EXTERNAL EVALUATION OF THE BUILD A BETTER BOOK FACILITATOR TRAINING SPRING 2019 UNIVERSITY OF COLORADO BOULDER

Funded by the National Science Foundation ITEST program

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Participants' prior experience with makerspace technologies

- BBB workshop participants had extensive experience in developing and implementing STEM programming for youth, though less experience with universal design, specifically.
- A fair number of 2019 attendees had prior experience in working with youth disabilities (18% in past years but 45% of this year's cohort had some or a lot experience). The vast majority of current attendees had experience facilitating makerspaces (59% in past, 82% this year). Nearly half of current attendees had past experience in facilitating 3-d printing activities, more than double the rate of previous cohorts (e.g., 22% in past years, 40% this year).
- Teachers and librarians had similar prior experience in facilitating STEM activities for youth, though teachers had significantly more experience in engineering/design thinking and electronics/circuits than librarians or school librarians.
- In the 2019 cohort, classroom teachers had less experience in integrating specific makerspace technologies (e.g., 3-d printing and modeling, Scratch computer programming) into youth programming than school librarians or public librarians.

Gains in knowledge of how to facilitate inclusive makerspace programming

- After the workshop, almost all participants (97%) reported that they knew how to facilitate inclusive makerspace activities and how to implement a tactile book activity. Participants were slightly less sure (79%) about facilitating an inclusive makerspace in general. Public librarians and school librarians reported stronger knowledge gains than classroom teachers, though the differences were not statistically significant.
- After the workshop, almost all participants (94%) felt confident that they could facilitate a makerspace.
- The 2019 cohort generally had the capacity within their organization to implement makerspaces, but there were a few key differences. Classroom teachers were also more likely than librarians to cite a lack of expertise as an obstacle to implementing a makerspace. Across all participants, lack of time was the biggest obstacle to implementing a makerspace.
- 91% of participants planned to engage with the national BBB network.
- 70% of participants had partnerships they could rely on to facilitate a Build a Better Book program. Most of the rest of the cohort had plans to develop partnerships with community organizations or schools that serve people with disabilities.
- The most common suggestion to improve the workshop was to add an extra day or to add some extra time to the existing days.

- In an open-ended question, participants cited that the most important ideas they gained from the workshop were how to facilitate universal design programming and the importance of partnerships in doing so. There were no differences in responses between teachers or librarians.
- In an open-ended question about learning about universal design, the most common response was that participants learned about the process of how to implement a universal design program or activity. The next most common response was that attendees learned about the importance of fostering empathy in students, and some reported that they had gained a new perspective on disability themselves.
- The most common resources still needed to implement a BBB program were access to technology and access to partnerships. Additionally, public librarians were considered about student recruitment and K-12 school personnel were concerned about financial resources.

Introduction

The Build a Better Book project funded through the ITEST program of the National Science Foundation aims to "iteratively develop, test, and refine a Tactile Picture Books curriculum suitable for library Makerspaces." This curriculum engages youth in designing and building multimodal, tactile books for blind and visually impaired youth using 3-d printing and other technologies. The program also employs high school near-peer mentors to assist with workshops and activities. The program also aims to train librarians and teachers to implement the program through an intensive, extended workshop. This workshop was offered in a two-day format to a group of teachers, librarians, and school librarians in spring 2019.

Librarian and teacher outcomes from the workshop were documented through a survey offered to all participants who attended the BBB training in February 2019. The survey documented outcomes from the training, elicited feedback about the workshop, and also gathered data on librarians' and teachers' needs, challenges, and preferences in delivering STEM programming to youth. The survey also addressed participants' knowledge of STEM programming for youth and programming for people with disabilities. Participants completed the survey through an online link at the end of the workshop. Librarians and teachers who have implemented the program in spring 2019 will be interviewed in June 2019 after the completion of their programs. Participants learned about the workshop from a variety of methods: emails, twitter, in-person meetings at South by Southwest or other events, and from colleagues. Thus, word-of-mouth, networking, conferences, and social media are important venues for disseminating the Build a Better Book program. The majority of attendees were from suburban libraries or schools, but three participants were from rural areas, and one quarter were from urban locations. About half of respondents were school librarians, and the rest of attendees were K-12 teachers or public librarians.

Evaluation Results

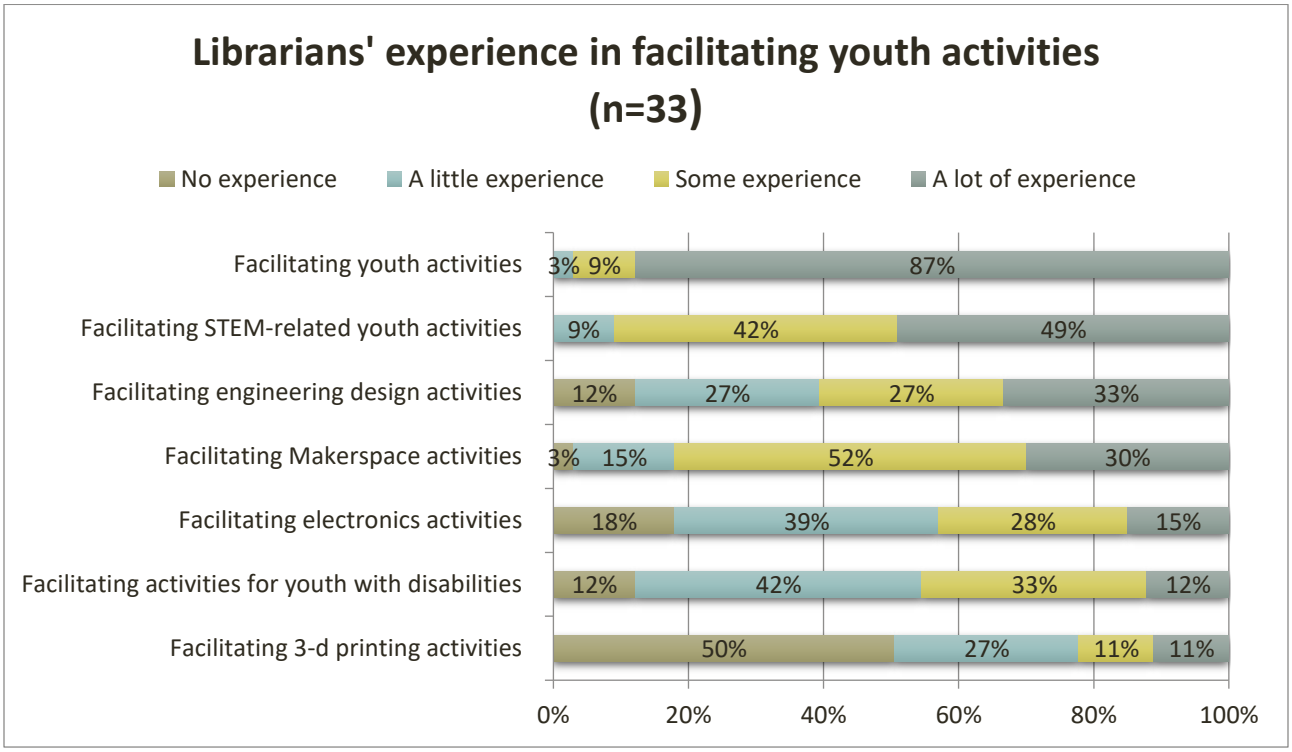
This section describes the findings from the workshop survey administered to 2019 workshop participants. First, participants prior experience in facilitating STEM programming and programming for youth with disabilities will be discussed. Next, workshop outcomes will be discussed. Resources and challenges related to capacity to implement Build a Better Book will then be discussed. Finally, participants' learning about universal design and their feedback for future workshops will be described.

