

Leveling the Maker Playing Field: A National Plan

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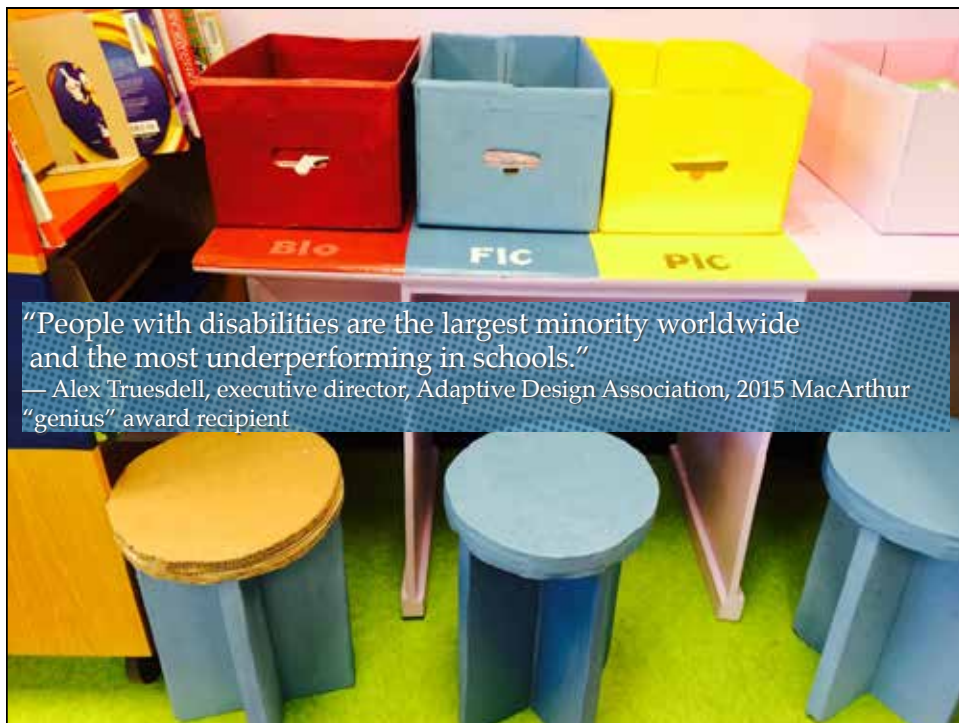
In a library?



“Why not?

This is a great example of what learning can look like in an out-of-school environment.”

— Amy Eshleman, Chicago Public Library



THE ENRICHMENT GAP

The gap in spending on child enrichment activities between high- and low-income families has nearly tripled since 1972.

CHANGE IN ANNUAL SPENDING ON CHILD ENRICHMENT



Source: Greg Duncan and Richard Murnane, "Restoring Opportunity: The Crisis of Inequality and the Challenge for American Education." (Harvard Education Press / Russell Sage Foundation, 2014)



Leveling the Maker Playing Field: A National Plan

SXSW.edu
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About the Institute of Museum and Library Services

- IMLS is a U.S. federal agency
- Funded through annual congressional appropriations
- Established in 1996
- Presidentially appointed Director and Board
- FY2016 budget of \$230 million



Our Mission

To inspire libraries and museums to advance

- Innovation
- Lifelong learning
- Cultural and civic engagement



Our Activities

- Grant Programs
- Policy Making and Convening
- National Initiatives and Partnerships
- Research, Statistics, and Publications

Our Strategic Plan

Three programmatic strategic goals drive IMLS grant-making:



Learning experiences



Community Anchors



Collections Stewardship



Read more here:
www.imls.gov/about/strategic_plan.aspx

IMLS Support for the Maker Movement

- \$10 million in grants for projects focused on participatory learning since 2011.
- Learning Labs and YouMedia community (www.youmedia.org)
- White House interagency working group
- Capitol Hill Maker Faire



Presidential and Congressional Support for the Maker Movement

- President Obama declared June 12-18, 2015 our first National Week of Making:
“Today’s D.I.Y is tomorrow’s Made in America.”



