

Maker Corps

2015 EVALUATION REPORT

Since 2012, the Maker Education Initiative (Maker Ed) has worked with over 72 organizations to host their Maker Corps program. In 2015, 39 organizations participated with 72 Maker Corps Members.

The goals of the program are:

1. Support and train partner organizations to establish and develop making programs.
2. Diversify and expand the network and community of maker educators.

These goals speak to Maker Ed's commitment to helping people and organizations grow their capacity to deliver maker programming in the ways that is most relevant to them. For individuals, that may mean gaining technical skills to compliment existing confidence as an educator. Institutions may be looking to meet the interest of their audiences with new programming. To achieve these goals, Maker Ed supports and trains sites and their participating staff through a number of resources, including an online discussion forum, recorded videos, a materials box, and ongoing personalized support.

This report describes survey results from both Maker Corps Members and site staff, taken at the beginning of (June 2015) and the end of their service (August 2015). The responses are grouped into three themes that illustrate the strengths of the Maker Corps program: Diversity, Relevancy and Community.

DIVERSITY

A strength of the program is the diversity of both Maker Corps Members and their sites in nearly every respect. Partner sites are a mix of large and small organizations in both rural and urban cities. Maker Corps Members draw from their personal experience with making, academic background and interest in education to develop and deliver programming. As in previous years, the diversity of the 2015 cohort reflects the many varied people who make and places where making happens.

Maker Corps Members

Of the 71 Maker Corps Members invited to complete an initial survey by email, 39 did so during the four weeks it was open, for a response rate of 55%. Fewer Maker Corps Members completed the final survey after their experience was complete; 31 complete responses were received, 44% of those who were invited.

To fulfill reporting requirements and better understand the makeup of the Maker Corps, Maker Corps Members were asked to voluntarily report demographic information about themselves on the initial survey. What follows represents those who chose to provide that information, but not necessarily all Maker Corps Members.

A small majority of respondents identify as female, 57% compared to 40% who identify as male. A considerable majority of survey respondents are current or recent students, most often undergraduates, which partly explains why this group is so well-educated (40% of them have

completed at least some college, 43% have finished college or pursued a graduate degree.) Their academic backgrounds include a healthy representation across the disciplines; roughly two-thirds describe their field of study as either “Arts” or “Education” while 39% have some experience in the STEM disciplines. Twenty percent of respondents said they were a K-12 teacher or were pursuing a teaching degree.

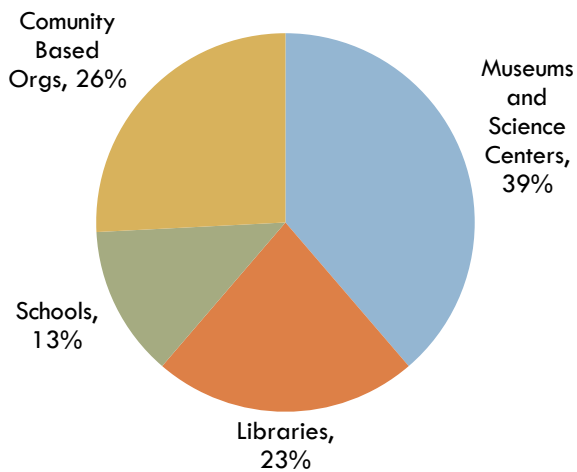
	Maker Corps Members 2015 (n = 39)	Maker Corps Members 2014 (n = 71)	U.S. Census 2012
White only	78%	73%	78%
Black only	5%	7%	13%
American Indian and Alaska Native only	-	3%	1%
Asian only	3%	6%	5%
Native Hawaiian and Other Pacific Islander only	5%	-	0.2%
Hispanic or Latino, of any race	15%	19%	17%
Two or more races	8%	28%	2%

The racial makeup of the Maker Corps Members closely aligns to the most recent U.S. Census data, which is to say mirrors the diversity of the national population in terms of race and ethnicity. This is notable given ongoing criticisms that makers are largely male or white and is a testament to Maker Ed’s commitment to the diversification of the maker movement.