Participants' prior experience in facilitating youth or STEM programming

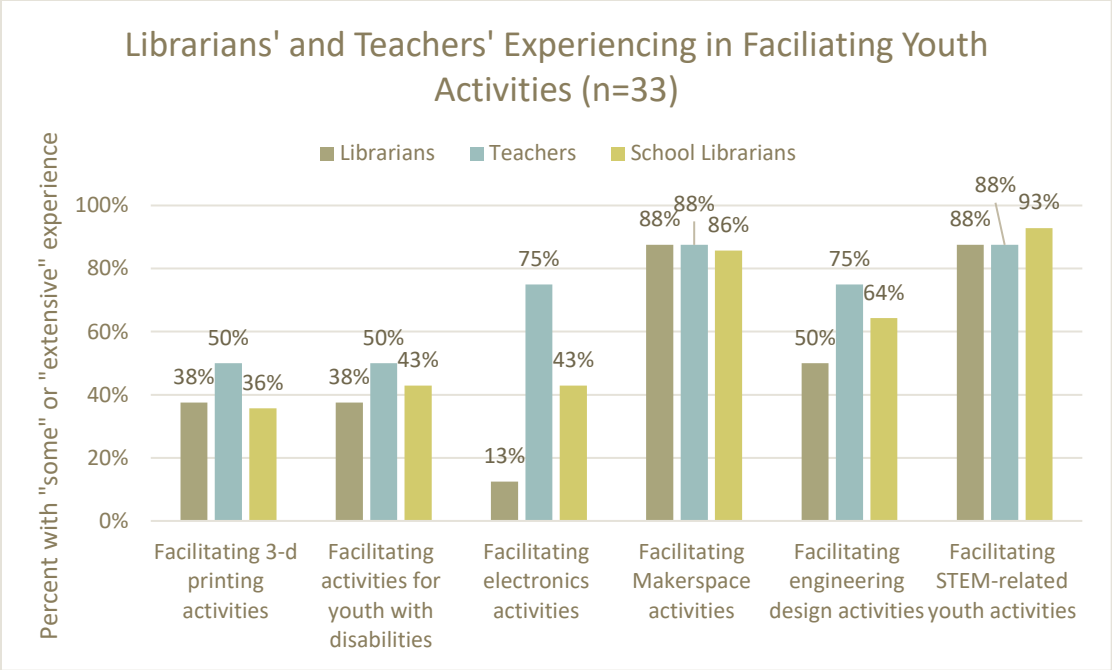
Similar to prior cohorts of trainees, almost all of the librarians and teachers had extensive experience in educational programming for youth. The 2019 cohort had slightly more experience than past cohorts in implementing STEM-related youth programming and

programming for youth with disabilities. As Build a Better Book has disseminated its model and expanded its reach, it seems that librarians and teachers who are doing work that is aligned with the Build a Better Book vision are beginning to hear about the program. This may also suggest that librarians' and teachers' prior experience in these areas may strengthen their implementation of the program as it is not completely new territory for them, compared to many many past trainees. For instance, 2019 workshop participants had extensive experience with youth activities in general (82% in past cohorts and 97% this year). A fair number of 2019 attendees had prior experience in working with youth disabilities (18% in past but 45% of this year's cohort had some or a lot experience). The vast majority of current attendees had experience facilitating makerspaces (59% in past, 82% this year). Nearly half of current attendees had past experience in facilitating 3-d printing activities, more than double the rate of previous cohorts (e.g., 22% in past years, 40% this year).

Figure 1. Librarians' experience in facilitating youth activities (n=33)



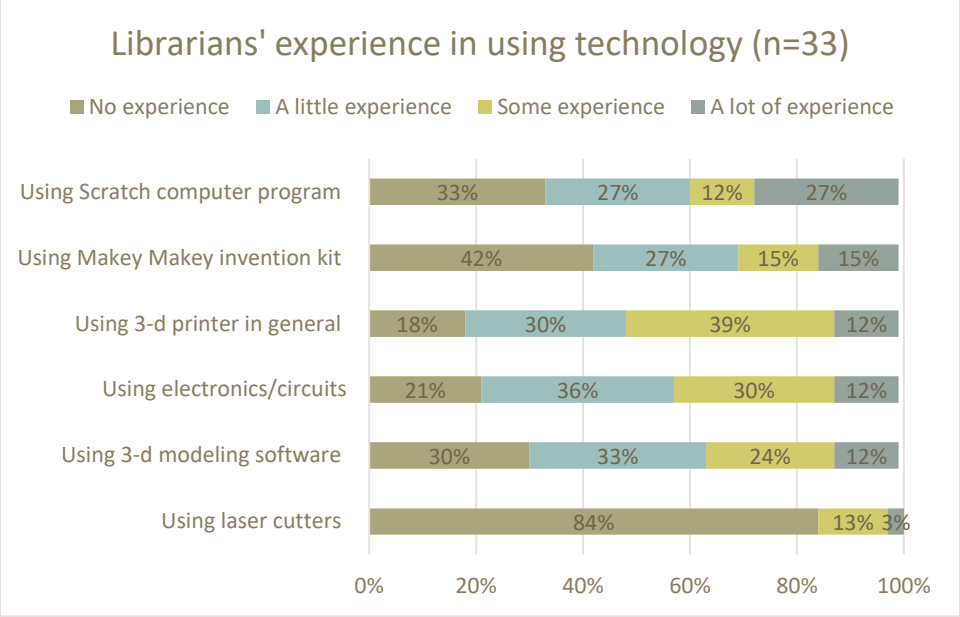
There were few differences in teachers' and librarians' prior experience in facilitating youth activities. Teachers had more experience than their librarian counterparts in several areas, including electronics/circuits and engineering design/design thinking activities. The groups had similar experience in facilitating STEM activities for youth. Generally, all groups had limited experience in facilitating activities for youth with disabilities. The only one of these differences that was statistically significant was prior experience in facilitating electronics activities ($\times = 13.527$, df=6, p=.035).



Librarians and Teachers' Experience in Using Technology

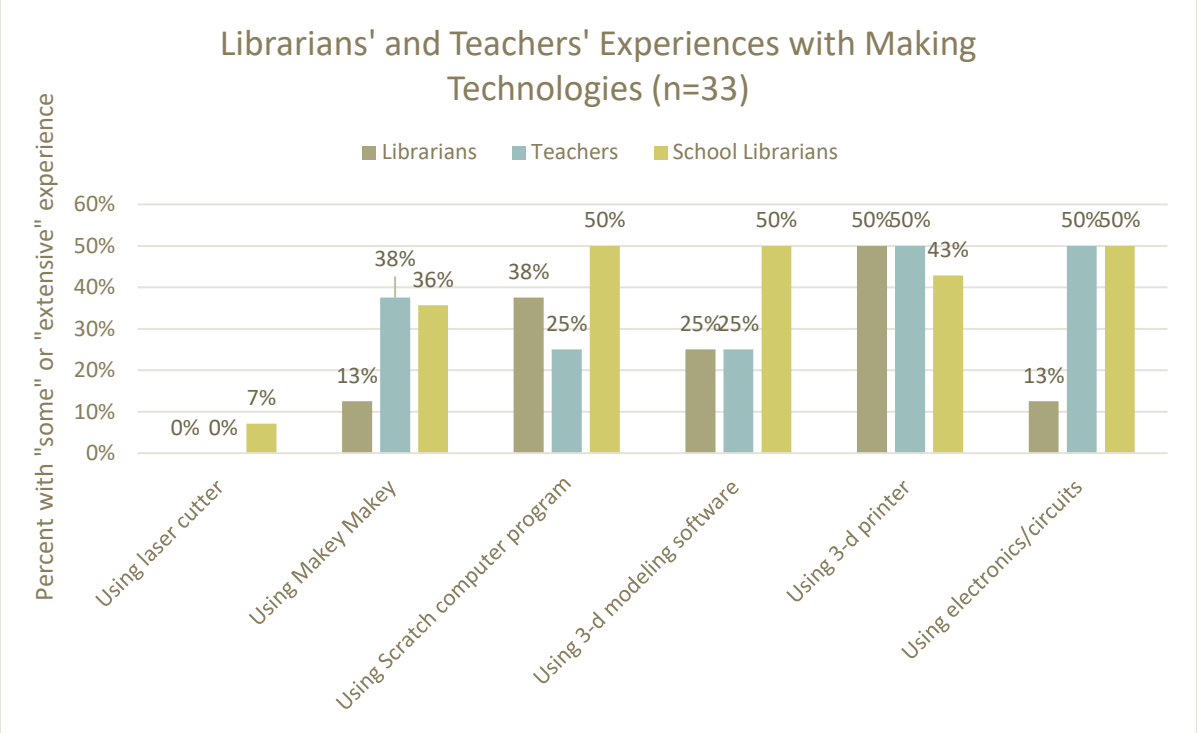
Librarians and teachers in the 2019 training had more extensive prior experience in makerspace technologies than participants in prior trainings, primarily in 3-d printing. For instance, more than half of the 2019 workshop participants had prior experience using a 3-d printer, while only 30% of past cohorts had used a 3-d printer prior to the workshop. Rates of prior experience in Makey Maker, Scratch, and using electronics/circuits were similar between the 2019 cohort and past cohorts. Notably, very few participants in the 2019 training had prior experience in using a laser cutter. This question was not asked on previous workshop surveys. Nonetheless, 84% of 2019 workshop participants had not used a laser cutter. While the 2019 cohort was slightly more experienced than past cohorts in using STEM and "making" technologies, the results show that there is still a strong need to train librarians and middle school teachers in how to use and facilitate makerspace technologies.

