



AMTNJ News

Association of Mathematics Teachers of New Jersey

Fall 2020 • Volume XLIII, Number 3

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“Problems can become opportunities when the right people come together.”

~ Robert South

Letter to New Jersey Math Educators

Dear New Jersey Mathematics Educators,

You have probably heard, “These are uncertain times,” frequently in the past few months. Thankfully, there are still some things that are certain. For over 100 years, AMTNJ has supported mathematics students and teachers. We intend to serve you for over 100 years more. We took the bold and decisive action of planning for all of our professional development experiences to be offered virtually until February 1, 2021. We know that learning is best done in person, unless there are concerns about health and safety. Therefore, out of deep concern for the physical and mental well-being of you and your family, we will not ask you to brave large crowds even if the state is open. At the end of 2020, we will make decisions regarding our conferences in spring.

When we moved into crisis learning, AMTNJ offered seven weeks of free, professional learning through our WebPD series. We did this to support teachers of mathematics as we all grappled with crisis teaching in virtual spaces. We will continue to offer quality learning experiences such as these at no cost to you. Among the first of these experiences are webinars designed to support you as we

reopen schools, including a virtual AMTNJ EdCamp in September. All through the fall and winter, we will offer many of the sessions that would have traditionally been part of our annual two-day conference. Look for special themed months where we will group sessions based on topic.

In return, we ask you to consider becoming a member of AMTNJ. An e-membership helps our organization continue to offer mathematics teachers support. Our scholarships, awards, newsletter, journal and contests are not possible without your help. To see full benefits of AMTNJ membership, become a member or make a donation to our scholarship program, please visit amtnj.org.

We are pleased to announce the launch of our new website. Make sure you visit our new website to explore all new features and check for offerings and updates!

We may not see each other face to face until the Spring of 2021, but we can learn and work together virtually to make math education in NJ work for all of our students.

Sincerely,

*Jelena Komitas
AMTNJ President - 2020*

Web PD Sessions during the Pandemic

Spring 2020

Dianna M. Sopala, Executive Coordinator of Teacher Outreach & 2020 Past President

For seven consecutive weeks from April 7, 2020 to May 22, 2020, AMTNJ provided online professional development. On average, four sessions ran each week. There were 1,200 registrants who signed up for approximately 2,500 sessions. The speakers were nationally and locally known speakers. A variety of sessions were offered to the participants. The topics covered by these sessions included assessments, math games, online tools, suggestions for engaging students, ways to meet the compliance requirements for 504 students and special education students, and much more. Some of the most popular sessions were Dan Meyer's *Distance Learning with Desmos*, Maria Surace's *Best Practices in a Virtual Classroom: Getting the Most from Online Learning*, Eric Millou's *Three Technology Tools to Help Online Math Teaching*, Gail Burill's *Making Connections Between Trigonometry and Geometry*, and Lauren Bacsik's *Virtual Teaching Practices: Special Education and Mathematics*. Participants had the opportunity to ask other teachers for suggestions relating to their specific situations or assist them with their specific challenges while teaching online. Other sessions such as Lisa Cramer's *Coding* session provided teachers an opportunity to teach their students a new skill. Other sessions included current real world data like Gail Burrill's *Statistical Literacy is Not Optional* webinar. While teaching through this pandemic, teachers never lost sight of the best practices in education like offering student choice, which was covered in Coshetty Vargas' *Designing Digital Activity Lists*. Some of the sessions were recorded and posted on AMTNJ's WebPD website, <https://sites.google.com/view/amtnj-webpd/webpd-sessions-pg-3>. These sessions provided an opportunity to explore a variety of mathematics online teaching resources. AMTNJ would like to thank all of the speakers, the hosts, and all of the participants for making this seven week vital conference successful.

*Since AMTNJ hosts its two-day conference online and all AMTNJ activities will be online for the rest of the year, the regular WebPD sessions will not be offered while the two-day sessions are being offered.



I am clueless to coding. Participating in this webinar has sparked my curiosity to do further research in coding.

I loved the structure and how each piece gave me something to consider using with my students.

