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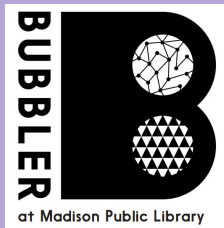
# Assessing Making & Learning

With the Bubbler at Madison Public Library

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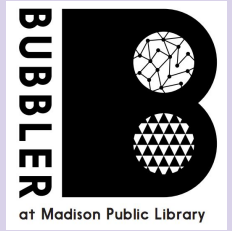
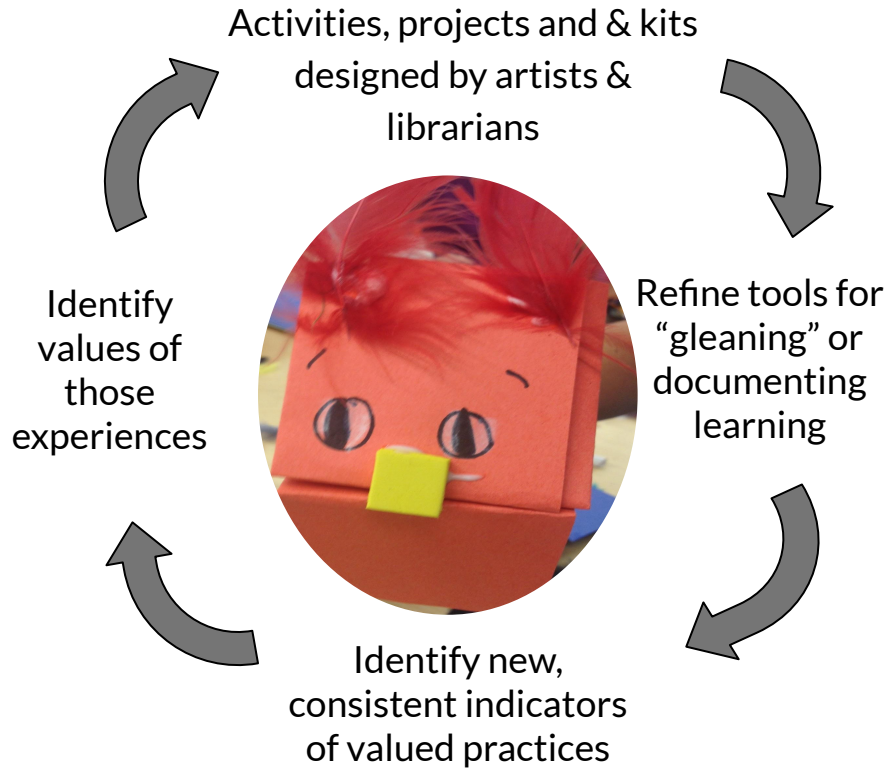
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# a very Bubbler approach to assessment...



- Activities, projects and kits designed by artists & librarians  
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  - Tools for “gleaning” or documenting learning  
↓
  - Consistent indicators of valued practices  
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  - Identify values of those experiences
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# Cycle of practice



## Let's Bubbler!

- Experience a project from a Bubbler artist
- Engage with documentation tools for your own learning
- Identify indicators of valued practices
- Evaluate how to improve on the process

