

### Makerspaces Kristin Fontichiaro font@umich.edu

@activelearning Slides at http://bit.ly/fontblog

SI 549, 9/12/2018, 4:30 – 5:30pm Thanks to the Institute of Museum and Library Services for supporting the Making in Michigan Libraries project (RE-05-15-0021-15), where some of these ideas were developed. Photos courtesy of Michigan Makers unless otherwise noted.



### Hi. I'm Kristin.

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# And you are ...?

- School of Ed?
- UMSI?
- Other?
- K-12 educator?
- Museum educator or
- curator?
- Librarian?
- Software/app developer?
- Data scientist?
- Other?

## How do you define a makerspace?

https://padlet.com/font/si649













# **Support + Community**

(Grover)





No Two Makerspaces Are The Same.









We often start by saying, "What should we buy?"



Instead, experienced maker facilitators know that our first question should be, "What does our community want, need, or aspire to?"

### Does your community need ...

- 1. A **safe place** for citizens to be with others?
- 2. A community gathering place?
- 3. A place that can help adults turn crafts or inventions into **businesses**?
- 4. A place for youth to get extra **enrichment**?
- 5. A place for youth to translate **textbook material** into hands-on practice?



# purpose





What if we are embedding this openended work into formal learning hours?

How do we balance flexibility and agency with curriculum goals?









beyond one's knowledge is element of



"Do people really want this widget? Am I solving a problem, or just adding to the noise?" Amy Lamp, "The value of balancing desirability, feasibility, and viability" vdfavorite.com/the-value-of-balancing-desirability-feasibility-and-viability/ https://cr



If we want future generations to solve real problems, they need real tools. Thinking tools.



IDEO: multidisciplinary teams exploring "how might we ..."





















- Add a rod instead of doubling up with cruise control rod?
- Moisture sensors to turn on wipers automatically?
- Default to on when start car; driver must manually turn them off while still safely in parking lot/garage/driveway?



### Pro Tip:

- Prototyping = quick physical representation of an idea
- Use materials that can be easily changed or reconfigured (e.g., LEGO, Strawbees, play dough, cardboard, LittleBits, recycled materials)
- Beware of preciousness











#### Final thoughts:

- Design thinking can help level the playing field by getting some kids out of putter mode.
- Having a flexible process lowers teacher anxiety while maximizing student creativity.
- Assessing writing/promotion of the product (and not the product itself) can maximize students' tolerance for risky creations.
- 4. Enjoy working with elementary kids? Join us Mondays after-school!