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Presidential Ponderings

Happy Winter Math Friends!

The winter edition of our newsletter will have a different theme than previous winter editions. Usually, I am writing to encourage you to attend our annual STEM ED conference. Regrettably, I will not be able to do so this year. It was with heavy hearts that we cancelled the STEM ED conference this year. With all of the unknowns and for the health and safety of our friends and colleagues, we thought it would be best to cancel. We tinkered with the idea of making it a virtual conference, but it would not be the same. Instead, we are committed to making the 2022 STEM ED conference the best one yet! Save the date for February 2-5, 2022!



If you are really missing the conference, there is still a chance to see one another. We are still planning on having our Symposium this summer and our hopes is to have it face to face. We will still plan on having it at DWU in Mitchell this summer. Be on the lookout for updates.

This year is also an election year for SDCTM. We are looking for nominations for President-Elect, Vice President, Secretary, Treasurer, and NCTM representative. Please think about nominating yourself or a fellow math teacher. Being part of the executive team of SDCTM is a rewarding experience. You get to meet new people, help organize the annual STEM ED conference, and be part of an organization that helps promote math education in South Dakota. Job descriptions can be found on our website and each is a two-year term. If you have any questions about what it would be like to be part of the executive board, please reach out to either myself or Sheila McQuade. We are more than happy to answer any questions you may have!

Since we will not be together for our STEM ED conference, we will make different arrangements for our annual meeting. Usually, we meet on the Friday and there we discuss the happenings within our organization and math education in general. It is a good place to have your voice heard within our organization. Since we will not be face to face, we will need to hold our meeting virtually. As of right now, we are planning on holding this meeting via Zoom during the 3rd weekend in February. We will be sending out more information as time approaches. Normally, we would hold elections during this meeting, but this year we will send out a google form to submit your ballot.

Finally, I wanted to thank each and every one of you for everything you do each day. Teaching and learning has been a struggle this year and I commend you for keeping with it and being there for your students. In my talks with teachers around the state, the challenges have piled up. Even though these hurdles sometimes seem insurmountable, please know that you are making a difference! Keep it up!

Until next time...

Crystal McMachen SDCTM President Crystal.McMachen@k12.sd.us

WINTER 2019-2020

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Calendar Notes:

- SDCTM (virtual) Business Meeting February 20, 2021
- SDCTM Summer Symposium Summer 2021 (date to be announced)
- PAEMST Applications due April 1, 2021
- 2021 SD STEM Ed Conference February 3-5, 2022

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2021 SD STEM Ed Conference Cancelled

After much deliberation, the members of the SDCTM/SDSTA Joint Board have made the difficult decision to cancel the 2021 SD STEM Ed Conference. This decision was made with consideration for the health and well-being of attendees, the uncertainty in the current environment, and the policy restrictions and health risks associated with large gatherings. Because of the many unknowns regarding the COVID-19 pandemic, it has been decided that there is no safe way to conduct an in-person event. There are just too many variables, and not enough solutions.

This decision was not made lightly.

- The health of our members is our primary concern. In a time of surging COVID numbers, hosting a large gathering is inadvisable.
- In a time of constantly changing information, predicting the COVID situation three months in advance is impossible. Significant planning for the conference starts many months before the February event. Delaying the decision long enough to "see what happens" is simply not possible.
- If a decision were made to host the conference, plans must be made for registration, catering, travel, hotel, and meeting rooms. These plans are put into place months before the event. A last-minute decision to cancel would require refunding of registration dollars, but all other bills would still need to be paid. This would be a significant financial exposure for SDSTA and SDCTM.
- A last-minute cancellation would require that we notify all vendors and registrants. It would be a tremendous task to notify everyone in a timely manner.
- Very few session proposals were received this year. This undoubtedly reflects the uncertainty of our presenters regarding the February prognosis. With so few break-out sessions available, the quality of our conference would be impacted.
- SD STEM Ed brings in nationally known speakers for our keynote and featured presentations. As a current hotspot, South Dakota is not exactly a place that they are excited to visit. Additionally, their travel expenses are paid by the conference. Once reservations are made, we are financially committed, even if we cancel later.
- Many schools have informed their staff that no out-of-town conference attendance will be allowed this year. In addition to concern about the personal health of their teachers, there are concerns regarding contagion and bringing a virus back home to their schools. This could dramatically reduce our expected attendance.
- Many schools are already reporting difficulty finding substitute teachers. If a substitute cannot be found teachers may be denied professional leave to attend.
- The health of our Executive Board members is a big concern. They are the workers who make the conference happen. The possibility of illness/quarantine preventing their attendance is real.
- If an attendee becomes very ill, and the source is traced back to our event, SD STEM Ed could possibly be determined at fault and sued for damages.
- National affiliates (NCTM and others) have already cancelled in-person events for spring 2021.