Figure 2. Librarians' and teachers' experience in using makerspace technology



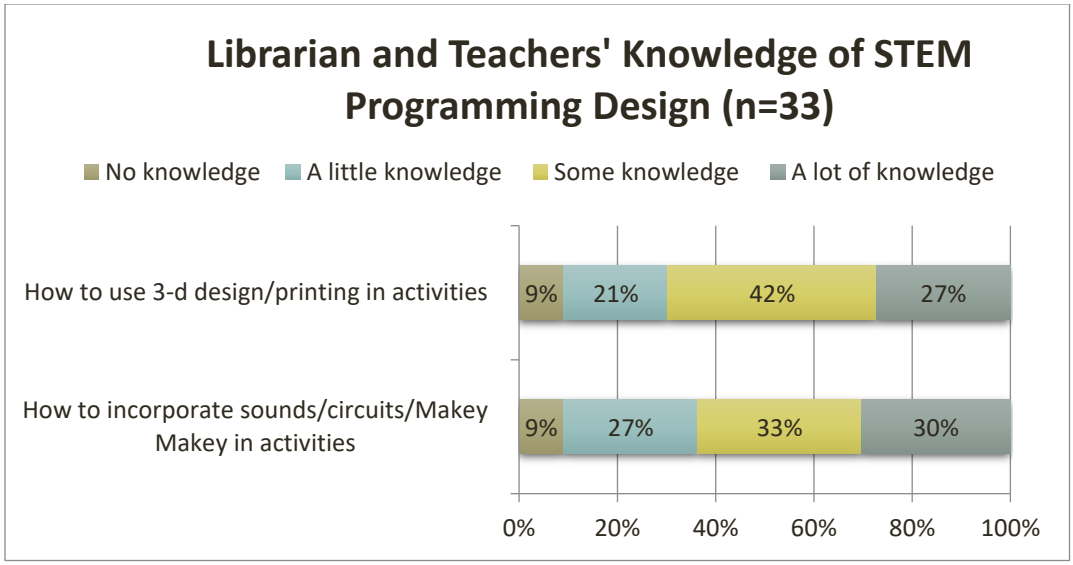
Librarians and teachers reported varying levels of experience with specific technologies commonly used in Makerspaces. Generally, teachers and school librarians had similar levels of prior experience in particular technologies, such as electronics/circuits, while librarians had less experience in several technologies, such as electronics/circuits or Scratch. Classroom teachers, on the other hand, had less experience with Scratch than librarians or school librarians. Librarians and teachers both had less experience with 3-d modeling software than with using a 3-d printer in general. None of these differences was statistically significant.

Figure 3. Librarians' and Teachers' Experiences with Making Technologies



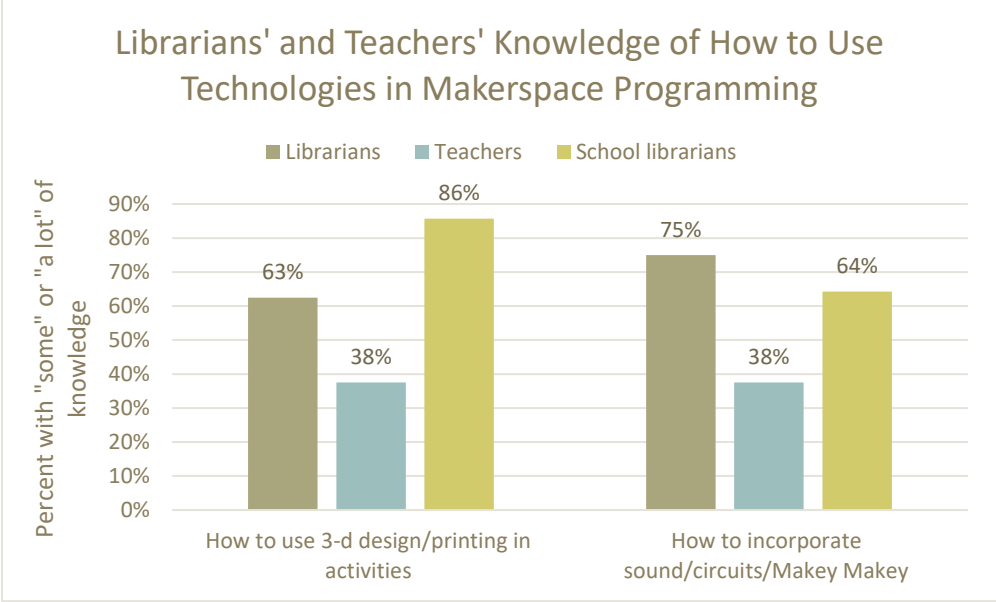
Librarians and teachers reported that they had moderate knowledge about using making technologies in educational programming for youth. Participants in the 2019 workshop had greater knowledge of how to integrate making technologies into youth activities than did workshop attendees from previous years. For example, 63% of 2019 workshop participants knew how to use sounds, circuits, or Makey Makey in youth activities, while only 38% of past workshop participants had the same knowledge. The gap between the 2019 and previous cohorts was even wider for 3-d printing and design (70% and 29%).

Figure 4. Librarians and Teachers' Knowledge of STEM Programming Design



There was a little variation in teachers' and librarians' knowledge of how to incorporate 3-d design or printing into STEM programming for youth. Generally, librarians and school librarians had more expertise than classroom teachers in using 3-d printing in educational programming. These differences were not statistically significant.

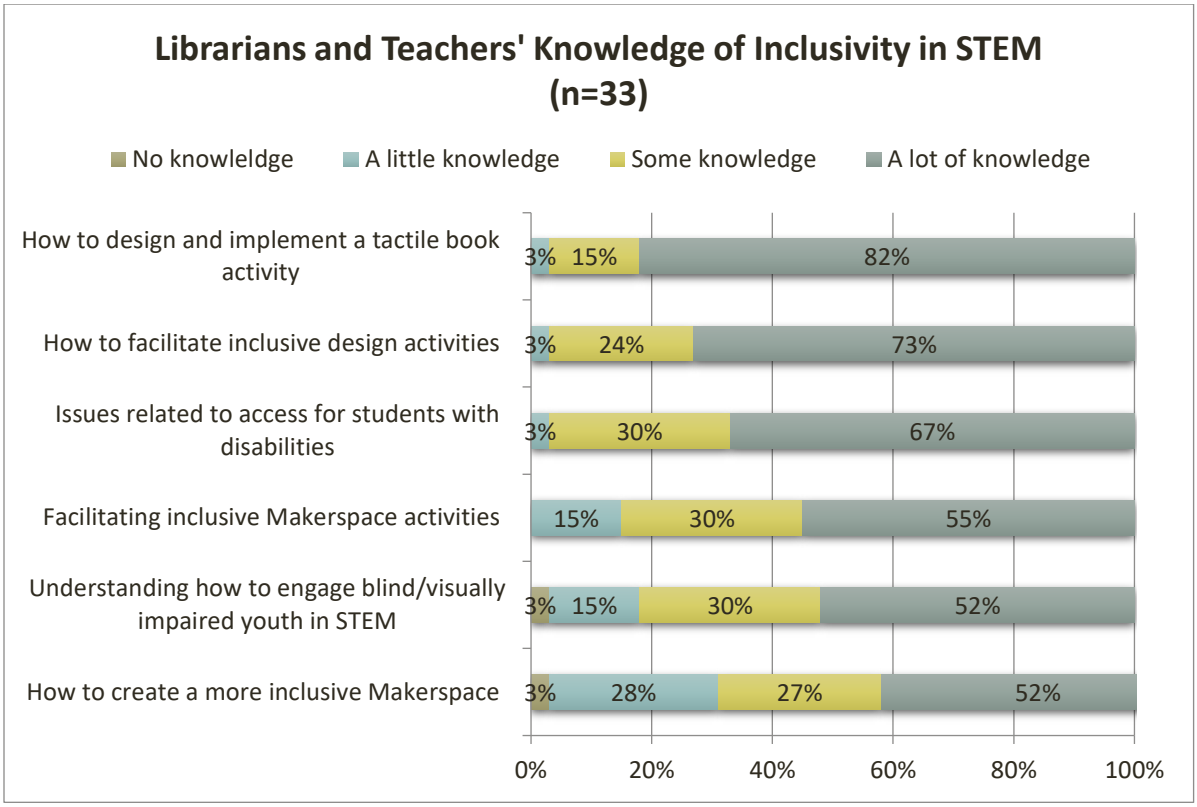
Figure 5. Librarians' and Teachers' Knowledge of How to Facilitate Makerspaces