- Rep. Mark Takano (CA-41), Co-Chair of the Congressional Maker Caucus:
“If policy makers can come together and be supportive, this movement may be the catalyst that brings manufacturing back to America.”



Making and Learning in Museums and Libraries

- Cooperative agreement between IMLS and Children's Museum of Pittsburgh
- Provide museum and library professionals with a suite of tools and resources, hands-on professional development experiences, and a community of practice.
- Deliverables will include a framework, makerspace studies, research and evaluation reports, as well as resources for field wide replication.



Framework Project



Framework to Support Learning in Library and Museum Makerspaces



Purpose



People



Pieces & Parts

Purpose

- What are your program goals?
- Who is your audience?
- What does success look like?



People

- What roles do people play in your program?
- What is the staffing structure?
- What is your model of facilitation?



Pieces and Parts

- What tools and materials are important?
- What physical architecture is vital?
- What role does digital technology play?



Sharing the Framework

- E-publication
- Tools
- Resources
- Workshops
- MOOC



www.makingandlearning.org

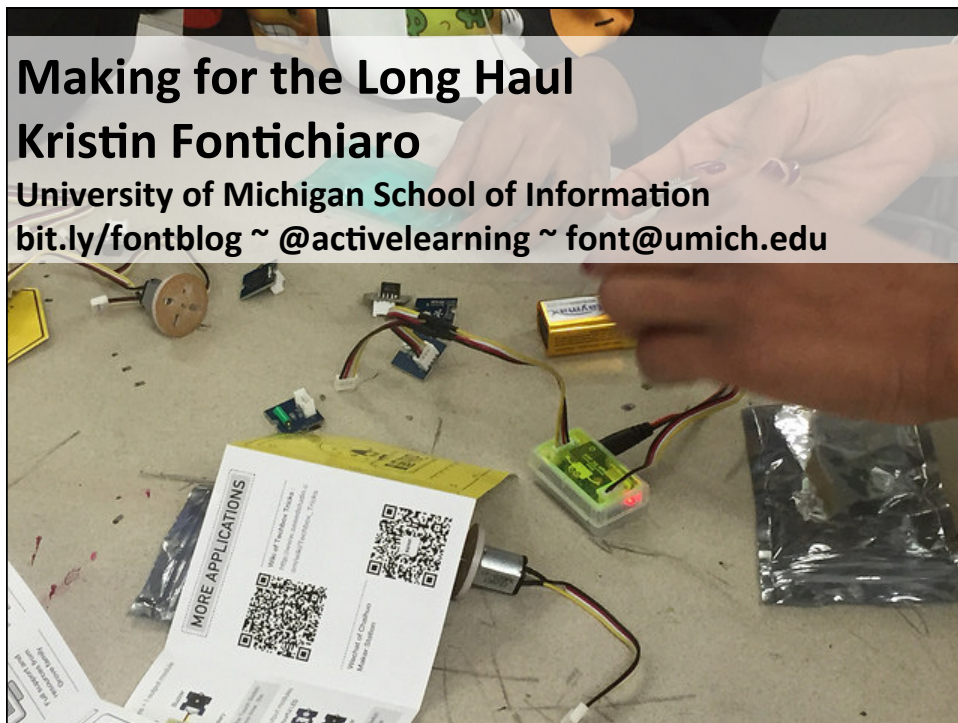


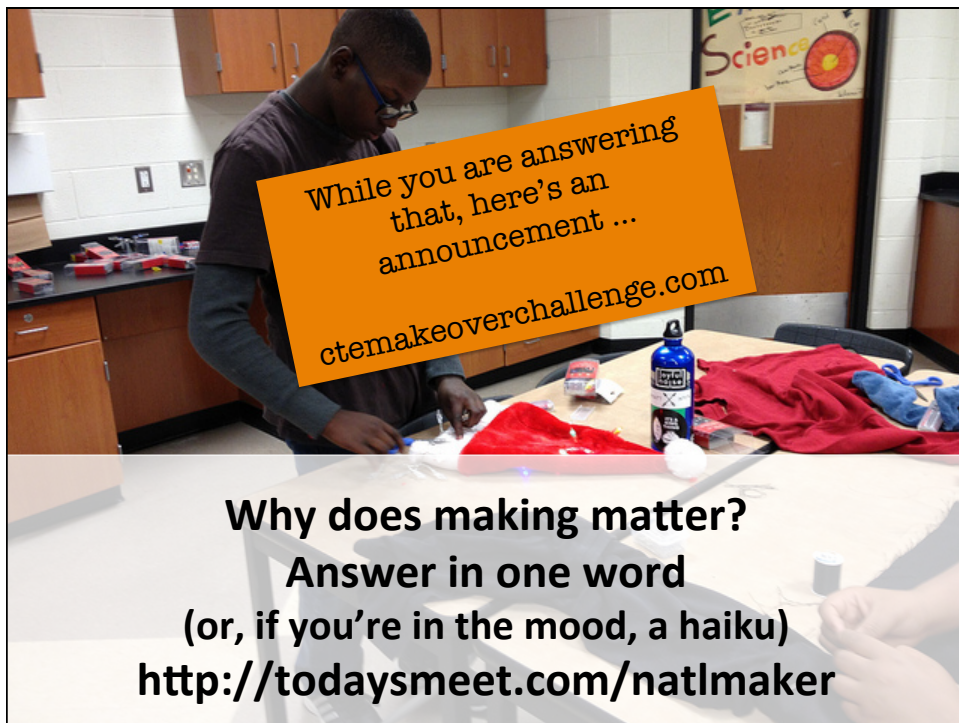
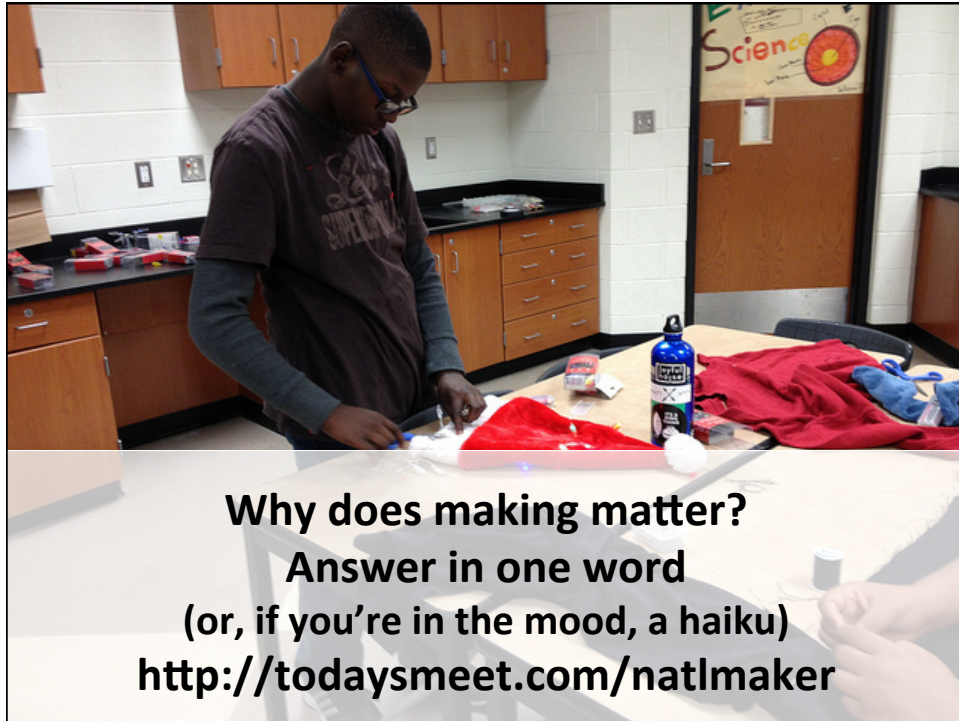
Making for the Long Haul

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**“I feel like I see a lot of threads ...
but what’s the tapestry?”**



**- Host librarian,
Making in Michigan Libraries project**

Making: Fad or Sustainable Movement?



**If we believe in the power of
making as something
fundamentally important, then we
want it to endure.**

“Measure twice, cut once.”