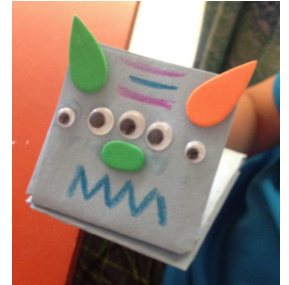
# Make a Puppet



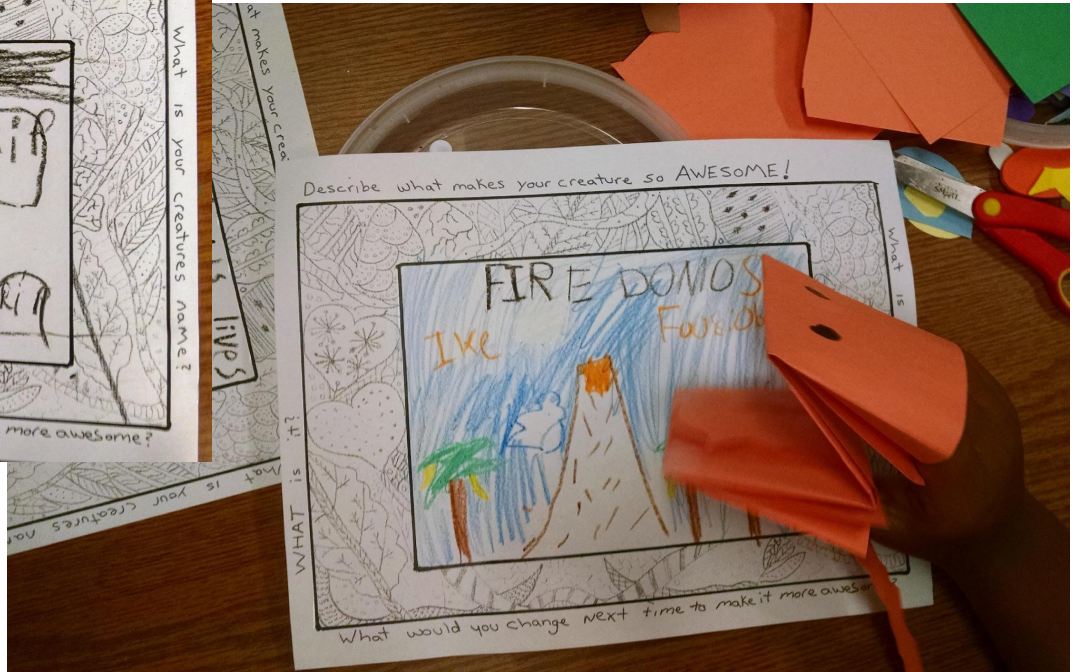
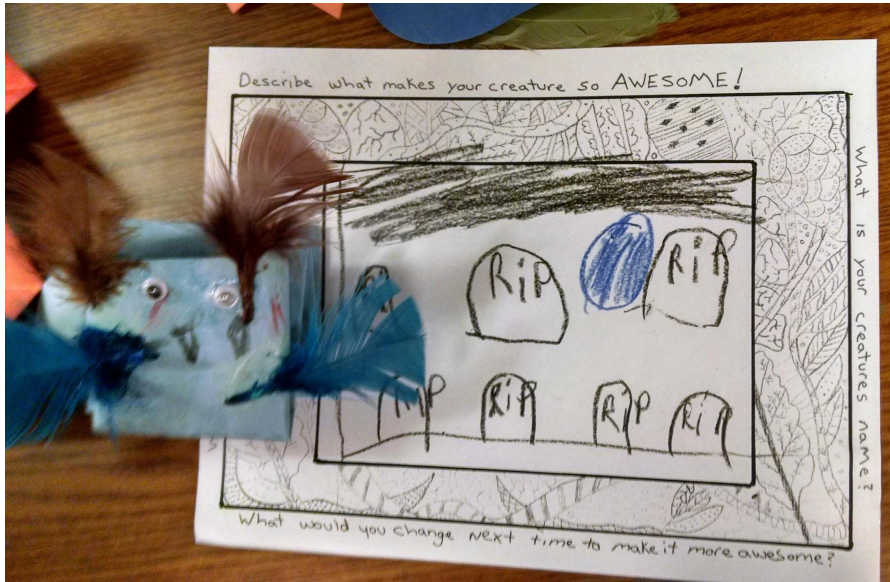
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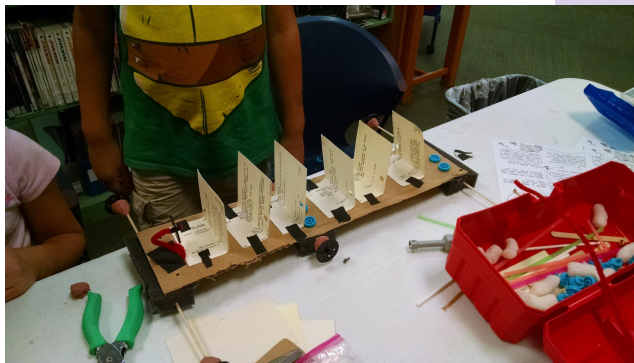
# Articulating creativity

- ❖ What is your puppet's name?
- ❖ What kind it is? What does it do?
- ❖ What makes it so awesome?
- ❖ If we had time to make another puppet - what would you change?



# Creating Authentic Moments of Reflection





*Bubblers Patent*

Name of creation:

Purpose:

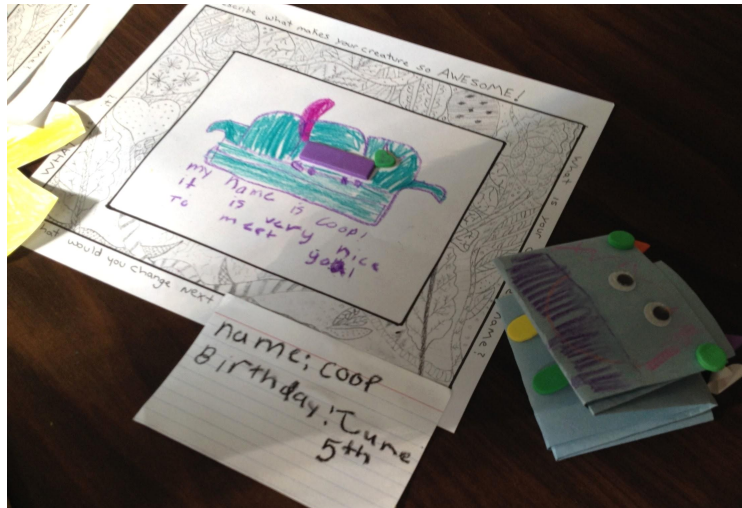
Sketch:



