LEARNING INNOVATIONS BREAKOUT SESSION DETAILS

Pre-Conference Spotlight Session:

Free Curriculum Resources for Boosting Student Engagement & Creativity
Presented by Francesca Arturi, Direct Sales Representative, Capstone Publishers
INFOhio is providing access to several Capstone products to schools across Ohio, at no cost! These resources include science and social studies content along with digital tools to design engaging literacy and research projects and lessons for upper elementary students. This virtual spotlight session will take a deep dive into the rich Capstone resources available through INFOhio to support STEM and maker learning.

In addition to the presentations listed below, the breakout session schedule also offers the following opportunities at 12:30, 1:30, and 2:15 p.m.:

Guided Tour of DI Makerspaces
Meet outside the REACTOR (lower level- Room 150) for a guided tour of makerspaces in the DI Hub including:
- DI REACTOR, a multi-faceted makerspace environment featuring 8 shops and labs.
- Blank_Lab, a black box environment for investigating collaborative experiences that bridge the scope of immersive technologies, including augmented, virtual, and extended reality tools
- Innovation Teaching Kitchen, this space marks the central crossroads of the building – uniting clusters of innovation around one of the original makerspaces...the kitchen!

Getting Started with Design Thinking
John Spencer
Design thinking projects can seem daunting when you have time constraints, standards, and a curriculum map. What does it look like? How do you even get started? As a follow-up to his keynote address, this breakout session will begin with the “why” and move into the “how.” Participants will do a hands-on design thinking challenge and will explore how the design thinking structure fits into other big ideas like PBL and inquiry-based learning.

Using Makerspaces to Blend Gamification with the Power Of Creation
Robert Lane, Executive Director & STEAM Coach, One Byte At a Time
This session will explore how your school’s makerspace can serve as a setting to engage students in STEAM and design thinking using Minecraft: Education Edition, a game-based platform that inspires creative, inclusive learning through play. Learn how you can effectively incorporate Minecraft into all areas of the curriculum to promote deep learning for STEAM.

Making Meaningful Connections with Maker Learning
Andrew Robitaille, Media Specialist, Hudson High School
Makerspaces provide a unique opportunity to connect students with people and experiences that take them beyond the four walls of their classroom. The Hudson High School Makerspace regularly forms partnerships with district and community organizations to provide authentic learning experiences that promote empathy, service, and personal growth. Rather than being a nuts and bolts discussion about how to use fabrication machines, this session will focus on how educators can empower their students to use makerspace technology to make positive connections. This session will discuss connections students made through grants, entrepreneurship opportunities, charitable fundraisers, and collaborations with special education and service learning students. Participants will see samples of student products. We will then discuss ways that participants can use their machines to make similar community connections, how to obtain funding, and what machines are great starting points for generating a service-oriented maker culture.

Full STEAM Ahead - Everyone Aboard the Train!
Aubree Horning, STEAM Teacher, Marlington Local Schools
This interactive presentation will provide attendees with a comprehensive overview of Marlington’s Elementary STEAM story. Key factors that led to its success will be identified and discussed including creative and flexible programming, funding, partnerships within the community, and gaining district support. An emphasis will be placed on a variety of opportunities for all students to be involved. Attendees will have time to sketch a framework or create action items that will support a similar initiative upon their return to their district.

Create, Explore & Learn Using XR Technologies in Makerspaces
Dr. Gus Farmakidis, Library Media Specialist, Akron Public Schools
Extended Reality (XR) technologies encompass tools for Augmented Reality, Virtual Reality, and all realities on the mixed reality spectrum. Learn how you can utilize these innovative technologies within a makerspace to actively engage students in creating, exploring, sharing, and deep learning. Come ready to explore & play!

LAUNCH-ing Design Thinking with Preservice Teachers in a 3D Printing Unit
Dr. Megan Brannon, Director of Curriculum, Assessment and Instruction for Quaker Digital Academy; Adjunct Instructor for Kent State University
This session will present research related to the impact of Dr. John Spencer’s LAUNCH cycle design process model on the creativity of preservice teachers during a 3D printing instructional unit. To relate research to practice, the presentation will also delve deeper into the
actual curriculum of the research study, providing examples of higher education instruction related to both 3D printing and design thinking with preservice teachers. While this study does focus on preservice teachers, the content is transferrable to both the teaching profession and K-12 classrooms.

