

An Emerging Framework

To Support Learning in Museum & Library Makerspaces

Many libraries and museums have recently established and/or invested resources into implementing maker programs or makerspaces. These programs and spaces serve a variety of goals, but generally serve as sites of learning. Yet, despite these growing efforts, the field knows little about how to support learning within these spaces. In this document, we introduce a framework to support learning in library and museum makerspaces. This framework suggests how we might create the conditions for learning to unfold within making experiences.

Why a Framework?

Building a framework serves several goals:

Design: First, the framework provides design considerations for practitioners who seek to develop a new maker program or maker space. Each of the framework's broad categories provides guideposts that can guide the intentional design of the program or space.

Reflection & Professional Development: Second, the framework's categories serve as reflective points for practitioners currently engaged in the work. In this way, the framework provides ways to elicit formative feedback.

Evaluation: Finally, in a similar way, the framework can offer a method to consider the evaluate maker programs and and makerspaces. The framework's categories steer the development of summative measures to evaluate a program or space's impact.



children's museum
PITTSBURGH

It is important to mention several points about our framework development. The elements of the framework are intended to guide practitioners' development and implementation. The framework is not intended to prescribe how to develop and implement. Instead, the goal is to encourage critical discussion and point practitioners in the direction of productive aspects of maker experiences. In the spirit of making, this framework is meant to be flexible and adapted to serve one's local concerns, priorities and conditions.

Through over 30 interviews and site visits to library and museum makerspaces across the country, we have identified three key elements that create the conditions to support learning in makerspaces. These elements include: the *purpose* of the makerspace, the role of *people* in the makerspace, and the *pieces and parts* that are constitutive of the experience.

Purpose

Libraries and museums implement making programs for a wide variety of reasons. Why and how do making experiences, activities and/or the space align to and further the goals of a making program and connect to the overall mission of the organization? When considering the purpose, we might reflect on the following questions:

- ✦ What are your program goals or goals of your makerspace?
- ✦ What does success for these goals look like?
- ✦ How do you measure success?
- ✦ In what ways does the program or space align with the mission of your organization?
- ✦ What is the audience that your program or space serves?
- ✦ Who are the stakeholders of your program or space?
- ✦ What are the values that underlie your program or space?

People

People play an important role in creating the conditions for learning through making in museums and libraries. Yet, people, such as educators, librarians, volunteers, and guest makers, are necessarily used in a variety of ways based on a program's goals as well as constraints that exist, such as funding and capacity to manage staff. What is the role that people play in the management, monitoring and facilitation of learning in a makerspace or program? When considering the people, we might reflect on the following questions:

- ✦ What roles do people play to support your program or space?
- ✦ What is the staffing structure that exists or needs to be developed to support your program or space?
- ✦ What is your approach to facilitating the making learning experiences? Why?
- ✦ Can you assess your staff's capacity to support making?
- ✦ What strategies can be employed to ensure that staff's capacity is developed over time?

Pieces & Parts

Making is a “hands-on” learning experience and the tools and materials selected ought to align with the goals of the program and the capacity of the staff. What are the tools, materials and architecture that are central to supporting learning through making in a program and space? When considering the pieces and parts, we might reflect on the following questions:

- ✦ What tools are important for your maker experiences? Why?
- ✦ What materials are important for your maker experiences? Why?
- ✦ What physical architecture is important for your maker experiences? Why?
- ✦ What role does digital technology play in the selection of tools and materials for your maker experiences? Why?
- ✦ What processes or functions are important to integrate in your maker experiences? Why?

We argue that addressing these elements in an integrated fashion creates the conditions for learning in library and museum makerspaces. In the coming months, we will release a longer publication which explains this work, develop a suite of tools to enable practitioners to activate these elements in their space and programs, and disseminate this work to a wide array of practitioners.