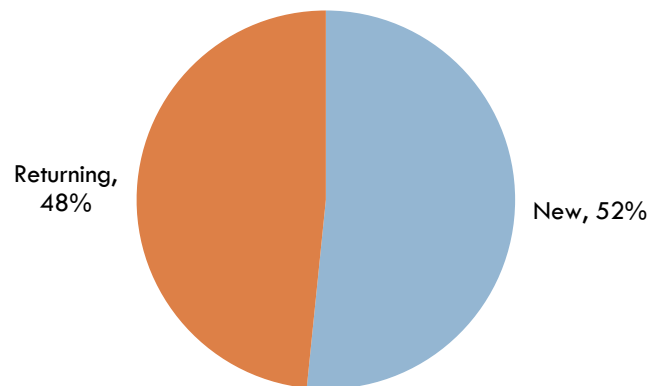
Partner sites

This year 39 organizations participated as partner sites and we received 31 initial and 28 final survey responses from site supervisors. Again, it’s good to keep in mind that the data included in this report represent the sample of organizations who completed the surveys and not necessarily the full cohort of sites.

Partner sites: Organization type



Partner sites: New/Returning



When asked how Maker Corps and the programming they hoped to provide fit within their organizations mission and vision statements, many partner sites focused on the potential for making activities to engage and excite visitors while imparting valuable knowledge, skills, and abilities.

“Making is appealing to all ages! It allows for cross-generational learning in a capacity that most other activities don't. Parents are teaching their children how to use hand drills, hammers and saws for the first time in their life. Older brothers and sisters are showing the best way to make forts to their younger siblings. It's truly life long learning at it's best!”

“We hope that Maker Corps will instill in the participants that desire for lifelong learning and that it will transform their lives. We want them to have fun, but we also want them to learn about themselves as well as the various crafts and technology they will be doing. We want them to see themselves as ‘Makers’ and to learn skills that will serve them now and later on.”

Quite often this means growing staff and organizational capacity to develop and facilitate new programming.

“As a small organization in a rural community with a very small volunteer staff, one of my biggest challenges is communicating to others the power of Making and the potential benefits. Maker Ed resources have been instrumental in developing our programs, even before we were a part of the Maker Corp program. Facilitating making projects with youth takes time and skill. The resources and training provided to our Maker Corp members will help us get these new facilitators up to speed quickly. We will be able to serve many more young people this summer with the Maker Corp members.”

“Maker Corps contributes to our capacity for the summer so that we can serve as many youth as possible with our Maker Camp programs. Bringing in talented Maker Corps Members is valuable and useful to us because it allows us a chance to receive new feedback and insight about our programs to help us better iterate so we are continually striving toward that mission. Participating as a Maker Corps Host Site also allows us to recruit, train, and support new maker education community members (in the form of Maker Corps Members) and contribute to their learning and creativity.”

Occasionally, this growth and development allows organizations to reach new or underserved audiences by expanding their offerings and reach.

“We are huge supporters of the tinker and make movement so this opportunity was PERFECT for us! It provided us with a larger support system and helped bring fresh ideas to us. We were able to reach families across the state through camps, pop-up tinkering and new making activities at festivals.”

The majority of partner sites hosted two Maker Corps Members, only one-quarter hosted more than that, with a maximum of five at two relatively large museums. While some institutions opted to recruit and hire Maker Corps Members from within the organization, others welcomed entirely new staff. The majority, however, hired some combination of existing and new staff.

RELEVANCE

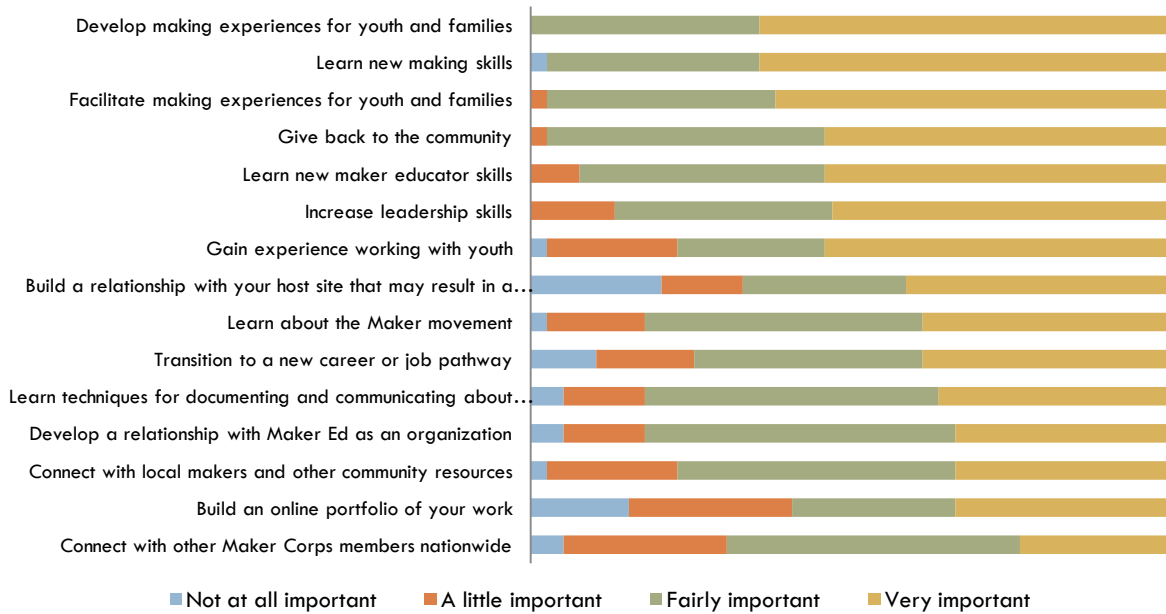
Maker Corps Members and the partner sites apply to participate in the program, and are motivated to do so for a variety of reasons. By looking at the responses to questions before and after their service we find that participants find Maker Corps to be relevant to their personal interests but also help them develop new skills. Some differences were evidence between new and returning partner sites with regards to their goals and achievements.