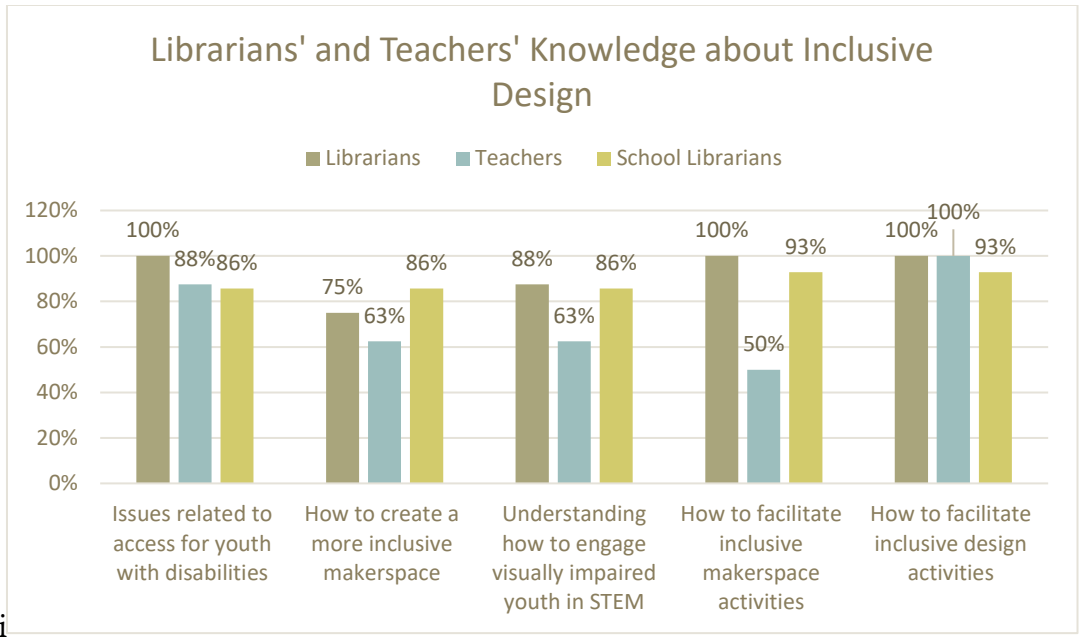
Workshop Outcomes: Participants' gains in knowledge of how to facilitate inclusive environments in STEM programming

After the workshop, librarians and teachers reported extensive knowledge about how to design inclusive Makerspaces, including how to design and implement a tactile book activity. Almost all workshop participants (97%) reported after the workshop that they knew how to design and implement a tactile book program. Additionally, almost all participants (97%) could facilitate inclusive design activities. Participants also gained a better understanding of issues related to students with disabilities. Most participants (79%) knew how to create a more inclusive makerspace after the workshop.

Figure 6. Librarians and Teachers' Knowledge of Inclusivity in STEM



Librarians and teachers did not differ substantially in their knowledge gains from the workshop about how to design and facilitate inclusive STEM programming. To some extent, teachers gained less knowledge than librarians or school librarians, especially in knowing how to facilitate inclusive makerspaces and engage youth with visual impairments in STEM. This may indicate that teachers have slightly different needs than librarians when designing STEM-oriented making programming.



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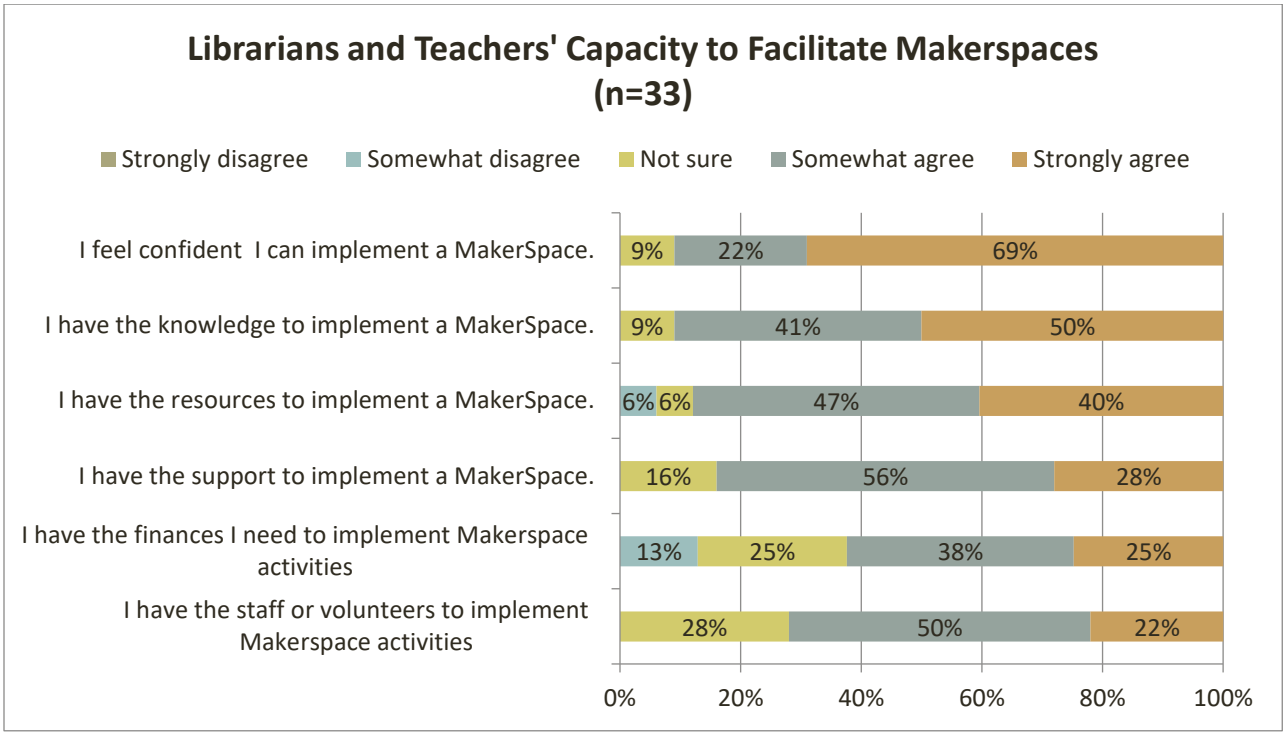
Workshop outcomes: Librarians' and teachers' capacity to implement makerspaces and STEM programming

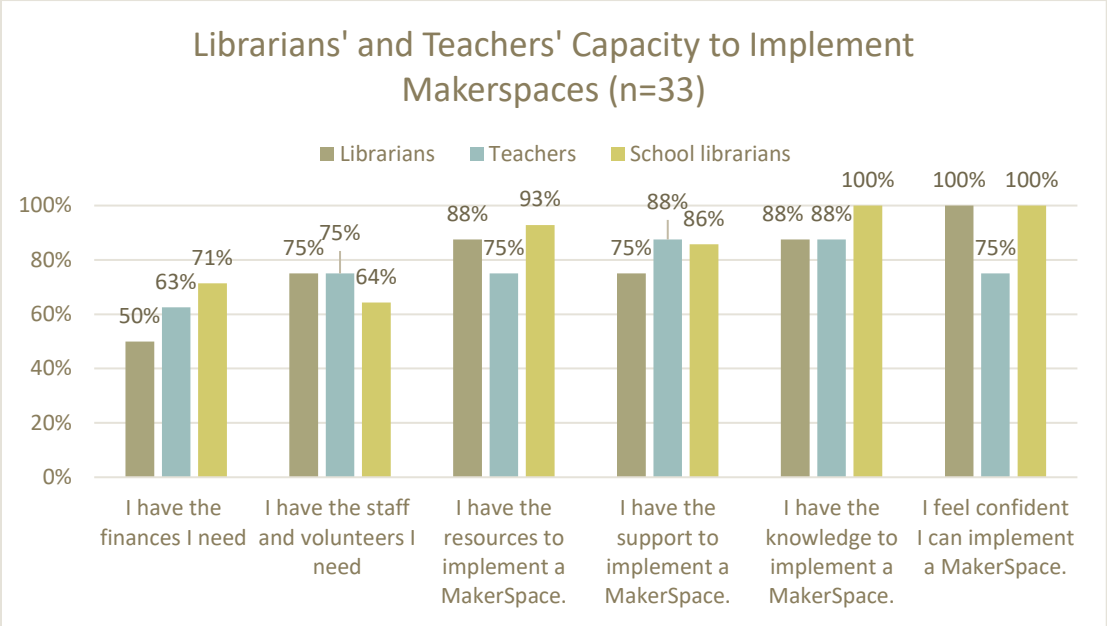
After the workshop, librarians and teachers reported that they generally had the capacity and knowledge to facilitate makerspaces or making activities within their organization. For example, almost all (94%) workshop participants felt confident that they can facilitate a youth makerspace. In contrast, about half of past workshop participants reported the same level of confidence. Librarians and teachers also gained the knowledge they needed to facilitate making activities with youth. After the workshop, nearly all (91%) participants reported that they had adequate knowledge about makerspace facilitation. In past workshops, about 70% of participants felt the had enough knowledge to successfully implement a makerspace. The 2019 cohort were also more likely than past cohorts to report that they had the resources, support, and staff/volunteers to facilitate a makerspace or STEM programming for youth. None of these differences was statistically significant.

Figure 7. Librarians' and Teachers' Capacity to Facilitate Makerspaces



There was little difference in librarians' and teachers' capacity to implement makerspace programming. There were few to no differences across any category, such as resources or support. Nearly 100% of attendees reported that they had the knowledge to implement a makerspace as this was a major focus of the Build a Better Book workshop. However, public librarians had fewer financial resources than K-12 school personnel and teachers felt that they had fewer makerspace resources than librarians. Teachers also expressed less confidence in their ability implement makerspace programming.

