about listening to student thinking being generative, because 'I learn as I listen'. Also that CGI supports multiple ways of being competent. Sophie Murphy from the U. of Melbourne shared the overwhelming effect size of collaborative expertise (1.51! Three years' growth!). She challenged us to think about the questions we ask, since research shows we spend a lot of time asking questions. We need to progress to questions that promote more deep thinking and understanding. I rounded off Day One with another hero, Doug Clements. One message that resounded was that when we teach people how children learn, they will never teach the same way again.

Walking back to my hotel on Monday night, I couldn't believe how much I had already learned ... and there were still 2 days to go! Tuesday morning arrived early, as I participated in the 7:00 a.m. session with Jennifer Bay-Williams. Again, this was a great opportunity for networking (it's amazing how breaking bread together builds community!) and I met colleagues from Florida and South Carolina. She asked us to consider Who? Who is answering questions, who is invited to share, who is doing the math? We also need to consider why, as in: "which step first, and why?" And I loved her turn-around with "when" (the question we all dread: "When are we going to use this?") as she encouraged us to ask students the same question when considering various algorithms. When would this particular algorithm be useful? When would you use this strategy? This leads to deeper thinking.

My first breakout session on Tuesday was Karen Karp, Sarah Bush and Barb Dougherty, and I have been a fan of their work since reading their article, "13 Rules That Expire" in TCM. I liked their thinking around Whole School Agreements, and appreciated that they shared this journey with us. They were honest and funny. It was another great presentation!

Graham Fletcher is a colleague whose work inspires our learning in my school district, and having the chance to benefit from his ideas as well as his invitational and humorous style was incredible. (At this session, I had the opportunity to meet a fellow Canadian whose work I also follow and admire: Kyle Pearce. It was great to meet Kyle in person, and he was genuine and humble.) Graham shared his many supportive resources with us and took us through the each of the three acts of his Whopper problem. It was both engaging and informative. He reiterated the message of so many of the speakers at NCSM: student voice is needed to make learning rich for teachers. What a pleasure to hear Graham in person, after listening to him so often in his videos.

Other messages from Tuesday: thinking about a story context might help students understand why what works for addition might not always for work multiplication, and that representations that embody the meaning of the operation are a mechanism to focus on reasoning and structure. Also, we can look for proportional relationships when two variable quantities scale in tandem: we need to look for the "constant of proportionality"! And at the end of the day, we gathered in our Caucuses for networking and conversations. It was wonderful to make connections with Canadians from across the nation, facilitated by Marc Garneau. And there were more prizes!

Tuesday's summary wouldn't be complete without mention of the luncheon at which the Iris Carl Travel Grant recipients were acknowledged. Once again, thank you so much for this opportunity, and for hosting this luncheon to generate support for future recipients. The speaker panel commenting on the M in STEM was interesting, and I think the message of considering math as a funnel not a filter is a very rich take-away.

Wednesday morning found me back again at 7:00 a.m. for more learning and networking. I was beginning to wonder how much more my brain could handle! However, the quality of the presenters once again inspired and motivated me. I had a chance to learn from Mike Flynn, who taught me a lot about reframing resistance (it begins with our assumptions!), the change process and how to deal with the emotional and rational brain, and finally some strategies...including the QTIP advice: Quit Taking It Personally! Next were some equity messages at the session, "Acknowledgement, Action, Accountability" with Dr. Ramirez. She encouraged us to take a hard look at our language (At-Risk versus Resilient? ELL versus Emergent Bilingual?) and to challenge the status quo. As a small slice of social justice, she suggested leading the charge against labels, deficit thinking and deficit language. Her message of strength-based discourse really resonated with me and I'm trying to be much more mindful of this in my own practice.

Final messages from Wednesday included Tim Kanald's encouragement to reduce the noise in our practice (Rigor and Knowledge Noise, Assessment Noise, The Box to Stand On Noise, and Advancing and Acceleration Noise) and ensure that as a leader and professional we are relentless. I noted his advice, "We are professionals. We need to make sure that we don't make the same mistake a second time." I am looking forward to reading his book!

As I made my way home from the NCSM conference, I spent a lot of time reflecting on the impact that this learning will have as I move forward in my own work in my school district, as well as with my colleagues at the OMCA (a proud affiliate of NCSM!). I have new learning to share and have been exposed to new thinking that will push us forward. I also plan to maintain my membership with NCSM indefinitely, and find ways to support NCSM in future...and to attend as many NCSM conferences as I can!