**What to Make of Makerspaces?**
Tricia Dirker, Vice President of Educational Technology, S3 Technologies
Allie Gearhart, EdTech Coach, S3 Technologies
Chris Larker, EdTech Coach, S3 Technologies
Crystal Dougherty, EdTech Coach, S3 Technologies

In this session, we'll host an open forum for discussion about makerspaces. We'll explore best practices around utilizing existing makerspaces and linking them to John Hattie's teaching strategies. We encourage administrators, teachers, and tech coordinators to attend in order to better understand the who, what, when, where, why, and how of makerspaces. Let's dust off your gear and get making!

**Sew What? Why Textiles Should Be Included in Your Makerspace**
Dr. Vicki Turner, Technology Director, Berea City Schools

If you haven’t included textiles in your makerspaces, you’re missing out on an engaging experience enjoyed by both male and female students and staff! Learn why sewing -- either by hand, a sewing machine, or a digital embroidery machine-- involves creativity, collaboration, critical thinking, collaboration, and fun. Learn the basics of setting up a textile station and what types of supplies and equipment and training you will need. See first-hand examples of student and staff work and be inspired to start your own sewing experiences, and learn the curriculum connections “sewn” into this engaging maker activity. There will also be some fun prizes for a few lucky winners that will keep you in stitches!

11:45 a.m. – 12:30 p.m. **Lunch in the Design Innovation Hub (Level 3)**

**Utilizing High-Yield Instructional Strategies in Maker Learning: Visible Learning Strategies for Student Success**
Matthew Mays, Educational Technology Consultant, Stark County Educational Service Center

Get the most bang for your buck in your makerspace by utilizing the high-yield instructional strategies made famous by John Hattie and the wonderful free tools available from Google and beyond. Explore the major factors influencing student achievement alongside new and hall-of-fame online tools to incorporate them into maker learning. Move beyond the guessing game of whether or not a strategy is working by employing teaching strategies that are scientifically proven to work. Student achievement is the goal and a diverse teacher toolbelt is key to success.

**Inventing with MaKey MaKey**
Robert Lane, Executive Director & STEAM Coach, One Byte At a Time

MaKey MaKey kits offer endless opportunities to engage students in inventing, coding, and creating. Participants will learn the basics of creating projects with MaKey Makey and discover the many ways Makey Makey can be applied to STEM learning across a wide range of content areas.

**PBL in Elementary**
Aubree Horning, STEAM Teacher, Marlington Local Schools

Challenge students’ thinking, promote rigor, and build engaging authentic, real-world, learning experiences through Project-based Learning (PBL) in elementary classrooms and maker spaces. We will discuss how to implement PBL, including helpful examples, emphasis on student choice and differentiation, and how to connect projects with content-area standards.

**The Nitty Gritty of Managing a Makerspace**
Dr. Vicki Turner, Technology Director, Berea City Schools

Makerspaces are wonderful areas of innovation but managing them can be challenging. Find out how districts can manage multiple spaces using simple Google tools to keep track of scheduling, trainings, tutorials, purchases, and more. We will share information, best practices, and ideas and welcome participant interaction and collaboration.

**3D Printed Dinosaurs and Design Thinking in Second Grade Classrooms: Processes, Partnerships, and Perspectives**
Todd Poole, Principal, Holden Elementary School
Amy Hopkins, Second Grade Teacher, Holden Elementary School
Kelli Kunkle, Second Grade Teacher, Holden Elementary School
Elena Novak, Associate Professor, Kent State University
Bridget Mulvey, Associate Professor, Kent State University
Shannon Navy, Associate Professor, Kent State University
Lukas Van Der Watt, Graduate Student, Kent State University
Wisdom Oyatokun, Graduate Student, Kent State University

This session is a collaborative partnership between Holden Elementary School and Kent State University. The project centers on integrating 3D printing and science content in elementary classrooms. During the experience, the second-grade students develop and create 3D-printed dinosaurs adapted for particular environments. This presentation will focus on the design thinking model, the curriculum implementation of the 3D-printed dinosaur unit, and implications for 3D printing and design in elementary schools.

1:30 – 2:15 p.m.

**NEO Maker Network - Introductory Brainstorming Session Hosted by Kent State Design Innovation**

How are others implementing maker learning in their spaces and with their students/stakeholders? We are exploring the potential for bringing together the leaders in local schools and organizations focused on maker learning, design thinking, and entrepreneurial mindset. Join us for an open dialogue among colleagues and fellow maker-learning advocates!
Promoting SEL through Maker Learning with Hands of Gratitude
Matthew Campana, Founder & CEO of Corporate Motivation, Inc.
Hands of Gratitude (HOG) is a nonprofit organization that provides 3D-printed prosthetic hands needed by tens of thousands of people around the world and here in the United States. Schools across the country have brought Hands of Gratitude to their classrooms to offer their students a hands-on experience that promotes social-emotional learning. Participants in this session will have opportunities to experience some of the activities encompassed in the Hands of Gratitude lesson activities. Learn how you can join other schools in bringing Hands of Gratitude to your own classroom offering your students the experience to make a difference in someone’s life and at the same time discover empathy, the importance of inclusion, and realize a greater potential in oneself to build a better world.