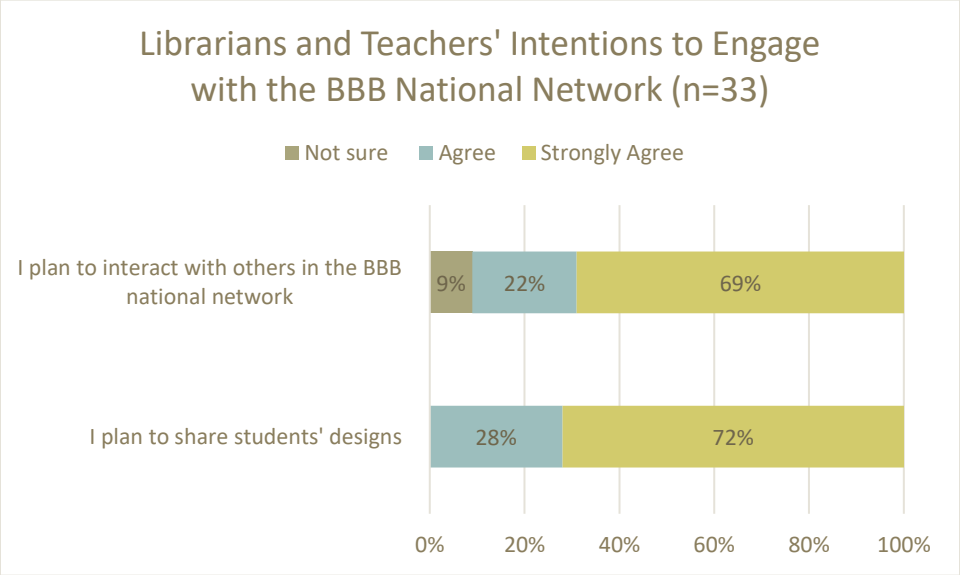
Figure 8. Librarians' and Teachers' Capacity to Implement Makerspaces



Engaging with the National Network

Participants in the 2019 workshop were eager to engage with the Build a Better Book national network. Because the network was still emerging in earlier years of the grant, this question was not asked on previous librarian training surveys. Nonetheless, librarians and teachers from the 2019 workshop expressed strong intentions to remain engaged with the Build a Better Book national work. Participants were also highly committed to sharing their students' work and projects on media platforms, such as Workbench.

Figure 9. Librarians' and Teachers' Intentions to Engage with the BBB National Network



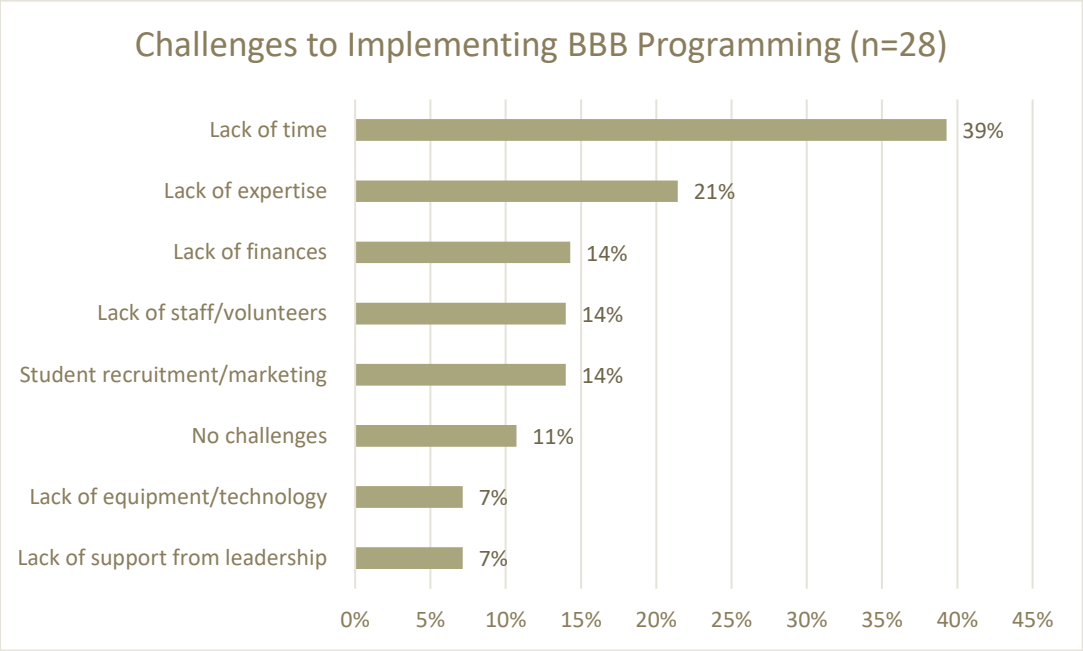
There was strong consensus among teachers, librarians, and school librarians as far as intentions to remain engaged with the Build a Better Book national network. In fact, 100% of each group expressed that they were planning to share their students' designs and projects. Almost all across each also planned to network with the BBB community (only one person in each of the three groups stated that they were "not sure" about networking with the national community). Therefore, there do not appear to be any obstacles to participation in the national community based on professional roles or organization.

Challenges to hosting makerspace programming in libraries and schools

Similar to past cohorts, the 2019 BBB workshop participants cited a lack of time to implement the program as their greatest challenge. There were a few differences among professional roles; for instance, 50% of public librarians expressed that lack of time was a challenge. 25% of public librarians cited lack of funding as a challenge. No public librarians cited a lack of expertise. Interestingly, 75% of classroom teachers cited a lack of expertise. As a teacher commented on the survey: "My own capacity [is a challenge]. I will be learning along with my students, and I want to be able to push them (and keep up with them)." Other classroom teachers expressed that they had doubts about their ability to make it as meaningful for students as they envision, or their technological skills or experience in working with

students with disabilities. Similar to classroom teachers, school librarians generally cited a lack of time and lack of expertise.

Figure 10. Challenges to Implementing BBB Programming



Following are typical comments about challenges faced by librarians/teachers in implementing technology or makerspace programming. Many of the comments focused on lack of space, lack of expertise, and lack of staff to run the programs.

I think figuring out how to expand the project with very limited access to a lot of the technology we saw these past two days. – Public librarian

Maintaining steady attendance and location of our program. Our library has no evening hours and is open one Saturday in the month. – Public librarian

Not being shallow- students create a one and done book or project without any real development— want to make sure that we take the time to give the students a meaningful experience for them. – Classroom teacher

Designing and implementing the projects in a way that participant's don't feel lost. I want to give some fairly set guidelines for the first year that the participants feel like they have freedom to operate within a pathway as opposed to open country. I think simply making sure that I'm communicating the point clearly enough while providing enough support will be the biggest challenge. – Classroom teacher

I'm worried about not having enough time. Especially since we are nearing the end of the school year. Also can be difficult at my school to get time with the students. – School librarian

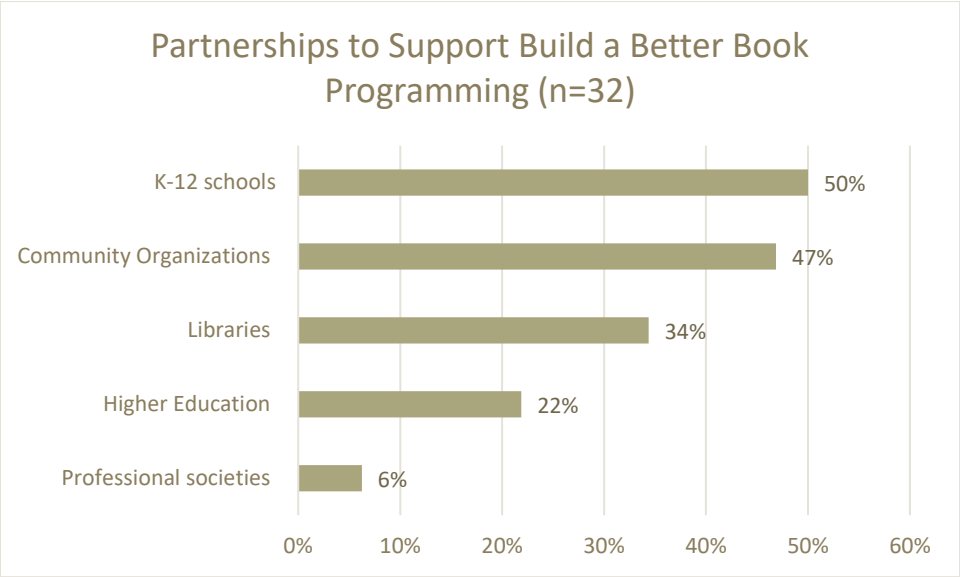
My challenge will be time. I see my students 90 minutes a week, and there is little flex time. – School librarian

Partnerships

Partnerships are one way in which libraries and schools can support STEM programming and makerspaces because partners can provide the technical expertise and, possibly, perhaps even materials and equipment. In contrast to past years when up to 30% of workshop participants did not have partnerships, only two respondents noted a lack of partnerships. On the other hand, some attendees wrote about partnerships in future tense which might imply that the partnerships do not currently exist but are in development. Nevertheless, nearly all attendees noted partners that they will collaborate with to develop or implement their Build a Better Book program.

