Makerspaces and Digital Badging: New Avenues To Help Students Show What They Know
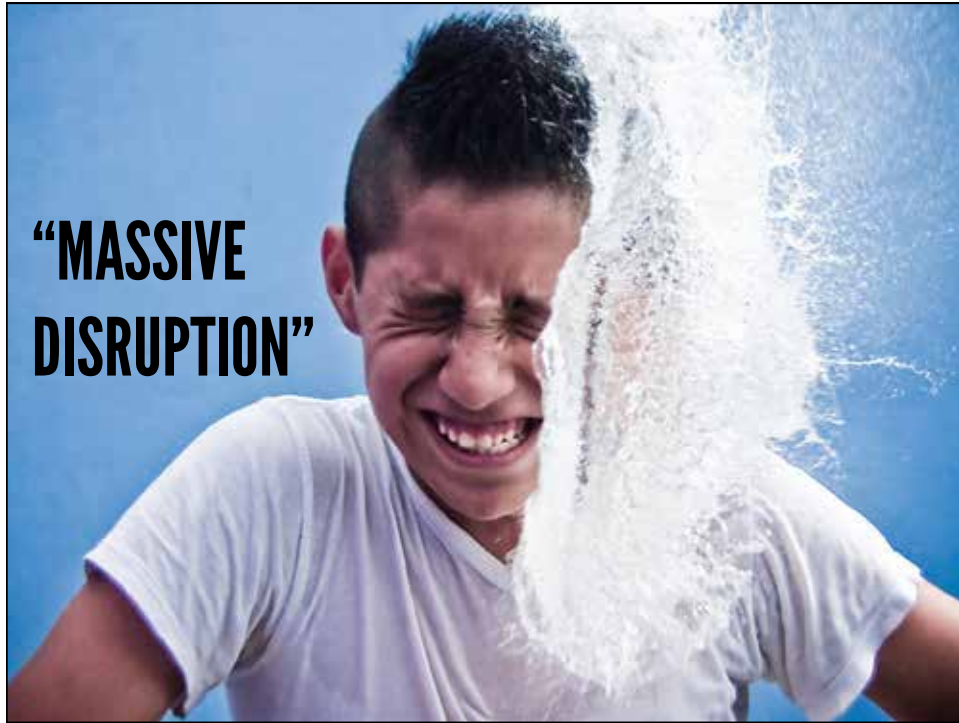
Kristin Fontichiaro, @activelearning
University of Michigan School of Information