Public domain: https://commons.wikimedia.org/wiki/File:Cedar_Lumber_cedarsolutions.ca.jpg



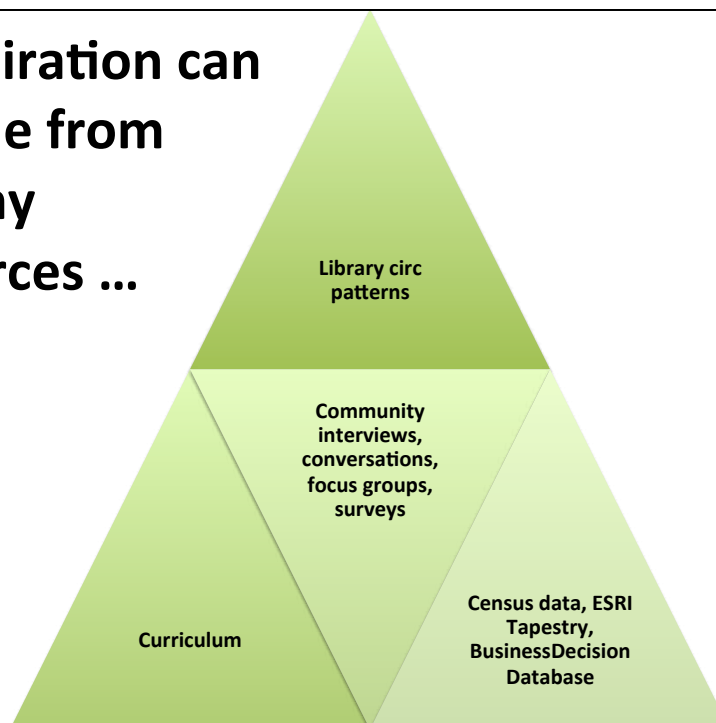
Know your purpose, and the tools and people will follow.

“Beautiful Post and Beam Horse Barn” by Vermont Timber Works, Inc. CC-BY-SA-3.0.
https://en.wikipedia.org/wiki/File:Beautiful_Post_and_Beam_Horse_Barn.JPG

Many “right” motivations ...



Inspiration can come from many sources ...



Consider a “Compact” or “Manifesto”
<who> does <what> for/with
<whom> the purpose of <outcome>

The Michigan Makers project mentors third and fourth graders at Mitchell Elementary in a pop-up makerspace with multiple activity types for the purpose of empowering creative and open-ended thinking with many kinds of materials and tools.

Or “I want a whole family to be able to walk in here and find something they want to work on.”

**Knowing your purpose/spine/
 foundation helps you let tools serve
 your desired outcome, not vice versa.**

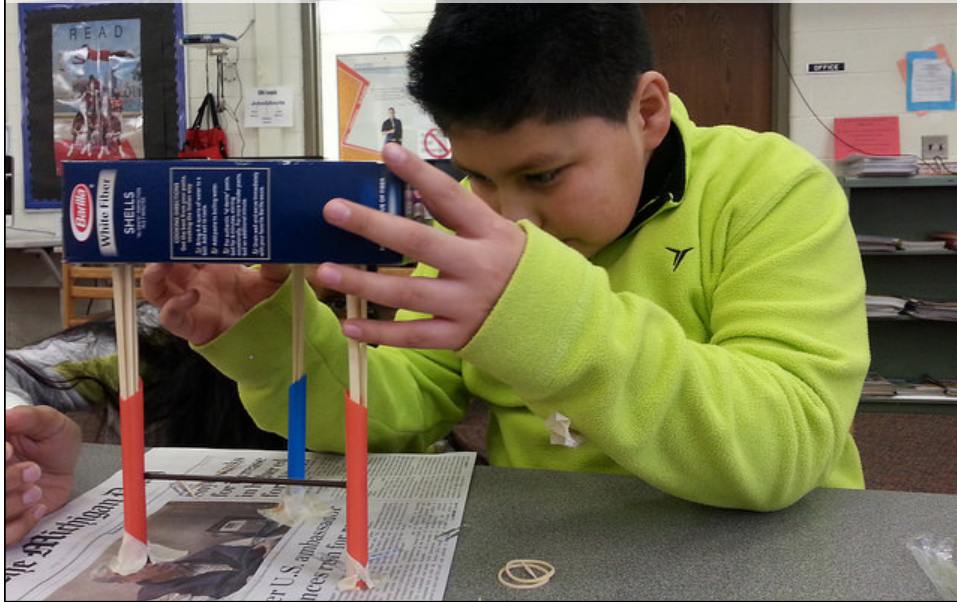
SPINELESS:

“We need a 3D printer because they’re cool and the next school/library over has one.”

