

NCSM Annual Conference Summary
2019 Iris Carl Travel Grant Recipient
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“Bold mathematics leaders *advocate* for and expect high-quality, equitable mathematics teaching and learning for each and every student. Bold leaders *design* and implement structures that support the requisite equitable and high-quality mathematics teaching and learning by every teacher and team. Bold leaders *empower* and nurture a culture of productive professionalism in which all stakeholders embrace ways to continually improve their work. Bold leaders *monitor* instructional programs, collect data, and act on evidence of student learning.”
(NCSM Essential Actions: Framework for Leadership in Mathematics Education - Executive Summary 2019)

In my role as a district mathematics leader, I work collaboratively with regular and special education teachers, building-based numeracy specialists, and administrators to ensure that all students are engaged in high quality instruction and meaningful learning experiences that build on their strengths and support their individual needs. In order to have the highest impact on student learning, it is essential that I continue to expand my knowledge of the latest research and best practices in mathematics instruction. My participation in the 51st NCSM Annual Conference, *Making Waves with Effective Mathematics Leadership*, has provided me with an exceptional opportunity to enhance and support my professional learning and growth.

When I learned that I was selected as an Iris Carl Travel Grant recipient, I was incredibly excited and immediately began planning for this experience! I set two goals regarding what I hoped to gain from attending the NCSM Conference, which helped me to focus on selecting relevant sessions from the many incredible options offered. First, I aimed to further develop my leadership practice, specifically seeking opportunities to build upon my knowledge base regarding access and equity, engaging all learners, best teaching practices in mathematics, and developing an effective coaching model to support and improve Tier I instruction in my district. Second, I wanted to expand my professional network by meeting new colleagues and becoming more involved in the NCSM leadership community.

When reflecting on my conference experience, there are many important things that I could share, but that would make for a very long read! Instead, I will highlight several key learnings from some of the thought-provoking sessions I attended.

The Importance of Play in Mathematics Education with Francis Su: Francis’ presentation made me think deeply about the role of play in mathematics and life in general. He brought forth the notion that nearly every human activity has elements of play, and to be an effective math teacher, you need to make play part of the learning for your students. Mathematicians ‘play’ with math when they research and problem solve, similar to taking a toy apart and putting it back together. Learning math through play helps us to develop creativity, empathy, the ability to see other perspectives, perseverance, concentration, and overall, a positive math identity. Francis shared ideas about how play can easily become part of our math teaching, by incorporating activities such as puzzles, games and cooperative tasks, replacing rote computation with exploration, showing the value of good questions and not just answers, and providing opportunities for ALL students to improve and grow. After hearing this presentation, I began reading a book about purposeful play in education. This summer, I plan to review my district’s math curriculum and seek opportunities to incorporate play into students’ learning experiences.

Supporting Students with Learning Disabilities in Mathematics with Sue Ball, Janine Franklin, and Hilary Greavette: The presenters began by sharing factors that enable students to be most successful in mathematics, namely, having a strong voice in their learning, being self-advocates, having knowledge of their own strengths and needs, being challenged with high expectations, accessing the curriculum through multiple entry points, and being provided with opportunities for support in an accessible learning environment in connection with timely and personalized interventions. They discussed their learning about the neuroscience of math disabilities and shared a fabulous flip chart resource that they created- *Understanding Learning Disabilities: How Processing*

Affects Mathematics Learning, which includes definitions, possible signs, strategies, and innovative technologies related to a variety of disabilities. As a result of participating in this informative session, I plan to meet with my district's special education department and share my new learning. It is my hope that we can create our own resource to further support teachers in meeting the needs of students with learning disabilities in mathematics.

Five Keys to Equity in STEM with Cathy Seeley: As schools develop STEM (or STEAM) programs, there are several key elements to consider when preparing students for the future, both personally and professionally. Investigation and design are at the center of a quality STEM program and strong preparation in mathematics and science provide the foundation. We must be cautious not to teach STEM at the expense of instructional time in these two areas. It is imperative that high quality math be a focus in STEM, including the use of relevant tasks, opportunities for critical thinking, modeling, and making connections, etc. In her presentation, Cathy noted that we need to 'teach for thinking,' meaning that we must strike a balance between skills and procedures, conceptual understanding, and application. Additionally, we need to promote a growth mindset and consider the messages we send to students, both consciously and unconsciously. Cathy also shared her concerns regarding acceleration and tracking practices in mathematics, lack of student experiences with finance classes, and the caution of watering down the math in programs such as STEM. I plan to share what I learned from Cathy's presentation during my next district STEAM meeting. During this time, we will collaboratively review and revise our current curriculum in an effort to ensure a balance of science, technology, engineering, art, and mathematics within and across grade levels. (For further information related to mathematics and STEM, a position paper can be found on the NCSM website.)

Power Hours-Customized Coaching Capitalizing on Individual and Team Strengths with Beatrice Moore-Luchin: In her presentation, Beatrice emphasized the key elements of coaching, namely, trust, excellence, collaboration, and respect. She spoke about being both cautious and strategic, as well as making an effort to listen deeply to teachers with whom you work. It is important to provide teachers with timely and focused feedback on what is positively impacting student learning and identify areas that will improve performance. Teachers need a clear path for HOW to improve. They need to understand HOW to move forward. Beatrice also highlighted the difference between conformity and transformation, the power of student feedback, and how to help teachers embrace success as well as failure in order to move their practice forward. Overall, Beatrice's message showed that coaching is not magic, but requires a great deal of hard work and an open and honest relationship. Beatrice's presentation provided me with an opportunity to evaluate my district's coaching practices and identify how we can revise our model to be more strategic and comprehensive. I am excited to share my new learning with the numeracy-specialists in my schools.

In addition to the sessions that I have highlighted, I also had the opportunity to listen to several amazing presentations during other portions of the conference, which included keynote speeches, an Ignite presentation by NCSM president Connie Schrock, and panel discussions. Dr. Luis F. Cruz engaged the entire audience by sharing his personal experiences related to access and equity during a keynote speech on *Recognizing and Overcoming the Barriers to Ensuring All Students Learn Mathematics*. Juanita Copley, Ph.D., who has more than 35 years of experience in education, gave a thought-provoking keynote speech about *Mathematics-Generated Waves: Attributes of "Constructive Interference" Leadership*. I also made it a point to attend the Eastern Region Caucus on Tuesday evening, which was led by Shawn Towle. During this time, I had the chance to build upon my network of colleagues, offer my perspective on current issues in mathematics education, and learn about ways that I can become more actively involved in NCSM committees and events.

Without a doubt, attending this conference was an invaluable experience that allowed me to learn and grown as part of my journey to truly becoming a **bold** mathematics leader. I am very appreciative of the opportunity to attend the 51st NCSM Annual Conference and am proud to have been awarded the 2019 Iris Carl Travel Grant. Thank you to everyone who helped make this incredible experience possible.