Indeed, 70% of librarians/teachers had existing partnerships to facilitate STEM-oriented youth programming at their library or site. However, several of these partnerships involved a paid organization that provided STEM programming at the library. Universities were the most common partner leveraged by libraries/schools to provide or support STEM programming. Other partners included STEM or library professional societies, community members, non-profits, local government agencies, and K-12 districts or schools. These organizations provide programming, training, curriculum and materials, volunteers, instructors, or support for library-hosted STEM programs serving youth. Therefore, partnerships are an essential aspect in building the organizational capacity of libraries to provide and deliver STEM programs and activities for youth. The majority of librarians/teachers reported one or two partner organizations, although some reported multiple partners. Additionally, a full 30% of respondents noted that they had no partners to assist with STEM programming for youth, indicating a widespread need for organizational partnerships to enhance the capacity of libraries to deliver STEM programming. The most common type of partnership was K-12 schools, although this usually referred to special schools serving the blind or visually impaired or school district special education offices. Community organizations were another common partner. Community organization partners were typically government or not-for-profit organizations serving people with disabilities or people with visual impairments. Other community partners included arts centers and youth groups. Libraries were also common partners and most of the libraries listed were state libraries for the blind or local public libraries. There was little difference in partners between schools and libraries. Schools often chose to partner with other schools and external libraries and vice versa.

Figure 11. Partnerships to Support Build a Better Book Programming



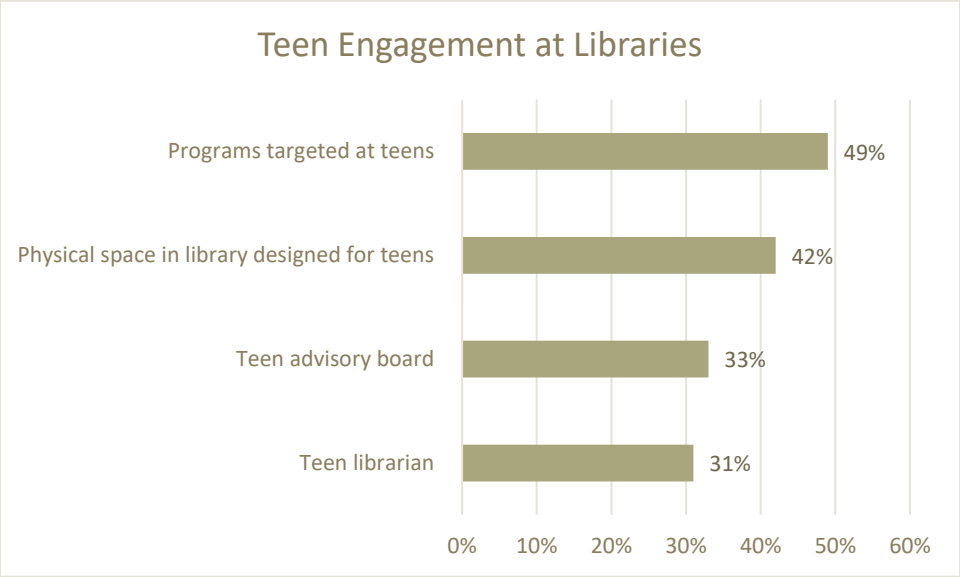
Librarians' preferences for formats for providing technology-oriented programming

In prior years, librarians have tended to prefer one-time workshops, but the 2019 cohort appeared to be more committed to implementing the program at full-scale. In fact, 41% of librarians preferred multi-day workshops on weekday afternoons or evenings. An additional 24% preferred multi-week workshops on the weekend. The remainder preferred one-time workshops on weekdays. In contrast, almost all K-12 teachers and school librarians (85%) preferred multi-week or multi-day in-class activities. The remainder preferred after-school programs (only two teachers).

Teen Engagement at Libraries

Librarians in the 2019 cohort did not offer as many teen services as librarians in previous workshops. Nonetheless, nearly half of libraries offered programs specifically targeted towards teens. About the same number of libraries offered a physical space for teens within the library. A smaller number took guidance from a teen advisory board (33% in the 2019 cohort compared to 70% in previous cohorts).

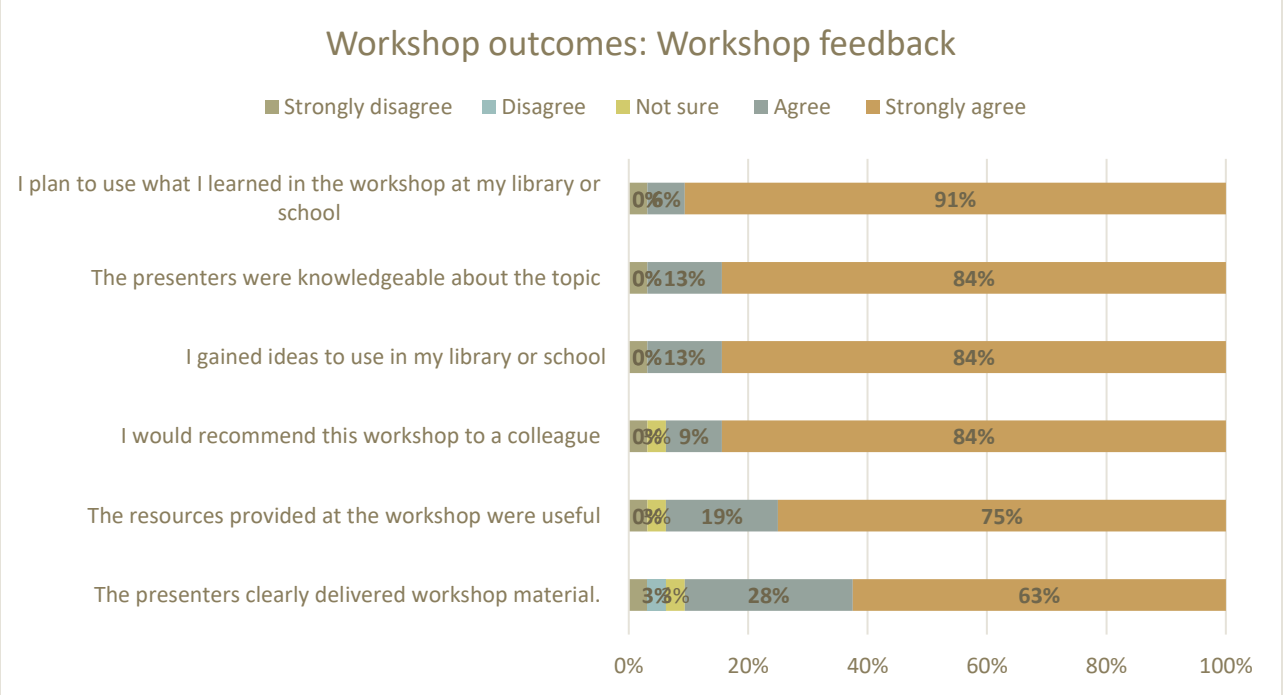
Figure 12. Teen Engagement at Libraries (Librarians Only)



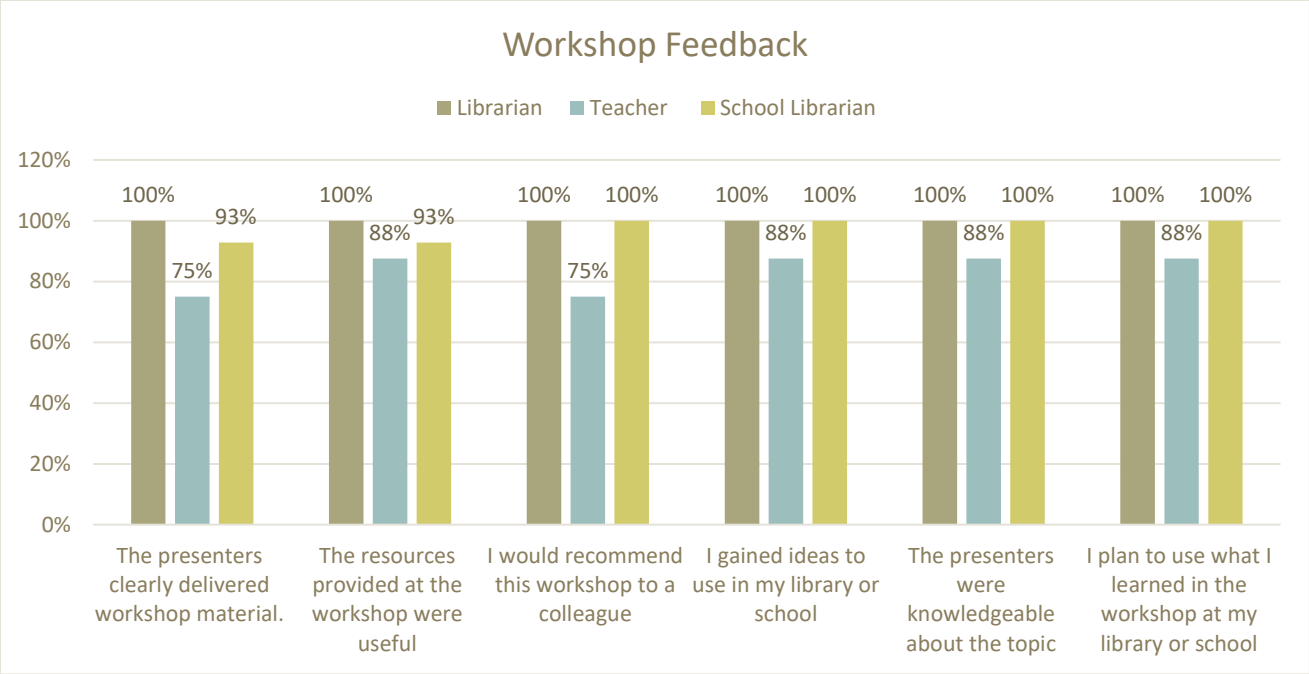
Workshop outcomes: Participant feedback and BBB program uptake

