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## Making Space for Makerspaces

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## Making Space for Makerspaces

### Abstract

Makerspaces promote equity, diversity and creativity, and while different for each organization, can build peer-to-peer relationships and amplify learning by establishing shared, safe spaces where authentic experiences happen, allowing libraries to define the culture of their communities. The authors believe communities that learn and make together, stay and grow together.

### Keywords

makerspaces

Libraries in the 21st century may seem like a stark departure from the musty buildings of centuries past, but in reality, their improved accessibility and functionality are paving the way for a new enlightenment, despite many misinformed pessimists predicting their demise. According to McArthur and Graham (2015), “libraries around the world are faced with the challenge that people think...in the traditional sense of an information storehouse rather than envisioning it as a more contemporary and networked information hub” (p. 11). According to Nichols, Melo, and Dewland (2017), “driving the evolution of the library is the maker movement,” which seeks to provide equity of access to information, tools, and services to facilitate creativity and collaboration in the library (p. 364). Libraries as makerspaces are cementing their role as part of the future of upgrading libraries for patrons, and one of the means by which libraries stay relevant in a period of unprecedented digital progress. Makerspaces are not only the ideal option when considering space redesign, but they meet a variety of user needs and emphasize accessibility and functionality.

In response to the need to redefine library spaces, libraries have transitioned from repositories of knowledge to facilitators of knowledge, creativity, collaboration, and innovation. Current learning space trends seek to provide “more varied spaces to accommodate and support the differing needs and preferences of different communities of learners” (Turner, Welch, and Reynolds, 2013, p. 232). Attempting to accommodate the needs of users, along with the continuing advancement of technology, library learning spaces have changed dramatically. This movement has led to a re-examination of the Learning Commons. To be clear, this is nothing new to the library. Sullivan (2010) notes that originally, Learning Commons were geared toward accessing print and digital resources in order to discover new avenues of knowledge. That trend has progressed from discovery to creation through dynamic avenues including group interaction and socialization. With more emphasis on collaboration and social networking, library spaces have evolved to equip users to both consume and produce new information (Sinclair, 2007). A white paper assembled by the Partnership for 21st Century Learning Skills (2009) argues that libraries must not remain focused merely on “carrying out [their] traditional roles of bringing

information resources to learners” (Ross, Unrue, & Johnson, 2009). Rather, they must house large spaces to accommodate collaborative groups, design their commons with flexible seating, and provide means of connecting members to professionals outside the building. In other words, libraries must create an environment that allows patrons to create knowledge, not merely have librarians disseminate it. Modern libraries seeking to foster these environments are tasked with creating “physical spaces which compel people to enter” the library (McArthur & Graham, 2015, p. 11). One particular way of redefining library space to satisfy users, meet their increasingly diverse needs, and encourage use of the library is the advent of makerspaces.

Indeed, Colegrove (2013) states that libraries have functioned as a kind of makerspace since their inception; only recently have libraries facilitated dedicated, specific spaces. The movement serves to revitalize the momentum of artists and makers, and makerspaces can include a myriad of learning and making opportunities not limited to STEM/STEAM, 3D printing, fiber arts, visual arts, and woodworking. Makerspaces provide various populations with opportunities to create and gain new knowledge through hands-on, iterative experience (Filar Williams & Folkman, 2017). Children and teens may use the spaces for creative problem-solving in activities like robotics, as well as fostering new friendships after gaining a newfound sense of belonging (Brady, Salas, Nuriddin, Rodgers, & Subramaniam, 2014). Unsurprisingly, adults often harbor these same feelings after participating in makerspace activities themselves. Tangentially, underrepresented populations are especially well-served by the makerspace movement. By incorporating adaptive technologies in makerspaces, people with disabilities can participate with others more equitably. Makerspaces may also help LGBTQ patrons express themselves freely, creating a safe space to gather (Moorefield-Lang & Kitzie, 2018). Additionally, ELL students, working side-by-side with native speakers, can build confidence in their creative skills, as well as their language learning (Murph, 2018). Possibilities for what makerspaces in libraries can become, and whom they can serve, are only contingent on a staff’s imagination and resources.

An organization considering implementing a makerspace will face pushback on several fronts. First, funding and space allocation for such a project might seem unattainable. Second, staff can become overwhelmed or feel unqualified to work in a new space. They are asked to adopt a fearless attitude, become vulnerable to failure, accept aid and training from peers and volunteers, build connections, and dive into new tools and technologies (Moorefield-Lang, 2015). Barniskis (2016) writes that “the magic cannot happen without librarians willing to offer innovative services, ensuring that all have access to them, and connecting likely users to the tools and services” (p. 121). Third, the shift to a making culture requires ongoing education for current and future information professionals as well as the communities they serve.

Libraries interested in makerspaces certainly have a complex set of barriers to consider when contemplating their implementation and maintenance. What can often complicate matters is the availability of other workable options, like learning labs and Learning Commons spaces, which can be packaged as cheaper routes to the same result: better patron service. Kvenild, Shepherd, Smith, and Thielk (2017) discuss the University of Wyoming’s Charter School’s portable learning lab as an alternative to “a dedicated makerspace...because the collection budget was more robust than the equipment budget,” so they “decided to purchase STEM kits and materials with collection funds and circulate them,” (Kvenild et al, 2017, p.63). Though, portable STEM kits and computer labs are not the only popular choice.

Ryan Steele, a passionate principal in Texas, used his resources to convert their school library into a Learning Commons, which now contains brightly painted walls; updated, inviting furniture; longer tables and workbenches; computer/camera stations with green screens, an alphabet wall and Lego™ wall, and new signage (Steele, 2015). The distinction here is that while some libraries invest a larger portion of their budgets into furnishing an all-encompassing makerspace, others spend smaller sums on a more diverse collection of resources. Though many flexible options exist for the discerning library staff, makerspaces display their superiority more so than Learning Commons or portable tech kits, as the

options they typically include are timeless and pragmatic in nature. Similarly, Lutes (2016) writes that if libraries are preparing patrons for the future, the impact is priceless, while Filar Williams and Folkman (2017) assert that for libraries to transform and remain relevant, library stakeholders must rethink the library culture as well as what job skills are needed to be successful in a maker environment.

While there isn't a one-size-fits-all recipe for adding a makerspace to an information center, it is an overwhelmingly effective way to provide organizations with endless opportunities to reach diverse audiences and form lasting partnerships. Makerspaces create shared spaces and experiences where authentic learning happens (digital or not) and are definitively how libraries stay current by defining the culture of their communities. A successful makerspace is not built around trendy equipment or amassed supplies irrelevant to its audience. Instead, it is a space where a library can focus on what it does best: intellectual curiosity, discourse, and ideation (Mathuews & Harper, 2018). Howley (2016) writes that we live in a world full of mass-produced, identical objects that will end up in landfills, and that what is truly desired by people in a society our libraries have in spades with experiences that convey deep meaning, story, and insight. Makerspaces build peer-to-peer relationships and amplify learning in a community. Therefore, it is our position that a makerspace allows a community to learn and make together, and thereby stay (and grow) together.

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