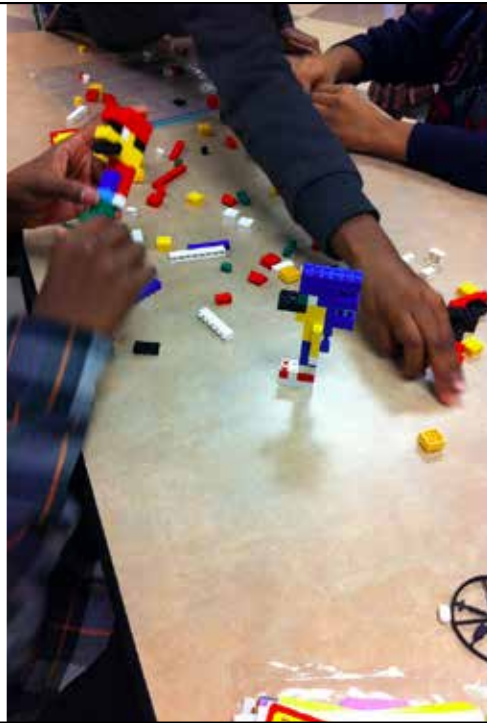


# MAKERSPACES AND LIBRARIES

Kristin Fontichiaro  
 University of Michigan  
 School of Information  
 @activelearning

TXLA 2014  
 1:00 – 1:50pm

Download today's slides:  
<http://bit.ly/fontblog>



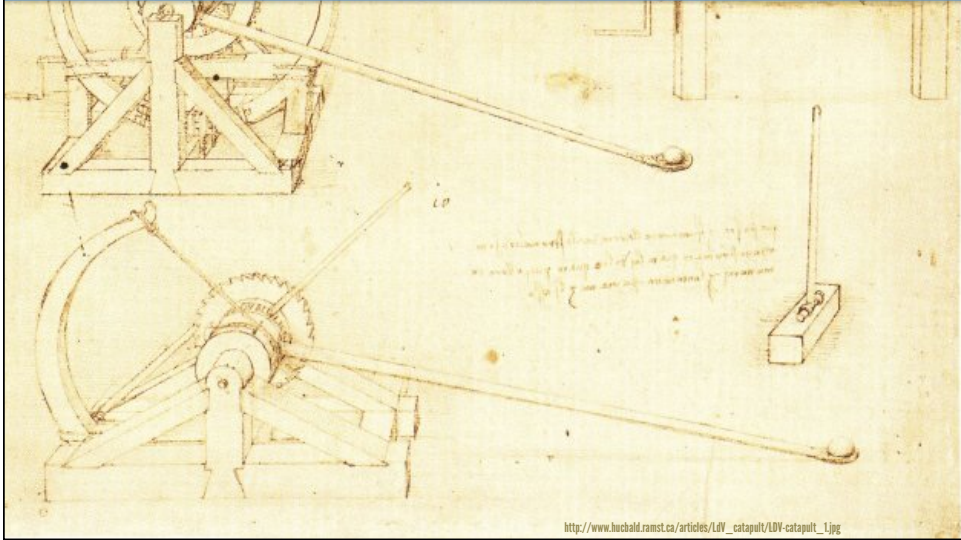
**WHAT'S IN YOUR PATRONS' DREAM MAKERSPACE?**

- STITCHING**
  - Knitting
  - Crochet
  - Sewing
  - Needlepoint
  - Bibbans embroidery
  - Crewel
  - Cross stitch
  - Crewel
  - Quilting
  - Quiltmaking
  - Tailoring
  - Patternmaking
  - T-shirt retouching / Project Runway challenges
  - E-Textiles
  - Sewing machine
  - Embroidery machine
  - Sarger
  - Hand puppets
  - Spinning
- PAPER**
  - Origami
  - Quilling
  - Paper airplanes and gliders
  - Giftwrapping
  - Hand-drawn comics
  - Cardboard box creations
  - Scrapbooking
  - Collage
  - Decoupage
  - Silhouette Cameo
  - Circuit machine
  - Shadow puppets
- AUDIO/MUSIC PRODUCTION**
  - Finalcut.com
  - Little Bits (RISC electronic music kit)
  - Music Tools (see [aadi.org/musictools/](http://aadi.org/musictools/))
  - Garage Band
  - Audacity
- CIRCUITS**
  - Snap Circuits
  - EquiBy Circuits
  - Little Bits

