Chonda Long: Welcome everyone!
Faith Peddie: Hi everyone! Welcome!
Linda Fulmore: Hi from sunny AZ
Trena Wilkerson: Hello to all from Waco, Texas!
Dr Deborah Smith: Hello everyone from Antioch, TN
Robyn Headifen: Kia ora from New Zealand
Jaclyn Murray: Atlanta, Georgia
Jan Back: Hello, its Jan Back from Tennessee.
dana dulzo: hi from novi mi
Cynthia Bryant: Greetings from Springfield, MO
Jeanetta Glass: Memphis, TN
Tina Hill: Howdy! northeast TN
Derrick Thompson: Derrick Thompson from New Jersey
Hong Pun: Hello from San Jose, California
Beth Kobett: Hi from Maryland!
michael Lanstrum: Hello from Cleveland, OH
Dawn Lybarger: Hello from Delmar, Maryland
Kay Wohlhuter: HI from Minnesota
Robert Berry: Robert Berry from Charlottesville, VA
Melissa Medici: Long Island, New York
Pui Ho Wilson Tsang: Hello from Santa Clara, CA
Carole Bamford: Hi from Montreal, Canada
David Dai: Happy Wednesday from Mobile, AL!
Dr Deborah Smith: A challenge for me is standard deviation
Robyn Headifen: Statistics is an area that many of our teachers have not been trained for or see themselves as teachers of - they still identify as being mathematics teachers
Kelly Ward: Hello from Angelina National Forest, Deep East Texas!
Amy Brunson: Hello from Monticello, Arkansas
Jennifer Wall: Jennifer from Christiansburg, VA
Lynn Rakatansky: Hi from Providence, RI.
Patrick Montague: Hello from Weslaco, TX
Ann Assad: Hi, Paducah, KY
William Speer: Bill Speer Las Vegas
dana dulzo: statistics are more than mean median and mode, we need to support a better overall understanding
Beth Snoap: hello from holland, mi
Dewey Gottlieb: Aloha from Hawaii! This is Dewey
Olivia Calabrese: Statistics is the most applicable subject for students to understand the world. People lie everyday with statistics and to be able to understand and seek a true knowledge is important
Jan Back: Statistics need to be taught in secondary school because most if not all college programs require some type of statistics class as part of their program.
Megan Crim: Megan, San Diego
Amy Brunson: Statistics tends to go on the back burner.
Mollie Mc Dermott: Hi from Buffalo, NY
Tina Hill: statistics can be whatever the writer wants...consumers need to know how to read statistics
Derrick Thompson: Teachers are not willing to teach AP statistics.

Maria Leticia Garcia: Hola from Guadalajara, Mexico.

Cynthia Bryant: Thanks you Gail and Chris!

Lesa Turner: Hi from Springfield, TN - Statistics are everywhere!

Robyn Headifen: One challenge is to have them not teach statistics like a mathematician.

Megan Crim: Teachers view calculus as the holy grail and often dismiss statistics as 'lesser'.

Brenda Carvalho: One challenge is understanding how the standards spiral throughout the progression. We don’t have reteach everything from the beginning rather build on what they already know. Make it real life. Use real data.

Kelly Ward: TEKS do not adequately cover Statistics in a systematic way. It’s covered hit and miss spread throughout subjects and grade levels.

Susan Woolley: Lots of mathematicians don't consider it to be "real" math. But it is the most applicable!

Alina Castillo: Mathematics teachers typically did not study statistics as math majors.

Patrick Montague: Every one can use stats to make sense of data correctly.

Donna Brink: Big Data analysis continues to provide great opportunities for our students.

Mollie McDermott: The amount of data in our world is growing and growing, so the earlier students understand statistics, the better.

Jeanetta Glass: Challenge: helping teachers overcome their fears and feel more comfortable with statistics.

Brian Odiwuor: Brian from Syracuse NY.

