

INFO 200 Blog 04: Summary of “Learning in the Making,” an article from the Harvard Educational Review

📅 October 21, 2019 (<https://ischoolblogs.sjsu.edu/info/musick/2019/10/21/info-200-blog-04-summary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/>) 👤 Dani Musick
(<https://ischoolblogs.sjsu.edu/info/musick/author/djmusick/>)

Sheridan, K., Halverson, E., Litts, B., Brahms, L., Jacobs-Priebe, L., & Owens, T. (2014). Learning in the making: A comparative case study of three makerspaces. *Harvard educational review*, 84(4), 505-531. doi: 10.17763/haer.84.4.brr34733723j648u

The authors of this article are scholars—primarily professors and program directors (<https://www.learninginthemaking.org/learning-in-the-making>)—in the areas of learning science, digital media, and literacy. They draw on expertise from research universities and the Library of Congress. Most of their research focuses on learning environment design, creativity in learning, learning through making, and the intersection of learning, identity, technology, and design.

Their study explores how makerspaces function as learning environments, especially in regards to user interaction with the makerspace and the other makers in the space. It examines three makerspaces: a member-based space (<http://www.sector67.org/blog/>) (by adults, for adults), a community space (<http://www.uixdetroit.com/projects/mt-elliott.aspx>) (with limited resources), and a space in a children’s museum (<https://pittsburghkids.org/exhibits/makeshop>) (focused on families).

Their research was conducted as a comparative case study, using three different makerspaces to survey a variety of uses, needs, and behaviors. The goal was to develop a fundamental understanding of each makerspace, compare against the other spaces, and begin to understand how makerspaces generally function as learning environments. In choosing spaces to study, the authors looked for spaces founded around the same time the self-identified as makerspaces. They collected data for about one academic year (2012-2013) via field observations, interviews, and analysis of blogs, online community discussions, and maker documentation. Due to the diversity of the three spaces, the authors focused on broad categories that each space had in common: space, tools, materials, participants, and activities.

They found that diverse learning arrangements “often informally evolve to support the projects and goals of the participants” (Sheridan, et al., 2014, p. 521). This causes the learning to become iterative and increasingly complex as makers learn to use the tools in the space and continuously develop the concept for their project. Makers tended to push beyond their initial success (or failure) to continue optimizing their product and “find new problems building on what they’ve learned” (p. 526). Sharing and collaboration was a major component of all the spaces: makers wanted to share their techniques and their final products. In the community space, it was an explicit rule that makers should share what they learned). Some projects in the community space and the member-based space were truly collaborative in that the product was a shared design. The member-based space demonstrated “how a community of makers with deep expertise uses that knowledge to solve problems and design products, how these makers engage in design and making practices that extend and deepen that knowledge, and how they bring novices into their community” (p. 525). This was also found, to some extent, in the community and museum spaces: inclusivity and bringing new people into the space to learn was common practice. The study also discovered that makerspaces successfully bring together disciplines normally kept separate, which allowed for more authentic learning and natural flow of the design process. Sheridan, et al. (2014) noted that “these spaces value the *process* involved in making—in tinkering, in figuring things out, in playing with materials and tools” (p. 528).

The maker community seems well represented by this study. The making process aligns with the information seeking process: initial curiosity leads to discovery and exploration (in the form of play or trial and error); this leads to the actual design and creation of a product, then an elaboration or extension of knowledge to work beyond the original scope of the project. In other words, an information need (gap in knowledge) leads to active seeking or active browsing, and that information gathering leads to productive use of the information, including a desire to continue learning. The skills and knowledge makers acquire through their research and tinkering become the tools to design, create, collaborate, and share. Their skills and products become information from which other makers learn.

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5 thoughts on “INFO 200 Blog 04: Summary of “Learning in the Making,” an article from the Harvard Educational Review”



Michael Stephens (<https://ischoolblogs.sjsu.edu/info/members/michael/>) says:

October 25, 2019 at 9:25 am (<https://ischoolblogs.sjsu.edu/info/musick/2019/10/21/info-200-blog-04-summary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/#comment-14>) Edit (<https://ischoolblogs.sjsu.edu/info/musick/wp-admin/comment.php?action=editcomment&c=14>)

This looks good and will be useful in your paper. I think you have discerned some representative info needs from this study.