KRISTIN FONTICHIARO & THE MICHIGAN MAKERS, UNIVERSITY OF MICHIGAN SCHOOL OF INFORMATION  
 @activelearning • <http://bit.ly/activelearning> • <http://www.bit.com/txla/makerspace/>

http://bit.ly/txla-list

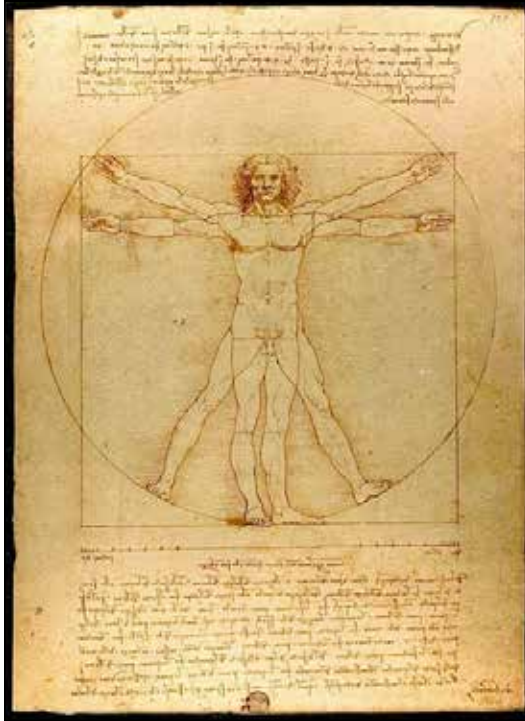
# How can we support the Leonardos in our community?



[http://www.huchald.ramst.ca/articles/LDV\\_catapult/LDV\\_catapult\\_1.jpg](http://www.huchald.ramst.ca/articles/LDV_catapult/LDV_catapult_1.jpg)