Beth Snoap: the more we teach stats, the more we can find 'fake news'!

Dawn Lybarger: Stats is one of the easiest real world applications, yet is the most often skipped content in math curriculum.

Kerry Gruizenga: Hello from Billings MT!

Dewey Gottlieb: Statistical reasoning helps teach our students to be critical consumers of information and to make informed decisions.

Daniel Irving: Hello from North Providence, RI!

Bethany Cybak: Hello from Dublin, Ohio.

Susan Woolley: A large portion of the math SAT is statistics and the need in the industry after graduation (much more so than calculus).

Susan Woolley: Sue Woolley, Carlsbad, CA.

Jason Wright: Hello from Howland, Maine

Brenda Carvalho: Sacramento, Ca

Mollie McDermott: A challenge is that many teachers don't understand stats well themselves and are nervous teaching students.

David Dai: Stats and data analysis are not concepts that most teachers are comfortable with.

Lorie Huff: Hello from Fayetteville, Arkansas.

Kelly Ward: College statistics is not necessarily required in teacher preparation programs.
Keisha Bailey-Garvin: Hello everyone...I’m from Charlotte, NC
Megan Crim: Challenge: Many math teachers fear problems that are messy and real data analysis is messy!
Alina Castillo: Alina Castillo from Chapel Hill NC
Sara Brown: From Milwaukee, WI
David Berger: Hello from Eau Claire Wisconsin!
Emily Roberts: Hello from Birmingham, AL!
Kerry Gruizenga: Many teachers are not well versed in statistics AND they are afraid of variation!
Megan Crim: Will a recording of this presentation be shared? I want to share with my department!
Jan Back: Lack of confidence in statistics and teaching statistics at the high school level.
Cynthia Bryant: Yes, the recording will be provided.
Kerry Gruizenga: Statistics are everywhere! Informed citizens have to know stats...
Nicholas Van Epps: Shout out to small town Wisconsin
Faith Peddie: Please ensure that you responses are “To: All panelists and attendees”
Faith Peddie: And enjoy!
Tancy Wenrich: Thanks, Faith!
Jennifer Rising: Hello all from Maui, Hawaii
Chi-Man Ng: Statistics is not always taught in school.
Mary Dugas: Hi! MaryD, Louisiana
Leslie Sorce: Hi from Arizona!
Elizabeth Devereaux: Walnut Springs, Texas - Statistics saturate life
Shaneille Samuels: Hi from Jamaica
Said Chatir: Hello from NJ
Chonda Long: Emily - If you have a question you can put it in the Q and A box
Jeff Koenig: Hello from CA
Kenneth Yowell: Data is dynamic...I love that!
Rebecca Strom: Hello from MN
Rebecca Folsom: Hello from Tallahassee, FL
Mike Shaughnessy: hello Jane!! Mike
Shaneille Samuels: Students might ask when will this all be over
Linda Fulmore: do not see slides
Malrene Naquin: Hello from Long Beach, MS
Kelly Ward: Will prom be cancelled? Silly, but important to them.
Tancy Wenrich: hahaha
Kelly Ward: False positive rate, false negative rate!
Trena Wilkerson: I see a slide on knowing how to ask the right questions.
David Barnes: Are you seeing a cover of Catalyzing Change?
David Barnes: Are you seeing a cover of Catalyzing Change?
Mike Shaughnessy: I am
Robyn Headifen: my question is how do you accommodate the false negative/positive rates in modelling
Chonda Long: Can everyone see it now
Chonda Long: I changed a setting
Malrene Naquin: I can
Jeff Shih: yes
Shaneille Samuels: agreed
Mike Shaughnessy: Seems better
David Barnes: Thanks!
Mary Ochieng: Yes
Beth Kobett: yes
Penina Kamina: Hi Mary O
Lynn Rakatansky: yes to book cover, but we cannot see the speaker, Gail.
Lorie Huff: I see both the book cover and Gail.
Lynn Rakatansky: We see Chris.
Cynthia Bryant: I see both
Timothy Fischer: Nice
Lorie Huff: Click on your view options at the top of the screen.
Cynthia Bryant: I see both the slide and Gail
Beth Kobett: I can see everything (Gail and book)
Chonda Long: What document?
David Barnes: @Alison - Catalyzing Change is publication for sale by NCTM. It also has an executive summary and other supporting materials at http://www.nctm.org/change
Dawn Burgess: The margin of error is larger than the proficient region