Sunday, June 29, 2014 – 10:30am to 11:30am
Location: N252
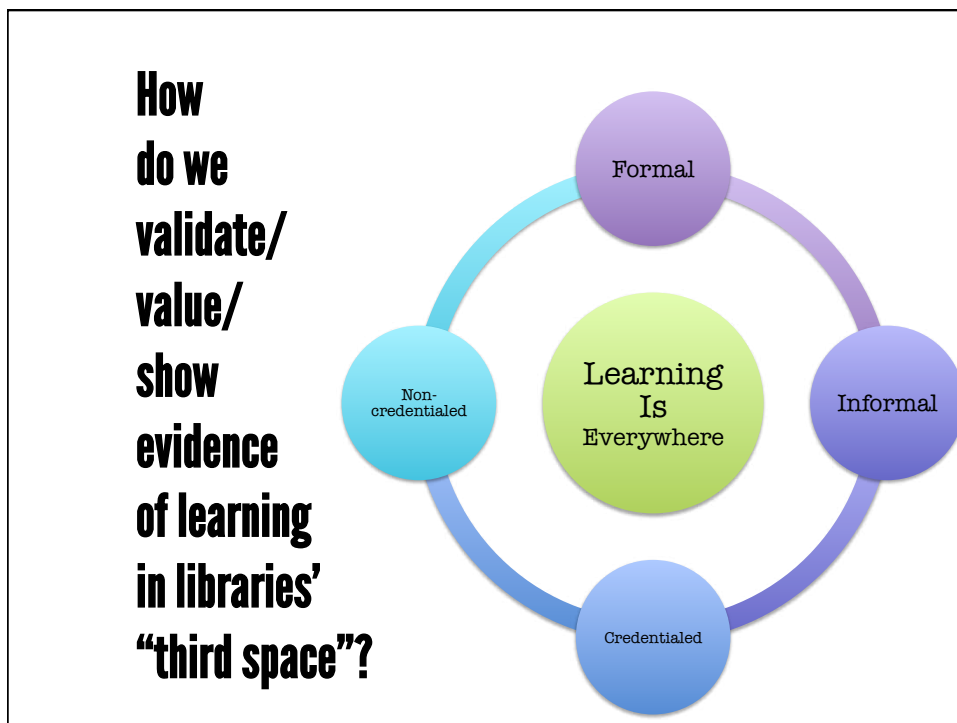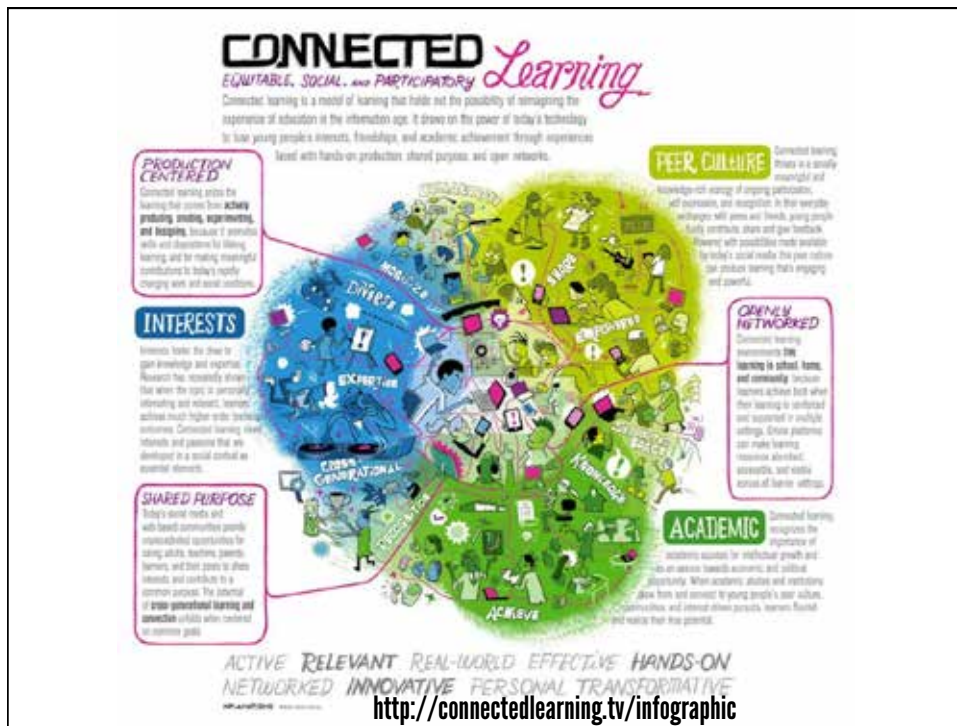Slides available tonight: http://bit.ly/fontblog

