MAKER MACGYVER

CSL in Session 2015
INTRODUCTION

Ashley Kazyaka
Colorado State Library
Library Development Project Manager
INTRO: I MAKE STUFF
Terms to know:

- Maker - outgrowth of DIY
- Makerspaces - creativity hub
- Tinkerspace - think Bob Vila meets 21st century tech
- FabLab - fabrication, usually prototyping
- Hackerspace - coding/programming
BIG TRENDS

• STEM/STEAM/STREAM
• HoMaGo
• Business Incubation
• Rapid Prototyping/experimentation
• Specific service population
  – Teens
  – Adults
  – Families
This is a totally new fad that has absolutely no real connection to libraries.
For more on Makerspaces in Library History, see *American Libraries*, Jan. 2013
It’s all about newfangled tech and I am so not a tech person.
SO...3D PRINTING?
DEFINING “MAKER”

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hands-on</th>
<th>Social</th>
<th>Technology-infused</th>
<th>Innovation-driven</th>
<th>Leisure pursuit</th>
<th>Project-based learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making</td>
<td>always</td>
<td>always</td>
<td>always</td>
<td>yes</td>
<td>sometimes</td>
<td>always</td>
</tr>
<tr>
<td>DIY</td>
<td>always</td>
<td>sometimes</td>
<td>sometimes</td>
<td>sometimes</td>
<td>sometimes</td>
<td>sometimes</td>
</tr>
<tr>
<td>Crafting</td>
<td>always</td>
<td>sometimes</td>
<td>rarely</td>
<td>rarely</td>
<td>always</td>
<td>rarely</td>
</tr>
</tbody>
</table>

From YALSA “Making in the Library Toolkit”

- MAKE Magazine as mouthpiece
- Tech/Silicon Valley = $$$
Starting a makerspace or doing maker programs is way too hard and way too scary.
IMPLEMENTATION

Online Courses for Staff
New to the library? Our Getting Started with Library Customer Service course will provide a great introduction to customer service in the library setting.

More and more, library staff are assisting customers with technology questions, and are providing classroom-based technology instruction. The Online Tech Training for Staff course can help you get up to speed with technology training.

Access the courses:
- Getting Started with Library Customer Service
- Online Tech Training for Staff

Digital Creation
Looking to add a digital creation station in your library? Check out our list of digital creation software. Most software in the list is free!
- Digital Creation Software

Library Makerspaces
Wondering what all the hype is about with library makerspaces? Learn all about it with our library makerspace resources:
- Library Makerspaces
- Programming ideas for Makerspaces
- Creation and Makerspace in Libraries Listserv

create.coloradovirtuallibrary.org
ONLINE RESOURCES

- create@cvl-lists.org
- https://www.facebook.com/groups/librarymaker
- http://makerspace.com/playbook
- http://makezine.com/
- Thingiverse (3D Printing in Libraries Group)
- https://learn.sparkfun.com/
It’s going to require tons of space.
SMALL SPACE IDEAS
IDEA FACTORY: PUEBLO
It’s going to cost way more than I can afford.
Talking Points: Museums, Libraries, and Makerspaces

June 2014

By the Numbers

- STEM workers in all demographic groups, including those who are foreign-born, **earn more than non-STEM workers.**
- Women hold **only 25% of STEM jobs.**
- For 65% of scientists with advanced degrees, their interest in science **started before middle school.**

What Are Makerspaces?

Makerspaces are part of a growing movement of hands-on, mentor-led learning environments to make and remake the physical and digital worlds. They foster experimentation, invention, creation, and exploration through design thinking and project-based learning. The movement aligns with President Obama’s Educate to Innovate initiative and his call to think about science and people of all ages. Five IMLS-MacArthur Learning Labs grants have supported makerspaces.

In addition, IMLS funds work to advance best practices for makerspaces and maker programming nationwide:
- In 2012, IMLS awarded a National Leadership Grant of
ALA - MAKE IT @ YOUR LIBRARY

Make it
@ your library

What are you looking for?

Search

Tools and Space
- Activity Ready
- Project Group Ready
- Temporary Tool Ready
- Clean Tool Ready
- Dirty Tool Ready
See this blog post for more info

Age Level
- 0-10
- 11-18
- Adults

Recent
- Crayon Lathe LittleBits
- Nailed it!
- Homemade Fizzy Pop

Contribute

WHAT WILL YOU MAKE?
WHAT WILL YOU MAKE?
GUESS WHAT?

Programming, yeah!
MENTAL TOOLS

- Creativity
- Flexibility
- Willingness to take risks
- Ability to laugh at mistakes
- Knowing your community/stakeholders
- Ability to ask for help
- Resiliency
ACTUAL TOOLS

- MaKey MaKey ($35 via SparkFun and educator discount)
- LED Cards/Paper Circuits
- Sewn Circuits
- Book crafts
- LittleBits
• Movie Mount/Green Screen
• Arduino
• LittleBits
• LEGO WeDo/Mindstorms
• Finch Robot
• 3Doodler
SOFTWARE TOOLS

- Scratch (drag and drop programming)
- GIMP (photo editing)
- InkScape (vector editing)
- Blender (3D modeling & video editing)
- Kdenlive or OpenShot (video editing)
- Audacity (audio recording)
How can you sell this to your board?
• Address fears/concerns
• Have a solid plan in place (with a budget!)
• Use mission statements/strategic plans/local values to your advantage
• Identify local/regional/national partners
How can you sell this to your community

• Have a solid plan in place
• Have a clear brand in place BEFORE you start
• Clearly market and keep to a schedule
• Utilize local outlets
  – Social media is your friend
  – MeetUp.Com
• Leverage partners
Potentially Partners

- Girl/Boy Scouts
- Coder Dojo
- Local start-ups/co-working spaces
- Local/regional STEM organizations
- Commercial makerspaces
- School district (for public libraries) or Public libraries (for schools)
Questions, comments, support?

Contact Ashley:

akazyaka@coloradostatelibrary.org
(303) 866-6894