Goals and Achievements

Maker Corps Members

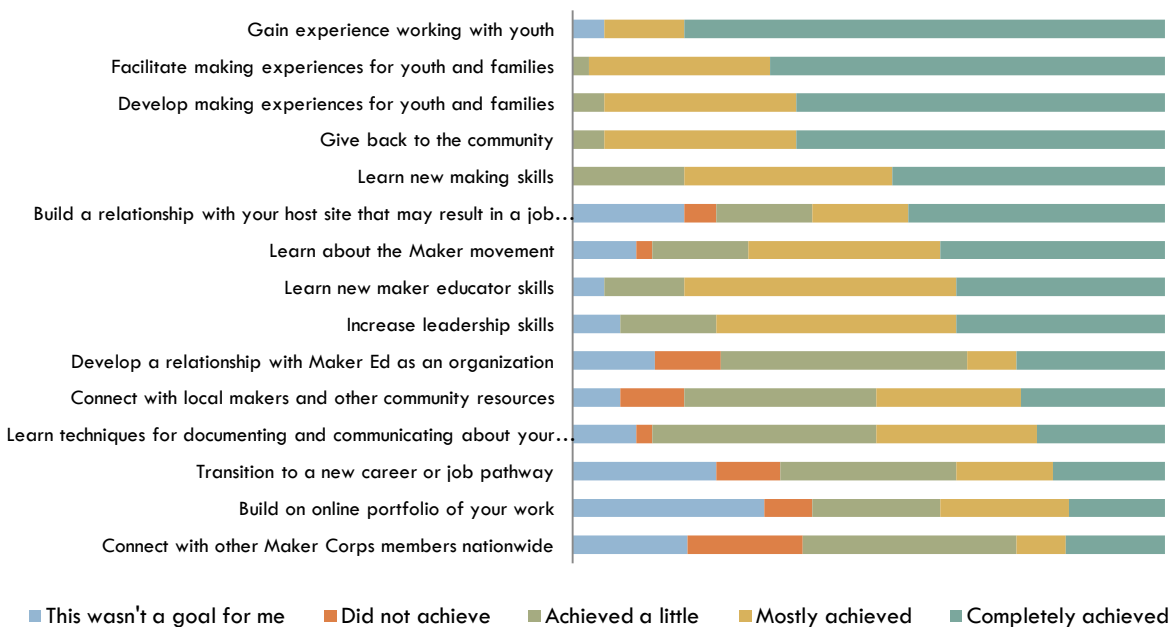
Although Maker Corps Members join for many different reasons, a majority of respondents found agreement on several personal and professional goals. Respondents look forward to “developing making experiences for youth and families” and similarly “facilitating making experiences for youth and families”, followed closely by “learning new making skills”. Though “Building and online portfolio of your work” and “Building a relationship with your site that may result in a job after Maker Corps is over” were less important for some members, a majority of respondents still indicated they were “fairly” or “very” important goals.

Maker Corps Members: Initial Goals



Maker Corps Members reported great success in reaching these personal and professional goals for themselves. In addition to goals they identified as important before their experience (developing and facilitating making experiences), nearly all gained invaluable experience working with youth. Fewer were able to “connect with other Maker Corps Members nationwide” or “develop a relationship with Maker Ed”, although these were not important goals for every member.