Growing STEM Skillsets: School Gardens as Settings for Maker Learning
Cindy Widuck, Associate Lecturer, Kent State University College of Public Health & Chairman, Let’s Grow Together Coalition
Learn how gardening can serve as an outdoor maker space to integrate STEM concepts into all areas of the curriculum. The Let’s Grow Together Coalition (LGTC) will share resources for launching a school garden program as well as lessons and activities for promoting STEM and literacy through experiential learning in green spaces.

Robotics for Littles
Thomas McNeal, Technology Project Director, AT&T Classroom, Kent State University
Robotics and programmable toy robots offer rich hands-on opportunities for engaging students in the design process while promoting creativity, critical thinking, problem-solving, and collaboration. Participants in this session will have the opportunity to explore several robotics options for elementary makerspaces including Blue-Bots, Edisons, mBots, SpheroSPRK+, and LEGO® Education SPIKE™ Essential.

Developer-Centered Learning: Across the Curriculum and Around the School
Paul Shircliff, Maker Coach
Making is the best way for us to learn and works well in any content area. We will share examples of Maker-Centered Learning lessons from a variety of subject areas. We will share ways to help develop the Maker Mindset around the school. We will help you come up with your first (or next) Maker-Centered Learning activity.

Developing and Implementing Innovation for the Classroom
Norm Potter, Founder, Structured Creativity Consulting
Learn how to develop maker-learning lessons that will challenge students to innovate within the parameters of the standards that you are required to teach. Teachers will also learn how to implement these engaging lessons without being overwhelmed with the planning and evaluation of students.

2:15 – 3:15 p.m.
Showcase Closing Session: Cooking Up STEM!
Corrina Asbury, Culinary Education Director, La Soupe, Inc.
Jacob Cason, Food Science Coordinator, Cincinnati Museum Center
John Dunlosky, Professor of Psychological Sciences and Co-Director of the SOLE Center, Kent State University
Brad Morris, Associate Professor of Psychological Sciences and Co-Director of the SOLE Center, Kent State University
(Note: This session begins at 2:30 p.m. & will be hosted in the Innovation Teaching Kitchen located on level 2 of the DI Hub)
Have you ever thought of cooking as a chemistry experiment? While there are all kinds of making, one of the most important, and one that everyone does, is the making of food. Join us to close the conference in the Innovation Kitchen of the DI Hub and learn how you can use cooking as a rich context for maker learning. The session will offer live cooking demos of simple recipes that can be prepared in a classroom along with strategies and resources for scaffolding cooking activities to promote STEM. Bring your appetite for tasty samples & useful lesson resources!

Maker Resources Expo Presenters:
Reusable Writing Tablets for STEM & Maker Learning
Boogie Board, a global leader in unique Clean Writing technology, will be on site with several of their reusable writing tablet products. Stop by for a hands-on demonstration and discover all the ways Boogie Board Writing Tablets can be used to support STEM and maker learning.

Do the WRITE Thing—Apply for an EIG through the GAR Foundation
Lucille Esposito, Consulting EIG Program Manager for the GAR Foundation
Securing external funding to support your dreams and goals for your students is not beyond reach! Summit County educators are invited to join us in the expo area for an informal meet-and-greet with Lucille Esposito, Consulting EIG Program Manager for the GAR Foundation, who will share resources for pursuing an Educators Initiative (EIG) grant.

Hands of Gratitude
Matthew Campana, Founder & CEO of Corporate Motivation, Inc.
For those not able to join the Hands of Gratitude (HOG) breakout session, Matt Campana will be available at the expo to provide information for bringing the HOG program to your school. Hands of Gratitude is a nonprofit organization that provides 3D-printed prosthetic hands to individuals of all ages around the world.

STEM Center of Excellence
Girl Scouts Northeast Ohio (GSNEO)
Stop by to explore all the STEM and maker opportunities that will be available to your school at GSNEO’s new STEM Center of Excellence to be built at Camp Ledgewood (Peninsula). The new state-of-the-art facility will provide a living laboratory for youth and K-12 educators to experience year-round opportunities in robotics, coding, biomimicry, science, and more.

The S3 Innovation Zone
The S3 Technologies team will be available to demo a variety of tools for incorporating innovative technologies into your classroom.