Measuring the Impact and Value of Makerspaces in Public Libraries

Emily Knox

Kyungwon Koh

Andrew Zalot

School of Information Sciences

University of Illinois at Urbana-Champaign

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Executive Summary

Measuring the Impact and Value of Makerspaces in Public Libraries

www.measuringmakerspaces.com

This exploratory project provides the tools needed **for the development of an initial framework and future toolkit for measuring the impact and value of public library makerspaces** in the lives of users and the communities that libraries serve. For the purposes of this framework, **impact** refers to the **effect** on the lives of stakeholders. **Value** centers on how makerspaces have helped libraries **achieve excellence** as organizations and partners for effective community development.

The study utilized **focus groups** at three library sites located in the midwest around a major metropolitan city with the intention of soliciting responses from library patrons and staff about their perceptions of their library's makerspace. The University of Illinois Institutional Review Board approved the research protocols for this study for both adults and minors. Both users and non-users of the library were participants and research questions centered on the perception of makerspaces.

There were several common themes relating to the impact and value of makerspaces on stakeholders, including general library patrons, users of the makerspace, and staff. Themes relating to impact included an **increased creativity** due to the **emotional safety** to try new things, an **increased sense of community**, and the **accessibility** of tools and services. Themes related to the value of the library for achieving access included **broadening** of the public library's **mission**, **changes in perceptions** of the library, more **frequent use** of the library, and increased **pride** in the library. Participants also discussed challenges related to the value and impact that a makerspace might have. These challenges included the ability of makerspaces to **adapt** to change, **visibility and awareness** of the spaces, and **audience issues** including a lack of clarity regarding the intended patrons of the spaces.

The framework for the toolkit includes five factors for evaluation based on the findings from the focus groups: **policy statements, audience, access, training, and marketing/communication**.

The Impact and Value of Makerspaces

The public library is a continually evolving community space and the presence of makerspaces at many sites in recent years is one such example of this. Part of the maker movement, born from the hacker movement of the 1960s and the arts and crafts movement in the early 20th century (Marotta, 2021), makerspaces have emerged in public libraries as sites where patrons of all ages can engage in crafting and creating using technology (American Library Magazine, 2013). As Laura Fleming (2015) observes in her book on makerspaces, "Libraries are open access by nature, and makerspaces can take advantage of such openness to create opportunities for partnership, collaboration, and creation for all," highlighting why libraries have become one of the primary locations for community makerspaces (p.42). As such, perceptions of the library have seemingly changed as the presence of makerspaces add another dimension to what libraries offer and potentially shift how patrons utilize these sites.

Primarily conceived of as learning spaces, there are several studies that assess individual skills that are developed in makerspaces (Finley, 2016; Willett, 2017). For example, there have been two initiatives funded by the Institute of Museum and Library Services (IMLS) that focus on individual learning outcomes in makerspaces. First, the University of Wisconsin-Madison and Maker Education Initiative National Forum on Research and Assessment in Makerspaces (Maker Ed) published a white paper outlining that attempted to understand "what practical, ethical, equitable, rigorous, creative, and responsive assessment can look like in library makerspaces" (Chang et al., 2019, p. 1). Another project, SUNY Buffalo's Assessment for Learning in Library Makerspaces, focused on evaluating individual learning outcomes in the spaces (Cun, A., Abramovich, S., & Smith, J. M., 2019). While these projects present a valuable assessment of makerspaces in libraries, a survey of the literature demonstrates that although stakeholder evaluation (as opposed to learning outcome assessment) is an important aspect of understanding there is little information on how to demonstrate the value and impact makerspaces have in the communities they serve. As the authors of the Maker Ed white paper state, "individual surveys and circulation numbers only tell a small fraction of the richer story at hand. Additionally, much assessment focuses solely on the individual level, but the ways in which to tell the tales of the collective group could be quite revealing" (Chang, S., et al, 2019, p. 20).

The **exploratory project** described here provides the tools needed **for the development of an initial framework and future toolkit for measuring the impact and value of public**

library makerspaces in the lives of users and the communities that libraries serve. For the purposes of this framework, **impact** refers to the **effect** on the lives of stakeholders. **Value** centers on how makerspaces have helped libraries **achieve excellence** as organizations and partners for effective community development.

This exploratory project builds and expands on previous studies, including the projects discussed above, in exploring how community members perceive makerspaces, and how this perception influences their view of the libraries that house them. In another example of this type of research, Koh, Abbas, and Willett (2019) argue that, beyond simply being a space for individual learning, library makerspaces play distinct social roles within a community by promoting knowledge creation, access, learning, and equity and diversity (p. 29). In particular, Koh et al. argue that library makerspaces are grounded in the core value of librarianship and they require a new understanding of the role of libraries in the contemporary knowledge society (p. 20). The conceptualizations of library makerspace communities and roles developed in their work inform this study's assessment of the value and impact of makerspaces.

A Need for Comprehensive Evaluation

Evaluation in makerspaces has been a topic of interest for researchers in recent years as makerspace sites have become increasingly prevalent in library and educational settings (Chang, et al., 2020). Given the varying scales of makerspaces and the material users output, it has been difficult to develop a means of evaluation that can be applied to makerspaces. Presently, literature around measuring the impact of makerspaces is limited primarily to the individual level. These typically take the form of the studies investigating what users produce in the spaces or how individual users engage with the space leaving a gap in studies investigating makerspaces in relation to library sites and local communities. Marshall and Harron (2018) offer a STEM-oriented framework for evaluating makerspaces, focusing on the production of STEM projects and the individual growth participants in the study went through. Their study is useful when considering the development of evaluation tools for makerspaces as they present a framework for assessment as they identify several areas for evaluation that go beyond individual growth, specifically collaboration.

Rebecca Teasdale's (2020) article on assessing makerspace builds on the need for a more community-oriented approach to assessing makerspaces, offering a framework that considers criteria from both library and participants' definitions of success for library makerspaces.

Teasdale details how success at library makerspaces was defined and a study performed at one site interviewing staff and patrons using a framework that considered outcomes beyond what users were producing. From the framework dictated in the article, several areas of interest informed this study: relevance, sustainability, and alignment. Under this criteria, relevance was centered around the makerspace's ability to provide tools and material that met the needs of the community, such as the purchasing of new tools requested by patrons. In considering sustainability within the context of the makerspace's presence at a library site, it is a useful piece of criteria to consider in this study as one sample question for evaluation the article presents asks how the makerspace is able to exist alongside other areas of the library and community. Lastly, alignment describes the makerspace's engagement with the larger local community through initiatives in the library, suggesting impact beyond the space itself.

