Maker Corps Case Studies

2016 EVALUATION REPORT

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EVALUATION ACTIVITIES 2016

Maker Corps is a program delivered by the Maker Education Initiative (Maker Ed) to increase organizational capacity to develop and deliver maker programing. Since its inception in 2013, the program has grown to support over 100 organizations by providing professional development, connections to a community of other maker educators and individualized support. Over time the program elements have changed in response to feedback from participants, collaboration with evaluators and shifts in focus for Maker Ed's goals. In the spirit of maker education – tinkering, observing, responding, iterating – Maker Ed has continued to commit to program evaluation. In 2016, evaluators at the Science Museum of Minnesota conducted four evaluation efforts:

1. Revision of a program Logic Model
2. Pre- and Post-Surveys of Maker Corps Members and Partner Site Supervisors
3. Case Studies of three veteran sites (participants in 2014, 2015 and 2016)
4. Follow-ups with three Case Study sites featured in 2014

The broad goals for these efforts were to understand how well the Maker Corps program meets its participants needs, identify ways in which the program could be modified and describe the impact participation has had on organizations.

Specifically, the guiding questions for these efforts were:

1. What is the underlying theory of change for organizations who participate in Maker Corps? What attributes seem to influence how Maker Corps impacts the organization?
2. What are the lasting impacts on organizations after participating in the Maker Corps program? Are there differences by types of organizations or length of participation?

> **Maker Corps Program Description**
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> *Maker Corps is an online professional development program that provides training and a community of support to youth-serving organizations as they design and implement summer maker education programming.*

What follows is a summary of the commonalities among the Case Study sites from 2014 and 2016 that reveal effective ways that organizations use Maker Corps to grow their organizational capacity and networks of partner organizations.

	2014	2016
Library	Millvale Community Library Millvale PA	Keene Public Library Keene NH
School/ School Residencies	REM Learning Center Miami FL	Progressive Arts Alliance Cleveland OH
Science/ Technology Center	Science Museum of Minnesota St. Paul MN	Digital Harbor Foundation Baltimore MD

SHARED VALUES AND BELIEFS ABOUT MAKER EDUCATION

The educators and leaders at these organizations approach this work with a remarkable degree of shared philosophy about the propose of maker education and its relevance to their work. Their settings, audiences, and disciplinary focus differed but at their core were shared values that guided their program development. While it seemed that prior experience had formed many of these values, maker education enabled them to express these values through their work and be supported by similarly passionate individuals.

Maker education is for everyone – and cost should not be a barrier for participation

Despite the differences in organizational type and funding structure, all of the case study sites believed very strongly that their audience should not pay much – if anything at all – to participate. For the libraries, that was core to their institutional mission and history as a public space open to all. At REM, students did not have to pay extra to participate in maker activities and PAA delivers their summer programming in free library programs. The Science/Technology centers were creative in finding solutions to make their programs available to all; SMM hosts its Play.Tinker.Make program on Saturdays at tables set up throughout the museum, DHF asks participants to pay what you can. In other words, making education is not exclusive, and these organizations have sought ways to make their programs available and accessible to all.

Maker education is better with partners

These organizations also recognize that their programs will reach more participants if they partner with other organizations to provide programming at other sites or professional development for their staff. They understand that reaching their site, whatever it may be, can be a barrier for participation, and that those who have the means to seek out their programs should not be the only recipients.

They also believe that partnerships can strengthen the work they do onsite. They invite feedback and value learning from others about how their programs can be improved or modified.

It's important to highlight that they are considered true partners by other organizations. Yes, the case study organizations provide programming and professional development to others (a service), but they adapt and are flexible with what they provide. Of the organizations I spoke with that partner

with the 2016 case study sites, all mentioned how much they appreciated them for custom designing experiences for their audience. Becky Ranallo at the Cuyahoga Library, a partner with PAA, said, "We love that we can go to Santina with the vaguest of ideas, and she'll be like, 'Yeah, sure, let me talk to my staff.' And then they come up with this amazing program from it."

Maker education is an approach to learning, not just new tools, materials or technology

Other local organizations approach these organizations because they value their expertise in this newish educational field. Many partners spoke about how these organizations have an understanding of new technology and materials that they don't yet have fluency with. However, the case study organizations often pushed back on the notion that the movement is all about technology and tool use – rather, the self-directed learning, open-ended problems solving, peer collaboration and other maker education values drive their programs.

