

# Maker Corps Case Study

KEENE PUBLIC LIBRARY, KEENE, NH

By Alice Anderson, Science Museum of Minnesota  
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## **Keene Public Library Mission Statement:**

*To provide free, open, and convenient access for all Keene residents to acquire information for growth in their personal knowledge; for life-long learning and enjoyment; for the fulfillment of informational needs, desires, and curiosities; and for enhancing quality of life in the community.*

<http://keenepubliclibrary.org/>

<http://www.kplcampaign.org/>

**Maker Corps Contact:** Gail Zachariah, Head of Youth and Community Services

**Maker Corps Members:** Yves Gakunde, Quinn Lonchierk-Renehan, and Maureen Meyer

**Years in Maker Corps:** 2014, 2015, 2016

## **What's in the mix**

- Administrative support for and community interest in maker programs
- Vision for libraries as places for playful and creative learning experiences for kids and families

## **What's ahead**

- Attracting makers to work and volunteer in the library
- Finding funding to increase programming and capacity through the school year
- Making more connections between local organizations (college, K-12 schools, other youth-serving organizations)

## **Maker Education at Keene Public Library**

Like many small town libraries in the U.S., the Keene Public Library is a community hub valued by many people for many reasons. As the biggest library in the region, the library served over 25,000

people in programs during 2015-16, offering events for youth, families and adults. There are book clubs, writing clubs, movie nights (and Saturday morning cartoons with cereal), game nights and coloring parties – and that is in addition to circulating 278,000+ items per year. The library offers resources in print, audio, digital formats and is constantly adapting to new technologies. Many patrons visit the library for their high-speed internet service in an area that is underserved with broadband access. Others come to get away from technology or to participate with others; the staff believes the library needs to accommodate all their patrons' needs.

The depth of offerings reflects the library's commitment to responding to the needs of their community, but also the interests of their staff. Gail Zachariah, the Head of Youth and Community Services, previously worked in children's museums and believes libraries should offer playful and active learning experiences with engaging toys. The maker movement was a natural fit for her philosophy and her own personality; as she put it, "As a librarian, you need curiosity... and [with maker education] there's really no boundaries."

Nancy Vincent, the Director of the Keene Public Library for over 30 years, was in complete support of taking on this focus. Both Gail and Nancy agree that maker education (the tools, technology and philosophy) is "of its time." Nancy explained, "People want to do it. It's also open to everyone. They are producing stuff people don't have access to, engaging in collaboration and creativity and design. People of all ages want to create things." Of particular importance for them is the accessibility the library provides for people to have their first experience with new technologies or materials. They situate their offerings in contrast to the for-profit makerspaces in the region that mostly appeal to adults and charge a membership fee.

**"If we didn't do [maker education], then the library would not be as well-rounded. Our mission is a really old-fashioned mission...But ours has the word 'curiosity.' ... To me it really fits because if you have an interest but it's not really precise, you just want to explore, and people can explore things by using, and building, and not only just through books. ... So I think without doing that, we'd have a much more limited library that wouldn't be as interesting or fulfilling." – Gail**

## Developing their maker program

Nancy noted how impressed she has been with Gail's tenacity and ability to gather resources to build the program. Part of her drive is the very curiosity that is embedded in Keene's mission. As Gail put it, "I learned to just try things. ... I've kind of taken on the idea that, you know I should just try it, tweak it, do it again, kind of treat it like a making kind of experience as well." Over the past three years, Gail and her small staff have developed and delivered maker programming inspired by others (especially through the Maker Corps message boards and Maker Ed's resource library) and finding what works for them and their space.

Connecting with Maker Ed to get guidance on how to begin – and now sustain – their programming was key. Gail said, "We applied [in 2014], because we thought it'd been really helpful for us to

have the authority and the name, and for the community to be able to say that we're connected with Maker Corps, and for ourselves to feel like we're confident in what we're doing." She has found the name recognition of Maker Ed to be very helpful in advocating for the programming to the Friends of the Keene Public Library (which funds the programming) and attracting Maker Corps Members.

Gail's persistence and infectious curiosity has contributed to the maker approach becoming a part of the library's future. The Keene Public Library is set to expand into an adjacent building in the next few years, and a makerspace is part of the plan (see the latest at: [www.kplcampaign.org](http://www.kplcampaign.org)). Seeing that on the horizon has motivated Gail to continue to be involved with Maker Ed. As she said, "I want more people to feel more comfortable so that when that happens we'll be able to meet the demand." In addition to a makerspace, Gail and Nancy are excited about more spaces for patrons to actively collaborate in-person and virtually, another way of supporting the maker philosophy of sharing and learning from others.