Similar to previous workshops, the 2019 cohort expressed a strong desire to implement the Build a Better Book program. In fact, 97% of participants planned to use what they learned from the workshop in their programming at their library or school. Overall, teachers and librarians found the workshop to be useful and informative, especially in increasing their awareness of and knowledge about disabilities. There was strong agreement (97%) that the presenters were knowledgeable about the topic and that participants gained ideas they would use in their library or school. The vast majority of participants also felt that they would use the resources provided to them at the workshop. Therefore, participants found the workshop to be highly valuable and almost all attendees would recommend it to a colleague who is interested in STEM programming or inclusive design.

Figure 13. Participants' Ratings of the Build a Better Book Workshop



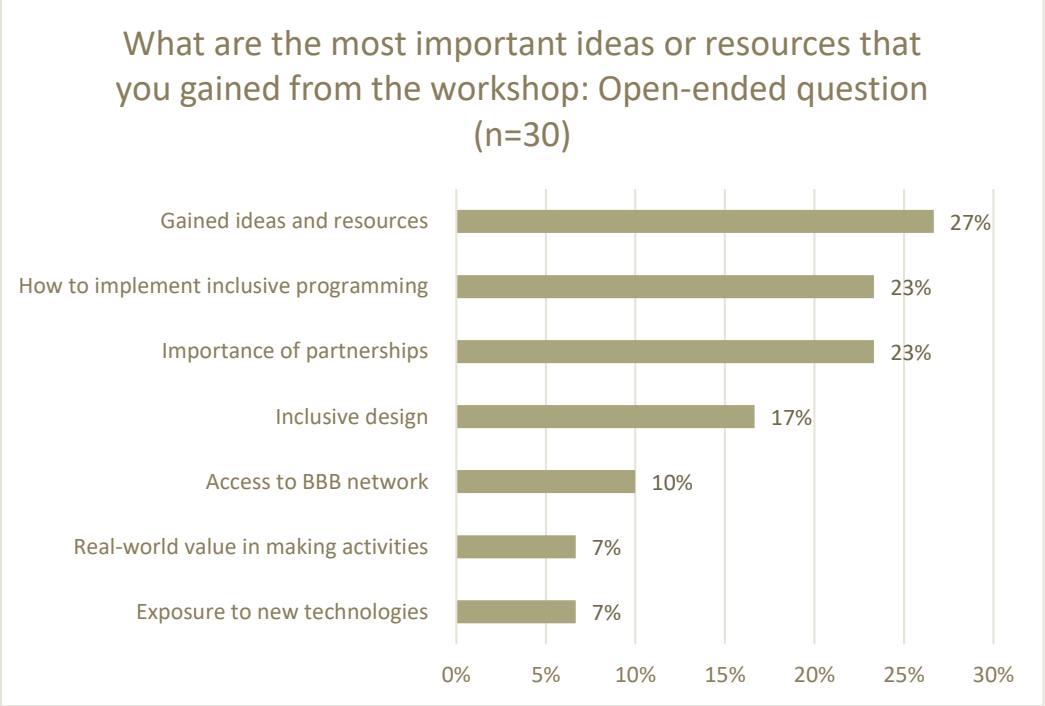
There was strong consensus among attendees about the value of the workshop and the knowledge gained from it. Overall, librarians overwhelmingly reported that the workshop was valuable, and they gained knowledge and resources that they will use in their own work. School librarians also found immense value in the workshop, especially in the ideas and knowledge gained. K-12 teachers also found the workshop to be highly valuable, but to a slightly lesser extent than librarians or school librarians. Because the program was originally conceived as a program to be hosted in libraries, a small cohort of the K-12 teacher participants may not have seen how the application for their classrooms.



Most important ideas and resources gained by participants from the workshop

Workshop attendees learned about inclusive design and how to implement inclusive, accessible programming for youth. In response to an open-ended question about ideas gained from the workshop, the largest number of participants wrote that they gained ideas about how to implement accessible programming and gained resources to do so. Some attendees learned about accessible design and came away with a deeper understanding and appreciation of inclusive design. Some participants also gained an awareness of the importance of partnerships—especially schools or libraries that serve the visually impaired—to the success of a program like Build a Better Book. In particular, the Build a Better Book program appealed to librarians because of the option to engage youth in tactile making through crafts and other low-tech options that may be more easily available to them than 3-d printers or laser cutters.

Figure 14. Participants' learning about facilitating accessible design activities



Typical responses were:

> *The BBB suitcase actually provides the materials that I was planning on purchasing for the beginning of my program. The most important ideas was the foundations of program design to actually make it happen. I am much more familiar with the deaf community, so being introduced to things that are important and essential for the visually impaired community was very important. – K-12 teacher*

> *What came to the surface for me was the value of giving students an opportunity to create something with a purpose in the real world— often in PBL students (and teachers) struggle to find a problem that kids can actually tackle effectively. A lot of problems end up being staged (or faked) based on standards and content and those kind of problems have no true (in my opinion) validity. This is an opportunity to produce something of benefit to specific people in the local community- with a built in network to share with a larger community via the Internet. I love that the point is to use technology as a tool while students are engaged in creation— not just to use technology. – K-12 teacher*

> *Swell machine - we were being asked to 3d print consumable worksheet items for next day... the swell machine will make this task astronomically easier. Most important idea.... I have always struggled with purpose, relevance, and rigor related to maker space. This workshop was my missing piece. – K-12 teacher*

I learned that you don't need a lot of high tech equipment to create a lasting impression on a student. Sometimes you just need cotton balls and the space to create. I also learned to be more aware of how others learn in order to be more inclusive and minimize frustrations. – Librarian

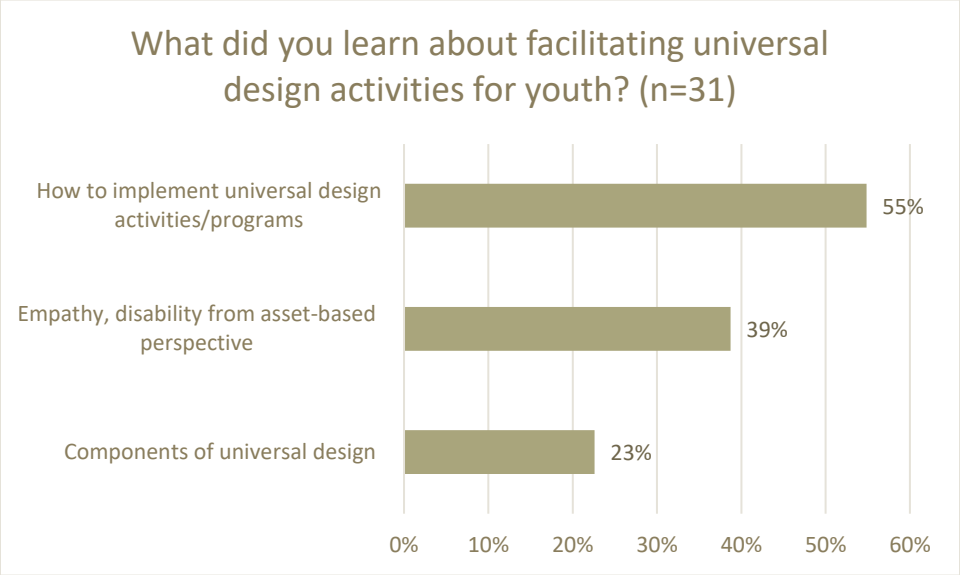
I learned that making something look like an object does not mean it will help someone understand the object. Texture is important. – School librarian

The tips from the presenters who have done this with students already and all of the connections of people in the growing BBB family! – School librarian

The idea of using craft materials and low tech to create accessible books was my biggest take away. It makes the project very doable with my young students. I will be partnering with a local school for blind and vision impaired children, and I learned how critical it will be to invite them in as mentors throughout our work. – School librarian

Participants' learning about universal design

Workshop attendees gained a better understanding of how to implement universal design activities for youth, especially the importance of enlisting community partners and the process of engaging youth in design activities. A significant share of participants gained empathy for people with differing abilities and realized the importance of empathy in the Build a Better Book program. Many of these comments focused on their shift to viewing disability from an asset-based perspective, rather than a deficit-based perspective. Finally, nearly a quarter of participants wrote about learning about the components of universal design, such as the realization that how something feels is more important than how it looks.