Within the context of this study, **impact is defined as the changes that result from interaction and engagement with the makerspace, its staff, and its programmatic activities on the lives of stakeholders.** That is, the effect of the makerspace on the stakeholders' lives. Based on the work of Teasdale and others, impact can be difficult to define given the lack of concrete tools to assess it within the context of makerspaces (Wardrip, et al., 2017). As such, we developed our definition from the framework provided by Teasdale (2021), with particular attention to the "outcomes" section of criteria she outlines. Teasdale describes outcomes as changes to participants experienced by using a makerspace. While she frames evaluation questions within the context of skills gained through the space, such as learning to use a particular tool, we were particularly interested in the description she used for outcomes. This included mention of more abstract concepts such as behavior and condition. In considering how to define impact, this piece of criteria was valuable because it acknowledged that makerspaces can have an effect on patrons that goes beyond tangible products and teachable skills.

For the purposes of this study, value focuses on the relationship between the makerspace and library as a whole in achieving excellence. As such, we understand **value** in our study as **how makerspaces help libraries fulfill their missions as organizations and partners for effective community development.** That is, value is how makerspaces help libraries achieve their mission as public, community-embedded institutions. To elaborate further, **value** refers to how a makerspace can contribute to the library as a whole through its initiatives and access it affords. As with **impact**, we referred to Teasdale's criteria for evaluation to formulate our

definition of value. We regarded alignment, relevance, and equity as the most essential criteria for this as they all dealt with assessing contributions a makerspace can make toward the larger library community.

The makerspace is one of many services provided at a library and assessing value considers how the site's initiatives and programs align with the broader mission of the library. For example, as we detail later on in the methodology section, one of the questions in our focus group protocol asked participants to consider what might be lost or gained if the makerspace were to be removed from the library. Through this question, participants must consider what the space brings to the library and community. Value and impact can be two terms that are difficult to differentiate but under our definitions used for the project, we hoped to distinguish the two by focusing on the makerspace's effects at different levels of analysis. More simply, impact refers to whether or not there was a change for stakeholders, while value refers to how important the change is; in other words, how that change helps libraries fulfill their mission.

Who uses makerspaces and why do they use them?

The question of how to define makerspace users has been a continually evolving process in recent years, owed in large part to efforts by libraries to develop making into an equitable activity. As Barton et al. (2017) find, making was historically dominated by white men but pushes in recent years for diversity has led to initiatives designed to bring making to a wider audience. One such way this has manifested is through libraries, where a 2013 survey found that 41% of libraries indicated that they maintained a makerspace in some capacity (Price, 2013). As libraries made makerspaces more accessible and equitable spaces, the demographics of users have broadened to include populations that use libraries. Chang et al.'s (2019) study on makerspace users finds that the access afforded by libraries enables increased diversity in making. As the research group found in their study, "libraries are open to the general public, serving a population that may not feel welcome in a membership-driven makerspace" (Chang et al., 2019, p. 4). With the library as a hub for encouraging new users, the perception of users being predominantly adult white males has shifted as young patrons and other members of communities are given the opportunity to take up making. As such, library makerspace users represent the shifting demographics in making as the access afforded by the library opens the practice of making to a broader population.

In discussing perceptions of users, it is also important to discuss those who don't use makerspaces when considering impact that goes beyond engaging directly with the space. As noted in the Methodology and Limitations sections below, non-users make up a broad group of individuals and the term itself is somewhat limited in addressing the patrons that can fall into this classification. An initial impression of non-users might lead one to believe that they are anyone who does not use the space but as our participant recruitment and data collection found, non-users vary heavily in their proximity to the space. While it is true that the more conventional non-user is someone who has little to no knowledge of what a makerspace is, there is another group of patrons who do not engage with the space but are connected to someone who does. For these non-users, there may be indirect engagement with the makerspace through hearing from either a friend or family member who uses the facility. For this study, we grouped all non-users together regardless of their proximity to the space but recognized the need to add further nuance to these patrons for future studies. Future studies should be aware of the differences in experiences from non-users with differing proximities to the space and recruit participants accordingly. As we will discuss in the Findings and Discussion sections, non-users offered valuable feedback on how makerspaces are perceived in the eyes of those who are not involved with it directly.

Measuring Makerspaces - Methodology

This study utilized focus groups at three library sites located in the midwest around a major metropolitan city with the intention of soliciting responses from library patrons and staff about their perceptions of their library's makerspace. Focus groups are an effective research method for this project because they are subject to what Lindlof and Taylor (2002) call "chaining" or "cascading effects" among the participants (p. 182). This allows for participants to build off of each other's statements which provides rich data for analysis. The University of Illinois Institutional Review Board approved the research protocols for this study for both adults and minors.

To ensure a broad range of perspectives, we recruited both users and non-users at the library as participants. With these participants in mind, we anticipated grouping them together based on age and position in relation to the makerspace. As our research questions were centered around perceptions of makerspaces, we felt that it was valuable to get insights from those who didn't use the space because it might provide a deeper understanding into how these patrons

viewed the space. As noted, the non-users recruited were composed of those who possessed some degree of understanding of makerspaces rather than patrons who were unfamiliar or unaware of it. We also sought out teens for the focus groups as they make up a large portion of makerspace users identified in prior studies. As our findings from them and their parents revealed, teens often were patrons of the library from a young age and possessed a unique perspective on shifting usage of the library's offerings.

Library staff were recruited due to their knowledge of their space as well as to gauge their experiences in seeing their makerspaces develop. Staff were recruited across departments at their sites, meaning that many of our focus groups were composed of staff who worked directly with the space along with those who were adjacent to the space. The staff who were not directly affiliated with the space provided a perspective similar to the non-user patrons we recruited as they offered insight into how other departments at their sites operated alongside the site.

To recruit participants, we created a website (https://www.measuringmakerspaces.com/) that patrons were directed to through their respective libraries where they could fill out a brief form to sign up as participants. We informed the library directors of the website and they in turn recruited staff and designed their own materials to send patrons to the website. To aid us in grouping participants into the appropriate groups, we asked patrons and staff to provide their age as well as identify whether they were staff members at the library, makerspace users, or non-users. It should be noted that "non-users" is not the term we asked non-users to classify themselves as on the form, but rather "I don't use makerspaces myself but recognize their value in the community and/or am curious about them." This language was used to ensure that we were recruiting individuals who were aware that there was a space present at the library. Participants were screened and assigned focus groups based on where they identified their position to the library along with time availability. We also offered the option to sign up for a focus group the day of the sessions provided the participant filled out the proper consent forms. This proved to be a beneficial decision as several participants were parents who either signed their children or themselves up the day of the focus groups. In assigning people to focus groups, we organized participants into groups of either makerspace users, non-users, or teens. We opted to merge teen users and non-users together to ensure that we yielded effective focus group sizes of five to six people per group.

Site Profiles

Our study was conducted at three partner library sites located within the suburbs of Chicago, Illinois. At the time of the study, the three sites were operating a combination of in-person and virtual services within their makerspace in response to the COVID-19 pandemic.

