Beyond 3D Printers: Strategies for Makerspace Success

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Cherry Lake Publishing
Booklist
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Needling with Yarn

Abstract

When someone mentions "makerspace," do you hear, "Buy a 3D printer?" While digital fabrication tools can be a robust part of a library makerspace, they're not the only options. From lanyards to laser cutters and crochet to coding, all kinds of crafts and skills are welcome in makerspaces. In this free, hour-long webinar sponsored by Cherry Lake, Kristin Fontichiaro, clinical assistant professor at the University of Michigan School of Information, will discuss strategies to help create a maker culture in your library that welcomes and supports all patrons and their creations. Moderated by *Booklist*'s Books for Youth editorial director Gillian Engberg.
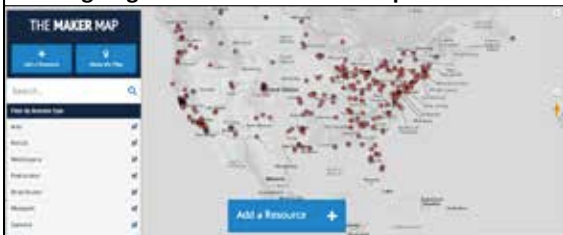

Hacking Fashion Tee Shirts

Coming next semester!

Slides & List of Maker Activities
http://bit.ly/fontblog

We're doing things a little bit differently today.

International Boys School Coalition: Raid your hotel room and create something with it

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First, let's get the lay of the land about who's here. We're going to ask for answers to 3 questions.

THE MAKER MAP

TheMakerMap.com

Which of these best describes you? Type the corresponding letter in the chat.

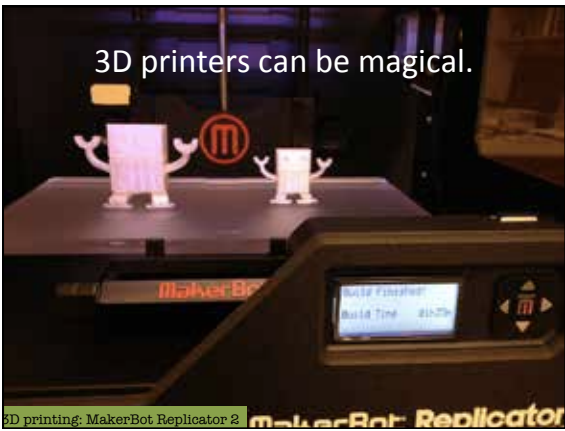A. I run an active makerspace with lots of equipment. I'm confident about what we're doing. I advise others on maker culture.
B. We've been at the maker thing for a while now.
C. We're just starting a makerspace and/or maker culture in my institution.
D. I've heard of makerspaces, but beyond our existing programming, we haven't done much labeled "making."
E. I'm brand new to makerspaces and am here to see if the hype is worth it.
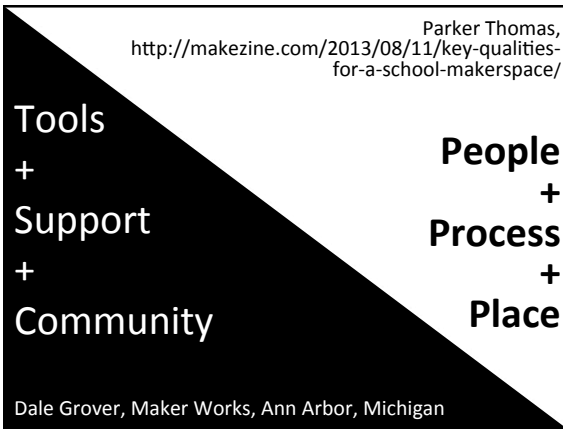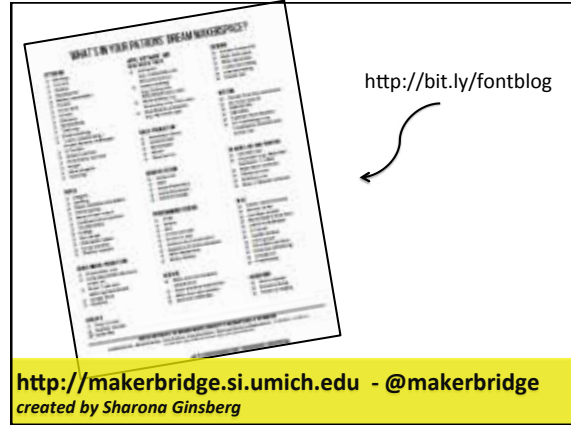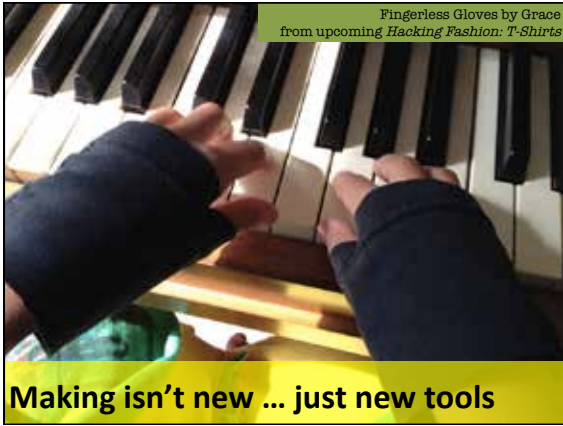
How are you a maker? Type the numbers that apply in the chat.