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Abstract

There are many pathways to learning, and learning is happening everywhere: schools, libraries, clubs, community centers, homes, and religious organizations. A makerspace culture, one that emphasizes creation over memorization, open-source sharing over siloed knowledge, and process over product, gives new ways for students to explore concepts and show what they know. Coupled with makerspace culture is a movement to flexibly acknowledge growth: digital or open badges. In this session, we'll talk about budget-friendly school library makerspaces, strategies for promoting healthy makerspace culture, and validating growth via digital badges that go far beyond the sticker charts of the past.

Download today's slides: http://bit.ly/fontblog   @activelearning

"MASSIVE DISRUPTION"

Slides
http://bit.ly/fontblog

http://connectedlearning.tv/infographic

How
do we
validate/
value/
show
evidence
of learning
in libraries'
"third space"?

Formal

Informal

Credentialed

Non-credentialed

Learning
Is
Everywhere

DIGITAL BADGES

- **A badge is …**
  - "a validated indicator of accomplishment, skill, quality or interest"
    (http://dmlcompetition.net/Competition/4/badges-about.php)

  - A microcredential

 - A way to think differently about how we show what we know

# TRADITIONAL VS. BADGES

Schools and Universities

- Carnegie Credits
- Seat Hours
- Course Credits
- Codified Rules
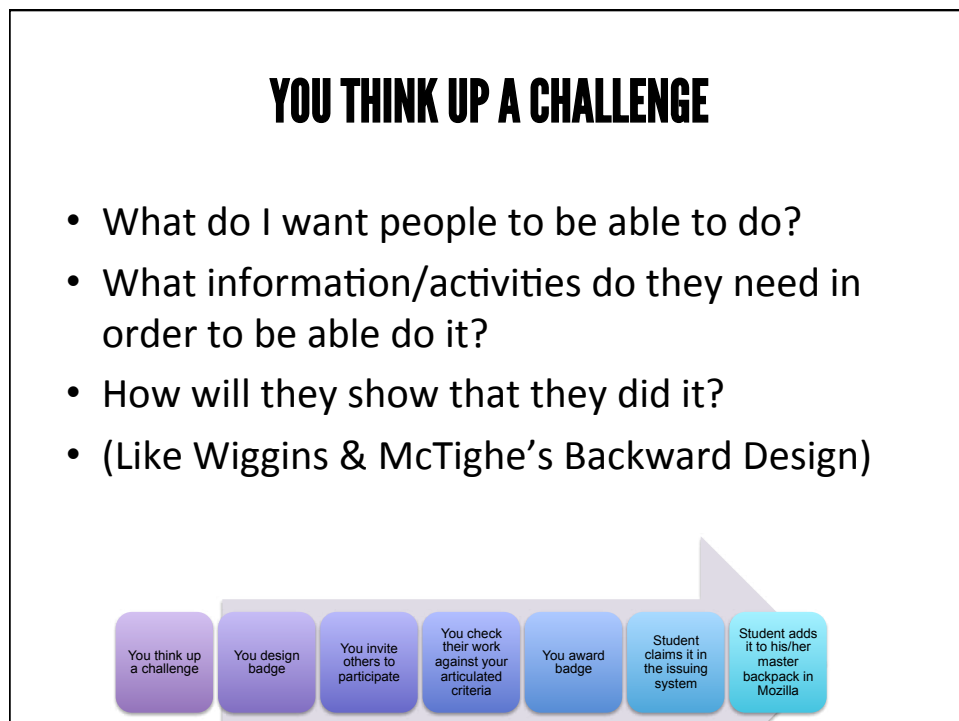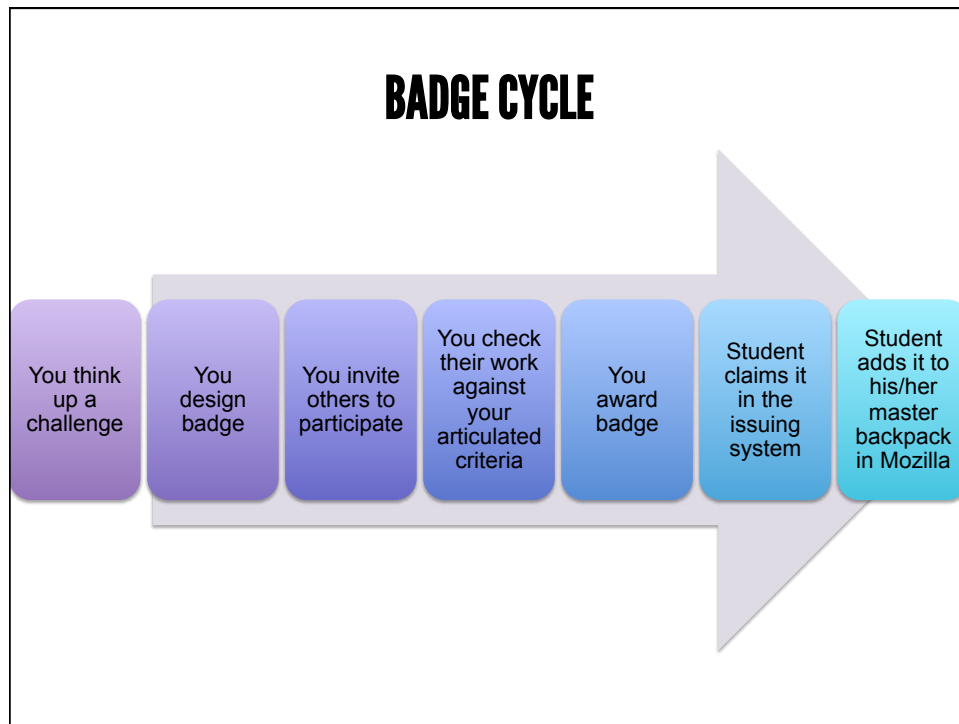- Accredited institutions

Badges

- Agnostic
- Anybody can issue
- No formal teacher certification or teacher formal education levels needed
- Do not represent a standard number of seat hours, work hours, or effort required
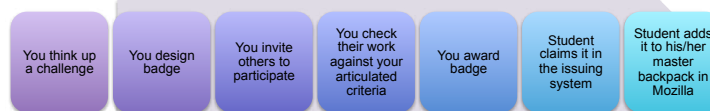
http://openbadges.org/about/