Maker Corps Members: Achieved Goals

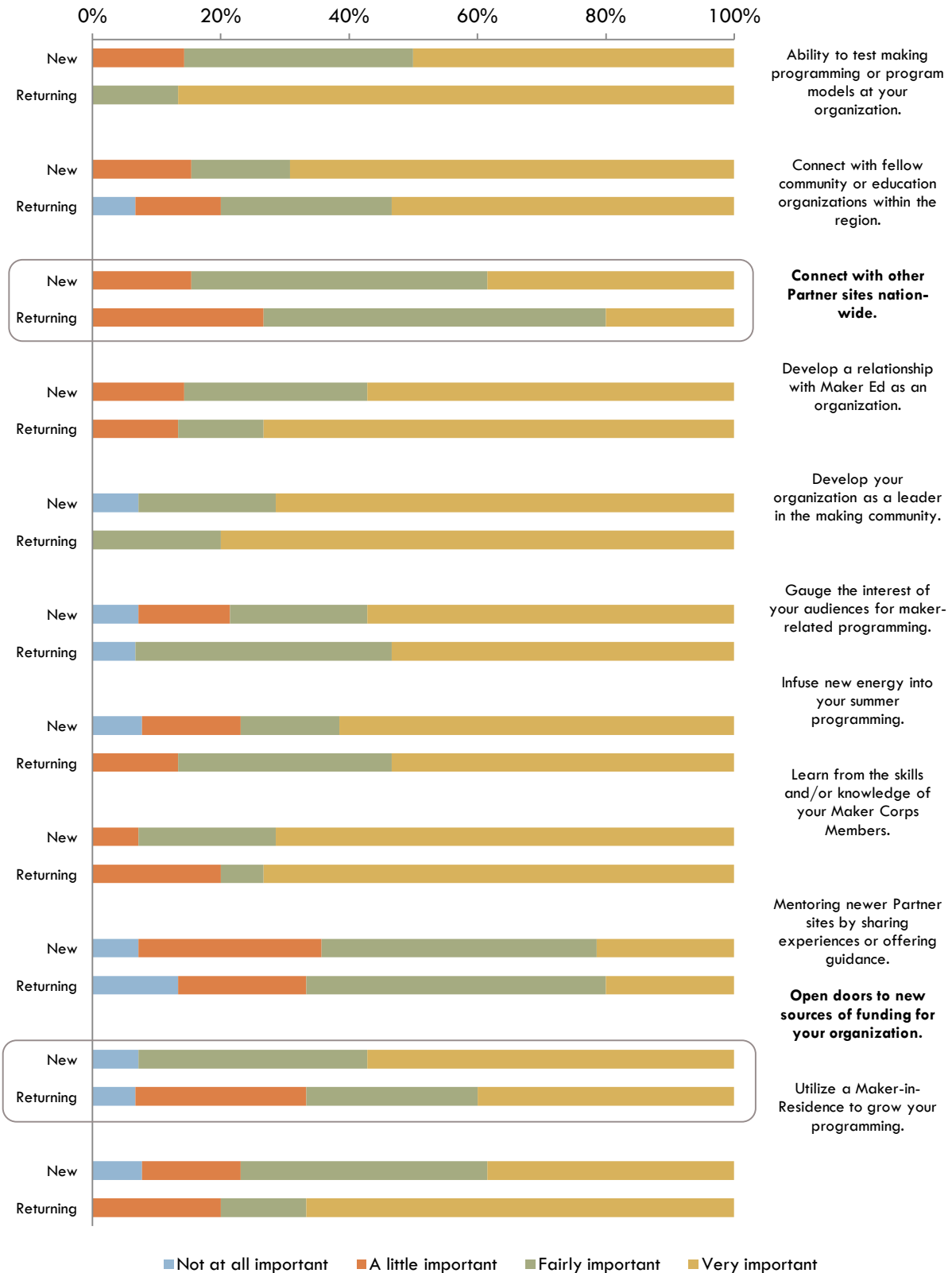


Partner sites

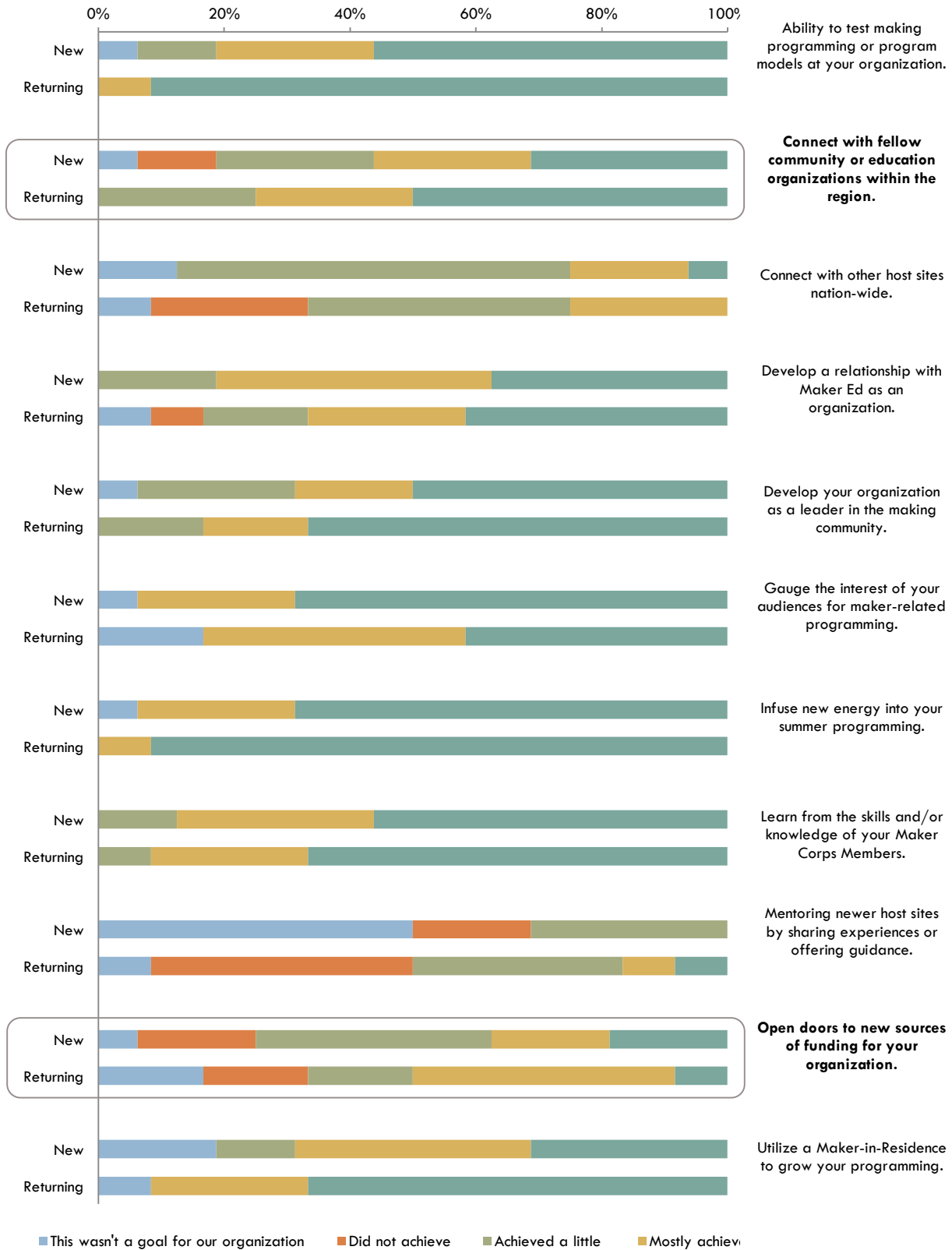
New and returning partner sites differed in their goals for the summer in several interesting ways. Returning partner sites, who presumably have more experience with making programming in general, were more interested than new sites in growing their programs by collaborating with other partner sites nation-wide and opening doors to new sources of funding. Across partner sites, all of the suggested goals were “very important” to every respondent with the notable exception of “connecting with other partner sites nation wide” and “mentoring newer partner sites”.

As expected, these goals were the least fulfilled by partner sites. Partner sites also made limited progress on two goals they had identified as important; identifying new sources of funding and connecting with other organizations in the region. Arguably these goals relate to ongoing relationships and may take more time to develop than the three to four month program allows. Furthermore, it is likely that their participation in Maker Corps will result in making relationships with other organizations or funders now that their program has developed. Overall, however, nearly every site seized the opportunity to infuse new energy into their summer programming and test making activities at their organizations.

Partner sites: Initial Goals



Partner sites: Realized Goals



Organizational Impact

At the outset of their summer experience, Maker Corps partner sites were asked to anticipate how their Maker Corps Members might have an impact on their organization. Their responses suggest that, at its most basic, Maker Corps provides staffing resources to facilitate making experiences for youth and adult audiences. In some cases, supervisors imply that this programming likely would not happen without the availability of Maker Corps Members. In addition, Maker Corps Members bring their own knowledge, skills, and abilities to help their organizations generate new ideas. In turn, partner sites look forward to these ideas driving innovative and engaging programs.

With their summer of programming behind them, partner sites were eager to share the numerous ways Maker Corps Members had an impact on the organization. As expected, the additional staff allowed them to offer new or expanded making programs.