We will miss you all and look forward to seeing you in Huron for 2022! Save the date: tentatively scheduled for Feb. 3-5 2022.

SDCTM/SDSTA JPDC Executive Board MembersCindy KroonCrystal McMachenDan Van PeursemAshley ArmstrongSheila McQuadeJay BerglundJames StearnsAmy SchanderMark KreieJulie Olson



Cindy Kroon, SDCTM/SDSTA JPDC Chair

"This decision was made with consideration for the health and well-being of attendees..."

Musings from Sheila

As I sit to write this article, I feel as if I don't have much wisdom to share. I know we are all "hanging in there" and trying to get through this year the very best that we can. So, I am choosing to share some insights with you. I hope you at least get a bit of a chuckle.

We are all stressed about whether our kids are learning what we want them to master. Early on in the semester (1st week or so of school) a young lady in my advisory shared that she was concerned about what she may have missed out on last spring and that it would have lasting effects for her throughout high school. I assured her that while I understood that sentiment, all of her teachers were also worried about it...and it would be the same for kids across the country. *She* wouldn't be any more behind than anyone else. The same is true for you. I know that you are all concerned about what you weren't able to do with your students last spring and are facing the deficits of their mastery every day this fall. YOU are not alone...it happened to everyone. YOU did the best you could do under the circumstances and *YOU* are a hero!

Last spring, my daughter was taking classes on-line like *everyone* else was (she is a 2019 high school graduate). About mid-April, one of her classmates was complaining in a group text about how classes weren't the same as when they actually went to school and said, "They were so unprepared for this!" Guess what, sweetheart, we **all** were unprepared for it!

This fall, while doing all I could to avoid contact, following the school protocols of washing desks, social distancing from kids and other teachers, not eating out, using hand sanitizer and more sanitizer, I managed to get COVID. I had been especially careful because of my husband's heart attack a year ago. But I got it and gave it to him (and my adult children). I was out for two weeks. Fortunately for us, he did well recovering (he was less sick than I was). I know it is hard to imagine if you haven't experienced it (and everyone's experience is different) but I have not ever been sick and had the effects linger as long as they have with COVID. I still struggle with the fatigue (it reminds of having a newborn and just wanting to get some *sleep*). The struggle is real. Please, please remember that when your students come back. Some are taking advantage of having a 2 week break but for some the lasting effects are all too real. Some of my (good) students are experiencing brain fog, others struggle to be here for 5 full days. You are all compassionate people. You care about your students. But take it from me....some of them are not 100% when they come back.

And, finally, take care of you. Recently, while (on-line) shopping with my daughter, she saw a necklace that was engraved with "I am enough" and commented on how much she liked it. What a beautiful sentiment. Please remember that *you* are enough.

Lastly, as I prepare to assume the role of SDCTM President, I invite you to email me if you are interested in a role in the leadership of SDCTM. I can tell you that it is one of the most rewarding professional experiences that I have had.

Sheila McQuade SDCTM President-Elect SMcQuade@OGKnights.org

".... YOU are not alone... YOU did the best you could do under the circumstances and YOU are a hero!..."



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Higher Ed Viewpoint

Greetings from the BOR institutions! I trust you now have all your students back into the school routine after breaking them from their vacation routine. That can be a challenge the first few weeks. However, I trust that you are all off to a great new semester.

