Makerspaces in ECE

A Planning Guide for Administrators

Margaret A. Powers

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

HELLO!

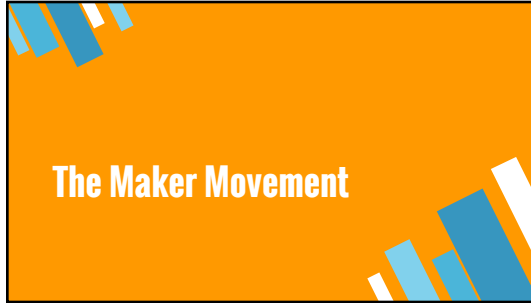### I am Margaret A. Powers

Innovation & Ed Tech Consultant

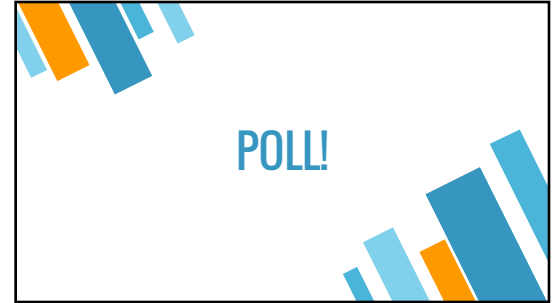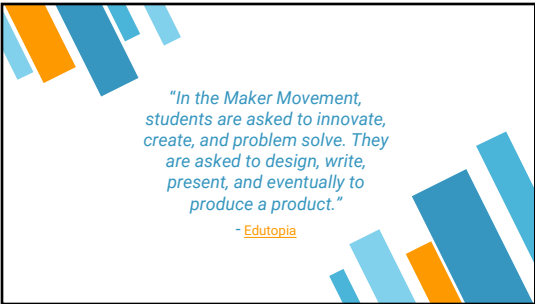*Reggio-inspired, global educator exploring ways to integrate making, mindfulness, and design thinking in schools.*

Agenda

The Maker Movement

POLL!

"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."
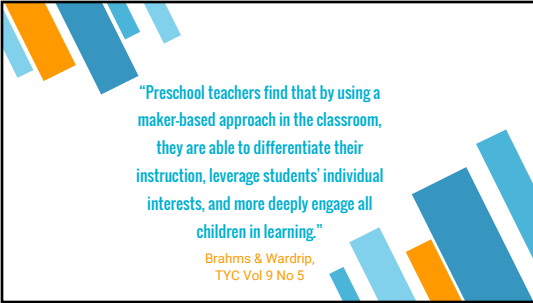
- Edutopia

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

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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."
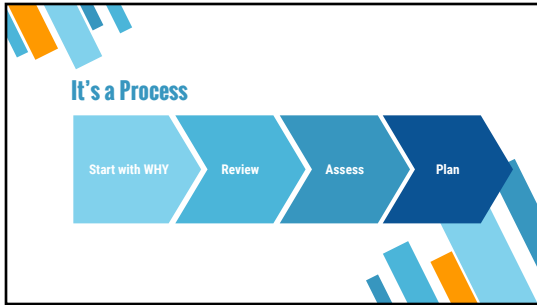>
> Brahms & Wardrip,
> TYC Vol 9 No 5

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

Accessible

Responsive

Hub: materials & tools

DAP

Welcome to the I.D.E.A. Studio

IT'S NOT ABOUT
The space.
IT'S ABOUT THE MINDSET
YOU ARE CULTIVATING.
#MAKERSPACE

KRISSYVENOSDALE

Tools & Materials to Tinker

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Designing Good Projects

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"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
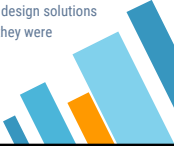
Created by Gary Stager

Pre-K Putumayo Dancing Robots

Pre-K student programmed robots to dance to different Putumayo songs and designed costumes so they would be in dressed in traditional garb.
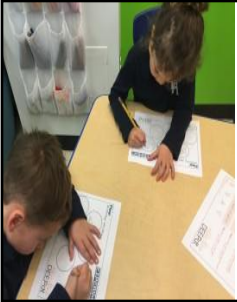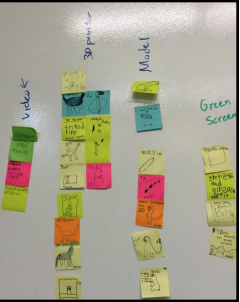
Kindergarten Inventors

K students used design thinking to empathize with community members and design solutions for problems they were experiencing.
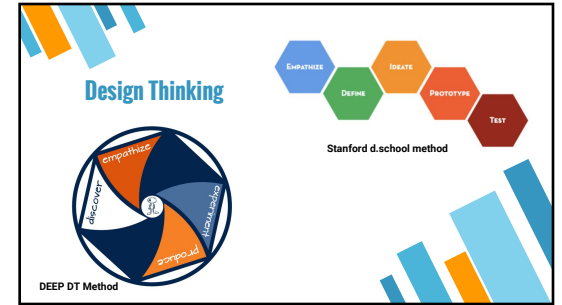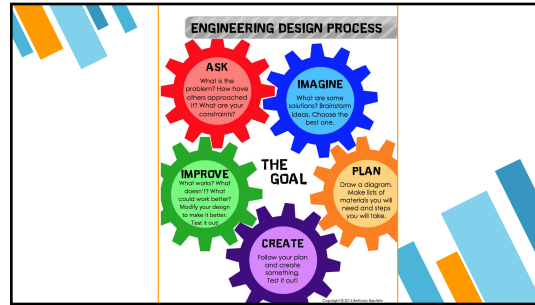
Dinosaurs Take Shape

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.
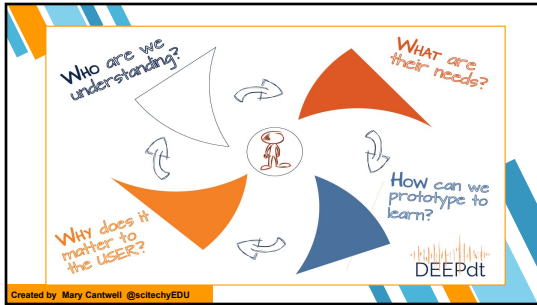
Maker Mindsets

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THANKS!

Want to chat?

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