“Our MCM’s brought fresh ideas that invigorated our maker community. Additionally, they were able to offer workshops on a regular basis that were free and open to the public which was something we’d never had the staffing to do before. It was a real eye opener to see how many families we have in our community who feel there is nothing they can do as a whole due to financial or other reasons. This summer was different and it was great!”

In some cases, the Maker Corps Members themselves contributed their own knowledge and experience to design and facilitate new experiences for their audiences.

“They created drop-in programming that our floor staff will be able to facilitate to deepen STEM exploration in our space.”

“They contributed to our museum program R&D by exploring, developing, implementing, testing and revising on play, tinker and make activities. As well our team working internally and externally with educators to introduce new educational activities.”

These original and improved programs helped to attract and engage new audiences, of all ages, to maker programming at their respective organizations.

“Maker Corps Members had a huge impact on our organization. By creating maker spaces for early education centers, Maker Corps Members were able to link our organizers with parents who otherwise never engage.”

“They brought a lot of creativity to the program. They also left an entire notebook of all their projects and started planning projects for next year. We held the Maker Corps in a small town library. Attendance increased at the library from 5-10 people a day to anywhere from 30-60 people. Some people traveled over 50 miles to attend because they had nothing in their own community like this. Many people signed up for library cards and the Maker Corps site was mentioned in churches and other places. It really gave the library great publicity.”

Audience Impact

Maker Corps Members

Maker Corps Members were asked to describe a moment during their service in which they were most keenly aware of their impact on the audience. For many, this was when they were able to inspire them to explore and enjoy making activities.

“I had a blast working with circuits and kids. Seeing the kids faces light up when their bristle bots careened across the table was awesome. They didn't know they could build something like that, and we helped them!”

Occasionally they were challenged to help a young maker persist through initial frustration or failure by reengaging and suggesting new strategies.

“One of my first days as a Maker Corps Member one of our summer camp kids wasn't confident at all that she could be creative...I felt like talking with the child and finding a way to hook on to some of her interests would help her feel more confident and willing to be creative. When she came back for the second time, I felt like we had established a way of making that worked for her.”

Partner sites

By offering innovative programming, Maker Corps partner sites were able to attract and engage new audiences. For many, this was achieved by broadening their reach into their respective communities and partnering with other organizations.

“Just by simply offering workshops at various locations and making them free, we saw families that have never done anything together in this community before. We saw some very poor families that obviously have very little resources, along with the ‘soccer moms’ and everything in between. The attraction was the wide variety of activities they’d never been exposed to before and the fact that they were accessible financially and logistically.”

“We were able to partner with four community organizations this summer. Each organization brought in their kids each week for a new workshop in our Makerspace.”

In addition, some sites found success among audiences younger than they have typically been able to reach with similar programs.

“Our Maker Corps Members developed an entire series of workshops devoted to middle school students. This brought in an entire new audience for us. We have never developed weekly programming specifically targeted at middle school students. Not only were they well attended each week, but we also developed ‘regulars’ who signed up for every week after attending one workshop.”

“Our Maker Corps Members were able to draw in a younger audience with engineering activities that are often out of reach to our younger audience. They were patient and engaging with the children and helped reassure their parents their kids were capable of acquiring real world building skills.”

Partner sites varied widely in the estimated number of people served by their Maker Corps programming, from a minimum of 35 to a maximum of 65,000, but there are some interesting differences between types of partner sites. Museums and science centers attract the largest audiences, more than 10,000 on average, followed by libraries. Schools and community based organizations serve considerably fewer people, less than 1,000 on average.

COMMUNITY

Building community among Maker Corps Members and partner sites remains an important piece of the Maker Corps program model. This year Maker Ed hosted a new online community space for Maker Corps Members and partner sites to connect through. While many said they visited the site, far fewer contributed. However, it is clear that Maker Corps Members feel supported by their supervisors, and partner sites feel supported by Maker Ed, suggesting there is a sufficient amount of communication and community for each group.

