

Points & Angles

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Points from the Interior

By Serg Cvetkovic

About 15 years ago, I read a book, entitled *Bowling Alone*, in which author Robert Putnam talks about how membership and participation in organizations has been on a gradual and continuous decline since the 1960s. This decline applies to everything from fraternal organizations (e.g., Freemasons, Rotary Club, Knights of Columbus) to parent booster clubs to recreational sports leagues. We can sit here and talk about the numerous reasons as to why this is, but I do not want to do that. I would much rather discuss the importance of organizations, as well as being part of organizations. The phenomenon is unfortunate for a couple of reasons. First, it removes a hub for individuals with similar interests and experiences to gather, network, make friends, and learn from one another. Second, it limits the number of events (e.g., workshops, seminars, clinics) that are available for individuals to attend, so they can learn things and perfect their respective crafts. This applies to MMC. It is no secret that membership and event attendance have declined over the last several years. I get it; after working all week, people want their Friday evenings, their weekends, their summers. However, I cannot tell you how many times I have heard, “The MMC Conference of Workshops is the best math PD in existence.” People value the enriching professional development opportunities that we offer. Hence, MMC needs to keep existing, so we can continue to provide such fulfilling opportunities to mathematics educators for years to come. I mean, if it were not for organizations like MMC, it would be up to the school districts to provide their own professional development, and we all know how terrific those are, right? To make a long story short, we need organizations more than ever before, and for organizations like MMC to continue, memberships need to grow. Tell your friends! Tell your colleagues! Reach out to math education programs at colleges and universities and insist they tell their students! Tell your graduating high school seniors that are pursuing STEM fields in college! Heck, tell your neighbors! We have a really cool slate of speakers for 2021-2022, and attendees will not be disappointed!

It has been an absolute pleasure to have served as MMC President this past year. Despite the difficult circumstances, we prevailed by still finding a way to deliver several amazing talks, an assessment panel, and our usual Conference of Workshops in a virtual setting. I am beyond grateful for the colleagues I served with on the MMC Board, who all contributed to make this year possible. It is both my honor and my pleasure to welcome Aimee Hart as our new MMC President, and I can attest to not only her born leadership but to the fantastic year that will occur under her leadership. Thank you again, so much, for allowing me to serve you this past year.

5 Surprising Benefits of Number Talks in Secondary Math Classrooms

By Sheila Hardin



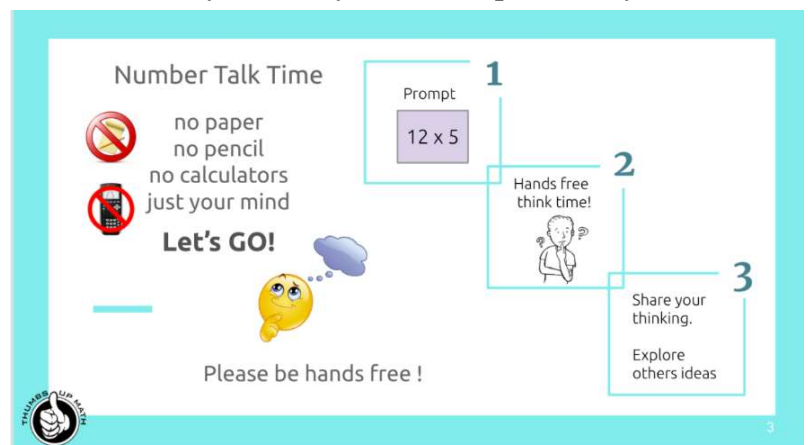
Great music, introductions in the chat and a challenge about estimating the age of MMC greeted those lucky enough to attend the last MMC meeting of the 2020-2021 school year. Jackie Palmquist began by giving some background on her journey to using number talks in the secondary classroom. The audience was then challenged to consider the following question: How can number talks open doors for equity and access in every math classroom? Jackie encouraged people to keep the question in mind and promised to bring it back at the end of the presentation.

The first activity given to us was a “Notice/Wonder” as we watched the video of a young child describing what a GCF is to his parent. The open-ended nature of the activity allowed the responses to vary in the chat as they included questions/statements about the excitement and confidence of the child to wondering about the knowledge of the concept. After Jackie explained that this adorable young man (in the video) was her son, she was able to delve into the “why” behind number talks. The number one reason is that students deserve to be seen, heard and valued in math classes.