Maker education experiences should be developed, delivered and evaluated with rigor

Despite the difference in organizational type, content focus and audiences, staff at all the case study sites agreed that maker education programs needed to meet their high standards for educational experiences. Staff used the words "rigor" and "quality" to describe their making programs. Many sites have a deep interest in understanding how maker education experiences can be evaluated and youth development documented.

Maker education is about trying things out, not having complete knowledge

The leadership at these organizations practice what they preach – making is all about trying and failing and looking for support. While they feel confident that what their programs offer is valuable, they by no means suggest that they have it all figured out. They approach new programs, projects and materials with the same spirit they learned from Maker Corps. As Gail at Keene Public Library put it, "I learned to just try things!"

ORGANIZATIONAL IMPACT OF PARTICIPATING IN MAKER CORPS

Provided staff with valuable professional development

While the staff at the case study sites felt they had personally gained a lot from participating in Maker Corps, they agreed that their biggest gain was during the first year of their participation. After that, they felt they knew Maker Corps was a trusted organization that could provide their other staff and Maker Corps Members professional development and support that they knew to be of high quality. Many sites provided their MCMs with additional mentorship or training to help them succeed in their setting. For example, at SMM, Maker Corps Members received leadership skill development in partnership with their Youth Science Center.

Tested out program ideas in an intensive and highly supported structure

Almost all of the case study sites use the summer to pilot school-year programming, and Maker Corps is an ideal structure for staff to try different ideas in a very supported environment. However, some sites might find translating their projects from informal to formal educational settings challenging.

Supported documentation practices and opportunities for sharing

To reinforce the spirit of sharing in the maker community, many sites required that their Maker Corps Members document their work on the Maker Corps community page and within the organization's own systems. For example, at SMM, Keith arranged for his Maker Corps Members to be videotaped demonstrating the projects they created, including comments about how to facilitate the project. Keith also gave his MCMs a small budget to buy materials of their choosing and come up with their own project ideas that were shared at weekly staff meetings.

Increased internal buy-in of program

Being aligned with the leading national organization to support maker educators was important for convincing leadership of its value and legitimacy. Possibly because maker education can seem hard to define, it helped organizations gain the trust of colleagues and leadership that their efforts were being guided by structure and standards.

Made connections to other maker educators

As a result of participating, case study sites said they had made connections to other maker educators, but the most meaningful connections were made in-person at conferences, Maker Ed sponsored events, or local gatherings. The online community and resource center were helpful to learn about what others do at their site but less helpful for establishing lasting relationships.

Developed valuable programming to offer other organizations

During the first summer of Maker Corps, most organizations had started to make connections to other organizations, but not yet working together. By the second or third summers, the case study sites were able to offer others either programming or professional development support. These partners highly valued their expertise and leadership in this area.

WHAT'S AHEAD FOR VETERAN ORGANIZATIONS

These six organizations now have several years of experience in the maker education field, and are moving ahead to new phase of their own needs for professional development and support. While they may feel confident in the programming they have developed, they are often still a local pioneer that other organizations look to for guidance and leadership. This role can feel a bit isolating and at times overwhelming, so continued support from a national network for other maker education organizations is valuable.

Expanding Partnerships and Outreach

At this point in time, may of the organizations felt confident in what they offer for maker programming. Now they would like to reach more people, in more places, through more partnerships. A big part of this is finding ways to fund that work, through grants or fundraising. Finding the right

funding agencies and donors to support maker education had been a slow process for some, and they are looking for guidance on where to direct their energy.

Focus on supporting specific audiences

The case study sites all recognized that their core audiences usually come to their programming with a maker mindset or interest already established. They would like to expand their impact to audiences that may not naturally gravitate towards their programs or may need additional boosts. For example, DHF spoke about working on supporting female makers and Keene would like to reach library patrons who are not already engaged.

Continuing dialogue with other maker educators

All of the sites offer year-round programming and seek a community to have ongoing dialogue about their programs. Many have found what channels work for them already, such as Twitter or the ASTC Community of Practice. This community would serve a different function than their local community of partner organizations, with which they have more of a service/provider relationship. They seek peer organizations who understand the nitty-gritty of running programs, finding funding, promoting their work, and playing with new technologies. In addition, they are looking to continue their own professional development and offer their staff professional development to help them continue to be a learning organization.