DeKalb Public Library

Type: Exurb, Dedicated Clean Makerspace

Dekalb Public Library is situated in a community with a very diverse population in a small area. DeKalb, Illinois has a population of approximately 44,000 in an exurb of Chicago. There are people who commute into the city and suburbs for work, and others who work on active farms or in industrial settings. Adding to this diversity is the fact that DeKalb is the home of Northern Illinois University, which brings in large numbers of college students to the area. The area also draws international students and their families, which has led to a population much more diverse than surrounding communities. While DeKalb's overall population is 73% white, school-aged children are majority-minority, with 53.7% of students in the school district reporting as minority or multi-racial. Median household income is just over $41,000. Maker programming at the DeKalb Public Library serves patrons of all ages--events designed for children under 10 are generally held in the Youth Services area of the library. Within the lab spaces, maker programming is intended for patrons over the age of 10 (a parent must accompany children 10 to 13).

The library is in the process of separating making activities into three locations within the building. In addition to the Sound Studio, the library expanded a multi-use maker space into a dedicated digital design lab and added a hands-on creative space for programming. The Nancy D. Castle Collaboration Studio retains the library's digital classes, and also holds maker equipment, craft supplies, and is available for use as program and open studio space. The library's maker equipment includes several 3D printers, a 60-watt laser cutter, some vinyl cutters, sewing machines and other traditional making supplies. The Sound Studio houses equipment for recording podcasts and musical tracks along with the necessary software to edit and create sound files. The Collaboration Studio offers computer classes to help patrons get the skills needed to join in on more complicated projects in addition to digital design classes used for maker projects. 309 Creative opened in 2021 as part of a larger library renovation project that saw a fully renovated library space developed in 2016. At the time of our study 309 was still in

the process of fully opening, with staff citing the pandemic as the primary reason for a delayed rollout of the space.

Maker programming at the library is a robust mix of digital design, craft classes for all ages, cosplay workshops, and cosmetics tutorials to meet community requests. Classes are often full, and staff regularly add second sessions if time allows so waitlisted patrons can participate. The library's maker activities are constrained by staff availability—no staffing was allocated for the space when the building was expanded, so the studio has worked on changing expectations and "making do" until funding was available to add additional staff members. The department also handles the adult computer lab, so it must staff desks in addition to offering programs. Recently a new department manager with a deep background in makerspaces joined the library's team, and a full-time staff member was added to the department.

The Indian Trails Public Library District (ITPLD)

Type: Suburban, Dedicated Clean Makerspace

The Indian Trails Public Library District, who are partners on this grant, serves a community diverse in ethnicity, religion and culture and proudly relishes its role as a bridge between groups, and continually seeks ways to build a more cohesive community. The library serves 65,0000 residents in the Wheeling, Buffalo Grove and Prospect Heights suburbs, located approximately 25 miles northwest of Chicago. According to U.S. Census Data, the majority of residents (56 percent) in the district are white; 16 percent identify as Asian, Hawaiian or Pacific Islander ethnicity; 28 percent identify as Hispanic or Latino. Forty-six percent of Wheeling residents and 39 percent of Buffalo Grove residents are foreign-born.. Eight percent of Wheeling residents are below the poverty level, while nearly 5 percent of Buffalo Grove residents are below the poverty level. The local school district reports 50% of students are English Language Learners and 65 languages are spoken throughout district homes.

The district's makerspace, The Launch Pad, is a space to explore, play, create and collaborate. Members are encouraged to embark on a journey of discovery and possibility through hands-on learning where all that's needed is imagination. The 1,400 square-foot Launch Pad was created as a part of the 2016-17 renovation project. It was designed to be a visible part of the first floor, symbolizing the commitment to creating a culture of making in the community. The Launch Pad also includes three rooms for media creation, learning and entertainment purposes: Sound Lab, Video Editing Lab and Archival Station. The Sound Lab features a

soundproof recording booth and the Video Editing Lab has a green screen wall. One-hour appointments with staff are available when members need guidance on a specific project or to be trained on a piece of equipment. Administratively, The Launch Pad resides in the Digital and Maker Services department that is staffed by a manager, two full-time librarians, one full-time advisor and two part-time advisors. In the three years since The Launch Pad opened, additional staff were hired to meet the needs of members. The Launch Pad is open 1-8 pm M-F, 10-4 on Saturday and 1-4 on Sunday and hours are extended during the summer. In response to the COVID-19 pandemic, the library began offering kits that patrons could take home in 2021.

Joliet Public Library

Type: Urban, Digital Makerspace

Joliet Public Library serves the third largest city in the State of Illinois, with two branches situated in a downtown, urban setting (Ottawa Street Branch), and a suburban neighborhood setting (Black Road Branch). Joliet Public Library began serving its community in 1876, and the Ottawa Street Branch, which houses the bustling Digital Media Studio (DMS) was designed and built by Daniel Burnham in 1903. The Black Road Branch opened on the far West side of Joliet in 2002. Joliet Public Library's population was estimated in 2018 at 150,000+ people, and the two branches serve businesses, students, educators, senior citizens, English as a Learning Language Learners, the unsheltered, parents, teenagers, adult learners, babies and toddlers, young adults and visitors from across the country. The population across Joliet's 62 square miles is 30% Latino or Hispanic, 16% African American, and 30% of the population is under the age of 18. In 2018, Joliet's per capita income was just over $40,000, with 11% of residents living below the poverty line.

The Digital Media Studio (DMS), built to focus on the needs of Joliet's small businesses and entrepreneurs, opened in 2012. The DMS serves Joliet Public Library cardholders, providing services such as digitization, photo restoration, sound/video/graphics editing, small business startup guidance, podcast development, video and audio production (with an audio booth), graphic arts instruction, website construction, script-to-screen services (e.g., storyboarding, concept discussions, etc.), a green screen for photography, poster printing, t-shirt printing and 3D printing. The DMS also offers technology and creative classes to the public on topics such as comic book illustration, photo restoration, Adobe Premier, iPhone/iPad basics and digital camera best practices. The DMS continues to evolve, through building services to the local youth

population with funded Project Next Generation grants, which has brought additional technological advancements to patrons.

The DMS was largely created through public grant funding and operates with an annual programming and technology budget of $4,000. The DMS is staffed by a professional team of five (1 FTE Supervisor and 4 PT Associates) and was the first Digital Media Studio to operate in Will County. Until September 2019, the DMS was exclusively situated in a former office space, making it one of the most functionally compact, and yet widely varying, digital media studios in the country. In September of 2019, Joliet Public Library expanded the footprint for the DMS into an adjacent former computer lab location, making it possible for the first time for the DMS to serve multiple patrons with varying interests simultaneously.