The next activity of “Which one doesn’t belong and why?” (with credit given to Chris Danielson’s website) provided a fun opportunity for the group to see previous MMC speakers. As Jackie pointed out how this is a nice way to allow students to get to know you and each other, she also began to encourage us to not just answer but provide a “why.” That was a key concept throughout the presentation as Jackie presented number talks as a mental math routine that provides insight into the minds of our students. Students are able to describe, decipher and defend ideas around a single prompt, using only their prior knowledge and personal background. The activities continued with more mathematical examples of “which one doesn’t belong...” and Jackie shared photos and videos of her experience with the activity in a math classroom. The powerful image of a student, sitting by herself in the back of a classroom, participating to make a case for an answer that no one else selected, demonstrated that number talks can cultivate a culture of students learning together and allow them to give other students affirmations in a safe environment. Even in the hybrid/remote/Zoom world that we have found ourselves working in, the private chat allows students to be brave in a way that they lacked in previous years.



Jackie explained the norms of how to do a number talk (see photo) and emphasized the importance of holding to the norms. Every student is given time to think and only provides their answer to start. There can be fear as this process starts so Jackie provided the mantra that included such statements as “It is a safe place: no grades, no judgement” and “We value and expect mistakes. We respect mistakes, and we inspect mistakes.” This sets the tone and norms early and often so that student voice is prevalent in the room.



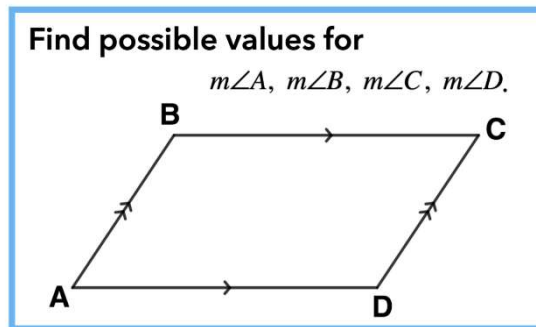
May Talk Summary (cont.)

The difficult part for a teacher and the part that requires explicit planning and reflection prior to doing the activity is where to start with the given answers. Jackie demonstrated this as she gave the group several examples of prompts to work on (see example below). It is critical that teachers anticipate student responses, and as they write down the student responses, they must be able to know what questions they will ask, such as which examples are similar or different? It is critical to connect student thinking to strategies and models.

Jackie had the group participate in a Desmos example of a number talk, which again started by easing people into the tool. The modeling of the teacher meeting students where they are at was apparent throughout the presentation. In Desmos, Jackie suggested putting the prompt on twice, so students can show one set of thinking and then show another one. Desmos allows us to easily snip student work and then highlight it (looking for specific vocabulary), show pictures that are grabbed, and ask students to compare and connect. In a video testimonial, a student said that number talks “gives a chance to see different answers and different ways to get the answer”.

Jackie wrapped up the talk by bringing us back to our original question about equity and access. How can number talks open doors for equity and access in every math classroom? Obviously, there are multiple answers, including allowing different perspectives, letting students enter the conversation from wherever they are at and demonstrating that “answers” are not always the way the book does it. Multiple right answers can help people see it is not just the smart student getting the answer. The affirmations of number talks and sharing of resources also speaks to the need to consider equity and access in all of our classrooms.

There were more than 5 surprises for anyone who thought number talks were just for elementary classrooms, including the idea that using number talks in any math classroom from Algebra to AP Stats will allow students to build on their prior knowledge and connect previous content to new ideas. The testimonials given made it clear; students enjoy them. That is not surprising.



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Mark Your Calendars

*Information about MMC's virtual 2022 Conference of Workshops will be coming soon!

Friday, September 10: Angela Marshall

Developing Engagement During Remote and Hybrid Learning Models (via Zoom)

Friday, October 29: Howie Hua

Belonging in the Math Classroom (via Zoom)

Congratulations to the Newly Elected MMC Board!

President-Elect: Laura Kaplan

Directors: Beth Ann Ball, Steve Condie, Carrie Fraher, Danielle Grenader

Your membership renewal date appears in the upper right corner of the label

