# ISTE in San Antonio June 25-28 2017 Math related sessions\*

#### Building Communications Skills and Technological Aptitude through Math

Math Video Challenge (MVC) is a free program empowering students to explore math and use technology creatively. MVC students develop critical skills—from video editing and filming to storytelling and collaboration. Session participants gain strategies for making MVC work for their students, plus rubrics and tools they can use immediately.

#### Digital Storytelling Through Video Game Design

Video games are a powerful medium that can be integrated into the curriculum in many ways. By empowering students to create their own video games, any content area teacher can allow student imagination and excitement to combine with strong writing, storytelling, and design skills in this open-ended process.

#### Learning Math with Games for Kids

This project has the objective to help kids to learn basic things about math in a easier, quicker, and fun way.

# Transforming Student Learning in Math With Web Tools

Discover how to use technology to redesign tasks by giving students choice in selecting tools to create products that demonstrate understanding and allow them to share their creations in an interactive virtual community. We'll focus on web-based tools that support differentiated mathematics instruction with the Mathematics Practice Standards.

# UDL for Math and Science in the Google Apps for Education Classroom

Creating digital math used to be a difficult process. It can be complicated to type and frustrating for students and teachers alike. We'll focus on simplifying this process using EquatIO and other apps, enhancing ways students can respond to math and science problems digitally and collaboratively within G Suite for Education.

### iKinder: Making the Most of iPads in the Kindergarten Classroom

Kindergarteners come to school with a wide range of background knowledge and ability. We will show you how to use iPads to differentiate for our youngest learners. Using apps and QR codes is easier than you think!

#### DBL in the Math Classroom

Describe the difference between digital blended learning and integrating technology. Describe through examples the difference between traditional teaching, integrating technology and digital blended learning. Discuss instructional strategies and web tools implemented to increase student achievement using digital blended learning.

# Engage Students in Math Content Through Productive Exploration with Interactive Simulations

Find out how to use interactive flexible tools for teaching content while also fostering engagement, reasoning, modeling and sense-making. Learn how to incorporate simulations into your classroom, facilitate inquiry-based activities and engage students in mathematical practices. Take home lesson ideas for teaching linear functions, linear regression, trigonometric functions and more.

# The (Digital) Coffeeshop Classroom

How getting rid of desks, replacing them with comfortable furniture and allowing students to work at their own pace changed student engagement and performance in the math classroom. Also included: using OneNote as a platform to allow the classroom to be completely paperless and run in a nontraditional, efficient manner.

# Creativity and Exploration of Music-Mathematics Activities in a Virtual Simulation Environment

The perspectives shared illustrate the importance of creativity in mathematics learning. We highlight and explore approaches that are situated in, as well as, leverage the affordances of using a simulated classroom and learning spaces in the virtual world of Second Life® to engage preservice mathematics teachers in music-mathematics activities.

### Create Math Explorers in Desmos Activity Builder

Explore how Desmos facilitates inquiry-based learning with activities that promote exploration. Experience Desmos Activity Builder from the student perspective, then learn how to create and implement your own activities to foster student-centered learning.

### Developing a Growth Mindset in Math

This session will focus on the results of a mastery-based Algebra class. The class followed a traditional format, but technology tools were integrated and the assessment system was changed to allow students to take ownership of their learning, to master the concepts, and to develop a Growth Mindset.

### Going Digital: A Flipped-Mastery Math Class

You decided to "flip your math class" but with all the resources and technology available, you don't know where to start. Learn a step-by-step implementation process and the various forms of technology that you can use to create a personalized mastery learning environment for all students.

# Using Realistic Situations to Make Mathematical Concepts Clear - Fantasy worlds

Well-designed fantasy worlds can help students think critically, develop creativity and make sense of math. As students craft in an intrinsically mathematical world, the visuals and virtual manipulatives help them critically think about the underlying math concepts. Attendees will learn from examples of a farming activity in which choices about areas to irrigate reinforce the concept behind fraction multiplication. Fantasy worlds can also encourage creativity, as students navigate their environments and think about the best locations and configurations of their structures.

#### Breakout of the Math Classroom

Explore the available Breakout EDU math games and learn how to adapt them for various levels of learners. Different games will be available for participants to experience the collaborative, problem solving adventure.

#### Growth Mindset Interventions in Online High School Math

Hear about the lessons learned at our Florida Virtual School that implemented a growth mindset (GM) pilot course designed to include GM interventions throughout the curriculum. We'll also share how we trained teachers in specific GM strategies for teaching math.

#### Lego Mindstorm

Engage kids in fractions and measurement with Lego WeDo 2.0 robotics and let them know that everyone can be an engineer or scientist with authentic tasks. Explore hands-on time with programming robots and scientifically evaluated pathways to use for math instruction.

AppTIDude: Designing apps that can solve real-world problems in K-12 Our vision is that students will become innovative designers, computational thinkers, global collaborators and ethical digital citizens. Our solution will increase the use of programming languages and the development projects. Doing so, will raise students' awareness that they can come up with solutions to real problems by developing apps.