Jeff Koenig: The MOE is almost a band width!
Lisa Rogers: The entire proficient range is within the margin of error.
NICOLE RIGELMAN: The MOE is even larger than the Partially Proficient band
Grant Weed: Significant change and change that is statistically significant mean two different things
Pamela Gavina: YES! data walls demoralize students
Allison Stefanski: Any math teacher will tell you that the data our admins want from us are completely irrelevant.
Allison Stefanski: Especially "Student growth" data
Janelle O'Neill: Hello! Janelle from Fairfield, CT (currently relocated to Danvers, MA) @Megan_Crim I have the same problem! It is a goal of mine to create a “sexy” course that will appeal to college admissions as well so Calculus isn't the only gold standard.
Shaneille Samuels: administration only focus on performance which is driven by data. however it doesn't truly say anything about the students in relation to the mathematics being taught if we really want to know if they are really learning
Allison Hopkins: COMAP has a great unit called Imperfect Testing: Breast Cancer Case Study that goes through this that's free for teachers
00:42:53  Timothy Fischer:  Exactly what the words say
00:44:40  Allison Hopkins:  PPV and NPV
00:46:11  Grant Weed:  Tree diagrams work very well for these calculations.
00:46:22  David Barnes:  Welcome Darlene!
00:46:32  Faith Peddie:  Thank you for joining us Darlene!
00:47:15  Timothy Fischer:  Hey Darlene!!!! Glad you made it here
00:48:51  Baron Hannsz:  This assumes a relatively low prevalence of the cancer, and we know a good amount on that number. But with COVID 19 do we have enough data to estimate the prevalence rate?
00:50:20  Grant Weed:  No. I don’t think we know what the false positive and false negative rates are for Covid 19 yet
00:50:36  Derrick Thompson:  false positive = Type I error
00:50:45  David Barnes:  Yes, Grant.
00:50:56  Dawn Burgess:  For most of the tests, the false negative is because the swabbing technique doesn’t grab any virus
00:51:16  Robyn Headifen:  many factors involved in the testing - 1 being testing once infection has passed
00:51:23  Dawn Burgess:  The actual PCR test of the sample has basically zero false negative.
00:52:14  Dawn Burgess:  (My husband is a genetic researcher and his institution is conducting some of the tests)
00:53:15  Dawn Burgess:  (The lab portion of the test also has a basically zero false positive rate if the sample is not contaminated with actual corona virus genetic material
00:53:39  Cynthia Bryant:  Thanks for sharing the info Dawn Burgess.
00:54:18  Chonda Long:  Sarah - Do you have a specific question?
00:56:09  Dawn Burgess:  As teachers, I think we need to be VERY CAREFUL trying to teach our students using data from this pandemic before the emergency is over
00:56:58  Dawn Burgess:  I think we all know how easily students can take away a completely incorrect understanding, even if everything we tell them is correct!
00:57:09  Grant Weed:  Agree with Dawn
00:57:25  Shaneille Samuels:  agreed too
00:57:38  Allison Hopkins:  But: to teach the questions to ask...what do we need to know, what should we be asking about, what should the media be reporting on
00:57:59  Allison Hopkins:  I think those questions and those statistical questions are really important to empower students with so they can ask about situations like this
00:58:03  Baron Hannsz:  On exponential functions.... I am concerned that the media describes the spread of the virus as an exponential curve but the logistic model is better.
00:58:08  Timothy Fischer:  Yes. Students may interpret our data incorrectly and arrive at n incorrect conclusion and then spread these rumors
00:58:41  Claudia O'Keefe:  It would be good, though to teach this about a previous situation and then how the interpretations changed with more information and how to keep their minds open and still test the data and info at the same time
Danielle McReynolds-Dell: But I think that with careful moderating, we can teach our students to be critical consumers of what they read.