In a recent article Gail wrote for the local *Parent Express*, she describes the maker movement as "a technological and creative learning approach that builds upon the power of learning by doing. Maker programs involve real tools and hands-on experiences combining art, electronics, programming and computational mathematics together in meaningful, powerful ways." She feels that these values are important to the local community, which has roots in manufacturing and is currently trying to attract new business and employees. Those companies, "have been expressing they have had a big challenge, because even though they want to pay a lot of people a lot of money, they can't find anybody... willing to work for them with math and the spatial skills," she said.

## Maker Corps at Keene Public Library

Gail has used the reputation of the Maker Corps program as leverage to attract people not from Keene, as well as entice local professionals and students at Keene State University to spend their summer at the library. During the summer of 2016, three Maker Corps members participated.

- Quinn is a recent graduate and of UMass Amherst's Science Education Master's program and entered a teaching position in August. He is excited to encourage his students to become producers with technology, not just consumers, and to share their creations. That said, he's also wary of using technology just for technology's sake. ("I am sort of trying to think about only using technology if it's really changing things," he reflected.) For him, maker education makes perfect sense in a library, but also feels a responsibility to help people have a meaningful experience: "[Libraries] have always had the books that you could come and read and get the knowledge, so it makes sense that they have these gadgets that people might not be able to access at their house.... But I still sort of struggle with the tools. I really want to try to use them in a way that's challenging and provides some critical thinking."
- Yves is a current doctoral student in Environmental Studies at Antioch College, who has been doing programming at the library for the past four years. He believes that learning how to persist through challenges and planning before jumping into projects are key lessons that come out of maker programming – and are skills that young people need to develop. He reflected that as a result of helping with maker programming, he has become more planful when he takes on creative projects. He is especially excited about the library's future as a community building space.

- Maureen is a K-5 librarian at a local school. She has been working at the library for the past 21 summers, and has happily surprised at how young kids can participate and work with technology. She said that doing the programs has helped her to “get it” and she has also done some activities on her own – even when they were confusing and frustrating. She credited Gail with encouraging her to figure it out despite those challenges and being an inspiration for just “figuring it out.” She said, “Gail jumps in with both feet on so many things.”

## A peek inside the program

On a Thursday afternoon in August, the Keene Public Library’s basement was buzzing with activity. Literally buzzing. A 3D printer whirrs in one corner, kids are building pie-plate UFOs, and tiny LED lights are flickering on and off as kids tinker with making copper-tape circuits. There are five stations altogether; something for everyone. Each Maker Corps Member is adding in their own perspective as they work with students. Maureen gently guides a family in building their circuit, aware of how challenging simple tasks like cutting and folding paper can be for young kids. Yves mentions how he is always trying to slip more science concepts and terminology into his conversations with kids and families.

Quinn works patiently and confidently with young patron to guide him in making his first 3D object. The boy wants to make the White House, where he has recently visited with his family. He makes a rectangle and then a dome on top. “Looking great!” says Quinn. “Hmm. What else does the building have? Can we figure out how to make some columns?” Quinn shows the boy a few tricks in Tinkercad to get him started and then watches as the boy carefully places four recessed rectangles in the front. He’s ready to print. Walking out holding his miniature White House, the boy says, “I can’t believe I made that.”

## Sustaining their maker program past summer

During the school year, there is just as much interest in maker programs but currently the library doesn’t employ additional staff to support those programs. Their 3D printers and limited number of computers are available for use but it is challenging for Gail to be available to support users and keep all the technology up-to-date. For these reasons, Gail has pushed her Maker Corps Members to document their work and the projects activities they created so that she and the year-round staff can learn from them.

Gail feels a certain amount of pressure to grow their maker offerings because of the new building. Currently there is no funding for paying new staff when the space opens, but Gail hopes to advocate for that by demonstrating all the impact their programming has already had on the community.