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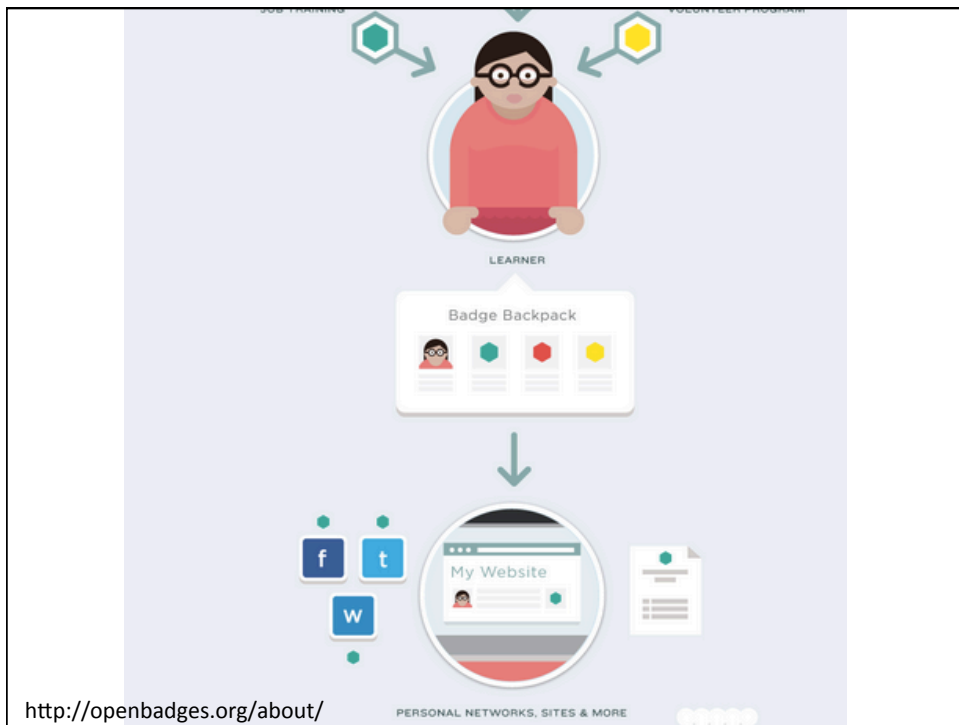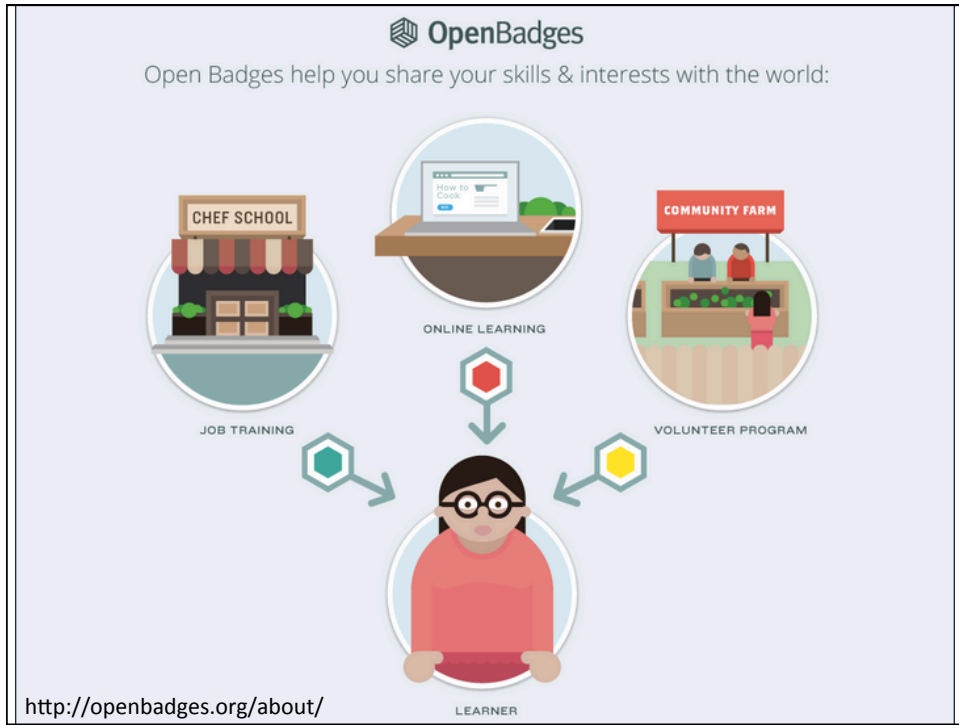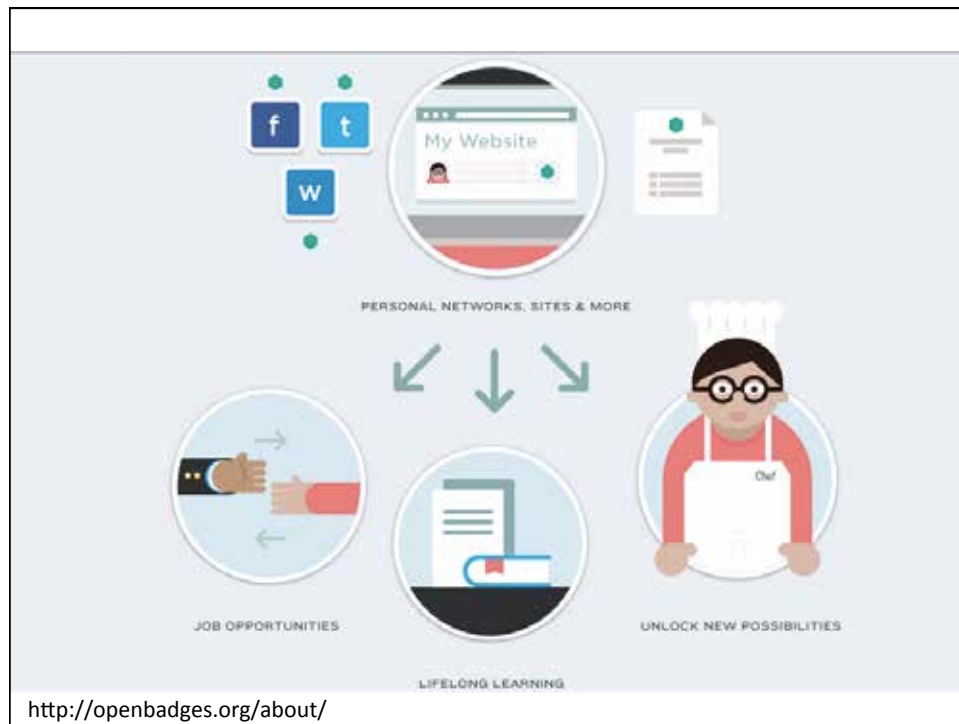
How (Why?) Could I Use Badging In My Job?