On our campuses we are busy implementing the Math Pathway initiatives in trying to help our students be successful in their introductory math courses. At the end of the semester we should have a better idea as to what new initiatives worked well and which ones need further development. It is hard to predict what will be on the horizon. I will update you when I know more on those events.

For now, I would like to keep reinforcing the same message on dual credit. If you have students that are science bound and will need Calculus I, then they should be taking a pre-calculus dual credit course or a pre-calculus course at your school. Many students take the college algebra route but then still need to take a trig course to get into Calculus I, which delays their progress. Let me know if there are any questions on that.

Sincerely,

Dan Van Peurlem

SDCTM Vice President & Liaison to Higher Education Professor and Dept. Chair The University of South Dakota

Roll and Cross

K.CC.3 Know the number names. K.CC.3 & K.CC.4 Count to tell the number of objects.

Materials: 1 die for each player Score sheet (page 5) Cut into strips; one strip for each player. Marker or pencil

Object of the game: Be the first player to cross out all numbers 1-6 on your score sheet!

- 1. Everybody rolls their die at the same time.
- 2. Each person states the number rolled by counting the dots on their die.
- 3. Each student crosses out the number rolled on their score sheet. If the number is already crossed out, the player just skips their turn for this roll.
- 4. Everybody rolls again (all at once).
- 5. Continue play until somebody has all their numbers crossed out and wins the game!

Cindy Kroon Montrose High School Cindy.Kroon@k12.sd.us





"It was great to see how much ownership the students took in making their own..."



Roll and Cross Score Sheets

1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

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PAEMST

Presidential Award for Excellence in Mathematics and Science Teaching 2019 South Dakota Awardee

Carla Diede, an educator for 14 years, is currently a lead teacher at Harrisburg South Middle School and Harrisburg North Middle School. Now in her eighth year with the Harrisburg School District, Carla previously taught sixth through eighth grade mathematics (including algebra, geometry, and design thinking) at Harrisburg South Middle School. She spent the first six years of her teaching career at LWC Middle School teaching seventh and eighth grade mathematics. When teaching mathematics, Carla strives to create an optimal learning environment through interactive, hands-on activities that help students understand the intricacies of mathematical principles. She wants to ensure all students recognize the potential that mathematics holds to unlock an unlimited number of opportunities in their future. Believing our greatest power as educators comes from collaborating with other educators, Carla presents at conferences and helps create professional development for her colleagues. To help fellow educators reflect on their teaching and find new ideas for their classrooms, she shares information and ideas including best instructional practices, hands-on activities, integrating technology, and utilizing personalized learning to empower students. Carla earned a B.S. in mathematics with an education specialization from South Dakota State University and a M.S. in teaching, learning, and leadership from Southwest Minnesota State University. She is certified to teach mathematics at both the middle school and high school levels. A 2017 recipient of a Milken Educator Award, Carla is also a National Board Certificated Teacher in the area of mathematics for early adolescence.

Presidential Award for Excellence in Mathematics and Science Teaching 2020 South Dakota K-5th Grade State-Level Finalists

Darcy Vincent, a mathematics teacher from Brookings, SD has been teaching for 12 years. She is a customized learning facilitator for 5th grade mathematics at Camelot Intermediate School. Darcy graduated from Dakota State University with a Bachelor of Science degree in Elementary Education in 2006 and earned her Master of Science in Curriculum and Instruction degree from Black Hills State University in 2015. Darcy is a Math PLC leader, a South Dakota Counts leader, and has participated in South Dakota Department of Education projects such as the Math Standards Peer Review.

<u>Merideth Wilkes</u>, a mathematics teacher from Black Hawk, SD, has been teaching for 9 years. She is a K-1st grade combination teacher at Black Hawk Elementary. Merideth graduated from Black Hills State University with a degree in Elementary Education and Early Childhood / Special Education in 2012. She then earned a Masters degree in Early Childhood in 2015 and an Education Specialist degree in Curriculum and Instruction in 2019 both from Capella University. Merideth serves on the Building and District PBIS Leadership Teams, the District Math Leadership Team, and has participated in South Dakota Department of Education projects such as the Standards Writing team and the math standards roll out.