PURPOSEFUL:

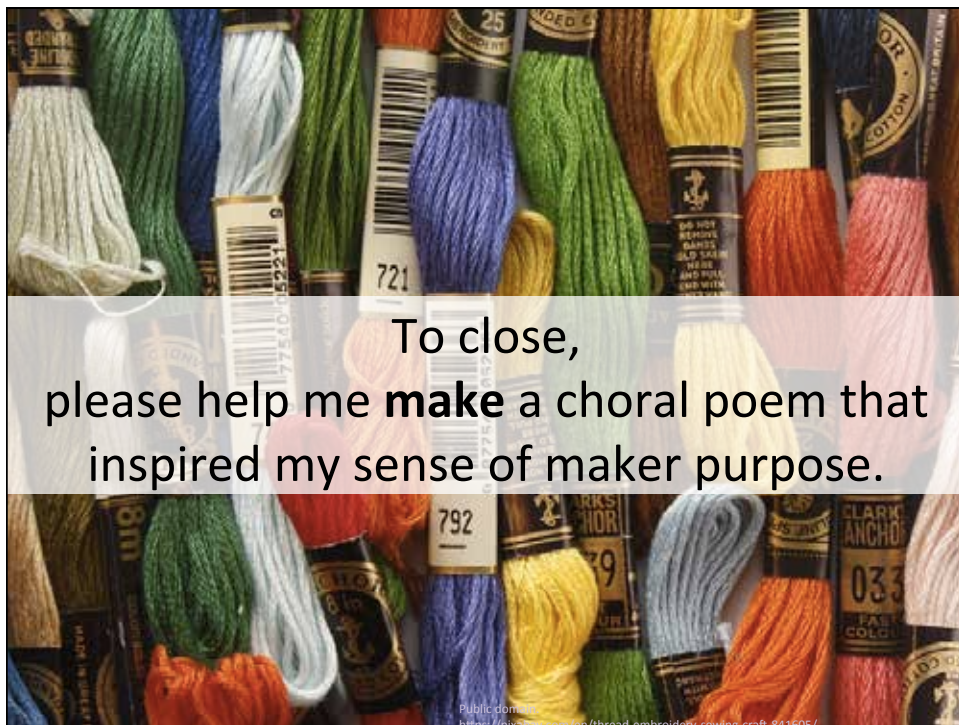
“We need a 3D printer because our local economy is built on thermoplastics, and learning to 3D model could help re-establish a pipeline to good future jobs.”

A clear vision helps you align stakeholders and minimize discord.



**It helps you make tough budget choices and sharpens outcomes:
“Which activity maximizes our goal of _____?”**





Because existence is willy-nilly thrust into our hands, our fate is to make something ...

Making is the mirror in which we see ourselves ...

[B]eing is making: not only large things, a family, a book, a business: but the shape we give this afternoon, a conversation between two friends, a meal. Or mis-shape.

Without clarity about what we make, and the choices that underlie it, the need to make is a curse, a misfortune ...

... the greatest luxury is to live a life in which the work that one does to earn a living, and what one has the appetite to make, coincide--by a kind of grace are the same, one...

Making is the mirror in which we see ourselves ...

Go make you ready.

