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INTEGRATING MAKERSPACES INTO MONTESSORI CLASSROOMS

Outline of Presentation
★ Is Makerspace a good fit for Montessori classrooms
★ How are schools currently integrating?
★ What’s needed for a Makerspace?
★ Makerspace Activities - “Challenges”
★ Practical Life Preparation Extension
★ Experiences with Makerspace in my classroom - What I’ve learned
What is a Makerspace?

An environment where children can tinker, design, and create together

Community centers with tools

A place where young people have an opportunity to explore their own interests; learn to use tools and materials, and develop creative projects

Benefits of Makerspaces

Research shows that Makerspaces Provide:

- Empowerment
- Authentic Learning
- Interdisciplinary Learning
- Builds Perseverance
- Inspires Investigation
- Encourages Rethinking a Concept
- Teaches Problem Solving
- Encourages Questioning
- Provides Opportunities for Conversation
- Real-World Learning
- Facilitates Innovation instead of rote Memory
- Breaks the Habit of Wastefulness

Does this align with Montessori Philosophy?
“Imagination does not become great until human beings, given the courage and strength, use it to create.”
-Maria Montessori

Creativity in Montessori

What opportunities do you provide in your classes for elementary students to show creativity? How do you support that?
Learning Through Discovery

Exploration is how we learn best!

Are Montessori science lessons as appealing as the math lessons?

Are students able to discover the rules of science like they learn them for math?

How do we incorporate technology and robotics into a century-old curriculum?

“Special” Class or Part of Class?

BENEFITS TO HAVING A SINGLE MAKERSPACE IN YOUR SCHOOL
★ Potentially less expensive - one space for all classes to use
★ Equipment (and teachers) can be more specialized, including 3-D printers, woodworking tools, workbenches.
★ Not a “distraction” for other students not in Makerspace

BENEFITS TO INTEGRATING MAKERSPACE INTO EACH CLASS
★ Makerspace is always accessible to students, rather than having to wait for their class’ daytime to participate
★ Challenges can be unique to fit classroom needs and interests
★ Small groups of children can work in Makerspace at once, offering collaboration opportunities
★ Class takes ownership of area, bringing in and organizing materials

What’s Needed in a Makerspace?
★ Shelving with labeled storage bins
★ Tall bench or table(s) for active making
★ Tools
★ Consumables
★ Drying/storage space for projects
★ Easel
Makerspace Activities: “Challenges”

All of my “Challenges” can be viewed at:

https://docs.google.com/document/d/e/2PACX-1vRz4kEZDWDdWARxS8Hm22LzHuGt3CieejLqLNPEHcg1twWXBofwoK2q48Va2AC1KwRJ9VOGCGNqgjgV/pub
**Makerspace Progression of Activities**

★ Crafting
  ○ Introduces children to materials available
  ○ Gets creative juices flowing

★ Individual Challenges
  ○ Creative first
  ○ Science concepts

★ Group Challenges

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**My Challenges - Crafting**

- Make a sea creature using a paper plate
- Make a sculpture of you
- Weave any materials together to make something new
- Create a biome
- Color challenge - find a creative way to mix colors
- Make a marionette
- Make a turkey
- Egg carton sculpture

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**MakerSpace Challenge of the Week**

**All About You**

This week you will get to use craft supplies and your imagination to make a sculpture of you!

Supplies:
- Popsicle sticks
- Clay
- Paint
- Yarn
- Google eyes
- Markers
- Other creative supplies...
My Challenges - Individual

- Musical instrument challenge
- Helicopter challenge
- Airplane challenge
- Experiment with electricity
- Animal habitat challenge
- Make something that looks fast
- Self portrait
- Leaf person challenge

MakerSpace Challenge of the Week

Musical Instrument Challenge:

Instruments can make sounds by either being hit (percussion), stretched (strings), or blown into (wind). This week we will invent your own instrument and create it using any of the materials in the MakerSpace.

Some of the materials to consider using include:
- Paper cups
- Pom-poms
- Shoe box
- Water bottles
- Straws
- Balloon bands
- Tissue paper

My Challenges - Group

- Make a marble run
- Spaghetti structure challenge
- Bridge challenge
- Constellation challenge
- Coding challenge
- Telephone challenge
- Board game challenge
Practical Life Preparation Extensions

- Different knots
- Threading a needle
- Sewing different stitches
- Weaving
- Cutting (hole in middle, symmetry)
- Using a hole puncher
- Using tape
- Glue experiments
- Wrapping a present
- Class presentations!
What I’ve Learned
Every year will be different

THANKS!
Any questions?
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A Space for Exploration