The PAEMST program was established in 1983 by the White House and is sponsored by the National Science Foundation. The award is the nation's highest honor for math and science (including computer science) teachers. The program identifies outstanding math and science teachers in all 50 states and four US jurisdictions.

Awardees each receive a \$10,000 award, a paid trip to Washington, DC to attend a week-long series of networking opportunities and recognition events, and a special citation signed by the President of the United States.

The next cycle will recognize outstanding secondary teachers in grades 7-12. The application deadline will be April 1, 2021. Nominations are currently being accepted. You can nominate a teacher by visiting <u>www.paemst.org</u>.

Allen Hogie SD PAEMST Mathematics Coordinator <u>Allen.Hogie@k12.sd.us</u> 605.553.8095 "The award is the nation's highest honor for math and science teachers..."



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Mark's Thoughts

Flipgrid in a Mathematics Classroom



I've used Flipgrid in my high school mathematics classroom for the past three years. Flipgrid is a free website that allows students to create video responses to discussion topics created by their teacher. Teachers can choose whether or not student video responses are shared with other students. Teachers can give written or video feedback to students. Here are three tips for teachers looking to use Flipgrid in their classrooms.

Allow students to "practice" first.

Before you begin posting math related topics, create a topic that will allows students to practice using Flipgrid. Here was the first topic that I posted this year.



Hello!

I would like to learn a thing or two about you as we begin this school year.

Please record a video for me here that shares the following:

3 things I should know about you.

2 questions that you have for me.

1 clear pronunciation of your name (so I know how to say it correctly!)

I have set this Flipgrid up so that I am the ONLY one who will see your video -- so you don't need to worry about what other people think of your post.

It is REALLY important to me that you complete this task. I want to start to get to know you better.

This topic was a huge bonus this year. At Brookings, students are required to wear a mask in the classroom. Almost every student recorded their video with their masks off, which allowed me to see their faces.

Flipgrid is a very powerful tool in remote learning situations.

Last spring presented many challenges, including trying to figure out how to assess student learning. I struggled to find ways to eliminate cheating among students and had to



"I struggled to find ways to eliminate cheating among students and had to get creative with the types of assessments I gave. "

Mark's Thoughts continued

get creative with the types of assessments I gave. Asking students to record a video response to a topic was one strategy that worked really well. Here is an example.

Record a video of you explaining your answers to the following prompts. 1. Name two set of congruent angles. Explain how you know the angles are congruent. Include references to geometric properties of angles discussed in geometry.

2. Find the measures (in degrees) of two angles in the diagram whose measure is not labeled. Explain how you determined the measurements. Include references to geometric properties discussed in geometry.



Ask students to screen share while recording.

Flipgrid allows students to record their screen while also keeping a small thumbnail video of themselves in the corner. My students each have a laptop w/ a stylus, so I asked students to annotate on the diagram while explaining in their video. Even if students cannot annotate on their device, they can still screen share and explain while using the mouse as a "pointer". This was the best form of assessment that I could find during remote learning – students taking on the role of "teacher".



I am by no means a Flipgrid expert, but am happy to help answer any questions you have about how I am using Flipgrid in my classroom. Please don't hesitate to reach out to me with questions.

https://info.flipgrid.com/

Mark Krie NCTM Representative Mark.Krie@k12.sd.us

A Word From Stephanie

Greetings,

Happy New Year!

As I sit down to write this winter article for the SDCTM newsletter, I wondered about what I wrote one year ago. I closed the 2019 newsletter, with the goal for 2020 to stay more connected, and to make more efforts to meet teachers across our state. Well, I think we can all assume that goal did not quite come to fruition. This year has had so many challenges. I have found it is worthwhile to take these challenges, and look for the silver lining, sometimes it is harder to see than other times.