- As a parallel to formal grading systems
- To "micro-measure" student or teacher skills that would otherwise go unrecognized
- To build student or educator portfolios that showcase new skills
- Students +13yrs

BADGE CYCLE

| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |

YOU THINK UP A CHALLENGE

- What do I want people to be able to do?
- What information/activities do they need in order to be able do it?
- How will they show that they did it?
- (Like Wiggins & McTighe's Backward Design)

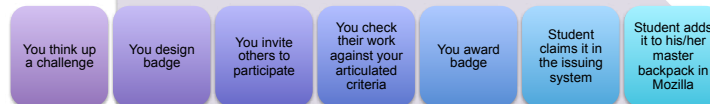| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |

YOU DESIGN A BADGE

- Where will people redeem a badge?
- Where will they get the steps to follow?
- What evidence do they need to show
- How will they share that evidence with you?
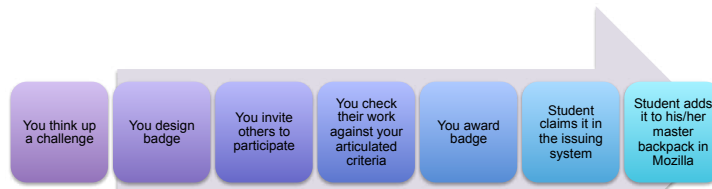- What will you use for your badge icon?

| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |

DESIGN EXAMPLE #1: ATTENDANCE ONLY
(NO SHARED EVIDENCE OF LEARNING)

- The badge earner received this badge for attending the June 24, 2015, workshop on The Daily Five offered from 8-11am at Madeup ISD. Attendance was verified by event organizers. Details about this event are available at http://madeupisd.com/daily5event .

| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |

DESIGN EXAMPLE #2: STUDENT SHOWS EVIDENCE OF SKILL, VERIFIED VISUALLY

- This badge earner was able to assemble the LED light, Arduino, and code necessary to run the "Blink LED" sketch from http://arduino.cc/en/Tutorial/Blink?from=Tutorial.BlinkingLED . Evidence was observed visually by the course instructor. The badge earner earned this badge by attending the Madeup Town Mini Maker Faire on Thursday, June 12, 2015.

| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |

DESIGN EXAMPLE #3: STUDENT SHOWS EVIDENCE OF SKILL, VERIFIED WITH ONLINE EVIDENCE

- This student created an annotated bibliography of at least ten items. Each citation was correctly formatted according to MLA format, and annotations met the standards outlined at madeuplibrary.com/annotations . To view an uploaded version of the student's work, please go to http://madeupgoogledoc.com/abc .

- *Student must have work online (be thoughtful about privacy) and then add her URL to the Gdoc/wiki/whatever.*

EVIDENCE, YOU SNEAKY THING

- Objectives need to be written very clearly and specifically
- Perhaps link to an external assignment sheet or rubric?
- Your authority is on the line if you grant a badge and someone later finds the recipient's skills underdeveloped
- Steps necessary for completion are clearly spelled out
- (In other words, evidence is hard. But it's also hard in real life. Good object lesson!)

POST YOUR CHALLENGE AT A BADGE CREATION SITE LIKE HTTP://BADG.US, HTTP://MAKEWAV.ES, OR HTTP://4ALLBADGES.COM (NOT MOZILLA)

YOU INVITE OTHERS TO PARCIPATE, THEN
CHECK THE EVIDENCE, IF REQUIRED, AND AWARD THE BADGE

- Saw a video of their work

- Received a document

- Saw their work in person

| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |
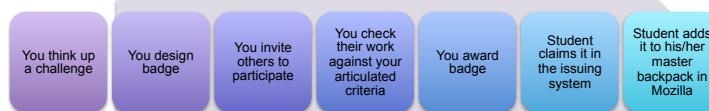
OPTIONAL: OPENBADGES.ORG

OpenBadges — Earn | Issue | Display | Community | Press | Blo

Get recognition for skills you learn anywhere.

| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |

CAVEATS

- Badges are microcredentials, not auto-rewards. They should be **earned**.

- Early badges can be easy to earn to get people familiar with them. Later ones should add more challenge or have more paucity.