Thanks to all for making the effort to provide assistance to math teachers in NJ.

I am super excited to use Pear-Deck! I am changing my lesson for tomorrow! Thank you!

I'm totally excited about learning another new platform for teaching which will enhance my students' learning experience.

The presentation was very informative. I hope to utilize the websites with the students.

This is what your colleagues shared with us about AMTNJ SPRING Web PD

This was a fun exploration of problems and a good use of proving conjectures through algebraic modeling.

I felt like I learned something practical that I can actually incorporate into my lessons.

This was my first session and I will attend more. Thank you for all the good information.

Thank you! It was wonderful to see how the presenter utilized data to encourage understanding.

This was a fun exploration of I am looking forward to sharing the examples with my teachers so they can share with their students.

Thank you for doing this PD! Dan Meyer is an excellent presenter and motivator for this work!

An outstanding presentation! Excellent slides and explanatory materials for us to access when designing projects/lessons. This webinar could be expanded for several hours because it was so informative. Thanks so much for all your efforts to make this webinar so memorable!

Fall/Winter Virtual Offerings

AMTNJ converted its Annual Two-Day Conference into virtual, one-hour Zoom sessions, organized across five thematic months. The sessions are available free of charge to participants who register. Building off the success of our Spring webinars, we selected sessions that could be delivered via Zoom, and in many cases, speakers have made adjustments to their sessions to best meet the needs of teachers in this new environment.

Late August - September	<ul style="list-style-type: none"> • Technology and Online Resources, eleven sessions • AMTNJ Math EdCamp
October	<ul style="list-style-type: none"> • Engaging all Students, eight sessions
November	<ul style="list-style-type: none"> • Mathematical Meaning Making, seven sessions
December	<ul style="list-style-type: none"> • In Math, Everyone Counts five sessions, including <ul style="list-style-type: none"> • featured speaker, <i>Dr. Deidre Richardson, State Mathematics Coordinator from the NJDOE</i>, who will speak with <i>Mrs. Melanie Harding</i> • keynote speaker, <i>Dr. Trena Wilkerson, NCTM President and Professor at Baylor University.</i>
January	<ul style="list-style-type: none"> • Equity, eight sessions

AMTNJ recognizes that so much is being asked of teachers during this pandemic, and our hope is that these sessions can help support teachers, and the teaching and learning of mathematics, in these challenging times. To find out more information, and to register for one or more sessions, please visit our newly redesigned website.

amtnj.org

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#amtnj2020

**Mon, Sep 21, 2020, 8:00 AM
through Fri, Sep 25, 2020, 3:00 PM**



First-Ever AMTNJ EdCamp Online at NO Cost to Educators

How does it work?

- EdCamps are purely participant-driven, meaning participants will supply the topics of conversation, and all attendees will have an opportunity to share their experiences and advice.
- We are hosting the EdCamp virtually to allow for video, attachments, and a permanent place for participants to back to for inspiration and resources.
- You can access it when it is convenient for you!

Why participate?

This five-day event will allow for a lot of **networking** and **learning on demand**. Due to the rapid shift to remote instruction this past school year, we expect to have fruitful discussions on e-learning, equity, assessment, and much more. We will have something for everybody - elementary through post-secondary.

Don't Miss Out on this Exciting and Convenient Offering!

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Register using the link below:

<https://www.eventbrite.com/e/edcamp-amtnj-2020-online-tickets-105816524072>





Supporting Future Math Educators

Each year AMTNJ provides scholarship money to high school students who wish to pursue a career in mathematics education. AMTNJ encourages members to sponsor a scholarship applicant. Scholarship applications are accepted from December through March and the committee makes its final decisions early in the spring.

Our sincere THANK YOU to all our members who contribute to this fantastic program.

The Association of Mathematics Teachers of New Jersey Awards Two Scholarships for 2020

Joan J. Vas, Executive Coordinator Scholarship Program

For the 2019-2020 school year, AMTNJ awarded two students each a \$1,500 scholarship. This year's awardees are Emily Elias, OCVTS Performing Arts Academy, sponsored by mathematics teacher, Robin Kelly and Anthony Paterno, Parsippany Hills High School, sponsored by mathematics teacher, Eric Berkowitz.