Although, I did not actually get to "meet" more teachers across our state this year, I did virtually meet so many more mathematics educators than I could have dreamed. In July I hosted two summer workshops that are new to the Department of Education, South Dakota Foundational Mathematics and the Taking Action Book Study. Through these workshops I have met and continue to connect with over sixty math teachers from across South Dakota. The SD DOE Virtual Math Coaching and SD Math and Science Leadership programs also continued this school year, with about forty new participating teachers in both. So, although I have not had the opportunity to meet these teachers face-to-face, I am so lucky to continue to build relationships with math teachers and leaders.

Another downfall for 2020 was limited travel. My last out of state trip was the first week of March to celebrate my dad's 80th birthday. Again, I am so lucky that his birthday is early in the year, and that I was able to travel to see my family one final time before the pandemic hit hard. Unfortunately, I have not seen my family in Michigan since, and I also have not had the opportunity to connect with so many of the other state math leads from across the nation, except for images on a screen. The silver lining, I have spent A LOT of time at home, bonding time with my partner, Greg, and snuggling with my seven -year-old lab Millie, oh and the cat too .

I know 2020 was absolutely crazy, not normal, and downright challenging. You all are amazing; you are valued, and you have something special to contribute to each of your students. 2021 will bring us hope and the light at the end of the tunnel in which we have been searching. With the new year, my goal from 2020 continues, to find ways to stay more connected and meet more math educators from across the state. I just hope that in 2021 I get to meet you face-to-face, give real high fives, and hugs, not virtual fist bumps!

Continue to connect with students, be patient, be safe, and be healthy.

Stephanie Higdon Math Specialist SD Division of Learning & Instruction Stephanie.Higdon@state.sd.us "You all are amazing; you are valued, and you have something special to contribute to each of your students."





2301 Research Park Way Brookings, SD • 57006 605.688.6231 www.sdepscor.org

ABOUT US

The National Science Foundation (NSF) created the first Experimental Program to Stimulate Competitive Research (EPSCoR) program in 1980. Its success led congress to expand the program and since 1990 create EPSCoR-like programs in several federal agencies, including: USDA, NIH, DoD, DoE, NASA and EPA.

Now named the Established Program to Stimulate Competitive Research, EPSCoR identifies develops, and uses a state's academic science and technology resources to support its economic growth and promote a more productive and fulfilling way of life for its citizens. EPSCoR acts on the premise that universities, their science and engineering faculty, and their students are valuable resources that can influence a state's development in the 21st century. To achieve this goal, NSF provides lasting improvements to the state's academic research infrastructure that increase its national research and development competitiveness.

Research

- EPSCoR recognizes that universities are valuable resources. Their science and engineering programs, as well as faculty and students, are major assets to the state. Currently, SD EPSCoR supports facilities, faculty, students, and equipment at South Dakota Universities.
- EPSCoR/IDeA universities, their faculty, and students are leading the way in the 21st century. These researchers are needed for the nation to meet its most pressing priorities in health, cyberinfrastructure, and homeland security. A broad science and technology base is especially important in an era when different regions have unique issues involving resources, health, security, and the environment.
 - Scientific and technological research cannot be limited to a few states if the nation is to maintain world leadership and reach its full potential. Along with stimulating competitive research and promoting excellence in education, EPSCoR/IDeA improves access to that high-quality education and cuttingedge research, expands economic opportunity, creates jobs, and improves the quality of life across the nation.

Education

SD EPSCoR promotes and supports educators, research faculty, and programs in the areas of science, technology, engineering, and mathematics (STEM).

- Advances in science and engineering are essential for ensuring America's
 economic grow th and national security. During the next decade, U.S. demand
 for scientists and engineers is expected to increase at four times the rate for
 all other occupations. Today's high school students overall are not performing
 well in math and science, and fewer of them are pursuing degrees in
 technical fields.
- Outreach and informal science education activities engage more than 35,000 SD residents per year.

Economic Development

- To nurture economic development in South Dakota, SD EPSCoR partners with the SD Governor's Office of Economic Development, the SD Office of Commercialization, and the SD Board of Regents. Through these collaborations business/technology education programs are created.
- Clobal competition demands a highly skilled workforce, and the country's economic future depends on scientific and technological advances everywhere, not just in a few places. Through EPSCoR/IDeA, participating states and territories are building a high-quality, university-based research infrastructure, a backbone to their scientific and technological enterprises, and a strong and stable economic base into the next century.