- Don't exchange them for seat time or "just showing up" and claim they learned something by dint of sitting there. ☺
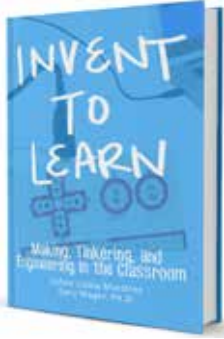
| You think up a challenge | You design badge | You invite others to participate | You check their work against your articulated criteria | You award badge | Student claims it in the issuing system | Student adds it to his/her master backpack in Mozilla |
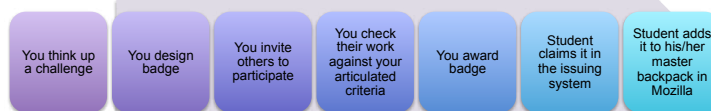
Exploring digital badges can open up important conversations about who, how, and what we assess.

Even if you don't end up using digital badges.

WHAT'S IN YOUR SCHOOL'S DREAM MAKERSPACE?

http://bit.ly/ala-makerspace-list

We're still learning, too!
http://makerbridge.si.umich.edu - @makerbridge
created by Sharona Ginsberg
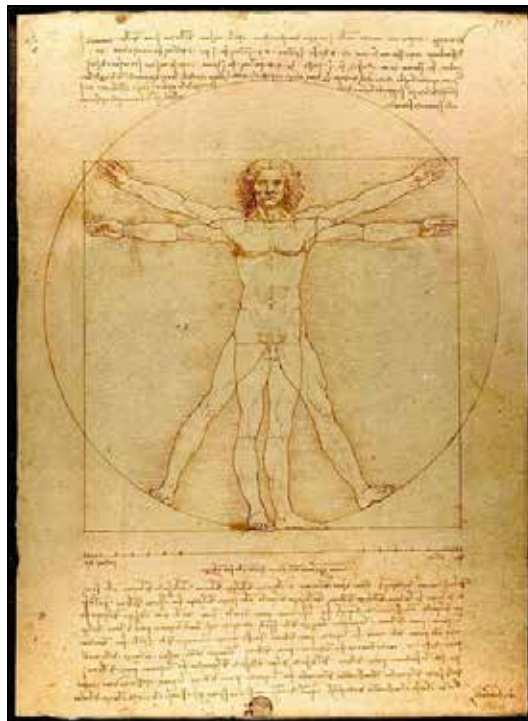
Makers
Make
Stuff.

Makers
Transform
Stuff.

Making isn't new …
just new tools

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

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

Tools

+

Support

+

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.

MAKER MINDSET FOR EDUCATORS

Process over product

Agency over teacher-directed work

Choice over following directions

Experimental mindset over "you fail if it doesn't work the first time"
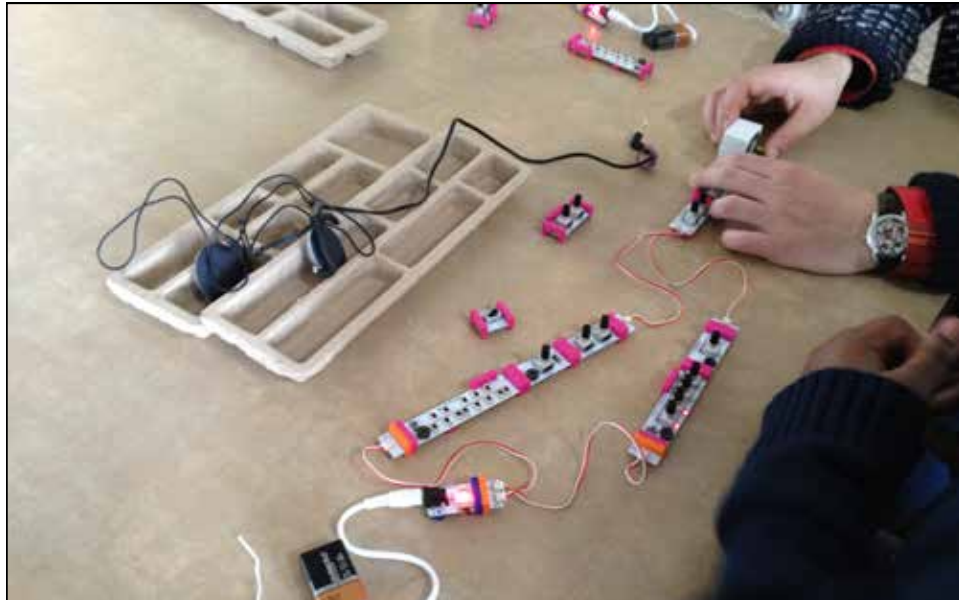
A QUALITY MAKERSPACE LETS STUDENTS WORK FROM THEIR "CENTER OF GRAVITY"

(DEWEY 1900)