Focus Group Design

When designing the protocol for the project, we opted to sort questions into three groups based on the following themes: the perception of makerspaces, their impact, and value. Our focus group protocol varied slightly depending on the makeup of the participants, allowing for greater insights into their perspectives on makerspaces. For staff members, our questions focused on understanding their perceptions of the makerspace in relation to their role at the library along with how they've seen patrons engage with the space. We were also interested in hearing about the makerspaces' trajectory since their creation, specifically if its purpose or offerings had changed over time. Questions for user and non-user groups were largely the same with the main differentiation being the framing of questions involving their experience with the makerspaces. For example, users were asked about their most recent experience at the makerspace and if they felt that the space impacted their life in any way while non-users were asked to describe their familiarity with the space and to talk about why they themselves had not engaged with the space. Following the completion of these questions, participants were asked if there was anything else that they would like to share either about the makerspaces or the library sites.

A total of 12 focus group sessions were conducted in the three library sites in December 2021, and engaged 42 users, non-users, teens, and staff. One or two researchers facilitated each focus group session and audio-recorded the conversations. See Table 1 below for information about focus group participants.

Table 1. Number of participants

	Users	Non-users	Teens	Staff	Total

DeKalb	0	2	0	3	5
ITPLD	8	6	9	4	27
Joliet	6	0	0	4	10
Total	14	8	9	11	42

The recordings were transcribed and the three university researchers analyzed in Dedoose, a cloud-based app for qualitative and mixed methods data analysis. Focus group responses were analyzed using a grounded theory approach. As Charmaz (2001) notes, "grounded theory consists of the researcher deriving his or her analytic categories directly from the data, not from preconceived concepts or hypotheses" (p. 336). The terms used for describing data came from the participants' own understandings of the phenomenon being studied. Coding was iterative and changed as the transcripts were analyzed.

Value and Impact According to Stakeholders - Findings

As stated above impact is defined as the effects that result from interaction and engagement with the makerspace, its staff, and its programmatic activities on the lives of stakeholders while value is defined as how the makerspace and its programmatic activities have helped libraries achieve excellence. These definitions are not discrete for stakeholders and, as will be seen below, the perceptions of the effects of makerspaces and how those effects should be measured are often intersecting. The quotations from the participants below are divided as much as possible into the categories of impact and value, however, there will be some overlap.

The Impact of the Makerspace

The impact of the makerspace on stakeholders, including general patrons, users of the space, and staff was notable for many reasons. It was clear that the presence of a makerspace made an impact on the stakeholders themselves and how they viewed the library. Themes included increased creativity and the emotional safety to try new things, increased sense of community, and the ability to access tools and training.

Impact: Increased Creativity and Emotional Safety

Focus group participants described makerspaces as a place to be creative. One Indian Trails teen user said that the makerspace is "a great place for you to try." Another Indian Trails

teen user said, "you get to try out more, and be more creative." According to the participants, makerspaces provide opportunities to try out new things, discover new interests, develop a hobby, and offer a creative outlet. Findings show library makerspaces inspire creativity over the course of the making processes, such as from ideation to skill building to turning your ideas into a tangible product or specific activities. A staff at Joliet explained they have patrons who come in just to talk about their ideas with makerspace staff who provide creative input. Several users described how access to different fabrication tools and skills they obtained in the library makerspace led them to discover new interests and hobbies.

One aspect of makerspaces that participants mentioned several times was the ability for makerspaces to provide a safe space for making. Beyond providing a space to meet others interested in making, many users mentioned feeling comfortable making even if they were new to it. Attributing this to a combination of staff and other patrons, one user at the Indian Trails Launch Pad said that "I think it's awesome that it's in a community-based type of environment where it's open and welcoming for anyone who wants to learn how to use these various things that otherwise you can't." This increased sense of safety is vital for having the new experiences described above.

Impact: Sense of Community

Makerspaces offer the opportunity for patrons to take up making but they also provide another avenue for the library to develop a sense of community. While making can be an activity done on one's own, makerspaces can operate as a hub to meet and engage with other members of the library. As one staff member at Joliet said, "I think the whole point of a library is to provide something to the community that it might not be able to get on its own research materials, computers, internet books for kids, programs for kids. And now, like I said earlier, anyone can have creativity or talent, but maybe not a place to express it, but they can here."

Beyond their capacity to inspire creativity and interest in making with patrons, makerspaces also serve a social purpose at library sites, often connecting users to one another and developing a greater sense of community. One user from Indian Trails spoke highly of the community aspect enabled by makerspaces, noting that while one could learn making through online videos on YouTube, this learning took place in isolation. Describing their experience at the Launch Pad, the user said that "We would often see the same people over and over. I know you from the makerspace classes and some other people that I would see over and over again.

You meet people in the community and share things and learn things that you're not going to learn by watching YouTube videos at home."

Impact: Accessible Tools and Training

Public libraries allow community members to pool resources and provide access to information and other resources that would otherwise be unaffordable for individuals. This was mentioned several times by participants. One teen user at Indian Trails noted, "It's definitely making it more accessible to do things, because a lot of the equipment are very expensive and very hard to get your hands on, for like, just a family, so this makes it a lot easier to do things. Like I said, I made baby blankets for my little cousin, which is something I wouldn't have been able to do otherwise." An adult Indian Trails user stated, "I think that it's a great resource." "I was just going to say that I wasn't going to basically say it's free, but it's free," a user in Joliet noted, "It's like, all these things that they teach us down here. Imagine if it wasn't here, how much we would have to pay to learn this stuff. So, it is the real reason why I think I just pay five out for what? That flash drive. Everything else, they ain't charging the help. Anywhere else they would been... baby we been broke. You hear me? So, yeah. It's giving me knowledge for basically free. I ain't been to school that I don't know how many years. Yeah, they do a lot of help down here." Even a non-user (probably self-selecting as a non-regular user) noted, "I think that it's a great resource. It exposed me, in particular, to something that I didn't want to invest in purchasing, but I wanted to know more about it. And the training that I got out of the exposure has helped me to determine: Do I want to pursue it or not? It allows me, personally, to grow and be exposed to different things."

The savings for patrons was also mentioned by the staff of the makerspaces. One Joliet staff member stated, "Yeah. And I think a lot of it, a lot of people realize that if they were to go to some other place to get some of these services, like 3D print or take professional photographs or digitize some kind of media, or print out a poster that the cost would be substantially way greater, huge. So I think a lot of our patrons realize right off the bat of what they have here at their disposal. You know, if you were to go to some other place and digitize your old Christmas movies, it would cost...Could be a hundred bucks or something like that. So to be able to sit here and do it for free is quite valuable. And then to have people that are willing to help you, especially one-on-one, I think is even more valuable." Another staff member noted, "We had one patron that she brought in an audio cassette tape of her father talking and her father passed away.