1. **Needlecrafts:** sewing, quilting, knitting, crocheting, embroidery
2. **Computers/Digital Production:** programming, web design, Raspberry Pi, 3D printing, laser cutting, CNC machines, video editing, photo editing, graphic design
3. **Electrical/Electronics:** Arduino, circuitry, Little Bits, Snap Circuits, appliance repair
4. **Home improvement:** tiling, drywall, plumbing, electrical, decks, etc.
5. **Kitchen wizardry:** cooking, baking, BBQing
6. **Plants:** gardening, bonsai, flower arranging
7. **Carpentry:** woodworking, woodturning, cabinetmaking
8. **Papercrafts:** gift wrapping, origami, scrapbooking, framing, collage
9. **Art:** painting, sculpture, pottery, stained glass, jewelry-making
10. **Writing:** poetry, prose, NaNoWriMo, professional writing, journalism, memoir, journaling, comics
11. **Other:** tell us what I left out of the list!

What kinds of materials circulate most in your non-fiction/multimedia collection?
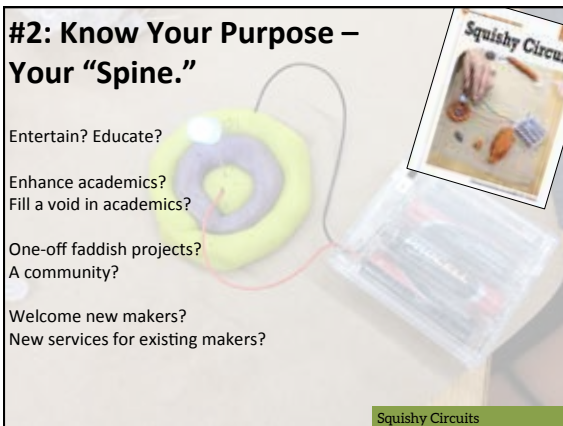
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XI. **Other:** tell us what I left out of the list!

3D printers can be magical.

3D printing: MakerBot Replicator 2

How People Are Using 3D Printers

3D Printing

3D Modeling

But you don't need to wait until you have one to have a makerspace in your library.

What do you need?

Makerspaces

3D printing: MakerBot Replicator 2

Fingerless Gloves by Grace
from upcoming *Hacking Fashion: T-Shirts*

Making isn't new … just new tools

http://bit.ly/fontblog

http://makerbridge.si.umich.edu - @makerbridge
created by Sharona Ginsberg

Parker Thomas,
http://makezine.com/2013/08/11/key-qualities-
for-a-school-makerspace/

Tools
+
Support
+
Community

**People
+
Process
+
Place**

Dale Grover, Maker Works, Ann Arbor, Michigan

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Tools
+
Support
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Community

**People
+
Process
+
Place**

*Exploration + Formal And Informal Learning +
Peer Learning + Exposition*

Dale Grover, Maker Works, Ann Arbor, Michigan

Image: http://radicalhorizon.wordpress.com/2013/01/09/is-conceptual-art-removing-the-need-for
skill-in-todays-art-world/ Public domain.

**Makers
Make
Stuff.**

Makers Transform Stuff.