# Build NumberOpolis, the Town Where Numbers Live

Team Ten (0-9) and STEM Squad ( $\pi$ ,  $\Phi$ ,  $\infty$ , e, c, i,  $\epsilon$ ) are moving to NumberOpolis. Work together to imagine, design and build a home that expresses a number's meaning via history, science, architecture, etc. End with a presentation on the decision-making process to imagine and build.

# Mathematics Instruction and Coding in the Elementary School

K-5 teachers are connecting their mathematics lessons to coding activities. Our project, Learning Trajectories for Everyday Computing, has worked with students and teachers to make the math to CS connection. Come see classroom-ready activities that enrich mathematics topics by having students program. (George Reese)

# Using Math Simulations to Support Rich Discussions and Investigations around Algebra Readiness

Interactive simulations are flexible tools for exploring algebraic concepts while also fostering engagement, reasoning, modeling, and sensemaking. Learn how to incorporate simulations into your pre-algebra and algebra classrooms, facilitate inquiry-based activities, and engage students in mathematical practices and discussions.

#### Rethinking Mathematics Education in a Digital World

Experience how technology is redefining students' ability to communicate, collaborate, represent and learn from one another in a one-to-one math classroom. Learn about tools that facilitate teachers' ability to differentiate instruction and reach students of all levels.

### Augmented Reality, Math Rally Challenge

Fifth grade students will show how they create math problems and use augmented reality to design a rally in which younger students follow up clues to find them and solve them, following a series of steps that involves different cognitive abilities. They'll explain how they keep track of the progress.

# GeoGebra Online and Mobile Math Apps for Your Classroom

Explore the free and interactive graphing and geometry apps from GeoGebra used by millions of users worldwide to support easier understanding of mathematical concepts. Learn how to use the GeoGebra online and mobile apps for your math classroom to create, share, and collect interactive learning materials.

# Google Apps with YouCubed.org Math Activities

Discover how to teach math with Google Apps. We'll demonstrate the innovative math activities from youcubed.org and how they can be utilized using Google products. NOTE: Jo Boaler will be participating remotely via video

# Graphing with Desmos: Cultivate Deep Understanding Through Visual Exploration

Learn to use Desmos, a powerful, intuitive online graphing calculator, to foster inquiry and collaboration. Leaders will share basic and advanced features of Desmos and examples of their own work. You'll learn how to make your own dynamic note pages and classroom activities for students within Desmos.

### Create a 3D Home Using Math and Real-World Application

Learn how to have your students create a floor plan and screencast of their dream home. Then, the students turn those dream plans into a 3D model using Tinkercad and a 3D printer. It's real world problem solving, math and FUN!

# Innovate & Make: Creating a Maker Mindset in the Math Classroom

Discover how middle school students are learning mathematical concepts through making. Through the use of robots, LEGOs, Makey Makey, Educreations, and more, students are constructing knowledge in creative and concrete ways to enhance their understanding of math.

# Math made fun Tinkercad, 3D modeling, program Helps students find specific volumes

\*research geometrical figures for prior knowledge \* students make geometrical figures using acquired knowledge and tinkercad 3D designing program \*Problem solving applying knowledge to produce their 3D design.

# Transform learning with Desmos - It's more than meets the eye!

Desmos is more than just a graphing calculator! Participants will experience the possibilities of the Desmos Activity Builder. Help students build conceptual understanding of complex ideas using ready-for-the-classroom interactive activities available in the Desmos ecosystem. Get ready to dive into a fusion of educational technology and mathematics!

#### Gamifying MS Math: A Collaboration Across Divisions and Disciplines

What do you get when you cross an upper school game design class with a sixth grade math class? A unique gamified unit that offers an engaging, immersive world for students. We'll reveal lesson plans, our steps towards collaboration and share practical tips for creating lessons across ages and disciplines.

#### Transform Math and Science Education on Chromebooks

Hosted by Google. Creating digital math used to be a difficult process. It can be complicated to type & frustrating for students and teachers. We will focus on simplifying this process using EquatIO and other apps to make Chromebooks the ideal lab partner with GSuite!

### Rethinking Math Culture: Developing A Schoolwide Math Mindset

To prepare students for an ever-changing future, we must focus on developing skills that encourage persistence for students to pursue their passions. This panel highlights how leaders can support a vision of transformation extending beyond the classroom to develop a growth mindset, deep connection to and love for mathematics. (Dream box guy)

# Three Free Tools to Engage and Empower Your Math Students

Graphing functions, solving equations, and simplifying expressions are essential math skills. These free tools from SAS® Curriculum Pathways® empower student learning and promote understanding by allowing students to: • Manipulate graphs while investigating the relationship between equations and their graphs • Monitor their solving and simplifying processes with instructional feedback.

# The Personalized Learning Playbook

Deploying a successful personalized learning classroom involves a variety of programs, learning experiences and a multitude of teaching strategies. We'll walk educators through a game plan that will bring together all the key aspects of personalized learning in one complete package.

\*This is a subset of the 142 sessions that came up when I searched for math related sessions. See these and all 142 sessions with more details at <a href="https://conference.iste.org/2017/program/search/">https://conference.iste.org/2017/program/search/</a>