# Makerspaces are one answer.



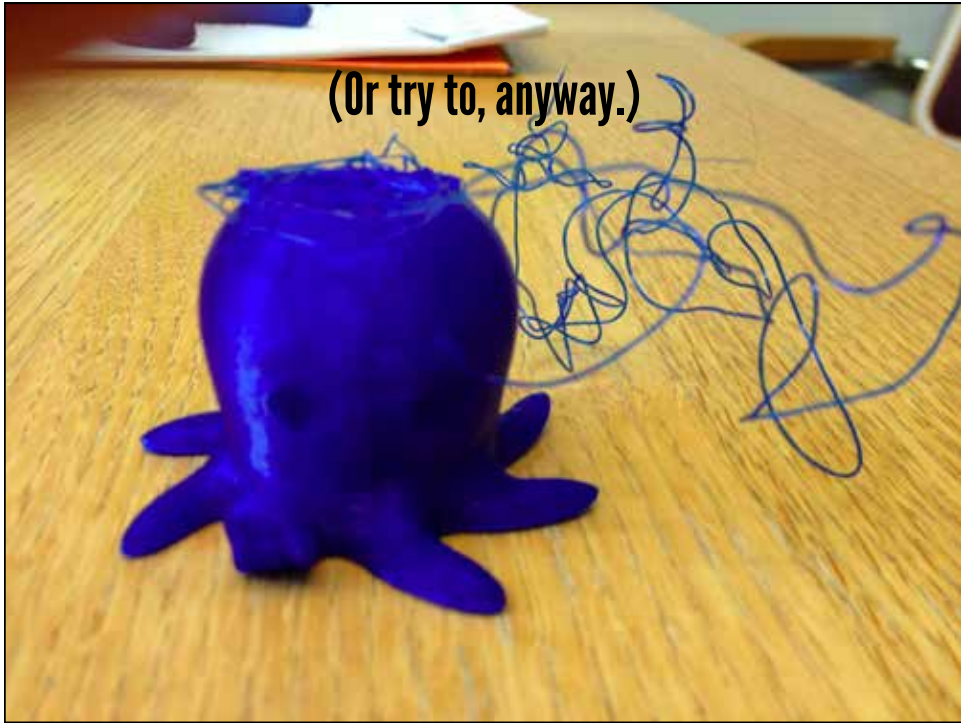


**Makers  
Make  
Stuff.**



'Art Mechanic Vitruvian Man by Art Mechanic on Wikimedia, CC-BY-SA.  
[http://commons.wikimedia.org/wiki/File:ArtMechanic\\_Vitruvian\\_Man.jpg](http://commons.wikimedia.org/wiki/File:ArtMechanic_Vitruvian_Man.jpg)

**Makers  
Transform  
Stuff.**



**This is, too.**



**And so is this.**



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/>

EXPLORATION + FORMAL AND INFORMAL LEARNING + PEER LEARNING + EXPOSITION

Tools  
+  
Support  
+  
Community

People  
+  
Process  
+  
Place

Dale Grover, Maker Works, Ann Arbor, Michigan



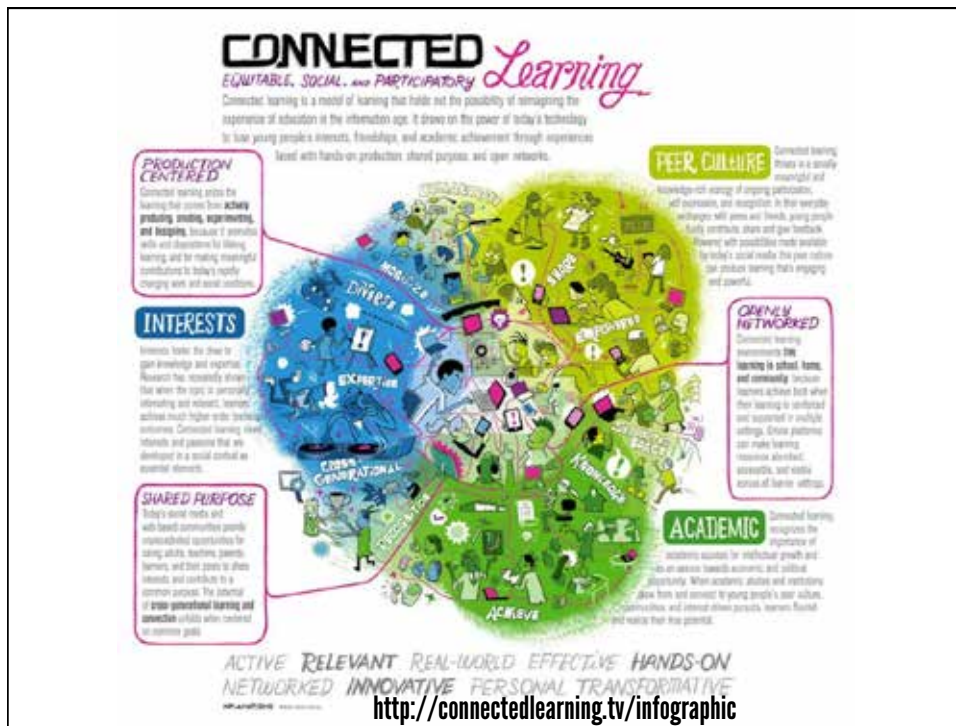
**No Two Makerspaces Are  
The Same.**





**Our makerspaces  
hit the mark when  
makers are working  
from their “center  
of gravity”**

**(Dewey 1900)**



## **#1: KNOW YOUR PURPOSE BEFORE YOU BUY ANYTHING.**

Entertain? Inform? Educate?