Tori Garrett: Yes! It's all about the delivery: whose eyes don't glaze over when they hear "logistic" anything!

Dawn Burgess: True, Baron. But the exponential part is the emergency.

Grant Weed: Also, there's the risk of minimizing the pandemic and using it in service of math curriculum, which I would argue it not in good taste. Using math and stats to understand the pandemic is more appropriate.

Tori Garrett: yes!

Faith Peddie: @Gabriela B - Do you have a specific question?

Baron Hannsz: I see what you are saying Dawn, but it is inaccurate and if students have a superficial understanding of exponential functions "going to infinity" they will think this means everyone is gonna die. I think more correct mathematics can serve to met the SEL needs of our students and bring some calm.

Danielle McReynolds-Dell: It is important to use what is happening around us to help them think more actively. I live in SF and had kids read a ton of articles in order to understand their privilege and to think about what questions had not been asked or explored. They learned to ask great questions and then to seek the data to understand small portions of their questions. They learned that they still need to learn more.

Beth Kobett: I am appreciating this conversation!

Danielle McReynolds-Dell: This year, I stepped away from canned data and gave my kids really messy real data. They really rose to the challenge. Some of the handle data better than my college kids.

Dr Deborah Smith: @Danielle, that's a great way of presenting it. I need to try that.

Timothy Fischer: What are some lurking variables here?

Baron Hannsz: I don't think it would "minimize" the pandemic or the seriousness of it if you explain the mechanisms (social distancing, medical research, hygiene, etc) that cause the point of inflection to occur. For AP Stat or Calculus you can explain how the logistic curve and the normal curve are related. I don't think this is using the virus to serve the curriculum but rather using math to make sense of the world.

Baron Hannsz: I also agree wholeheartedly with the studying of inequities on the issue.

Dawn Burgess: Agreed, Baron, I don’t worry about minimizing, more about spreading distrust of testing.

Grant Weed: A great question to ask is if we should focus on the difference between the medians or the gap as a percentage.

Dawn Burgess: @Danielle, I agree! I have had my students complete a questionnaire at the beginning of the class that gives us a bunch of categorical and quantitative data, and it's great for use in class.

Dawn Burgess: We have to deal with people who measured in inches instead of cm.

Dawn Burgess: We also have a question, “How old is Mrs. Burgess.”

Dawn Burgess: Obviously I get older every year, but I also had my son in class one year and he answered that I was 86 yrs old.

Dawn Burgess: Instant outlier.

Grant Weed: Another question to ask...Based on the models, will
women make more than men someday?