Online and In-Person Support

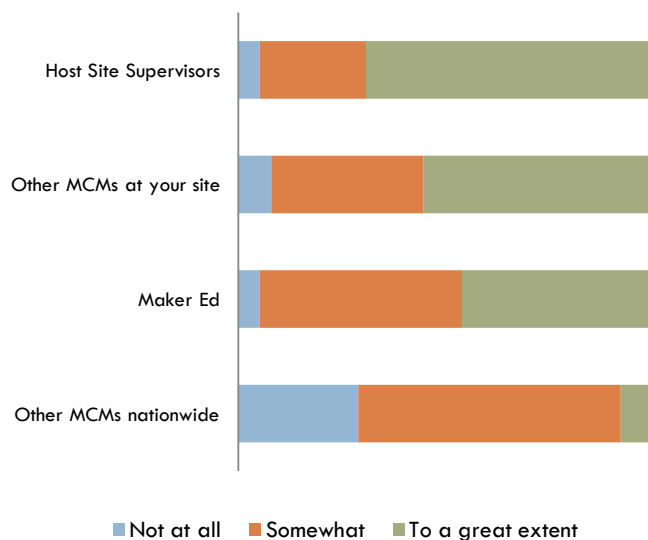
Maker Corps Members

Maker Corps members were asked to report about the use and value of the following training and materials provided prior to beginning their service.

- Maker Ed’s support during Spring Training
- Maker Ed’s online Resource Library
- Onboarding support provided by your Maker Corps site
- Possibility Box contents and supporting materials
- Support provided by returning Maker Corps Members
- Support provided by the Maker Corps community

The “Possibility Box contents and supporting materials” was both the most commonly used and valued by respondents. Nearly all used the materials and roughly 80% indicated they were “valuable” or “very valuable.”

Maker Corps Members: Who has been most helpful in making you feel supported?



Respondents were mostly likely to suggest they feel “mostly supported” as a Maker Corps Member before beginning their experience and suggest the partner site staff were the most helpful in making them feel supported. Other sources of support suggested by members themselves include the possibility box and its contents and the training materials provided by Maker Ed. Conversely, respondents were much less likely to point to “other Maker Corps Members nationwide” as a source of support.

Maker Corps Members were also asked to consider what additional supports could have been provided to make them feel more prepared. Some Maker Corps Members felt more training on specific making activities or technologies would have been helpful before beginning their

experience. Others sought more general training or resources.

“My host site did a pretty good job of preparing me but I wish I had a little bit more training in the beginning on skills I struggle with like woodworking.”

“I think it would be helpful to have access to a more expansive Resource Library/training, that includes more tutorials/intro into some basic electronics and

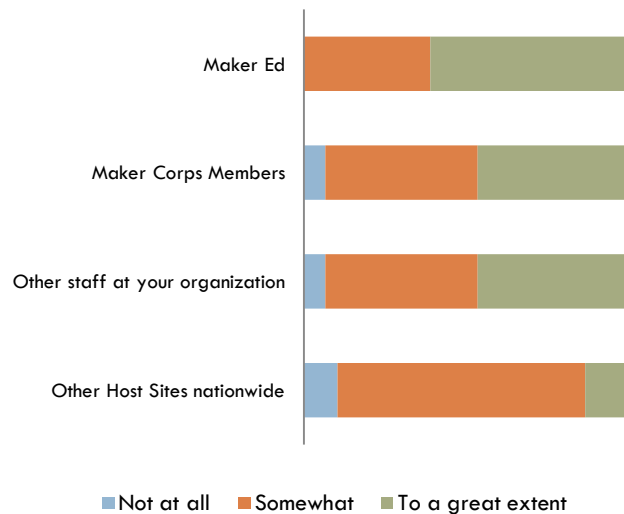
tech based instruction/projects. Being an artist that primarily has focused in 2d exploration, electronic/tech-driven making has been the biggest challenge so far.”

Partner sites

Similar to Maker Corps Members, partner sites were most likely to use the Possibility Box, considering it a valuable source of support. Although used by fewer partner sites, most found the site directory and online resource library to be valuable as well. “Support provided by returning sites” was the least commonly used resource among those listed. Respondents also indicate the “national social media recruitment” and “spring training for partner sites” were less valuable than other resources.

Partner sites were most likely to identify “Maker Ed” as the most helpful in making them feel supported before the summer, even more so than Maker Corps Members or other staff at their organization. Similarly to Maker Corps Members, they found little support among peers nationwide.

Partner sites: Who has been most helpful in making you feel supported?



Between Maker Corps Members and partner sites, nearly all respondents were aware of the online *Maker Corps Community Discussion Forum* and the vast majority read posts, comments, or resources, but contributions to the forums were mixed.



A small majority of Maker Corps Members (62%) and less than half (44%) of partner sites posted to the forums, topics, or blogs. Those who did not participate cited having limited time or more pressing responsibilities. Of those who accessed the forums, most found it helpful for one-sided engagement such as sharing their project and program ideas, sharing resources, and accessing training materials. Maker Corps Members and organizations both indicated the online forums were less helpful two-way engagement like asking questions or collaborating with other Maker Corps members.