Enhance academics? Fill a void in academics?

Introduce concepts and tools or provide access for savvy users?

Have one-off programming or build a community?

Create an in-house community? Serve as an-ramp?

Welcome new makers? Provide 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”
- Welcome female makers

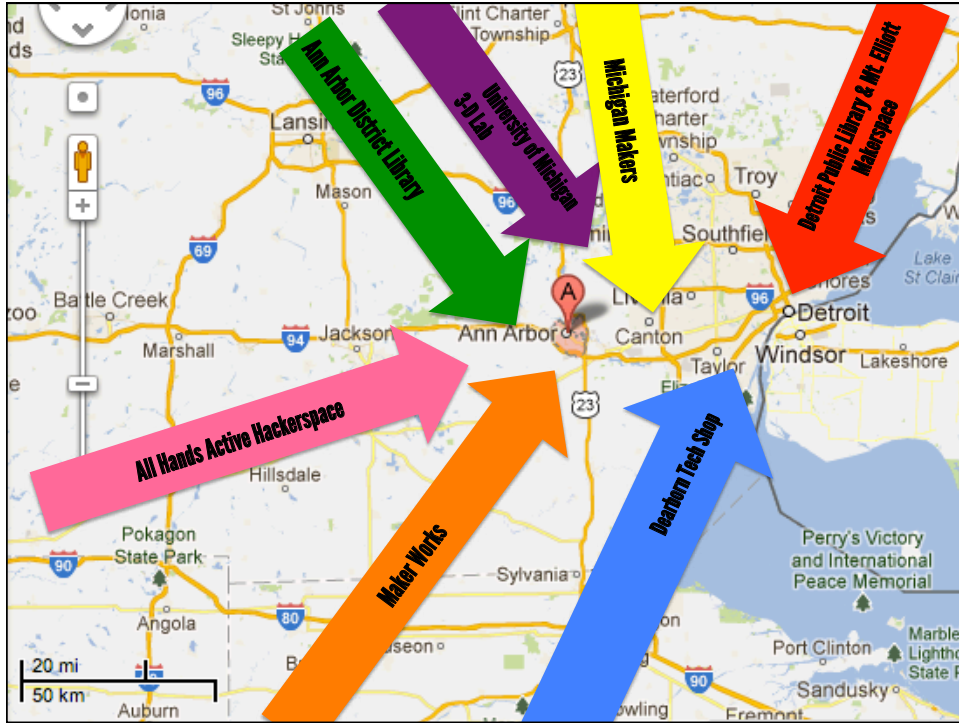
## #2: EMBRACE OPEN SOURCE THINKING.



'Arduino Uno R3' by SparkFun Electronics on Flickr. CC-BY.  
<http://flickr.com/photos/sparkfun/840686580/>