01:07:50    Dawn Burgess: Love this dataset.
01:07:58    Dawn Burgess: @Grant, great question!
01:08:11    Dawn Burgess: Danger of assuming we can extrapolate the linear trend!
01:08:26    Allison Hopkins: Residual plot there
01:08:28    Danielle McReynolds-Dell: @DrDeborah, I took a social justice and equity perspective this year to teach statistics. Every unit had a focus. I accompanied each unit with a plethora of articles from multiple sources to help my students become informed. I also invited guest to come speak. For instance, when we investigated education and funding, I invited some of my colleagues from various schools to speak about what challenges they faced.
01:08:52    Dawn Burgess: @Danielle, do you have a list of those articles you could share?
01:09:00    Dawn Burgess: Or a google doc/ drive folder?
01:09:36    Dr Deborah Smith: Yes, are you able to share. That sounds awesome
01:10:17    Danielle McReynolds-Dell: More than happy to share. Just trying to figure out how to do so. I need to migrate it out of my school drive which prevents sharing with those outside of our institution.
01:10:22    Malrene Naquin: good to see how difference is how fast each is growing. women income increasing more that men, but has more to catch up..
01:11:09    Dr Deborah Smith: @Danielle, I would gladly share my email address.
01:11:25    Dawn Burgess: I am a gifted and talented specialist. What do we do with gifted kids? We have a 5th grader doing precalculus this year. When would a kid like that step into the Statistics?
01:11:29    Mike Shaughnessy: I know several schools that reorganized to start 9th grade with geometry for all, then stat, and algebra popping up in the second part of year 2! Whatya think!?
01:11:37    Allison Hopkins: Why couldn't that student be doing this now
01:11:43    Grant Weed: Seems difficult to cover all of geometry in only a semester
01:11:52    Malrene Naquin: anyone here teaching preservice teachers?
01:11:54    Danielle McReynolds-Dell: please do so. I will speak to my IT people as school to get some of the restrictions lifted.
01:12:06    Mike Shaughnessy: A whole year of geometry for 9th graders
01:12:09    Shaneille Samuels: yes I teach pre-service teachers
01:12:14    Mike Shaughnessy: It provides a level playing field!
01:12:18    Danielle McReynolds-Dell: @Dawn we should talk. My entire school is filled with students who are gifted and talented. It was founded as a school for the gifted.
01:12:23    Donna Brink: Is there anyone doing a one semester geometry class now?
01:12:36    Melissa Carlson: Change at the HS level will only happen after there is a change at the college level - how do we make a statistics pathway as valuable as an algebra/ calculus pathway?
01:12:53    Jeanine Colwell: NC still does common core math in High school
01:12:56    Dawn Burgess: @Danielle, is there a way I can get in touch with
01:12:56 Faith Peddie: Here is the link to tonight’s certificate of participation. Thank you for joining us!

01:13:03 Dr Deborah Smith: In Integrated Math I, we only do a quarter of geometry.

01:13:03 Grant Weed: Agree…plus, you need Calculus to major in Statistics

01:13:09 Donna Brink: Also, what are colleges saying about a one semester geometry course

01:13:55 Dr Deborah Smith: @Danielle, my email address is drlyneen@gmail.com. Let me know if you would prefer my work email.

01:14:33 Tancy Wenrich: Wow I love this proposal. I see a lot of freshmen college students placed in college algebra when they've already done precalc in high school. Hopefully it gives them more of an opportunity to understand the context better!

01:14:38 Chonda Long: Here is the certificate of participation -

01:14:47 Danielle McReynolds-Dell: @dawn, here is my work email. ddell@nuevaschool.org. please reach out. We can set out a time to speak. We are an integrated program from grades PK-12. We teach statistics at every level for our students.

01:14:51 Faith Peddie: Here is the link to tonight’s certificate of participation. Thank you for joining us!

01:15:05 Brenda McNeese: Thank you so much.

01:15:06 Beth Kobett: Thank you! This was wonderful!

01:15:10 Grant Weed: Where does Bayesian Reasoning fit into the Statistical Curriculum?

01:15:17 Cynthia Bryant: Thank you both! Great Job!

01:15:18 Tori Garrett: thank you!

01:15:18 Malrene Naquin: Thanks!!

01:15:22 Claudia O'Keefe: Thank you!

01:15:22 Roberta Ludwigsen-Hill: Thank you!

01:15:24 Sara Brown: Thanks Gail and Chris!

01:15:25 Erin Guerrero: thank you!!!!

01:15:28 Rebecca Strom: Thank you!

01:15:30 Tina Hill: Thank you!

01:15:35 Trena Wilkerson: Thank you all! Excellent conversations and thoughtful ideas.

01:15:37 Alina Castillo: Thank you!

01:15:38 Robert Berry: Thank you for a great webinar

01:15:42 Elizabeth Devereaux: Thank you!