Moving Forward

Partner sites

Slightly less than half of partner sites have hired or have plans to hire one or more of their Maker Corps Members, the vast majority on a part-time basis. Overall, partner sites typically decide to hire Maker Corps Members because of their skills and experience as makers, educators, and facilitators. Reasons for not hiring members include limited organizational resources or opportunities and low availability of members returning to school. Nearly all sites, however, intend to remain in contact with their members and several have already identified future opportunities to collaborate again, suggesting they greatly valued the knowledge and skills Maker Corps Members contributed to the organization.

Two indicators of overall satisfaction with Maker Corps include partner sites' willingness to recommend the program to colleagues and their desire to return as a host site in future years. The majority (71%) of respondents are interested in returning for another year; the remainder are largely unsure. Secondly, a majority of respondents would be willing to recommend the program to a colleague at an organization similar to their own as indicated by a *Net Promoter Score* of 48. This is comparable to last years' score of 46.

Maker Corps Members

Most Maker Corps Members were able to articulate at least one way in which they plan to apply what they've learned in their experience to their life, school, or career. Particularly for those in education or training to become teachers, the connection was obvious.

“Yes, I do plan to apply what I have learned in Maker Corps. I'm moving from a background of engineering into a career in education, and Maker Corps provided many experiences for growth and development with respect to this.”

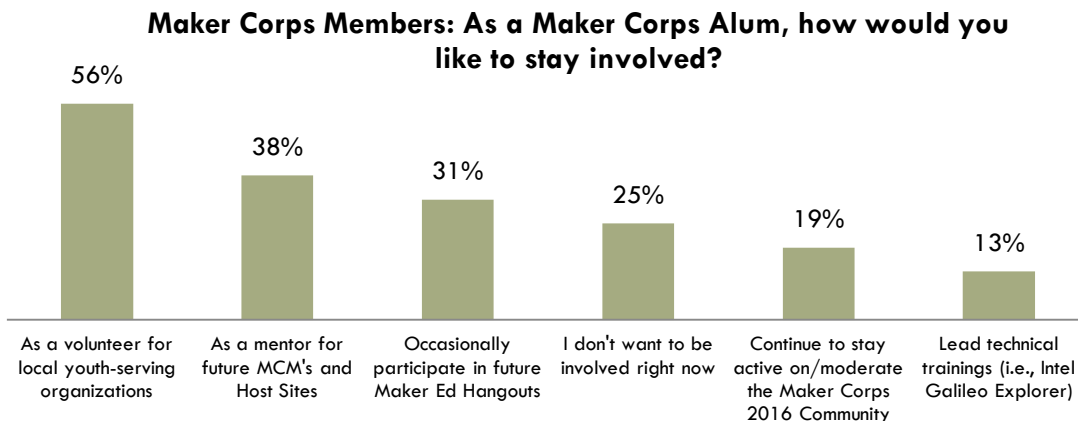
“It was a great source for maker educator experience and I feel more confident in learning more about teaching or instructing as a potential career.”

While others are less specific about how and when they will apply their learning, they are no less passionate about staying involved in the maker movement.

“I have definitely reaffirmed my love for making and my desire to share technology and a love for science to the youth.”

“For school, I've learned a lot of relevant skills relating to making and creative reuse. In the future, I'll continue to look for opportunities, whether they be career or volunteer related, to... give kids opportunities to become interested in Making.”

Nearly half of Maker Corps Members report they will continue to be involved at their site after Maker Corps service ends because they were recruited from existing positions or have an opportunity to continue maker activities. Many Maker Corps Members are also interested in staying involved with the maker movement more broadly by volunteering for local organizations or mentoring future Maker Corps Members and partner sites. This suggests that Maker Corps Members enjoyed their experience to such a degree that they want to continue working with youth in a making context.



Finally, most Maker Corps Members would be highly likely to recommend Maker Corps to a friend who asks about it. Considered along with their desire to stay involved at their site and with Maker Corps, their *Net Promoter Score* of 63 suggests an exceptionally positive overall satisfaction with their participation in the program.

CONCLUSION

Maker Corps continues to be an engaging and satisfying experience for Maker Corps Members and partner sites. Many of the response trends in 2015 echo findings from 2014, suggesting that the current program model is successful in achieving many of its goals. Partner sites report that they are able to achieve important organizational goals to provide quality programming for audiences and work with new staff that bring skills and energy to their institution. For Maker Corps Members, the chance to combine interests and skills in making and education is a fun and potentially career-building experience. Now that the program has ended its third year, differences are beginning to emerge between the needs that new and returning partner sites have.