Emily Elias will be attending The College of New Jersey in the fall. Emily wrote in her essay that "I want to be a math teacher so I can help people. Teachers change lives and can create a connection like no other. Both my parents were teachers and inspired me to be a math teacher. They loved what they did. I have always had an aptitude for math. It is in my DNA. When I was three years old my PopPop started giving me addition and subtraction problems as he drove me to school. I want to inspire students to be the best they can be and help them reach the aha moment when they understand a concept previously not understood."

Anthony Paterno will be attending Rutgers University New Brunswick in the fall. Anthony wrote in his essay that, "Ever

since I was a little kid, teachers have been my hero and I was fascinated by the ability and information my teachers had. Through my job as an instructor at Mathnasium I learned it was easier to teach if you were prepared, worked hard and were passionate about the subject. I realized my love for teaching. It was so rewarding and satisfying to know that I was making a difference for the people I was helping. I know now I was born to be a math teacher."

Congratulations to our awardees! We wish both Emily and Anthony much success in their college experience. They will have the opportunity to reapply for this scholarship each year for the next three years.

To date, 64 candidates have received this initial scholarship. Once the initial award has been made, these awardees are contacted for the next three years and given the chance to apply for a renewal scholarship. This May we have seven previous awardees who will have this opportunity available to them.

The amount of the renewal scholarship is dependent upon available funds at that time. Members should visit the AMTNJ web site, www.amtnj.org, for the latest scholarship application and additional information for those who wish to make a tax-deductible contribution to the program.

Special thanks to the Scholarship Committee consisting of AMTNJ President Jelena Komitas, Past Presidents Thomas Walsh and Stephanie Cooperman, Julie Norflus Good along with Joan J. Vas, Executive Coordinator of the AMTNJ Scholarship Program. It should be noted that this is the 24th year that AMTNJ has awarded scholarships to graduating high school seniors interested in a career in mathematics education.

Thank you to the AMTNJ Executive Board and the AMTNJ membership for their continued support of this program. Special thanks to President Jelena Komitas for her generous support of this program.

Flipping Online Mathematics Classroom

John Kerrigan, Ed.D.



How do you make the most of your online **mathematics** classroom? The flipped classroom approach can easily be adapted to fit a purely online setting. By harnessing the power of short video tutorials as homework assignments, the time you spend with students synchronously becomes more **meaningful**. There are many virtual options available to make the most out of your live sessions with students. So, how do you start?

First, pick or make your own videos. What topics do you want students to master?

There are many pre-made videos available through places such as the MathisPower4u, YouTube channel, flippedmath.com, or your mathematics program's teacher resources. You may also choose to make your own videos using Screencastify or Screencast-O-Matic, two free virtual tools. Research suggests videos should be no more than 6-8 minutes each for optimal student engagement (Low & Hew, 2017). Additionally, housing your videos on the free EdPuzzle platform allows you to embed questions and obtain analytics on students' video watching outside of the classroom that can be useful for inside the virtual classroom.

Second, decide on which deliverable students will need to bring to "class."

Will you require them to take their own notes? Fill out a note-taking guide? Try out a few problems? Write a summary? Complete an entrance ticket? There should be some brief activity that allows students to engage in the content they just learned about online. This can serve as a very low-stakes formative assessment or homework assignment.

Third, plan to briefly review when class starts.

One of the common misconceptions of running a flipped classroom is assuming students understood everything in the videos, and immediately sending them to work once they arrive to class. This can easily be mitigated by allowing for a short 5-10 minute review of the main ideas. This is also a great time to empower students to lead the review, and/or incorporate a review game, such as Kahoot!, Quizizz, Quizlet Live, or even a Desmos Card Sort. Some students may also benefit from learning how to summarize a lesson either in writing or by an online mind map.

Fourth, design learning experiences that are meaningful and go beyond a list of textbook problems.