01:15:47 Danielle McReynolds-Dell: @DrDeborah here is my work email ddell@nuevaschool.org. I have copied yours down. Please feel free to reach out.

01:16:02 Daniel Irving: Thank you for this incredible webinar and invaluable resources!

01:16:06 Mollie McDermott: Thanks so much!!!
Mary Ochieng: Thank you!

Allison Hopkins: NC State has the "Friday Institute" that has MOOC-EDs with data analysis and stats

Dr Deborah Smith: Thank you! This was great!

Chonda Long: We will be sharing a PDF of their PP tomorrow with the recording

Allison Hopkins: they have a lot of resources


Meggan Kenyon: Thank you

Susan Woolley: I love FOCUS and GAISE

dana dulzo: thank you for the presentation and the idea about redesigning the high school math curriculum

Dr Deborah Smith: @Danielle, thank you so much. I will.

Melissa Carlson: I think everyone here values statistics education - how do we challenge our colleagues to broaden their algebra-driven perspective?

Dawn Burgess: @Danielle, I will email you!

Jeff Shih: it seems like those conversations could be continued on myNCTM

Chonda Long: Copy and paste the link into your browser

Brian Odiwuor: thanks for sharing such great ideas

Sara Brown: Census at School

https://ww2.amstat.org/censusatschool/

Sandra Peirce: Thank you! This was very exciting!

Christine Casiere: I am an EC co-teacher for inclusion math classes and I am having difficulty motivating the EC students. I am concerned they are going fall even farther behind during this virtual learning time.

Faith Peddie: Yes, lets continue this conversation on MyNCTM!

Kelly Ward: And how do we convince administrators to change the math progression?

Malrene Naquin: If anyone teaches preservice teachers please contact me I would like to chat Marlene.Naquin@usm.edu also would love ideas from folks for activities to share with my pre service students.

Beth Kobett: Great idea!

Dawn Burgess: I think many teachers took statistics and thought it was boring because it was a lecture and not a hands-on class


Beth Kobett: These are great conversations to jump start information sharing on MyNCTM

Tammy Crumble: Thank you for the information I see why the Census report is so important

Faith Peddie: Awesome presentation tonight, thank you Gail and Chris!

Dana Lay: Thanks for the information!
Faith Peddie: Here is the link to tonight’s certificate of participation. Thank you for joining us!

Janelle O’Neill: @Melissa_Carlson I second your question!

Malrene Naquin: Thanks Gail and Chris

Said Chatir: Thank you! Very informative webinar,

Faith Peddie: Here is the link to tonight’s certificate of participation. Thank you for joining us!

Shaneille Samuels: thank you for sharing with us today

Sharon Ling: Thank you for this great presentation!

Faith Peddie: @George Here is the link to tonight’s certificate of participation. Thank you for joining us!

Lorie Huff: Thank you Gail, Chris, Mike, Faith, Chonda, Dave, and NCTM! Great information! Keep mathematics relevant! :)

Faith Peddie: Here is the link to tonight’s certificate of participation. Thank you for joining us!

Chonda Long: Copy and paste the certificate link

David Barnes: Please share your questions at https://my.nctm.org/home and we will have Chris, Gail, and Mike join into answering and discussing them with you.

Mohamed T: Thanks!

Annika Moore: Thank you

Dawn Burgess: Thank you!

Tammy Crumble: Thanks

Stephanie Ruggiero: thank you!

Ada Feliciano: Thanks

Grant Weed: Thank you

Melissa Carlson: Thank you!

Shaneille Samuels: thank you

Timothy Fischer: thank you

Melissa Medici: Thank you!

Pamela Gavina: thank you111

Christine Casiere: Thanks

Mary Dugas: not certificate

Janelle O'Neill: Thank you!

Chonda Long: Thanks!

Daniel Irving: Thank you!

Patrick Montague: Thanks