## #3: PARTNER – DON'T COMPETE – WITH OTHERS.

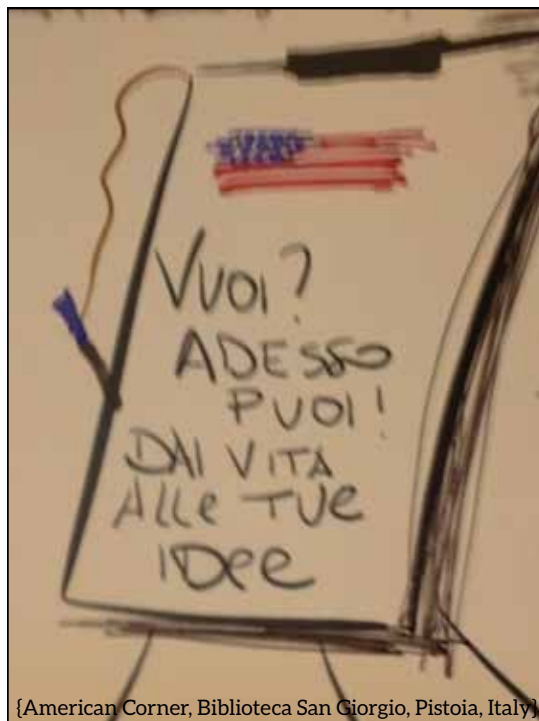
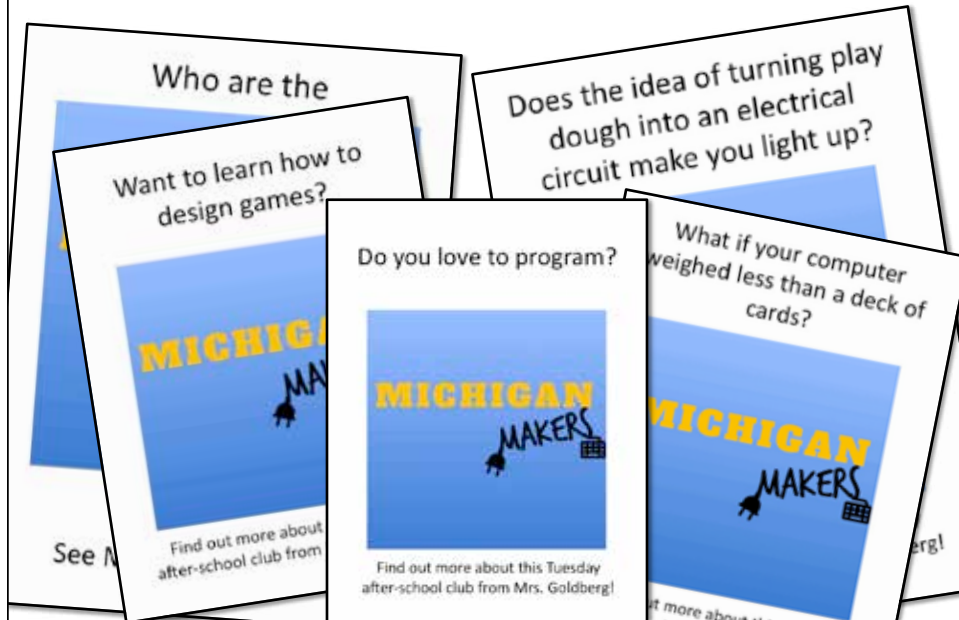




**COROLLARY: PARTNER SKILLS, TOO: LOOK FOR MASHUPS.**



## #4: CAST A WIDE NET. WELCOME ALL KINDS OF MAKING.



{American Corner, Biblioteca San Giorgio, Pistoia, Italy}

**Want to?  
Now you can!  
Give life to your ideas**

**We intentionally plan activities that appeal to both genders.**



{Surprise! Boys like sewing machines more than girls do.}

**“You need to be making *something*.”**



# #5: MATCH MENTORS WITH LEARNERS.



*East Middle School*

1042 S. Mill Street • Plymouth, Michigan 48170  
Phone: 734 / 416-4950 • Fax: 734 / 416-4949  
A Michigan Department of Education Accredited School

PLYMOUTH-CANTON  
Community • Schools

Scott Busak  
Principal  
Christopher Morax  
Assistant Principal

4/24/13

To whom it may concern,

I am writing about Michigan Makers, an after-school program at East Middle School. In Michigan Makers, you learn differently than you would in a regular classroom. You learn about how to make an endless list of things. Makers learn how to work with programs like Scratch. They also learn about things that other makers around the world have created, like Arduino, and the Raspberry Pi. Makers learn about other concepts like board game design, conductive clay, 3D printing, making comics, and sewing too. With all these things, you are free to use your creativity in coming up with your own creations. But it's much more than that. Along the way, you learn about teamwork and problem solving. You meet other people who have completely different brains and ideas and thoughts, and who have the same interest in making that you do.

