3D PRINTERS: WHAT TO ASK BEFORE YOU BUY

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TODAY

- Introductions
- What's great about 3D printers
- What challenges exist
- What questions to ask
- Facilitated questions moderated by Cassondra
- Open Q&A

INTRODUCTIONS

- About Me
- About You Guys

WHAT'S GREAT ABOUT 3D PRINTERS

THEATRICALITY! MARKETING! BEING HIP!

WE CAN IMPROVE THE WORLD AROUND US

- Practical:
  - Project e-NABLE
  - Haitian clips
  - International Space Station
  - WREX
  - Rapid deployment of parts in remote/ unstable areas

BRING THE WORLD TO OUR NEIGHBORHOOD

- http://morphosource.org → shared 3D models from scientists
- Smithsonian objects → https://3d.si.edu/
- NASA models → http://nasa3d.arc.nasa.gov/models/printable
- Math manipulatives → https://www.thingiverse.com/tag:MakerBotAcademyMath

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BUT KEEP IN MIND ..

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DON'T INVENT NEEDS YOU DON'T HAVE ☺

- "Do you print plastic stuff here?"
- Scanning the taxidermied fish …

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PRINTING EXISTING DESIGNS = CONSUMERISM, NOT CHANGE OR CREATIVITY

- Thingiverse.com (common starting point)
- Microsoft Surface adapters

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STEEP LEARNING CURVE

- Conundrum!
  - Sometimes, the things we can make with novice skills, we don't really need
  - The things we want, we lack the skills to make
- Wanna learn CAD? ☺
- Consumer-grade 3D printer models only print plastic. To print wood composite, metal, porcelain, food, skin, etc., requires specialty equipment

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SLOWWWWWWW

- It's hard to work our existing activity and program-based approach around slow print speeds
- Ex.: Cookiecaster.com
  - Great starter project for libraries, but …
  - 15 – 25 minutes x 15 excited tweens = not doable in a single setting
  - More work for the librarians … Some libraries have extra staff time, some do not
- Paolo Blikstein's keychain story … https://tltl.stanford.edu/sites/default/files/files/documents/publications/2013.Book-B.Digital.pdf

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BUT … PROTOTYPING?

- Errr … only in very late stages
- Cardboard, recycled materials, LEGO more common for early prototyping due to slow print time and long period needed for 3D modeling

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SO… 3D PRINTERS ARE MAGICAL YET CHALLENGING.

HOW DO YOU KNOW IF THEY'RE RIGHT FOR YOU?

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WHAT'S YOUR VISION FOR YOUR MAKER PROGRAM?

HOW WILL YOU KNOW SUCCESS?

MAKER VISION

Based on _____,
I see that our students/patrons need opportunities to_____.

Therefore, we'd like to launch a maker program that will give them the chance to_____.

In this program, we will prioritize _____.

We will know that we are successful if _____.

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KNOW WHY YOU WANT IT & WHO THE TARGET USER IS.

ASK THEM FIRST.

(the Emily Thompson rule of thumb …)

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IS THE LIBRARY THE PLACE WHERE THE 3D PRINTER IS NEEDED?

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DO YOU HAVE THE BUDGET?

- Staff training time to learn how the printer works
- Staff training time to learn how 3D modeling software works
- Staff time to teach/guide/ support makers
- Repair time and budget
- Filament (about $25/spool – lasts a long time)
- Furniture

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DOES THIS FIT WITHIN YOUR PROGRAM TIME SLOTS?

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ENVIRONMENTAL/RECYCLING PLANS?

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RIGHT FOR SOME.

RIGHT FOR YOU?

LET'S TALK ABOUT IT. ☺

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