Diversity

The SD EPSCoR diversity plan represents bold, catalytic, strategic and systemic approaches to recruiting and supporting citizens of all races, ethnicity, nationality, gender, age, economic status, and sexual orientation within STEM. With a small population, South Dakota must take advantage of all its human resources if it is to advance.

SD EPSCoR Diversity Goals and Strategies:

- Develop a mechanism for sharing successful diversity initiatives and discussing policies, progress and barriers statewide. The annual SD EPSCoR Diversity Summit will be a venue for sharing and linking promising, but currently disconnected diversity initiatives.
- Develop meaningful partnerships between state government, K-12, higher education and the private sector to strengthen STEM education for diverse audiences and to diversify STEMrelated workforce. Utilizing statewide initiatives to improve instruction for underrepresented groups and those in remote regions as well as diversifying SD's STEM workforce.





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Jay Berglund 204 S. Exene Strert Gettysburg, SD 57442	
Name	
School Name	
Subjects or Grades Taught	
Addresses	
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School	
Mailing Address: Home Home Phone	
Fax Number	
E-mail	
Membership categories (Check only one) Elementary School \$5.00 Middle School / Junior High \$20.00 High School \$20.00 Post Secondary \$20.00 Retired \$5.00 Student \$5.00 Other \$20.00	We now offer the option to use PayPal to pay your dues for a minimal processing fee of \$1.00. The pro- cessing fee will cover the processing fees incurred by SDCTM and fees charged for having checks cut by PayPal. Instructions can be found online at: http://www.sdctm.org/joinsdctm.htm

SDCTM Newsletter C/o Sheila McQuade OGHS 3201 S. Kiwanis Ave Sioux Falls, SD 57105

2019-2021 SDCTM Executive Board Members

SDCTM President Crystal McMachen Rapid City SouthWest Middle School (605) 394-6792 Crystal.McMachen@k12.sd.us

SDCTM Past President Allen Hogie Brandon Valley High School (605) 585-3211 Allen.Hogie@k12.sd.us

President-Elect Sheila McQuade Bishop O[†]Gorman High School (605) 336 - 3644 SMcQuade@OGKnights.org

Vice-President Dan VanPeursem University of South Dakota Dan.VanPeursem@usd.edu

Gayville-Volin High School

Amv.Schander@k12.sd.us

Gettysburg High School

Jay.Berglund@k12.sd.us

Secretary

Treasurer

Jay Berglund

(605) 765-2436

Amy Schander

(605) 267-4476

Secondary Liaison Jennifer Haar Rapid City Stevens High School 605-394-4051 Jennifer.Haar@k12.sd.us

Post-secondary Liaison Dan VanPeursem University of South Dakota Dan.VanPeursem@usd.edu

NCTM Representative Mark Kreie Brookings High School (605) 696-4236 Mark.Kreie@k12.sd.us

SDCTM Newsletter Editor Sheila McQuade Bishop O[†]Gorman High School (605) 336 - 3644 SMcQuade@OGKnights.org

SDCTM Webmaster Cindy Kroon Montrose High School (605) 363 - 5025 Cindy.Kroon@k12.sd.us

Conference Coordinator Emeritus Jean Gomer (605) 629-1101

SD STEM Ed Conference Coordinator Cindy Kroon Montrose High School (605) 363 - 5025 Cindy.Kroon@k12.sd.us

SD STEM Ed Treasurer & Registrar Sheila McQuade Bishop O[†]Gorman High School (605) 336 - 3644 SMcQuade@OGKnights.org



www.sdctm.org

Elementary Liaison Lindsey Tellinghuisen Willow Lake Elementary (605) 625-5945 Lindsey.Tellinghuisen@k12.sd.us

Middle School Liaison Molly Ring Brandon Valley Middle School (605) 625-5945 Molly.Ring@k12.sd.us