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Michael Ulrich (<https://ischoolblogs.sjsu.edu/info/members/mjulrich/>) says:

October 29, 2019 at 2:08 pm (<https://ischoolblogs.sjsu.edu/info/musick/2019/10/21/info-200-blog-04-summary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/#comment-15>) Edit (<https://ischoolblogs.sjsu.edu/info/musick/wp-admin/comment.php?action=editcomment&c=15>)

Hi Dani,

It's nice to get this window onto makerspaces, since I'm curious about their potential to increase patron engagement in libraries. The phrase “desire to continue learning” struck me, and it echoes one of the arguments in the book I reviewed, Crawford's *The World Beyond Your Head* — basically, that learning a skilled practice can bring the learner/maker into a relationship with the world of gradually increasing facility and power. (I think he also mentions Nietzsche's famous quote about happiness being the feeling of one's powers increasing). And this continued learning can be stimulating in a more substantial way than, say, pushing buttons on digital devices and getting results as if by magic.

I think one of the challenges for libraries in supporting this kind of continued learning in the makerspace context is to create programs that are more than just one-offs, which is hard since most library program rooms are multi-purpose, and equipment must be set up and broken down at the beginning and end of each event. That's quite different from one of the makerspaces I'm most familiar with, San Francisco's Bike Kitchen, a dedicated volunteer-run bike shop where users can come and work on their bikes, learning bike maintenance no matter their level of experience. The bike stands, the tools, the used parts are always there, set up, and ready to go, and the space is used only for that.

I look forward to following the rest of your research!

Michael

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Dani Musick (<https://ischoolblogs.sjsu.edu/info/members/djmusick/>) says:

November 16, 2019 at 7:57 pm (<https://ischoolblogs.sjsu.edu/info/musick/2019/10/21/info-200-blog-04-summary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/#comment-17>) Edit (<https://ischoolblogs.sjsu.edu/info/musick/wp-admin/comment.php?action=editcomment&c=17>)

I hadn't thought about makerspaces increasing patron engagement. I wonder if there are any studies yet about usage of makerspace technologies or engagement with programming. It would make sense, especially given that some maker tools are pretty expensive to own and can be pretty daunting to try and purchase if you haven't tinkered with it before. How libraries fund regular maker programs is a mystery to me, considering how many consumable products can be necessary for projects.

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The Bike Kitchen sounds like a fantastic space! I bet there is a lot of teaching and learning happening there.

mary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/?replytocom=17#respond)



Andrew Settlemyre says:

November 3, 2019 at 3:42 pm (<https://ischoolblogs.sjsu.edu/info/music/2019/10/21/info-200-blog-04-summary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/#comment-16>) Edit (<https://ischoolblogs.sjsu.edu/info/music/wp-admin/comment.php?action=editcomment&c=16>)

This blog entry is very interesting in that it addresses makerspace and the power they create. Reading about how there are different makerspaces for people makes sense to me as the space would have to match the needs of the person who creates. I especially like the part where you described the different disciplines together and the learning which takes place.

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Dani Musick (<https://ischoolblogs.sjsu.edu/info/members/djmusick/>) says:

November 16, 2019 at 8:00 pm (<https://ischoolblogs.sjsu.edu/info/music/2019/10/21/info-200-blog-04-summary-of-learning-in-the-making-an-article-from-the-harvard-educational-review/#comment-18>) Edit (<https://ischoolblogs.sjsu.edu/info/music/wp-admin/comment.php?action=editcomment&c=18>)

I think the multidisciplinary nature of makerspaces is their greatest asset. So many projects require multiple skills. In one of the makerspaces in this study, a girl working on a fiber arts project saw someone else working with LED wiring, and after she tinkered with the LEDs, she came up with a plan to include them in her project. I'm not sure that would happen in most other environments!

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