## Learning from Maker Ed and the Maker Corps Community

Maker Ed was Gail’s first relationship to the maker education community and continues to be the most influential. “I learned a lot from them. Especially the approach to teaching, more than about the problem itself. ...Steve [Davee] talks more about the way to present projects and things,” she reflected. That personal connection has remained important to her. As the organization and Maker Corps program has grown, Gail feels that some of that personal relationship has been lost. “The first year we were on they had a lot more training sessions. It was hard to get to them all. But you got to see people’s faces. [The online community] is just a little bit harder,” she said. She added that she doesn’t feel like she knows people as well. For her, a library affinity community isn’t necessarily important to her because of the difference in programs, scale and resources from place to place.

Quinn learned about Maker Ed during his graduate program and found out about the Maker Corps program through their Twitter feed. Their reputation was one reason he applied: “[Maker Ed is a] really good organization, lots of really good resources, of which I’ve already started taking advantage of before this. I saw the opportunity to be sort of aligned with them, and so thought that was definitely a good thing.” Quinn especially talked about using the online community

## Outreach and Collaboration with Community and other Organizations

The library is currently the only provider of maker programming in the region that is free to youth and families. Gail has made connections with other youth-serving organizations including the Housing Authority and YMCA to both host them at the library and send her Maker Corps Members out to their sites. Samantha Hill, the YMCA School Age Coordinator & Camp Director, was looking for STEM experiences for her 11-14 year-old Counselors-in-Training in the summer of 2015 and came across the library’s maker programming. She was really impressed with the activities and appreciated how it gave her a refresher on hands-on science activities, too.

This year, Gail reached out to her even before Samantha had started planning, and arranged to bring programming out to about 60 summer campers. Samantha’s program budget is very small, so she is always looking for inexpensive projects or outings. This summer, Quinn came out to their camp and brought several different projects that engaged all ages, which was important to Samantha. She said, “They really did like seeing Quinn, having those different science projects and being able to be a part of that. That change of pace; of being like ‘Oh cool, Quinn is under a tent with something and we don’t know what he’s got.’ Perfect. I think it’s more the curiosity and ‘Oh, what’s he going to bring next time?’”

**“When [Quinn] brought like the batteries and the robot, I heard kids start talking about different batteries. One little boy was talking about a battery in a car. That’s now a thing that they are talking about and they are engaged and they want to learn more about it. They’re asking questions, and we’re like ‘Let’s see, I may not know that but we can go test it out and see what that means.’” – Samantha Hill, Keene YMCA**

Samantha also has trouble finding staff for her programs during the school year. Her need is from 3-6pm, when many people are unavailable. It’s important to her for her programs to be fun as well as educational, which she feels like is an easier balance to strike when someone else delivers the program. She explained, “We also like to make sure that afterschool is not school so it’s definitely kids learning without them realizing they’re learning and teachable moments.”

Samantha has picked up new skills for how to create that programming on her own from participating in the library’s activities. She said, “I actually took a lot of the stuff that I learned in what the kids made and I would make with them and then I put it in a folder and I wrote down some stuff about how to make those things and questions to ask. We made a weighted washer, like a bird thing. ... and I thought, ‘I’m gonna do this and then we can go into weights and washers and then we can bring it into using magnets.’ We did that at the beginning of the year and I was fresh from it and I liked it

because it gave me some new ideas.” She is interested in collaborating with Gail and her staff on identifying projects to support themes that her youth want to explore during their afterschool clubs.

## Funding Maker Corps and Maker Programs

The funding to pay Maker Corps Members and offer maker programming comes from the Friends of the Keene Public Library. “The fact that we’re connected to national organization that is going to be guiding us makes a difference to them. [I explain that] Maker Corps is [professional] development and it’s helping us getting ready for the new building,” Gail said. While that support is much appreciated, she feels like what they can pay for Maker Corps Members is insufficient to support people to relocate to Keene for the summer. She found the 2014 Rally.org campaign useful, although the total amount they raised was only a few hundred dollars. To raise even more funds, Gail thinks it will be necessary to better document the impact of their programs. “But I think that people who might be donating money or volunteers, they make they want to make sure that they are getting involved in something that is proven that it is successful,” she said.

## Building their maker program

Gail would like to see more patrons get involved in the making programs; she suspects that her programs attract people that are already familiar with maker or STEM learning. One solution Gail has thought about would be to offer a year-long Maker-in-Residence program, where the library would host a maker for an entire year to develop and deliver programming. This would help address two of the library’s needs: new ideas and talent from outside the local region and more programming. It might also help support the development of longer-term projects, something both Quinn and Yves discussed as a way to deepen the experience for patrons.