SOME THINGS TO CONSIDER ...
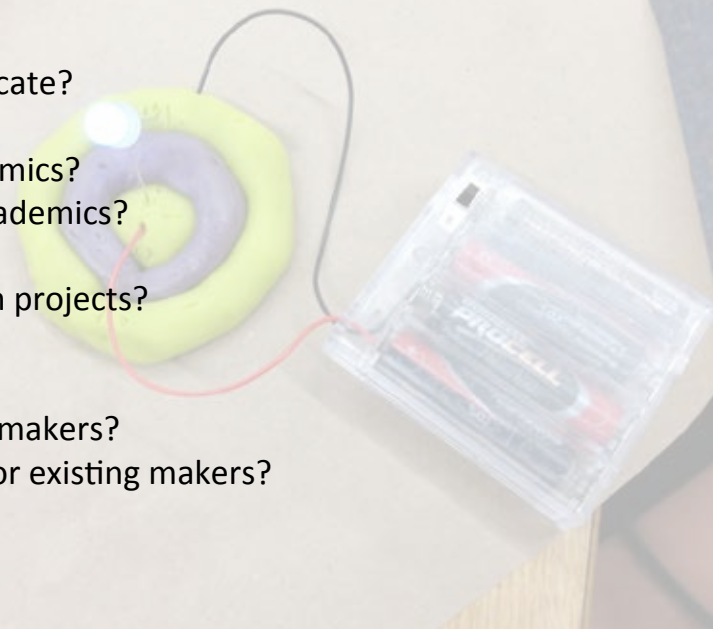
#1: NO TWO MAKERSPACES ARE THE SAME.

#2: KNOW YOUR PURPOSE BEFORE BUYING ANYTHING.

Entertain? Educate?

Enhance academics?
Fill a void in academics?

One-off faddish projects?
A community?

Welcome new makers?
New services for existing makers?

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).

3: EMBRACE OPEN – AND OPEN SOURCE -- THINKING.
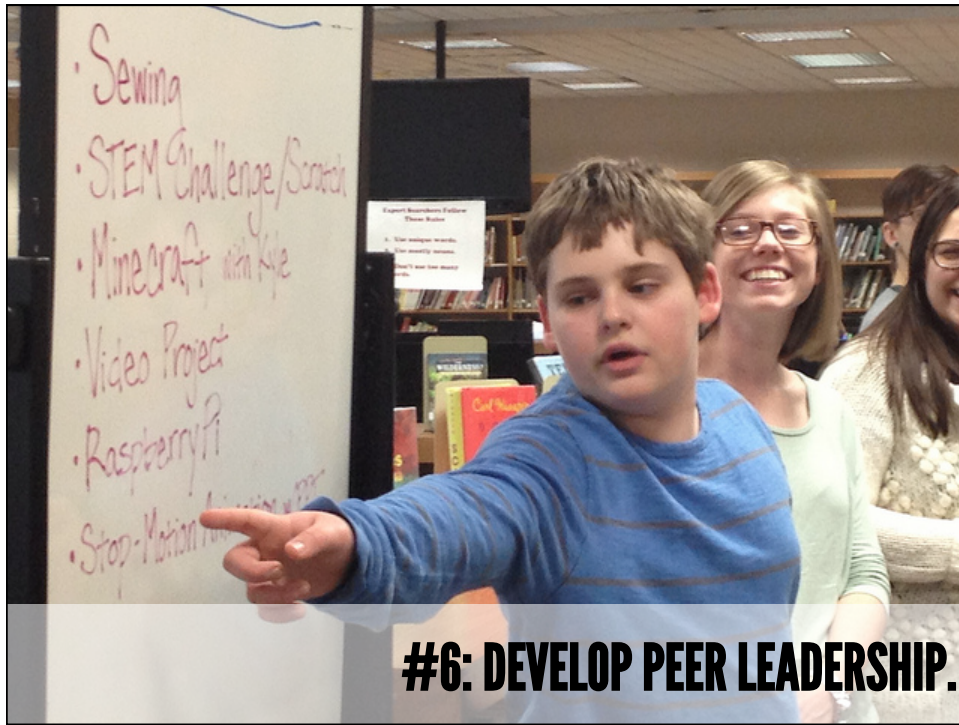
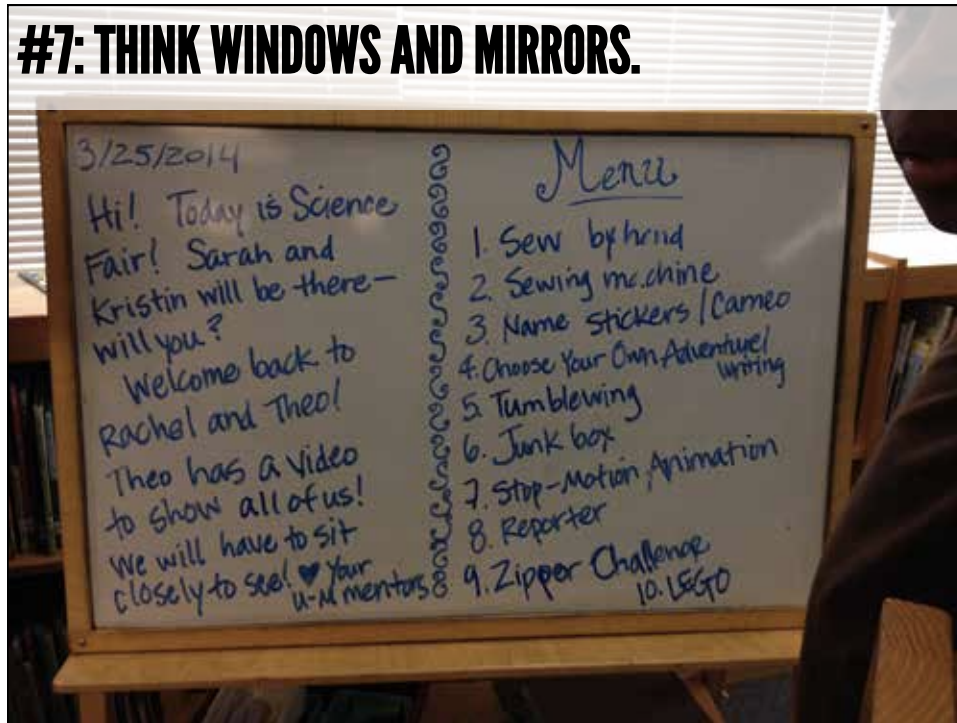# COROLLARY: LOOK FOR PARTNERS & SHERPAS.