"Art Mechanic Vitruvian Man by Art Mechanic on Wikimedia, CC-BY-SA. http://commons.wikimedia.org/wiki/File:Arthrchanic_Vitruvian_Man.jpg

A quality makerspace lets patrons work from their "center of gravity"

(Dewey 1900)

Junk Box Challenge: Create a chain that holds weight

Some Things To Consider …

Arduino Microcontrollers

LittleBits / KORG music kits

#1: No two makerspaces are the same.

#2: Know Your Purpose – Your "Spine."

Squishy Circuits

Entertain? Educate?

Enhance academics?
Fill a void in academics?

One-off faddish projects?
A community?

Welcome new makers?
New services for existing makers?

Squishy Circuits

Squishy Circuits

Example: Michigan Makers

- Create community around making
- Balance DIY exploration with guidance from mentors
- Create sustainability and replicability
- "Have something for every member of the family"
- Support non-traditional makers, esp. low-SES, females

#2: Consider Short- And Long-term Projects (And Start Small).

Rainbow Loom + Shrinky Dinks

#3: Embrace open – and open source – thinking.

'Arduino Uno R3" by SparkFun Electronics on Flickr. CC-BY.
http://flickr.com/photos/sparkfun/8406865680/

Arduino

Corollary: Look For Partners & Sherpas.

Board Game Design

Ann Arbor District Library
University of Michigan 3-D Lab
Michigan Makers
Detroit Public Library & Mt. Elliott Makerspace
All Hands Active Hackerspace
Maker Works
Dearborn Tech Shop

Corollary: Partner Skills, Too: Look For Mashups.

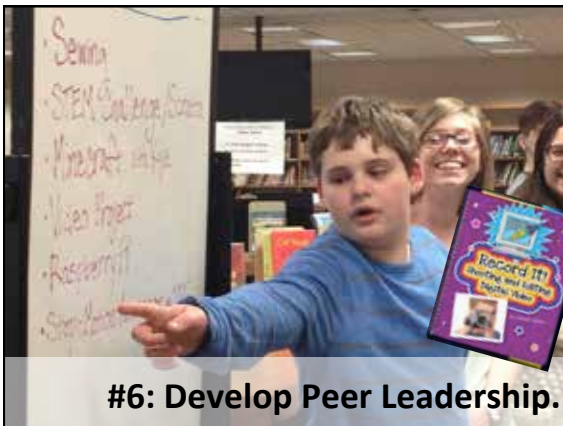Junk Box

#5: Not All Making Is Serious Business.

Sewing Machine

Friendship Bracelets

Corollary: Sometimes, Making Allows for Self-soothing And Re-centering.

#6: Develop Peer Leadership.

COROLLARY: REDEFINE "TEACHER" AND "LEARNER."

Scratch programming

#7: Think Windows And Mirrors.

#8: Celebrate Daily Progress.

MyCreate Stop-Motion Animation

#9: Celebrate Long-term Progress.

Digital Badges

Student's personal robot kit

Upcycling/Hacking T-shirts

Maker Faire

Corollary: Celebrate By Just Making Something.

#10: 7 S's of Planning

Who is it all for? What do they want/need?

Students/patrons
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

#10: 7 S's of Planning

How much can you take on and sustain?

Students/patrons
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

#10: 7 S's of Planning

Who will support you w/ budget, PR, admin.?

Students/patrons
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

It's a great day to learn something

Make an exciting discovery @your library!

#10: 7 S's of Planning

Who already does this kind of work and can mentor you?

Students/patrons
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

7

#10: 7 S's of Planning

Where in your facility will you set this up to promote community-oriented, collaborative making?

Students/patrons
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

#10: 7 S's of Planning

Where are you going to put it all away?

Students/patrons
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

#10: 7 S's of Planning

Students
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

#10: 7 S's of Planning

What are you going to buy, with or without a 3D printer?

Students/patrons
Stamina
Support
Sherpas
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(Range & Schmidt 2014)

http://bit.ly/fontblog

http://makerbridge.si.umich.edu - @makerbridge
created by Sharona Ginsberg

Named a "Top 10 Series Nonfiction" by *Booklist*, 4/1/2014
"Here's a series many librarians need as much as their readers … the volumes in this cutting-edge series communicate a level of energy that elevates the challenging material into need-to-know-right-now stuff."

QUESTIONS?

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@activelearning
http://bit.ly/fontblog

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