The graduate students came every week to our school. They spent tons of their time to make it work, and they taught us so much. They were very patient, and endured all of our questions. They made the learning fun, and actually learned with us too. The students encouraged us to step out of what we were used to doing. We could show our projects and creations to them, and they would give us helpful feedback. They would give us their honest viewpoints: what was great, and what we could fix. They didn't teach us by handing us textbooks and assignments. They taught us by guiding us, then letting us figure things out on our own and solve problems in our own way.

The main thing I got out of Michigan Makers is a love of making. I met fascinating people. I got an understanding of how to use different programs and new skills. I also got many more ideas for cool projects I could work on in the future.

A school/library/community center/company should hire the graduate students because they are very dedicated. They have a lot of patience and know how to work well with people. They are enthusiastic about every idea. They have tons of amazing ideas, and they can make anything possible.

Sincerely,

*Himaja*

Himaja

In Michigan Makers ... you are free to use your creativity in coming up with your own creations.

But it's much more than that. Along the way, you learn about teamwork and problem solving.

You meet other people who have completely different brains and ideas and thoughts, and who have the same interest in making that you do ...

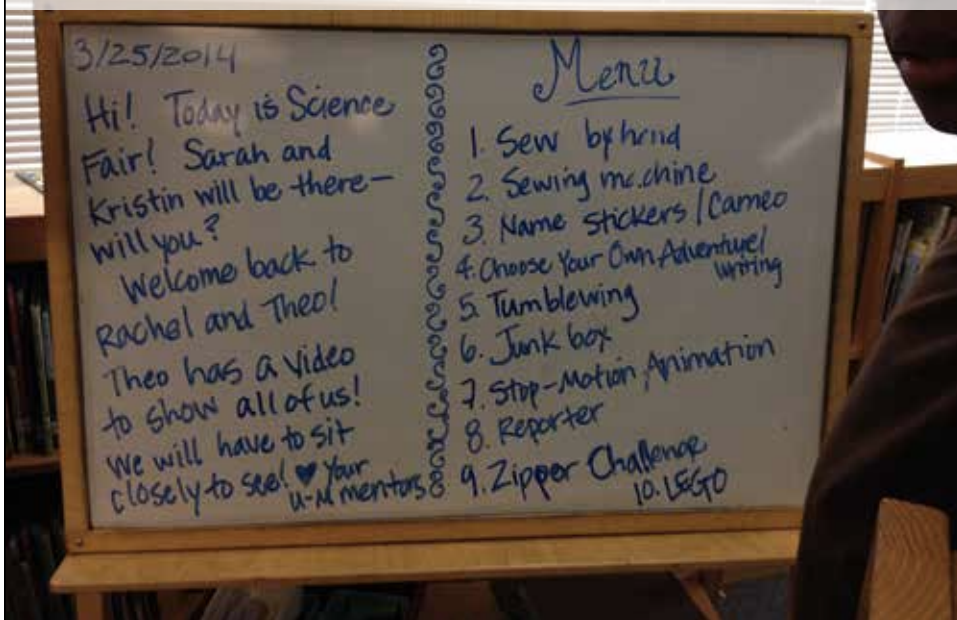
The [graduate] students encouraged us to step out of what we were used to doing. They taught us by guiding us, then letting us figure things out on our own and solve problems in our own way.