So we were able to digitize that and clean up the audio and restore that for her. And stuff like that is very kind of self-fulfilling, makes you feel good, you know, that burst of serotonin."

Impact: Cultural heritage

While makerspaces offer patrons the ability to learn different skills in making, this learning also operates as a way of preserving cultural traditions. Just as the library operates as a site for curation, makerspace allows for cultures to pass techniques onto younger generations and other members of the community. An Indian Trails user mentioned the skills that are being lost within the community, saying: "If you go to any of the shoe repair places in this area, it's these guys that are 102 years old. Well, who's learning how to fix the shoes when these guys are not here anymore? I think all of that kind of knowledge can be shared through the libraries, especially with the young people and trying to give young people exposure to these skills and careers." Another Indian Trails user pointed out that their library makerspace indeed played the role of cultural heritage, especially pre-pandemic: "They [the library makerspace] had various classes where they were bringing people from the community or even further away for some classes. There was a woodworking gentleman who came in and made these little stools and he explained all the tools…You could learn Indian jewelry, a woman who does this, and we were needle felting. So it wasn't just people from the library. They were bringing in professionals or people who did these things. They brought them in to do classes here, which was amazing, some of the things we were able to learn, that I don't know where else you would go for it."

Impact: Supporting local makers and small businesses

Makerspaces can also help makers advertise and sell their wares. A Joliet staff member stated that they helped a patron sell his books: "we have another patron who's... He's been coming here since day one. We just recently got his books formatted put on Amazon. And so now we are selling them on amazon.com and then we took it the next step further and got him into circulation at both branches at Joliet Public Library. So to have success stories like that is really valuable to us as well as the patron."

The Value of the Makerspace in Achieving Excellence

The value of the makerspace in helping public libraries achieve excellence is wide ranging. Participants noted that, more than anything, the presence of a makerspace broadened their own understanding of the purpose of the library. Common themes included broadening of the public library's mission, changes in perceptions of the library, and pride in the library. It was

clear that the presence of a makerspace made an impact on the stakeholders themselves and how they viewed the library.

Value: Broadening of Access and Mission Alignment

Makerspaces are aligned with public libraries' mission to provide access to various types of information, educate citizens, and serve the public. Staff members were particularly aware of this alignment. One staff member at Dekalb mentioned: "I just feel it fits in well with our general library mission. We want to enrich the community or educate in... It fits in with... It's both fun for people, but it also provides, you were saying opportunities for education that people wouldn't have; otherwise, they can learn how to use the laser cutter or the 3D printer." Another staff member stated, "ultimately it's about serving our community. Yeah. So that's what we're here for, is to serve the people of DeKalb. And this is a way that we can provide things like you were saying, that they won't have access to otherwise." A staff member also noted that the makerspace could be seen as a broadening of the library's original mission: "If you're talking about the original library mission, which is to serve the public in as many ways as possible, that hasn't changed. That's just the scope [unclear] broadening. So it's the offerings that are changing, but not the original mission."

The presence of a makerspace also increases the value of the library and the larger community, even for those who don't use it. For example, one Dekalb Staff member stated:

> I think it just reflects well on the library to have because the truth is, like books, I've got about 200 of them on my phone through Amazon or Hoopla or whatever. So we've pivoted in a way, so now we're offering the makerspace stuff that you can't get on your phone. So I think that it's good in a couple of different ways. It's a new offering. And I think the community likes to have that even if the truth is, not every single person uses it. You still have people who are basically here to use the public computers and jump on Facebook or check their email. But even if they're not using it, they like the idea that we have it."

Many participants mentioned how the presence of a makerspace broadened access to information writ large and aligned with the overall mission of the public library. One Joliet user noted:

> I'm very familiar with the space. I have a small business and they have helped me from almost the inception of it. From making flyers. We do county shows, making tickets,

making signs, making the menu, just all kind of help. Helping me with my contracts, proposals. They have been very... Because, one aspect of digital media studio is they help small businesses. So, they've been very instrumental with helping me and I have enjoyed it." Another user in Joliet stated,"So, to me it expanded the repertoire of what I do just five years that I could not have expanded on my own. They have information that I didn't have.

Even non-users noted the access the spaces provide: "People can use technology that they're not taught in school. Like, most elementary schools for example... Yeah, they'll have PCs, yeah they'll likely have some level of coding classes, but it's not necessarily going to be the same level as a Maker Space which is probably going to have multiple varying classes, and they're not getting an e-printer. They might not have certain classes that are online classes there, as well." One Indian Trails user noted that the makerspace is similar to a library of things: "And now that I'm thinking about it, both the makerspaces and the library of things, which is another resource for people who like to make things if you don't want to buy the embroidery sewing machine." Makerspaces, of course, also offer training and support for tools.

Value: Changes in Perception

One of the major ways in which the presence of a makerspace changed perceptions of the library is that stakeholders stated that the library had "more than books." An Indian Trails user mentioned that having the makerspace is an enhancement to only having books that teach you "how to do a thing":

> "I think there's value in teaching people in the community how to do a thing. Before, you would just get a book and teach yourself, whatever. Now, once any library started getting a makerspace, I don't know where it started, but then, everybody's like, "Well, this town has one, so now we have to have one." And I don't think there's a library around here that doesn't have one."

An Indian Trails teen stated that the makerspace increased the cool factor of the library: "It offers more than books, technology, internet. There are a lot of books, and there's computers as well. It offers more than that. It one-ups the library to more cool." Staff members also noted how the presence of the makerspace changed the perception of the library.

Even stakeholders who did not use the library noted that the makerspace changed their perceptions of the library. One Indian Trails non user stated:

I think because it's opened up a whole new avenue of things to do besides... When I was younger, and I've lived in this neighborhood all my life, it used to be, something... You came here for a book and research for school and that was to the extent you used your library for I feel like it's become something so much more than that. It's a gathering space, it's also a place to learn new things that have to do with so many different topics. It doesn't necessarily have to be just reading or book clubs, but it could be an activity you enjoy, a craft or maybe you're learning something new, or discovering something or even making friends at a place. So, I feel like the dynamic of what it comprises has kind of shifted to more of a community-based type of activities that they offer, versus just a place to go get a book and leave.

Another non user from Dekalb said:

The previous, before the expansion was the old school library. A lot of books, a lot of little nooks and crannies for meeting spaces and things like that. But you know, not enough computers at the time, obviously, when maybe not everybody had one, at least, even when this was going through the process, so less than there is now. This is more the new, what I see as, at least, the new wave library, with more options and more opportunities, not just the books. The books are obviously still a key component of that, but the ability to have meeting spaces, makerspace.

An Indian Trails user also noted that makerspace classes led to them checking out more books: "Yeah. And that's part of why you come for a class, and then you wander around and go grab a book. That's usually how it works for me." Although the public library was never just a place of books, makerspaces make the library's full mission as a place for providing information access of all kinds visible.

