HELLO!
I am Margaret A. Powers
Director of STEAM Innovation
- Serve as a coach, collaborator, and catalyst
- Design new, interdisciplinary projects with teachers
- Manage the STEAM Studio (makerspace)
- Facilitate PD workshops

Reggio-inspired, global educator exploring ways to integrate making, mindfulness, and design thinking in schools.
Agenda

» The Maker Movement
» Creating a Space
  o Tools & Materials to Tinker
» Designing a Good Project
» Maker Mindsets
» Questions?
“In the Maker Movement, students are asked to innovate, create, and problem solve. They are asked to design, write, present, and eventually to produce a product.”

Edutopia

What is the Maker Movement?

» Grassroots movement focused on do-it-yourself (DIY) making and the creation of new projects and products, often for a community.

» Making: Working with your hands, often using new tools and materials, to design and create.

Creators

Children need support and exposure to embrace their roles as tinkerers and creators instead of becoming blind consumers.
“Preschool teachers find that by using a maker-based approach in the classroom, they are able to differentiate their instruction, leverage students’ individual interests, and more deeply engage all children in learning.”

Brahms & Wardrip, TYC Vol 9 No 5

Making in the Early Years
Remember to Build on Your Existing Practice
» Children learn by doing
» Apply a constructivist lens
» Imagine the modern Reggio Atelier

Creating a Space
It’s a Process

Start with WHY
Review
Assess
Plan

What’s Your Why?
Empowering all children to embrace their creative confidence?
Exposing students to tools and hardware that support computational thinking and computer science?
Intentionally infusing STEAM disciplines into everyday learning?

A Space for Making
Flexible
- Furniture
- Storage
- Lighting
- Water access
- Electricity access

Interactive
- Hub: materials & tools

Responsive

Accessible

DAP

Interactive

Flexible

Responsive

Accessible

DAP

- Materials & tools
- Hub

Interactive

Flexible

Responsive

Accessible

DAP

- Tools
- Materials
- Hub
Welcome to the I.D.E.A. Studio

Tools & Materials to Tinker
Tools & Materials to Tinker

Designing Good Projects
“Create is at the root of creative thinking. If we want children to develop as creative thinkers, we need to provide them with more opportunities to create.”

Mitch Resnick, MIT Media Lab

Start with Play

- Let them lead
- Open one part of the room at a time
- Use Visible Thinking Routines
  - Engage curiosity and critical thinking
- Document and reflect!

Simple STEAM Challenges

- Build the tallest tower
- Construct a bridge that can hold 2 books
- Design an airplane that spins when it flies
- Create a marble maze
- Build a Rube Goldberg machine
Move into Mini Projects

Elements of a Good Project

1. Purpose & Relevance
2. Time
3. Complexity
4. Intensity
5. Connected
6. Access
7. Shareable
8. Novelty

Created by Gary Stager

Pre-K Putumayo Dancing Robots

Pre-K student programmed robots to dance to different Putumayo songs and designed costumes so they would be dressed in traditional garb.
Kindergarten Inventors
K students used design thinking to empathize with community members and design solutions for problems they were experiencing.

Dinosaurs Take Shape
Students worked in the makerspace to create 3D printed dinosaur models and share dinosaur facts by acting out scenes in front of a green screen.

Maker Mindsets
How You Think Matters

- Problem-Solving
- Collaboration
- Creative Confidence
- Empathy
- Growth Mindset
- Reflection

Engineering Design Process

1. Ask: Define the problem
2. Imagine: Explore possibilities
3. Improve: Refine solutions
4. Plan: Make a plan
5. Create: Build prototypes

Plan

- Stanford d.school method

Design Thinking
How did you take a risk today?

Questions?

What if ….

I wonder ….
THANKS!

Want to chat?
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