COROLLARY:
PARTNER SKILLS, TOO: LOOK FOR MASHUPS.

#5: NOT ALL MAKING IS SERIOUS BUSINESS.

COROLLARY: SOMETIMES, MAKING ALLOWS FOR SELF-SOOTHING AND RE-CENTERING.

#6: DEVELOP PEER LEADERSHIP.

COROLLARY: REDEFINE "TEACHER" AND "LEARNER."

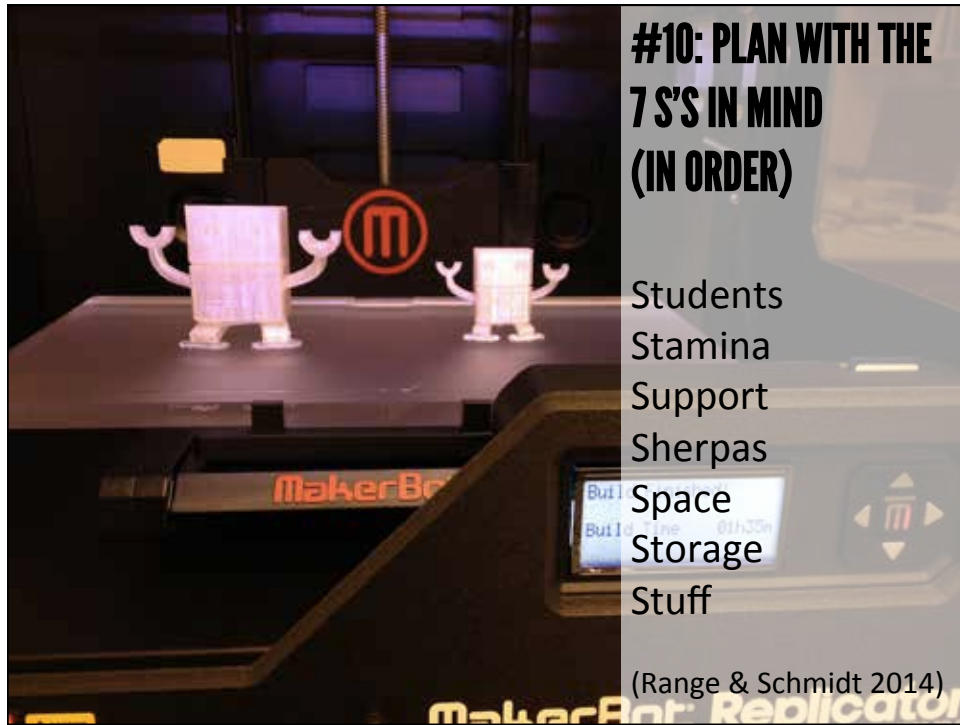# #7: THINK WINDOWS AND MIRRORS.

#8: CELEBRATE DAILY PROGRESS.

#9: CELEBRATE LONG-TERM PROGRESS.

COROLLARY: CELEBRATE BY JUST MAKING SOMETHING.

#10: PLAN WITH THE 7 S'S IN MIND (IN ORDER)

Students
Stamina
Support
Sherpas
Space
Storage
Stuff

(Range & Schmidt 2014)

QUESTIONS?

KRISTIN FONTICHIARO

font@umich.edu
@activelearning
http://bit.ly/fontblog

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."

Coming this fall: 3D Modeling – Soldering – Squishy Circuits – Web Design with HTML 5