ROCKWOOD MAKERSPACE AT MULTNOMAH COUNTY LIBRARY

The Connected Learning Alliance Series
on Connected Learning in Practice

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CAPTURING CONNECTED LEARNING IN LIBRARIES

The Capturing Connected Learning in Libraries (CCLL) project—a research and practice collaboration between the Connected Learning Lab, CU Boulder, SRI International, Los Angeles Public Library (LAPL), YALSA, and YOUmedia—enables libraries to better assess learning outcomes for their connected learning programs and spaces, and it boosts their ability to use evaluation data to improve their programs. It is focused on identifying challenges that connected learning programs face and helpful ways of addressing those challenges. This project is generously funded by the Institute of Museum and Library Services.

CASE STUDY: ROCKWOOD MAKERSPACE AT MULTNOMAH COUNTY LIBRARY

Rockwood Library is a branch of Multnomah County Library in Oregon. In 2016, the library created a makerspace for teens with funding from two local sources, the Mt. Hood Cable Regulatory Commission and The Library Foundation. Multnomah County Library developed the makerspace in order to address inequitable access to after-school STEAM opportunities in the area. Teens used the Rockwood Library branch, but there were few teen programs and no dedicated space for them. Today, the 1,000-square-foot space within the library provides access to technology, equipment, and software. Paid and volunteer mentors with diverse expertise support youth engagement in open-ended exploration, as well as provide classes on special topics.

What Happens in the Makerspace?

The library provides four forms of programming in its makerspace: open labs for drop-in visitors, structured workshops facilitated by makerspace staff and external instructors, workshops developed for specific groups taught by makerspace staff (e.g., for local Girl Scouts troops), and makerspace camps taught by external instructors during school breaks.

During Open Labs, which take place four times each week, one can find youth playing games on the computer together; engaging in digital design activities; using sewing machines; making arts and crafts; experimenting with science; and tinkering with electronics. Students can also do homework and work on outside projects.

The makerspace offers workshops on various topics to give participants the opportunity to engage in more structured learning activities. Usually taught by either makerspace staff or a contract instructor, workshops are offered at least once a week. The workshops vary widely in topic but mostly engage in different kinds of digital media arts, such as game design and e-textiles.

Makerspace Camps are offered during school breaks. Camps are based on a makerspace workshop offered by an external contract instructor and focus on topics that require more than a one-day workshop for youth to learn skills. For example, in one camp, youth learned how to create modifications in *Minecraft*.

A unique feature of this makerspace is that there are many people who can serve as teachers and mentors to participants in the makerspace. The staff includes a coordinator who is responsible for developing the makerspace programming and for hiring and training makerspace staff and volunteers. Other members of the staff provide instruction, mentorship, community outreach, and run the day-to-day programs in the space. Staff members develop connections with makerspace participants as their mentors and those connections sometimes extend beyond participation in specific program activities. They are familiar with teens' interests and lives outside of the makerspace and library.

The library also contracts with instructors with expertise in particular topics. Initially, the library worked with instructors who delivered programming throughout the Multnomah County system. In order to find new instructors, the library reached out to local organizations, attended STEAM meetups and events, and collaborated with community organizations. There are also teen and college interns, as well as volunteers who provide additional mentoring support in the makerspace.

Why Did Multnomah Partner with the CCLL Project on an Evaluation?

At the time we began our project, Multnomah County Library was about to complete a three-year grant that had supported the development of the makerspace. The grant included an evaluation component that was intended to track outcomes for both drop-in visitors and regular participants in programs and workshops requiring registration.

The program coordinator, Lyndsey Runyan, partnered with the CCLL team so that she could learn more about the 21st Century skills that participants were developing through their participation in makerspace activities. The local funder of the makerspace wanted to know about long-term impacts, such as whether participants were developing interests that might be related to future careers, as they related to local priorities for the funder.

EVALUATION PLAN DEVELOPMENT

In 2017, the CCLL team met with Lyndsey Runyan to develop a plan to help her evaluate her makerspace to meet her own evaluation needs as well as those of her external stakeholders. The plan drew on existing measures of connected learning developed by the Connected Learning Research Network and available on the Research Tools website for the network (https://researchtools.dmlhub.net/).