Value: More Frequent Use and New Audiences

Patrons also mentioned that they used the library more frequently because of the makerspace. This was especially noticeable among the Indian Trails users who stated that,"Without the makerspace we would be here less." An Indian Trails teen said "I feel like I come here now more, because of the Launch Pad." While another teen noted "[without the makerspace] I think [the library] would definitely end up losing a lot of their teenage clientele I guess. I don't know what else they would use it for. But I think there are a lot of teens that come here specifically for the fact that there's maker and activities that you can do."

Makerspaces also introduced new audiences for library services. For example an Indian Trails teen said "It kind of helps kids get engaged in the library when they're younger too I think, because they see like, "Oh, there's this fun craft we can do," and then they see all the like stuff in this area. And I think it would definitely, if we didn't have it, it wouldn't draw as many kids." The makerspace itself can be a surprise for people who do not associate the library with services outside of information provision. As one Joliet user stated, "It's very interesting to see the new people who come down here, who've never been here before. And, they explain to them what they do and you see their mouth just hanging [open]."

Value: Pride in the Library

One of the most notable types of value that makerspaces offer is a sense of pride in the library. For many, these library sites represent sources of pride for the communities they serve. Many attributed the variety of programming and services offered at their library as reasons behind this belief. Describing the development of the DeKalb Public Library, one patron said that, in reference to the addition of the makerspace, "For a lot of families and a lot of folks, it's been a true resource. Where the other library was so wonderful, and sweet, and really, but it couldn't begin to do what this is able to do." An Indian Trails non user noted that "We do spend a lot of time here, less time since they've [their children] gotten older, but we do. We spend a lot of time here, so we know it. We see it. The program book comes out, we see the programs, and we know it's a space that is really nice and it's nice to have."

For a Joliet user, their experience with the makerspace is even more profound: "And then, it's even on a deeper level for my community because I can be more productive because I'm not stressed in my community. And also, my kind of shows is like a ministry. It's an asset to the community because we are healing people, one laugh at a time." Another Joliet non user plainly stated: "Wow, we really have this? We have this amazing facility in our community. I think it really, it's been a source of pride. And for a lot of families and a lot of folks, it's been a true resource. Where the other library was so wonderful, and sweet, and really, but it couldn't begin to do what this is able to do. Just in programming, and then resource provision, it's collections and things like that." Another Indian Trails User discussed bragging about the library "I think it's great you're doing it, because I think the more communities that have makerspaces, the more they get to see what I'm always bragging about. My library. I mean, I literally would move from here. Anywhere I would go, I would check out the library. It's great."

Challenges to Impact and Value

Not surprisingly, participants also discussed challenges to how makerspaces have an effect on their lives and help libraries achieve excellence. These challenges are not necessarily unique to makerspaces but they provide insight into improving services in public libraries. Themes included adapting to changes, ensuring that the space is well-marketed, and defining the audience for the space.

Challenges: Adaptation to Change

The addition of makerspaces at many libraries has meant that staff have often had to adapt to what is often an environment of frequent change. Many makerspace staff members noted the importance of flexibility and a desire to learn new things to meet the needs of patrons. Just as collection development requires staff to be aware of what patrons are looking for with books, makerspace staff must adapt to meet the needs of users as the activities and materials with making change. As a staff member at the DeKalb makerspace said, "You've got to be okay with the ground always moving under your feet to some extent, not in a panicky way, but just understanding that you're not going to learn six things and then be able to do this job for the next 20 years."

Challenges: Visibility and Awareness of the Space

A common challenge across the different sites was the visibility and awareness of the makerspaces. A Joliet library staff member said: "I think the biggest problem is just trying to get people aware of it, trying to get people in the door or trying to break down those barriers of the unknown or what is a makerspace; people aren't familiar with the definition." Although makerspaces have been around in libraries for about ten years now, a lot of people are not familiar with the concept of makerspace and they may also not have an understanding of what contemporary libraries have to offer beyond books. An Indian Trails non-user mentioned "I think that a lot of people do not use the makerspace because they do not know it exists, what they are doing." Therefore, focus group participants empathized with the significance of promotion of their library makerspaces.

To increase the awareness and visibility of their makerspaces, librarians took different strategies from posting on website and social media (YouTube, Facebook, and TikTok, and more), to working with other staff across different parts of the library, to creating noticeable signs (e.g., flashy LED signs), to advertising on the fly. A user of the Joliet library described how

they first found out about the makerspace: "The way I found out about this center [the library makerspace] is from upstairs. I came in here to do something, and they really didn't know how to help me and sent me down here to be helped. It's like they go hand in hand, they work together." A Joliet librarian, whose makerspace is located in the basement, talked about active promotion in social media: "being in the basement is like, so not a lot of people know we're down here. So we try to really make a strong go on social media to kind of get the word out of all the cool stuff we have down here and it's totally free of charge."

Challenges: Audience Issues

While the library makerspaces serve different audience groups, focus group interviews reveal challenges of meeting the needs of every different demographic group, such as age. For example, a community member pointed out that their library makerspace offers programs for children, teens, and adults, but the makerspace does not have an appropriate program for their child who is 19 years old. A teen user indicated they could not participate in maker classes that are just open to adults and many other programs are geared toward younger children.

One aspect of the makerspaces addressed at several of the sites was their flexibility in response to COVID-19. As facilities closed during the pandemic, many makerspaces found different ways to continue offering services to patrons. This came in the form of virtual sessions in lieu of in-person lessons in the makerspace along with kits that patrons could take home. For some patrons, this has added flexibility to the makerspace by providing a way to continue making even when not in the space. As one Launch Pad user said in reference to their daughter's use of the space "Before the Covid, she would come and they would do activities here. Now, she comes once a month and she takes a bag home to do an activity."

Discussion - Impact and Value of Public Library Makerspaces

Assessing the impact and value of a service is often quite difficult. People have varying views of what makes something effective. Individual perceptions do not always indicate whether or not a service is worthwhile. Our data indicate that makerspaces provide both impact on stakeholders and value for libraries. The effects that focus group participants discussed included increased creativity in a variety of projects. They also felt that the atmosphere of the makerspace gave them the emotional safety to try new things. No one laughed at makerspace users' failures and there were trained staff available to help with any problems that appeared. The makerspace also had indirect effects in that it increased the use of the libraries' services overall and also

introduced the library to new audiences. Most notably, a direct effect was that participants were proud of their libraries for offering makerspace services. The spaces made the library "cooler" and many participants mentioned that the makerspace was instrumental in their perception of the library as a modern institution.