Many conferencing platforms have breakout room capabilities that allow teachers to differentiate the online classroom based on ability and/or interest. Teachers can push out the learning opportunities students need in each breakout room. Popular virtual learning platforms include Quizizz, Quizlet Live, Kahoot!, DeltaMath, Socrative, Flipgrid, and many more. Or, you can simply assign a multi-step problem that requires collaboration from all students. To ensure accountability, students can type in a shared notes file with their initials or use an online whiteboard.

Another alternative is jigsaw. Divide students into groups in a breakout room, then form expert groups using a member from each original group. Students in each expert group then learn a small amount in depth to be able to explain to their peers. Put students back into their original mixed groups with an expert on each topic who can teach his/her peers what they have learned.

Desmos activities also work great for live class sessions. They can help students build conceptual understanding of topics while also showing their reasoning.

Open Middle problems offer another way to have students thinking more critically about problems. Open Middle problems are available for free online for just about every subject, and can be replicated in the live online setting by allowing students time to talk to one another, make educated guesses, critique one another's guesses, then have a full-class live discussion.

Last, gather some formative assessment data from your students to gauge how

the lesson went. Conclude the flipped classroom session with some assessment, such as an online quiz, exit ticket, etc. A self-paced game could also be placed here to allow students an opportunity to synthesize what they have learned.

A Trio of Female Math Teachers on the Coronavirus Crisis in Education

By: Stefanie Beretin, Marcy Fisher, and Melissa Hammett

Every teacher's nightmare: Your supervisor rushes into your classroom and frantically tells you, "Grab everything you need to teach from home indefinitely." Stunned, you think, "What? Why? Huh?" You snap out of a brief trance and think, do I grab a ruler? Should I toss a protractor in my bag? What about calculators? Am I low on pink erasers at home!? My laptop, of course. I can't forget my charger." We begin to realize that this is not a nightmare; this is our current reality.

In Mid-March, educators across the state in New Jersey found out that they would no longer be teaching in the classroom. A pandemic forced school buildings to close and teachers were told to adjust their instruction accordingly in a matter of days. There was little to no planning or training time provided to these educators, let alone time to gather supplies and appropriate technology for both the teachers and the students. A few days later, three middle school math teachers logged into their computers to start a virtual conversation guided by three specific questions. These are their musings as they ventured into the unknown. Unexplored resources and self-generated professional development became invaluable in their planning and teaching. Over the course of six weeks thus far, they express the challenges and victories in the changes they have made to adapt in these uncertain and chaotic times and the reasons why they made those changes.

Marcy: I am a mathematics teacher in 7th grade in an urban district, specifically a district specified as B by the NJ Department of Education District Factor Group (DFG). A district's DFG is determined by the following: 1) Percent of adults with no high school diploma 2) Percent of adults with some college education 3) Occupational status 4) Unemployment rate 5) Percent of individuals in poverty and 6) Median family income.

Stefanie: I have worked as a 7th grade collaborative and honors mathematics teacher for the past 9 years in a suburban school district in Northern New Jersey. The town is composed of middle class working families from diverse ethnic backgrounds. The schools are rated as FG on the District Factor Group scale.

Melissa: I work as a 7th grade and 7th grade accelerated math teacher in a small, working class community where, from my experience, families are appreciative and supportive of us teachers. My school is in a suburban district in Central New Jersey. On the District Factor Group scale Marcy mentions, my school is rated CD, with many students receiving free or reduced lunch.

Question: What were your expectations when you began remote learning?

Marcy: On Friday, March 13, 2020, I left my classroom at the conclusion of the day with an unsure feeling of where I would be teaching from on Monday. I grabbed everything I could, my laptop, textbooks and supplemental resources and I reminded my students to make sure they brought home their Chromebook. Given that my students are under-resourced in our district, I was worried they might not have what they need to work from home. On Sunday night, I received the phone call that schools were closed for at least two weeks and we were to plan accordingly. I did not panic as I was confident that my students would be fine since we already used technology on a daily basis in our classrooms. I planned lessons similar to what we would do in the classroom, minus the personal interaction pieces of the lesson.