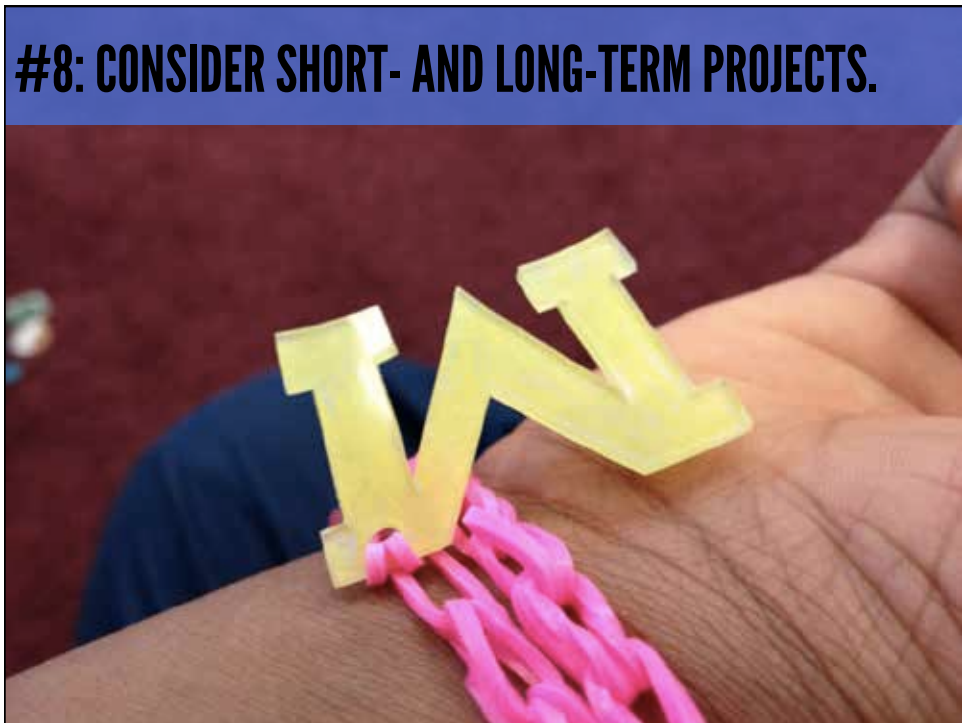
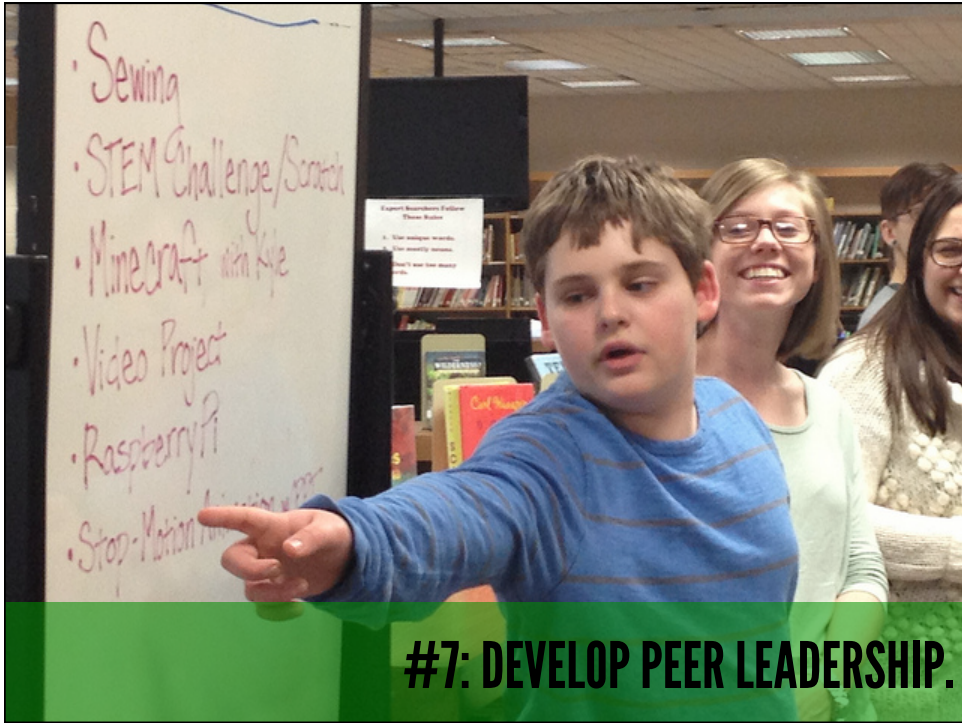