Typical comments were:

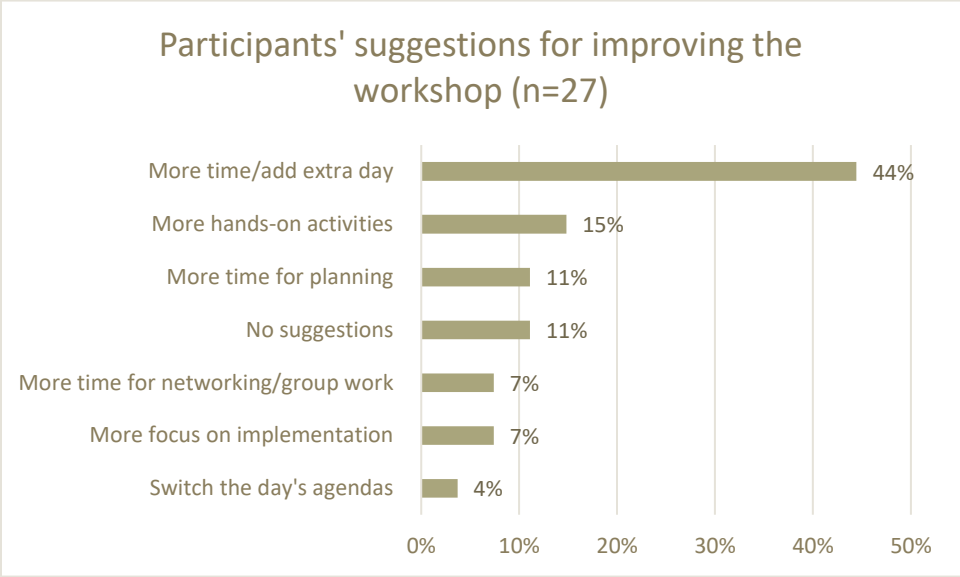
> *I learned how to look at things from the perspective of someone who is disabled instead of trying to have a disabled person meet my perspective.*
>
> *That it is very important to not just jump into the project/tech - otherwise the focus will easily become creating something 'cool' for the maker— introduce the empathy activities first and focus the students on a real person (if possible) or population for whom the product is being created so that students will view what they are building through that filter. They need to try and think or 'see' things from a perspective different from what they are familiar with.*
>
> *I learned how to set the stage for empathy, how to have conversations about design needs, how to scaffold a design project, and how to integrate different tools to support multi-modal le Empathy must be established so the students will see relevance in designing. You do not have to have a lot of money to facilitate workshops. Include VI students and their families through face to face conversation or videos online to truly understand their needs and wishes. What good is it to design something that will never be used. Celebrate and encourage interaction with designs for all users, not just VI. Thinking about how tactile resources can assist ELL students was eye opening.*
>
> *To have a purpose with a makerspace activity instead of just an open ended tinkering session*
>
> *That the work is as much about process as product.*
>
> *It's not about technology as much as it is about making materials accessible to those who authentic representation of things tactically is more important than visual appearance. Less is more on a page. Pick one thing to highlight. Crafts can work as well if not better than electronics. More Braille books are needed.*
>
> *The progression of activities modeled for facilitating projects was what I needed to implement this, along with the underlying principles of accessibility and design.*

Participants' suggestions for improving the workshop

Workshop attendees had a few suggestions for improving the workshop. The majority of participants wanted the workshop to be longer because it was a lot of material to absorb in two days. Nearly half of attendees requested more time for the workshop. Some participants suggested adding an extra day, while others suggested adding a few hours in the afternoon or evening prior to the workshop or extending the workshop days. Some participants also requested more hands-on time to practice technologies or BBB activities. A few participants wanted more time for planning or more advice about implementing the BBB program. One

participant suggested that it could be helpful to switch the day's agendas and cover the second day's activities on the first day as they offered more of an introduction to the program.

Figure 15. Participants' suggestions for improving the workshop (n=27)



Typical comments were:

The tour to sparkfun was really cool, but I would have rather had more time doing hands on activities that we can implement at school, and talking about ways to incorporate our ideas.

I think it would've been cool to learn more from previous schools with how they structured their programs. Also more about book binding and using 3Doodler pens.

The workshop was well managed and the leaders were knowledgeable and flexible. More time would be awesome, but maybe not practical for the participants or leaders. It is intense, and maybe that is the way it should remain.

There was so much, having a third day would have allowed for more in-depth knowledge during the breakout sessions.

It might need to be longer since we were rushing most of the time and we had a lot to do. I wouldn't want to cut anything out because it was so good and fun!!

More time. Seriously though, it was life changing!

Workshop was incredible. The pace was incredibley fast. The only thing I might suggest is more time for cross collaboration.

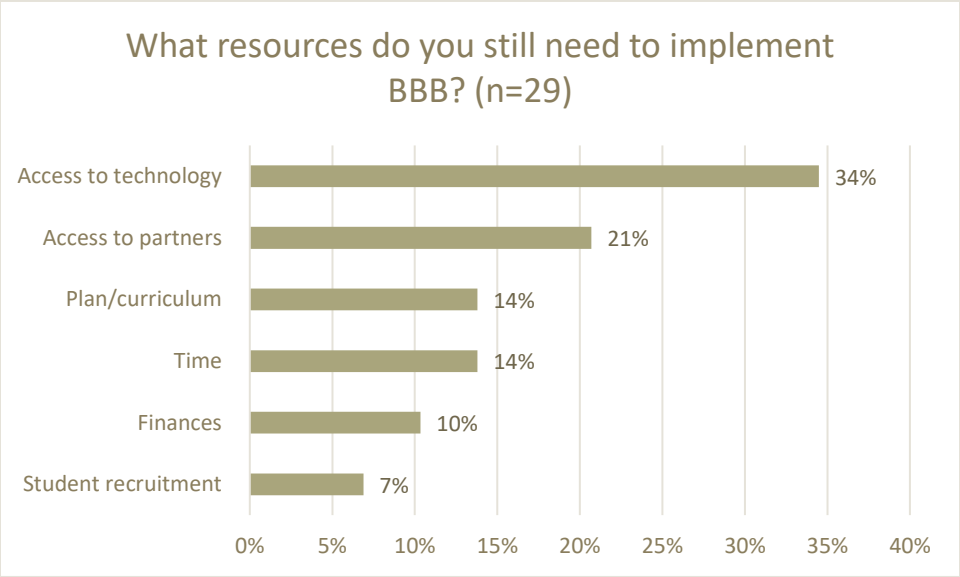
Everything has been great! I feel the panel went a little too long, and i would have liked more time to work on our plan, while the experts were available for feedback.

It was really good. One of the best workshops/conferences attended. Day 2 really calmed me, because I felt like we learned a lot about what we could do without access to a lot of technology and smaller spaces. As well, I liked seeing everything on Day 1, because it showed what libraries with bigger budgets are able to accomplish and how they took the BBB project to the next level. It was also really cool to get experience with technology we don't have access to at the moment.

Resources to implement Build a Better Book

Technology was the most frequently cited resource that participants needed to implement the Build a Better Book program. About a third of workshop participants would like greater access to technology, such as 3-d printers or laser cutters to implement the program. Librarians and school personnel were equally likely to cite a lack of technology as an obstacle to implementation. Some participants noted a lack of partners or mentors to help facilitate the program. For the most part, school personnel were more likely to cite a lack of partners, although one librarian mentioned a lack of partnerships with schools as a challenge to implementation. Some participants also commented on a lack of a plan or formal curriculum as a obstacle to implementation—these were all school personnel. Likewise, all the attendees who commented on a lack of funding to implement were also school personnel. A few librarians commented that student recruitment might be a challenge. Librarians and school personnel were equally likely to report that a lack of time was a obstacle to implementing Build a Better Book.

Figure 16. What resources do you still need to implement BBB?



Conclusion

The 2019 BBB cohort was savvier about makerspace programming and had more experience in working with youth with disabilities than previous cohorts. Almost all participants cited that they gained knowledge about facilitating inclusive makerspaces and running a tactile book activity or program. Almost all participants also felt confident that they could do so. Nevertheless, participants cited a few challenges to implementing a BBB program, namely time, access to technology, and access to partnerships. Classroom teachers were most likely to feel that they lacked expertise. Overall, participants were very enthusiastic about the training and its impact on their capacity to implement universal design programming.