One of the most important aspects of the public library's mission is to provide access to information. This has been traditionally understood as information to media in the form of books, newspapers, and magazines, or what might be called "useful" information, often in the text- or print-based format. Over the years this mission has expanded to one of providing access to information more broadly in the form of other types of knowledge including entertainment. Most public libraries include movies, cds, and toys in their collection. In many respects, makerspaces are an expansion of this mission to provide access to information in the form of tools and services. This broadening of access leads a change in perception of the library as a whole and pride in the library.

It is also clear from the focus groups that makerspaces provide value by helping libraries achieve excellence. Some of this can be seen in the impact discussed above where the library is introduced to new audiences who might not otherwise know about their services. Part of a public library's mission is to provide access to information for all. Makerspaces provide a new type of information to patrons. The pooling of economic resources means that resources that might be too expensive for one person to purchase are available for all to use if they have a library card. In the past when books were scarce, libraries provided access to the books; before personal computers were not commonplace, many community members depended on the computers in their libraries. With the advancement of personal fabrication technologies nowadays, the evolution of makerspaces seems to be a convincing movement for libraries to offer broadening access to their community. Also, as libraries have supported other types of literacies (reading and writing; computer; information; technology and digital literacies), library makerspaces offer needed training and guidance for the tools, design, and prototyping. For poorer communities, access to these tools and training can be vital for participating in the knowledge economy or even for pursuing creativity with technologies for its own sake. If excellence means fulfilling the mission of the library then makerspaces are a major part of this achievement.

Another issue that stakeholders discussed was the difference between access and equity in the makerspaces. This was related to several different issues including whether or not

materials and tools were available and the accessibility of training. It is clear from participants that makerspaces provide access to tools and materials that are often too expensive for individuals to purchase on their own. However, issues of access and equity also greatly intersected with a lack of clarity of who the intended audience is for a makerspace in a public library. Is the intended audience children? Teenagers? Adults? There are also issues of staffing and capacity. Several participants noted that popular workshops often filled quickly. Some participants described themselves as non-users even though they sometimes attended workshops or used tools in the makerspaces. This implies that there is a preconceived idea of what it means to be a makerspaces user that public libraries will have to analyze and address.

Staffing of makerspaces was also a frequent topic. Not every library school program has courses that train students how to provide makerspace services as opposed to more standard services such as reference or reader's advisory. This means that finding well-trained staff for makerspaces, especially with a LIS degree, can be quite difficult. Staff participants discussed a wide array of paths that led them to the makerspaces. Providing well-trained staff is crucial for the success of makerspaces.

This leads to a need for a wider discussion on the place of makerspaces within public library services. This study clearly demonstrates the value of a makerspace to libraries. Should makerspaces be a regular integrated service like reference and interlibrary loan? Are they simply an add-on service? The participants in the focus groups supported the former point. If makerspaces become standard then LIS pre-service education will need to address this change with adequate training including courses that provide theory and practice related to makerspaces. This is something that public libraries will have to grapple with in the years to come.

Contribution to Existing Makerspace Literature

As addressed in the beginning of this report, the existing literature on makerspace or maker evaluation tends to focus on assessing individual outcomes, especially learning outcomes, as well as the effectiveness of a maker program or session according to the intended outcome. This project attempted to fill the gap by capturing the value and impacts of public library makerspaces on multiple levels– the individual, organizational, and community levels– from the perspectives of different stakeholders, including youth and adult users and non users, community partners, and library staff. As a result, the findings not only concurred with the existing knowledge that include a range of individual benefits and values of a public library makerspace

(e.g., skill building, increased access to tools, an opportunity to be creative, and more), but also revealed the value and impact of makerspaces on the libraries and the community as a whole.

On the organizational level, findings suggest having a makerspace has several values to the library. A makerspace appeals to and draws new library users, who may otherwise not find themselves in the library. Community members showed an enhanced sense of pride for their own library because of the presence of the makerspace and all its offerings. Notably, a library makerspace seemed to dramatically change people's perception of the library, beyond a traditional idea of the library, which equals books.

A library offers an asset to its surrounding local community. Our data from community partners/stakeholders revealed that this was based on audience awareness and clarity. For example, in one library entrepreneurs and artists were well aware that they could use the library makerspace for their businesses and often did so. In another makerspace, business owners were unsure of whether or not the library would be helpful with business needs. In this case, communicating directly with local business owners to find out their needs and evaluating whether or not the makerspace can meet them would be helpful. However, it is important to keep in mind that any particular makerspace may not be able to meet all the needs of a community.

The Social Role of Library Makerspaces

Koh, Abbas, and Willett (2019) discussed the social roles that library makerspaces assume in the contemporary society, based on the ALA (American Library Association) core values of librarianship, such as access, learning, knowledge creation, and equity and diversity, and how library makerspaces promote these values with and through their community. They suggested "grounded in the core value of librarianship, these concepts are further pronounced in library makerspaces and required a new understanding of the role of libraries in the contemporary knowledge society" (p. 20). Findings in this project confirms this perspective.

A large number of focus group participants point out that access is one of the greatest benefits they found in a library makerspace. While a traditional view of access in libraries tends to be limited to providing print resources (i.e., books and other written materials), a library makerspace expands the notion of access to provide information in a wide variety of forms, including access to tangible, physical materials, hands-on programs and services that facilitate intellectual access, and social access to people and experts.

Considering the often-raised critique of who participates in the general maker movement (e.g., white, middle-class males), one of the unique findings from this research conducted in public library makerspaces is that several people perceived "a makerspace is for kids". Although this perception might creates a challenge for librarians to invite different user groups to their makerspace, the finding confirms previous literature that suggest the maker movement engage more people who may not self-identify as makers, including children, women, and families, as makerspaces spread to nonprofit and community organizations such as libraries (Koh, Abbas, & Willett, 2019; Halverson & Sheridan, 2014).

Limitations

As noted in the Methodology section, we conducted our focus groups at sites, all located in the midwest, that had a makerspace at their site. In terms of assessing value and impact, it might be useful for future studies to consider conducting focus groups that include sites where a makerspace isn't present. There are a number of factors that might explain why a library site might not have a makerspace, including but not limited to budgetary concerns and space issues at a site. Focus groups at these sites would offer a useful contrast to the participants we recruited for our site as it could provide insight into whether or not makerspaces are a service that is in demand at libraries and what limitations might affect the creation of them.

It would also be productive to evaluate perceptions of non-users at sites who have little to no knowledge of the makerspace at their library. The recruiting form participants completed prior to the focus groups defined non-users as those who were aware of the space's existence at their library but didn't use it. This meant that many of our non-user participants ended up being patrons whose family members or friends used the space, giving them some level of knowledge and positive perceptions of the space. This criteria is important to note as we might have missed out on patrons who might have been unaware of the space. [noted earlier in data analysis] We only had one non-user group composed entirely of patrons who weren't familiar with the space, and their opinions on its value differed significantly from other non-user participants, highlighting the importance of increasing the variance in non-user participants for future studies.