Stefanie: I also left my classroom on March 13th, and I did so with great uncertainty. I had no idea what to take home with me, what protocols would be in place, how to help my students learn without physically being present. We did not have time to work together with colleagues before we left; because of the rush to close school buildings, administration did not have time to help guide us as to what our expectations were to lead successful learning through a digital

platform. Looking back, it would have been helpful if we were allocated common prep time to collaborate. My 7th grade students are all given a one-to-one Chromebook at the beginning of the school year and I integrate a lot of technology throughout my lessons so I was not worried that my students were going to be unfamiliar with resources, but I was worried about whether the kids had internet connection at home. Are my directions going to be clear? Is the workload going to be overwhelming? Will they understand the lessons? These questions were constantly running through my mind.

Melissa: My administration led a faculty meeting before school on lucky Friday March 13th to announce the start of remote learning the following Monday. We were told this would be a learning curve for the teachers, administration, parents and students and that we should be flexible. I knew not to set my expectations too high because many students in my lower middle class school district have limited resources at home and would need to borrow Chromebooks simply to access their work online, assuming they had Internet access at all. It is difficult enough to get students to do their work completely and successfully when I am there with them in person.

Wouldn't it be even harder to get them to work when I am not there? I was worried for them and for me trying to help them as we both adjust to this new way of learning. I did assume there would be a lot of parental intervention and they would make their child do their work. I optimistically hoped the parents would become even more active partners with me than they already were in their children's education.

Question: What are some of the resources/professional development that was helpful to you?

Melissa: My principal and others have regularly been sending us professional development opportunities that were first shared with him, and my more experienced colleagues have been very helpful. To date, my school hasn't yet held any official professional development for its teachers; however, I certainly understand the administrators are coping with many pressures and crises of their own. No doubt they were feeling as frazzled and overwhelmed as I was. Marcy, I know you have been very active in engaging with professional development more than ever before. Tell us about it!

Marcy: That is correct, Melissa. I joined local discussion groups, groups at the state and national level in order to collaborate with educators who have found themselves in the same situation. This collaboration gave new meaning to professional development. There were now strangers helping each other through one of the most challenging quests we will most likely ever be on. From simple DIY projects for making a whiteboard in your home to in depth technology hacks to make delivering instruction easier. And Stefanie, weren't you saying something about videos?

Stefanie: Yes Marcy, I was feeling so defeated with my video recordings. As the days went on, the number of students watching my video recordings of notes and completing assignments were starting to drop. I was trying to wrap my head around what I was doing wrong and how I can help them. I created a check in activity on google slides to give students an opportunity to write down how they are feeling about school or whatever they were dealing with at home. Most students said they wanted to be back in the classroom and that the workload was overwhelming because they were getting homework in classes they normally would not. A lot of them were worried about what was happening in the world and how they were nervous for their parents or family who were on the front lines working to fight this pandemic. I felt for the kids, that's when I sat down and started collaborating with my colleagues and using social media platforms to come up with innovative ways to keep them engaged. I started live video conferences because most of them just wanted to interact in person. I was using things around my house to bring our geometry unit into real life and help them make connections to things they see every day. But most of all, I wanted to know they were okay. I wanted to know that they were not alone in this and that we are all adjusting to our new normal. Melissa, what happened with your students?

Melissa: I attempted to teach circles to my seventh graders and had some minor success as I recorded myself reviewing the material but students do not watch the videos in their entirety. When I am in class with the students, I can remind them to pay attention, but at home all I am able to do is send out a reminder telling them to watch the video. Whenever they chose not to do so, I ended up with confused and frustrated students who didn't comprehend the concepts. I am still deciding whether to move forward or tread water, and find myself changing my mind constantly. It frustrates me. I wish my students had more successes but I realize academics are not the top priority for everyone right now.

Question: After doing this for six weeks now, have your expectations changed? How? Why?

Melissa: My expectations have definitely changed since this distance learning abruptly began a month earlier. Setting content expectations has been challenging. It is difficult because there is no right answer on whether to move forward with new content or work on reviewing previously-taught material. I discussed this with the eighth grade/Algebra 1 math teacher in my school about what her expectations will be for my students. She told me to do what I think is best, but the students could always use review. The graduate class all of us are taking provides us with useful insights since we, as current teachers, are sharing with each other what works in our districts and the technological tools that we find helpful.