EVALUATION PURPOSE AND OUTCOMES

Like many evaluation projects, the evaluation plan that the CCLL team came up with served the purpose of both internal program improvement and accounting for an external funder. A primary outcome of interest for both the library and its funder was whether the makerspace supported youth in discovering and developing new interests. Another important outcome of interest was whether youth who participated at the makerspace regularly developed skills in some way that differed from those who dropped in just once or twice. Of particular interest was the development of skills that regular participants could use in their day-to-day lives. For internal purposes, Lyndsey wanted to know how people used the space and in what ways, and also which programs were worth spreading to other library locations in the Multnomah County system.

Rockwood's Desired Outcomes	
Interest Discovery and Curiosity	Youth can discover new interests through their engagement in makerspace activities.
Skill Development	Youth participants, particularly those who attend regularly, learn new 21st Century skills, such as collaboration, positive risk taking, and persistence in the face of failure.
Use of the Space	The space is used productively, and understanding its usage can support program development at other branches in the system.

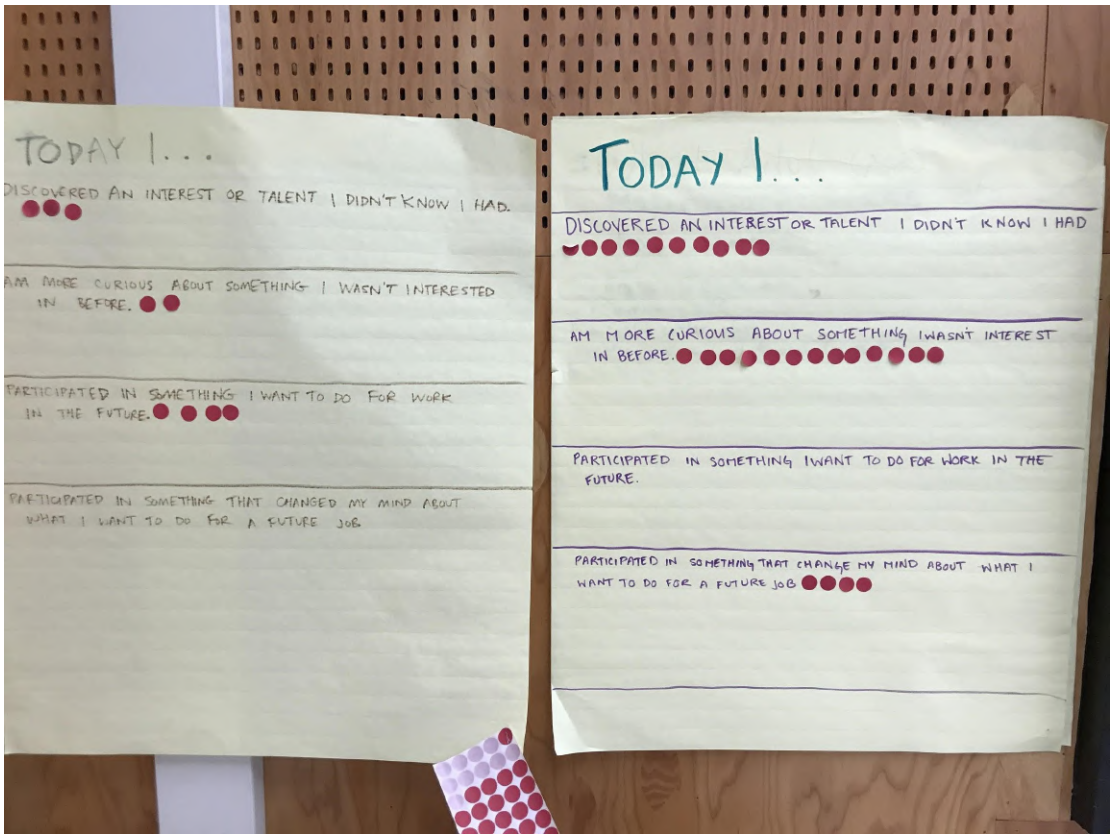
Tools Developed

Talkback boards. Multnomah staff liked the idea of using talkback boards, which they heard about from Mo Yang and Anythink (see Anythink case study). Talkback boards present questions or prompts for customers to answer, either by voting for possible choices or by writing short responses. Multnomah's talkback boards focused on reasons why youth came to the makerspace and on how they used the space. In addition, its talkback boards focused on the tools that youth used, and what they had accomplished that day.