Inventor's signature:

Patent approval by:

# A framework for indicators of learning



## Learning Dimensions Framework

Learning Dimension	Indicators	Descriptions of learners' interactions
<b>Engagement</b>	Spending time in Tinkering activities	<ul style="list-style-type: none"> <li>Play, envision, make, explore materials, try something over and over, etc.</li> </ul>
	Displaying motivation or investment through affect or behavior	<ul style="list-style-type: none"> <li>Show emotions such as joy, pride, disappointment, frustration</li> <li>Remain after they appear "finished," and start something new</li> </ul>
<b>Initiative and Intentionality</b>	Setting one's own goals	<ul style="list-style-type: none"> <li>State goals or pose problems</li> <li>Plan steps for future action</li> <li>Develop unique strategies, tools, objects or outcomes</li> <li>State intention to continue working outside the Tinkering Studio</li> </ul>
	Seeking and responding to feedback	<ul style="list-style-type: none"> <li>Actively seek out feedback or inspiration from materials/environment</li> <li>Anticipate further outcomes</li> <li>Innovate approaches in response to feedback</li> </ul>
	Persisting to achieve goals in the problem space	<ul style="list-style-type: none"> <li>Persist toward their goal in the face of setbacks or frustration within the problem space</li> <li>Persist to optimize strategies or solutions</li> </ul>
	Taking intellectual risks or showing intellectual courage	<ul style="list-style-type: none"> <li>Disagree with each other's strategies, solutions, or rationales</li> <li>Try something while indicating lack of confidence in outcome</li> </ul>
<b>Social Scaffolding</b>	Requesting or offering help in solving problems	<ul style="list-style-type: none"> <li>Request or offer ideas and approaches</li> <li>Offer tools or materials in service of an idea</li> </ul>
	Inspiring new ideas or approaches	<ul style="list-style-type: none"> <li>Notice, point out, or talk about others' work</li> <li>Innovate and remix by using or modifying others' ideas or strategies</li> <li>Leave something of their work behind to share with others</li> </ul>
	Physically connecting to others' works	<ul style="list-style-type: none"> <li>Produce work that physically interacts with other learners' work</li> </ul>
<b>Development of Understanding</b>	Expressing a realization through affect or utterances	<ul style="list-style-type: none"> <li>Show excitement when expressing a realization</li> <li>Claim to realize or newly make sense of something</li> </ul>
	Offering explanations for a strategy, tool or outcome	<ul style="list-style-type: none"> <li>Offer or refine explanations for a strategy, tool or outcome, possibly by testing and retesting</li> </ul>
	Applying knowledge	<ul style="list-style-type: none"> <li>Connect to prior knowledge, including STEM concepts</li> <li>Employ what they have learned during their explorations</li> <li>Complexify by engaging in increasingly complicated and sophisticated work</li> </ul>
	Striving to understand	<ul style="list-style-type: none"> <li>Indicate not knowing (e.g., through surprise, bewilderment, confusion) and remain in the problem space to explore their confusion and build an understanding</li> </ul>



# Documentation

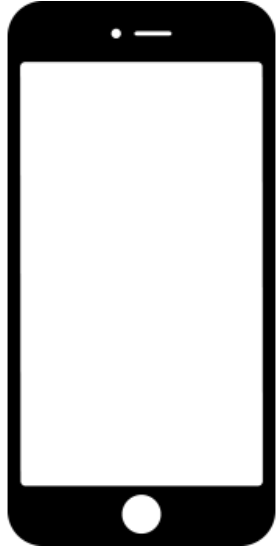


Initially -

- A [google form](#) for collecting indicators from the field
- Sortable data available as well as type of program (outreach or in the library)

Issues -

- Did not have full usability we wanted
  - Hard to use during an activity as interacting
  - Difficult to link photos or audio to moments
  - Unable to track multiple instances
- Challenging to share (with colleagues, but also with stakeholders)



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# Moving forwards

[Data collection app](#) (link no longer active)

[Data sorting and reporting](#) (link no longer active)

## Goals

- More usability in usage with tags, instances, and attachments
  - Better data of multiple and varying instances
  - Accessible to stakeholders for reflection protocols
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