Marcy: I began to realize that what I thought would be successful lessons were not engaging my students. They were becoming frustrated and I wasn't there to help them through it. I now began searching for remote learning, distance learning, home instruction lessons, anything that would help. I joined local discussion groups, groups at the state and national level in order to collaborate with educators who have found themselves in the same situation. Over the past few weeks, I have begun to master creating videos through a variety of platforms, using multiple digital platforms to keep the mathematics engaging, to the simplest task of using video conferencing to make sure my students are ok. This was the piece that I found to be the most important, the connection to my students, not for instruction, but for a well-being check. Are they safe? Are they eating? Are they taking care of their mental health? Mathematics took a back seat to these video calls, I found they just needed a bit of normalcy, they needed to know that we are still here for them and they need to share what they are feeling.

Melissa: I agree, Marcy. These issues bring up the importance of Social Emotional Learning and teaching to the whole child in this chaotic context. I am still trying to find the balance between asking students to submit their work and checking on their mental and physical health. Every week, I use Google Forms for emotional check-ins with students, and the children seem to enjoy the venting outlet. I appreciate that the school guidance counselor and school psychologist have been excellent resources and advocates for students who struggle. Contacting families using Google Hangouts have been a helpful resource to spot check if any students have any underlying issues or concerns beyond the coursework. My colleagues and I have managed to incorporate Google Hangout into our daily routine; we chat with each other during weekdays about our classes and check up on how students are doing in other classes. This communication has helped us adapt to this reality, even though we didn't have the chance to prepare in advance before we left school.

Stefanie: I agree with both of you! Going into week 6 of remote learning, my expectations change every day. I try to teach lessons as basic as possible for students to really comprehend. I research ways to really engage the students with the topics. Hours are spent on the computer learning, creating, envisioning what they would see as I teach. The biggest change that I have encountered though is that my expectations of students completing work has gone out the window. I just want to know that they are okay. I just want to know that they are safe. When I see a student in my conferences who does not complete the work, but is present that for me has become a successful day. Knowing they have someone to turn to when their parents are not home, that is a successful day. Teaching through a global pandemic has really brought to light that it is not about mastering math concepts. It is not about grades. It is not about throwing resources and assignments at them and saying here this is

what you need to complete today. It is about making sure that students are supported during a scary time. It is about checking in to make sure that a student ate that day. It is a time for unity and guidance on all levels.

Marcy: As I now enter week 6, I have redefined what this is that I am doing every day. This is crisis teaching, nothing else. My main objective in every lesson is to ensure the mental health of my students. For so many of them, they are home alone during the day as their parents are still working, they are caring for younger siblings so their mathematics instruction is not top priority, they have sick family members and they are scared and they have lost the structure and normalcy in their lives. My lessons now are intended to bring social interaction and create opportunities to be successful. I spend my days making phone calls to each student just so I can hear each one and let them know I am here for them. I make sure they know the community resources that are available to them such as food pick up provided by the district, crisis counseling phone numbers and anything else I think they may need. The lessons I need to assign as per the district guidelines, are ones that are strengthening previous knowledge and focusing on critical thinking and logical reasoning. Students are not experiencing the frustration and struggle of new concepts without me right there for support, and this is proving to be successful. I have found many more students completing the assignments and are engaged now, than I did when I was trying to teach new lessons from my dining room classroom. As I move forward, without a confirmed end date to crisis teaching, I will place my focus on creating lessons that promote a sense of accomplishment rather than frustration. Now is the time to focus on the social and emotional well-being of our students, there will be plenty of time to catch up on math concepts once we return to the brick and mortar classrooms.

Today, May 4, 2020, our Governor made the announcement that remote learning would continue through the end of the school year. When will we wake up from this nightmare?



Become a member of AMTNJ!

Join a team of passionate math educators to promote quality teaching and learning of mathematics.

To learn more about membership benefits and join AMTNJ visit <http://amtnj.org/membership/>

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THANK YOU to the authors who shared their knowledge and experience to make this newsletter possible.



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