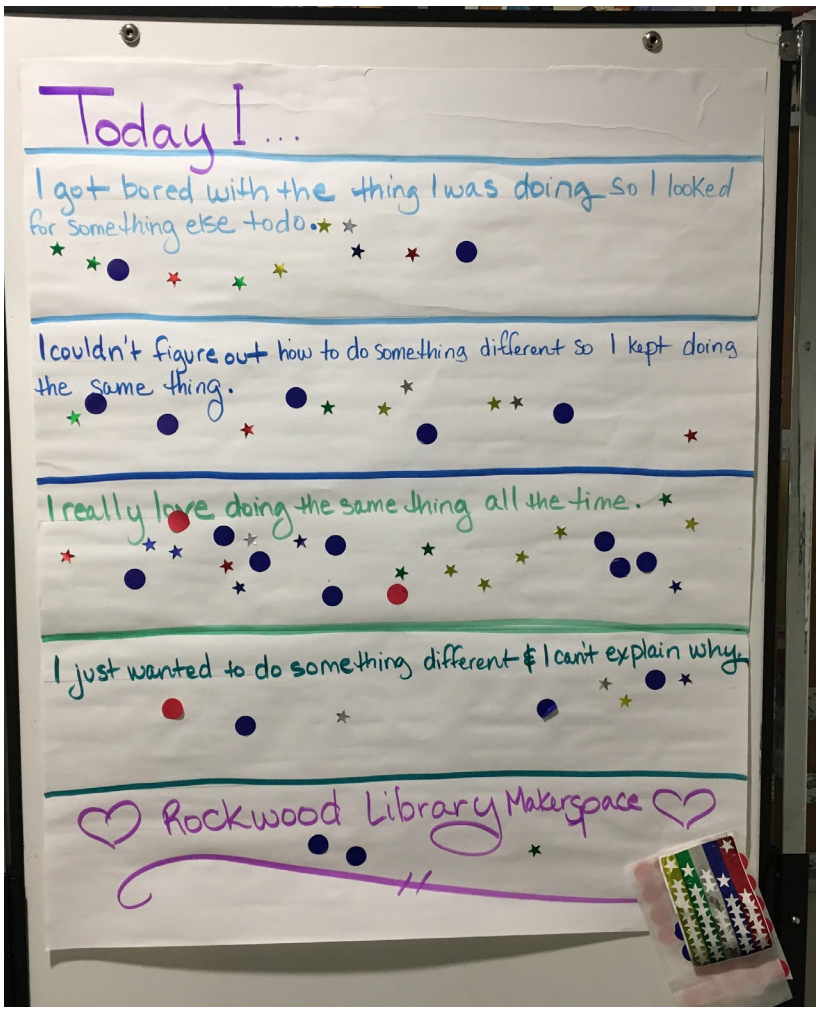
Some questions on the talkback boards were designed to help provide feedback to the program on whether youth wanted to go deeper into what they had learned that day or to explore something different.