Framework for Toolkit

This exploratory project helped provide the tools needed for the development of an initial framework and future toolkit for measuring the impact and value of public library makerspaces. The framework is discussed below and provides factors and questions for evaluation based on

the findings above. As a reminder, for the purposes of this framework, **impact** refers to the **effect** on the lives of stakeholders. **Value** centers on how makerspaces have helped libraries **achieve excellence** as organizations and partners for effective community development. Analysis of each factor will provide an individual library with a better understanding of the impact and value their makerspace is providing for their community.

Evaluation Factors

I.   **Impact - Effect on Stakeholders**

    1. **Access** - Accessibility in makerspaces is defined through several different factors including the availability of tools and training, an atmosphere of emotional safety, and being an inclusive space for people with different abilities.

        i.   What tools does the makerspace provide, and why?

        ii.   What sort of training is given along with the tools?

        iii.   What format is used to provide information?

        iv.   Does the makerspace allow for failure? Are staff equipped to respond to failure?

        v.   Are the physical and digital spaces of the makerspace ADA (Americans with Disabilities Act) compliant and reflect universal design principles? (University of Washington, 2015)

    2. **Audience -** Given the policy statement, makerspaces should clarify the audience that they serve. It may be impossible to serve all of the people in the community or even all of the patrons at the library.

        i.   Which audiences are you trying to reach?

        ii.   Which audiences are excluded?

        iii.   Do the tools and programs provided by the makerspace match the audience needs and the community?

II.   **Value - Achieving Excellence**

    1. **Policy Statement -**Policy statements are similar to mission statements because they describe why the institution provides a particular service. Makerspaces should have a departmental mission statement as the policy statement and should reflect the outlook of the library mission statement and describe the overall

purpose of the department. Regulations and procedures should flow from the departmental mission statement. Most importantly, the audience for the makerspace should be defined in the statement, with an acknowledgement that the audience and their needs are likely to change over time. This audience might be different from the audience for the library as a whole.

iDoes the makerspace have a policy statement?

- iv. Are the services of the makerspace clearly described?
- v. Does the space have a collection policy for tools?
- vi. Are there guidelines for programs and trainings in the space?
- vii. Does the policy include the intended audience? Are the intended audience included in the policy development and modification processes?
- viii. Are there policies and procedures for community members to request new tools or request accessibility accommodation?
- ix. How do community members provide feedback?

2. **Training** - Well-trained staff are key to a makerspaces that provides value and impact for the community. Staff must be familiar with the tools themselves, have skills to teach others how to use the tools to complete their project, and able to work with people with a range of backgrounds respectfully

- x. Who are the staff and what are their skill sets?
- xi. How are they trained? Does the training include pedagogy?
- xii. Do they approach users of the space with empathy?
- xiii. Are they provided continued professional development?

3. **Communication/Marketing -** Many libraries have a "build it and they will come" attitude to services. Community members who are not regular library users often do not know anything about the broad variety of services that public libraries offer. Given that makerspaces are significant investments, it is imperative that libraries communicate to all stakeholders the tools and programs that they offer

- i. How are you communicating the existence of the makerspace to the community?

    ii.   How are programs marketed?

   iii.   Are there audiences who do not receive your marketing materials? How might you reach them?

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Appendix A: Focus Group Protocol

<u>**Questions**</u>

Makerspace Users

Perception of Makerspaces

1. What was your most recent experience with the makerspace or its programs?
2. In what ways, if any, does the makerspace contribute to your own life?
3. What do you see as the purpose of the library makerspace?

Impact

1. In what ways, if any, does the makerspace contribute to the local community as a whole, or the local community of making?
2. If there are contributions, how are they unique to the makerspace?
3. In what ways, if any, has the makerspace changed your perception of the library?

Value

1. [If time permits] Does the library's makerspace increase or decrease the library's worth to you as a maker? How would you characterize the value added by the makerspace to the library?
2. What might be lost if the library did not have a makerspace? Would anything be gained?

Anything else you would like to let us know?

Staff

Perception of Makerspaces

1. What do you see as the purpose of the library makerspace?

2. Is this purpose the same or different from what was originally intended when you built the makerspace?

3. In what ways, if any, does the makerspace contribute to the library's mission?

Impact

1. In what ways, if any, has the makerspace had an impact on your specific role at the library?

2. In what ways, if any, has the makerspace contributed to your personal and professional life as a librarian?

3. Have you heard of any ways in which the makerspace has changed your patrons' perception of the library?

Value

1. Does the library's makerspace increase or decrease the library's worth to you as someone who works at the library? How would you describe the value?

2. Does the makerspace increase or decrease the library's worth for your patrons? How would you describe the value?

3. What might be lost if the library did not have a makerspace? Would anything be gained?

Anything else you would like to let us know?

Non-Users

Perception of Makerspaces

1. What is your familiarity with the library makerspace?

2. What do you see as the purpose of the library makerspace? Why do you think this library makerspace exist?

3. Do you know anyone who has used the library makerspace? If so, what did they do there?

4. What are some reasons why you have not used the makerspace?

5. Some possible reasons might be you didn't know about it or how to access it. Maybe that you wouldn't be welcome or not interested in making.

6. What are some reasons why you have not used the makerspace?

    a. Include some probes in the script after the initial answers to elicit more specific answers. These might focus on "lack of awareness, barriers to access, sense of exclusion, lack of interest in making" (Teasdale), or other issues

Impact

1. Do you have a sense of the level of interest in making in the geographic community? Are there making groups in the area? Are there other makerspaces in the area?

2. In what ways, if any, has the presence of a makerspace changed your perception of the library?

3. Do you have a sense if and how the library makerspace contributes to the local community as a whole or the local community of making?

Value

1. What might be lost if the library did not have a makerspace? Would anything be gained?

Anything else you would like to let us know?

Teens

Perception of Makerspaces

1. Can you describe your most recent experience with the makerspace or its programs?

2. In what ways, if any, does the makerspace contribute to your own life? (OR how do you use this space, and what do you like most about the space and its programs? How does it help you? Or what do you not like it?)

3. Why do you think this library makerspace exist? How would you describe its purpose?

Impact

1. How many other makers and designers do you know about in the community? Tell us about the places you or others you know engage in making in the local community.

2. What, from your perspective, do you see this specific library makerspace's contribution to the community of makers? If there are contributions, how are they unique to the makerspace?

3.In what ways, if any, has the makerspace changed your perception of the library?

Value

3. [If time permits] Does the library's makerspace increase or decrease the library's worth to you as a maker? How would you characterize/describe the value?

4. What might be lost if the library did not have a makerspace? Would anything be gained?

Anything else you would like to let us know?

Citation Information

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