*Edited xcerpt from the work of Frank Bidart
<https://harvardmagazine.com/1999/09/poetry.html>*



Kickstarting Making in Schools

Developing a Crowdfunding Strategy to Integrate Making
into More Schools

- Pilot Use of Crowdfunding to Fund Maker Integration in PreK-12 schools
- Increase partnerships between formal and informal learning institutions
- Build community through crowdfunding

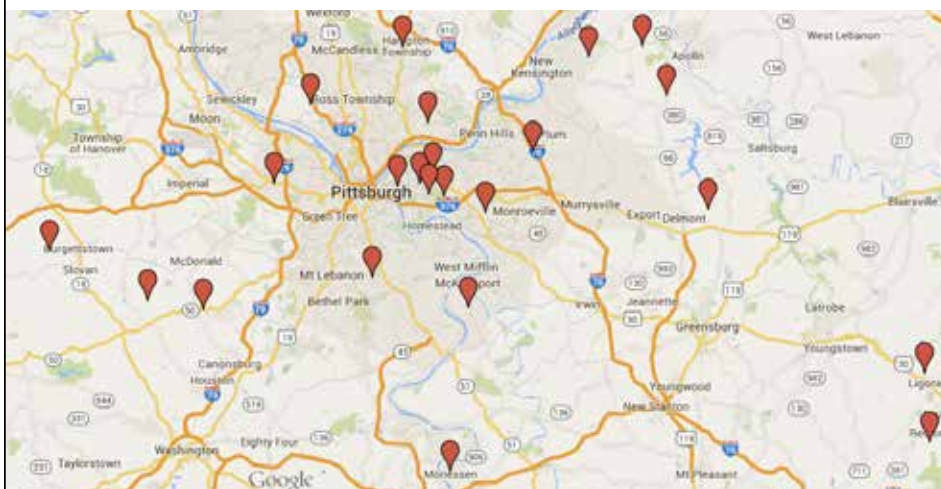
Remake Learning Network

Professional network of more than 200 organizations working together to inspire a generation of lifelong learners in the greater Pittsburgh region



Funding Limitations: Strategy not Solution

Ten geographical and population diverse schools



“As a rural school district, it can be difficult to obtain funding for innovative projects.”

Kickstarting Making in Schools Pilot

- Application and Outreach
- Campaign Development
- Campaign
- High Quality, Localized Professional Development
- Ongoing Analysis of Pilot

- 7 out of 10 schools achieved their funding goal
- \$107,916 was raised for maker education



Makerspace in Monessen Elementary Center

Help us create a makerspace to develop creative independent thinkers in our community.



Falk School WonderLab

Building the WonderLab, a vibrant, multi-disciplinary space where Falk students will learn by making things with their own hands



Makers Explore the Six Days of Creation

The science, math, literacy, art, and emotions of Genesis -- where "Making" all began!



Innovation Center: Our Makerspace

We're creating a space that supports making, collaboration, and innovation to ignite student interests and encourage lifelong success.

Catalytic Community Building

Falk Laboratory School
220 backers - \$35,734 of \$12,000 goal
 Independent School

Pittsburgh Public Schools - Lincoln PK-5
78 backers - \$17,444 of \$15,000 goal
 243 students of whom 97% are African-American or Multi-Racial and 89% qualify for free and reduced lunch

Yeshiva Schools
46 backers - \$5,146 of \$5,000 goal
 Fifty-eight percent of students qualify for free and reduced lunch and over 90% receive tuition assistance.

Burgettstown Elementary Center
93 backers - \$6,137 of \$5,000 goal
 Forty-five percent of students are eligible for free and reduced lunch.

Monessen Elementary Center
46 backers - \$7,820 of \$7,200 goal
 High-percent of low income families and a special education population well over the state average consisting of 21% of the total enrollment of 389.

“It was worth the effort in involving stakeholders and sharing our vision with them. It gave the district a common cause to work towards.”



Taking it to Scale


- Designing a TOOLKIT in partnership with Kickstarter based on lessons learned during the pilot
- Identifying HUBS across the country to test the toolkit by implementing the program locally



remake learning Blog News Playbook Calendar Resources Network Search

10 Pittsburgh Area Schools are Kickstarting Making in the Classroom

Guest Post by Teresa DeFitch on October 2, 2015



Kickstarting MAKING in Schools

The Children's Museum of Pittsburgh has partnered with Kickstarter to launch crowdfunding campaigns to support maker learning in Pittsburgh-area schools. Go to kickstarter.com/pgkidsmake to donate!

Thank you!

Teresa DeFitch
tdeflitch@pittsburghkids.org

children's museum
PITTSBURGH

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