LOOKING AT DATA

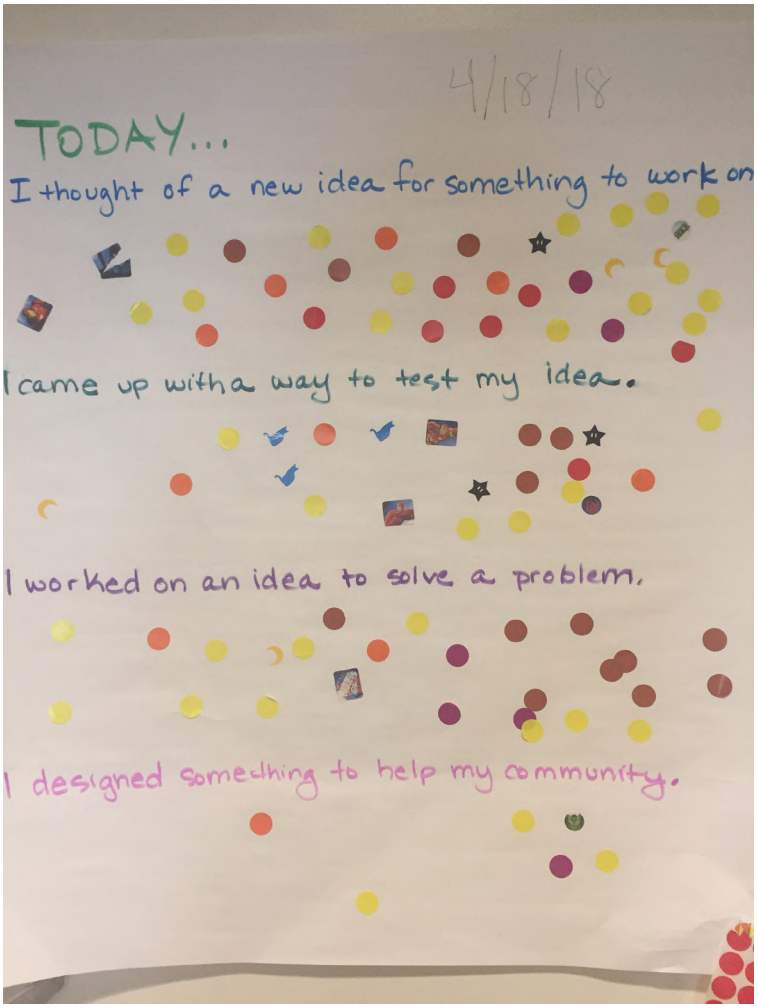
In this section are some examples of talkback boards from Multnomah that were used during 2017 and 2018, and what the CCLL team learned from them. See Appendix for prompts used on these talkback boards.



Both of these talkback boards address whether participants discovered new interests or deepened existing interests through program activities. The latter two prompts about the future and possible jobs were intended to find out whether the youth connected the program activities to work they might want to do. Here, we can see a pattern in which the majority of youth discovered an interest or talent they did not know they had. These data provide some evidence that the program supports further interest discovery for many participants.



This talkback board also addressed participants' interests, but with the goal of eliciting the reasons *why* they might or might not continue doing the same activity. The first and last prompts addressed whether youth sought out new things to do because they were bored, or if they just wanted to try something different. The middle two prompts were concerned with whether the participants who kept doing the same thing were happy with the activity or simply were not aware of other options. As hoped for, only a small number reported being bored. One of the striking patterns from this set of boards was that youth often did "the same thing" rather than trying something new. This suggests an opportunity for programming to allow youth to deepen interests they have found, rather than a need to expand programming into new areas.



The above talkback board evaluated aspects of skill development, particularly related to 21st Century skills such as prototyping and problem solving. As evidenced by the talkback board, many youth came up with new ideas for projects in the makerspace that would address a problem. Civic engagement is one connected learning outcome that often interests libraries. Here, a few participants used the makerspace to design something to help their community. This suggests that it may be useful for library programs to seek out or provide more information about how makerspaces and design can be used toward addressing issues within their communities.

How Talkback Boards Informed Practice

In addition to the talkback boards described above, the Rockwood Library makerspace staff created others to evaluate outcomes that helped them make changes to their workshops and camps. These talkback boards asked participants about: the tools they needed the most help with; youths' plans for the future; and what they wanted out of an experience in the makerspace. These prompts and questions helped the staff confirm that their programs aligned with youths' interests and helped them determine what new material and workshops they could offer in the makerspace.

Rockwood Library staff members had this to say about talkback boards:

> **"We are using the talkback boards to gauge community interests. They are also a great way to find out if the teens are feeling confident with the tools and the space and feel comfortable with the staff."**

> **"I really do like the talkback boards. They are an engaging way to get teen input. It also creates a moment of reflection that might be lost otherwise."**

APPENDIX

Talkback Board Prompts Used by Multnomah County Public Library
Today I … discovered an interest or talent I didn't know I had.
Today I … am more curious about something I wasn't interested in before.
Today I … participated in something I want to do for work in the future.
Today I … participated in something that changed my mind about what I want to do for a future job.
Today I … got bored with the thing I was doing so I looked for something else to do.
Today I … couldn't figure out how to do something different so I kept doing the same thing.
Today I … really love doing the same thing all the time.
Today I … just really wanted to do something different and I can't explain why.
Today I … thought of a new idea for something to work on.
Today I … came up with a new way to test my idea.
Today I … worked on an idea to solve a problem.
Today I … designed something to help my community.