## COROLLARY: REDEFINE “TEACHER” AND “LEARNER.”



## #6: THINK WINDOWS AND MIRRORS.





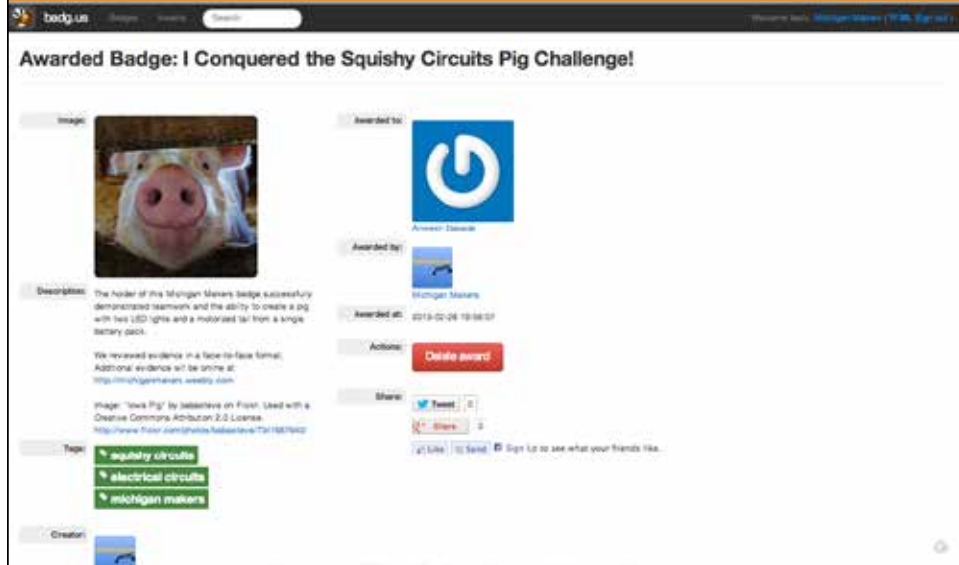
# #9: CELEBRATE PROGRESS.

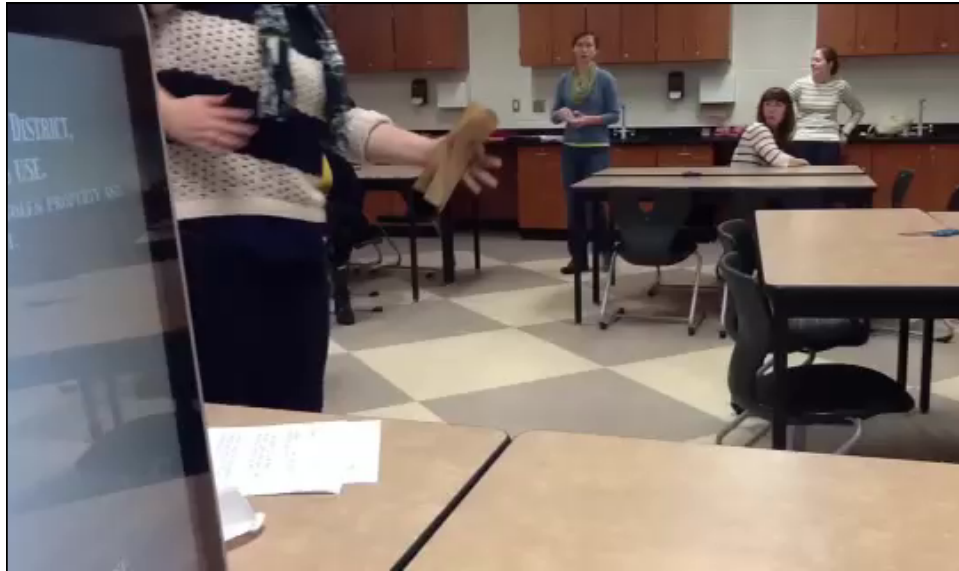


# #9: CELEBRATE MORE PROGRESS.



# #10: CREDENTIAL LEARNING BEYOND SCHOOL.





Join us! We're still learning, too!  
<http://makerbridge.si.umich.edu> - @makerbridge  
*created by Sharon Ginsberg*

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**QUESTIONS?**

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