

## Low-Cost High-Impact Makerspaces at the Rutgers University Art Library

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# Low-Cost High-Impact Makerspaces at the Rutgers University Art Library

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Megan Lotts, *Rutgers University*

**Abstract**—There has been a resurgence of the do-it-yourself movement in the twenty-first century. As a result, libraries are becoming laboratories in which students learn to think, explore, and meet other like-minded individuals outside the classroom. Although makerspaces in public libraries have received much attention, many academic, museum, and special libraries are seeing the benefits as well. Makerspaces provide opportunities for self-driven hands-on learning that encourages creative thinking and builds problem-solving skills. This article describes the benefits of makerspaces for art libraries, highlights art libraries where “making” is happening, and provides practical examples of ways libraries can create high-impact low-cost makerspaces that engage and educate their communities.

## INTRODUCTION

The do-it-yourself (DIY) movement that recently has increased in popularity has influenced the rise of the making culture in libraries of all types.<sup>1</sup> There has been little scholarly research on makerspaces in art libraries, but there is evidence that the maker movement is flourishing there as well. This case study demonstrates the ways the Rutgers University Art Library has benefited from pop-up makerspaces. The Rutgers Art Library can be considered a laboratory; it is a space beyond the classroom where students can think, explore, and meet other like-minded individuals in the arts. It also serves as a common space for members of the Rutgers and local art communities to engage, learn more about each other’s research, and connect with the art librarian.

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1. Erin Fisher, “Makerspaces Move into Academic Libraries,” *ACRL TechConnect Blog*, November 28, 2012, <http://acrl.org/techconnect/?p=2340>.

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## WHAT IS A MAKERSPACE?

There is no formal definition of a makerspace. “Library as Incubator,” a project that highlights the ways in which artists and libraries can work together, uses the following description: “Makerspaces are collaborative learning environments where people come together to share materials and learn new skills. . . . Makerspaces are not necessarily born out of a specific set of materials or spaces, but rather a mindset of community partnership, collaboration, and creation.”<sup>2</sup> Justin Hoenke, director at the Benson Memorial Library (Titusville, Pennsylvania), suggests that for libraries to get into the maker movement, all they need is a roll of duct tape and some raw materials.<sup>3</sup> Tod Colegrove, head of the DeLaMare Library at the University of Nevada, sees making as a way to deepen engagement with science and engineering as well as art and design.<sup>4</sup> He notes that makerspaces share aspects of home economics, art and design, and science laboratories.<sup>5</sup> Colegrove sees today’s libraries as “incubators, collaborators, the modern equivalent of the seventeenth-century coffee house: part information maker, part knowledge warehouse, with some workshop thrown in for good measure.”<sup>6</sup> Makerspaces can draw on concepts from a variety of disciplines. Colegrove’s comparison highlights the ideas of social learning and practical experience that are becoming increasingly important in present-day libraries.<sup>7</sup>

In her post “The 4 Flavors of Makerspaces,” Elyssa Kroski, director of Information Technology at the New York Law Institute, notes that these spaces are sometimes described as fablabs, hackerspaces, or TechShops. Fablabs are a type of makerspace that focuses on providing access to electronic equipment, such as laser cutters, routers, and milling machines. Hackerspaces are places where computer programmers congregate. TechShops are a chain of for-profit spaces that charge a membership fee to use their high tech industrial tools.<sup>8</sup> At Rutgers University, we have seen that pop-up makerspaces give users the opportunity to think with their hands, stretch their creative muscles, and hone their critical thinking and problem-solving skills. Making activities encourage participants to think outside of their skill set and collaborate with like-minded people. These are places where experimentation and failure are embraced.

## MAKING IN ART LIBRARIES

There has been a moderate amount of scholarly research on making and makerspaces in academic and public libraries, but very little exists on makerspaces in art libraries.

2. Buffy J. Hamilton, “Makerspaces, Participatory Learning, and Libraries,” *The Unquiet Librarian*, June 28, 2012, <https://theunquietlibrarian.wordpress.com/2012/06/28/makerspaces-participatory-learning-and-libraries/>.

3. Troy Swanson, “Your Curriculum Is Not about 3D Printers or Zombies,” *Tame the Web*, April 17, 2014, <http://tametheweb.com/2014/04/17/your-curriculum-is-not-about-3d-printers-or-zombies-by-ttw-contributor-troy-swanson/>.

4. Tod Colegrove, “Editorial Board Thoughts: Libraries as Makerspaces,” *Information Technology @ Libraries* 32, no.1 (March 2013): 2.

5. Colegrove, 2.

6. Colegrove, 2.

7. Megan Lotts, “Lego® Play: Implementing a Culture of Creativity & Making in the Academic Library,” *ACRL Conference Proceedings* (2015): 409, <https://rucore.libraries.rutgers.edu/rutgers-lib/46267/>.

8. Elyssa Kroski, “The 4 Flavors of Makerspaces,” OEDb: Open Education Database, <http://oedb.org/ilibrarian/4-flavors-makerspaces/>.

This may be due to the newness of the phenomenon. Tara Radniecki and Chrissy Klenke note that the literature on academic makerspaces often focuses on justification and implementation of these spaces, rather than skill and literacy development.<sup>9</sup> Candice Benjes-Small et al. also found a lack of scholarly research and note that most of their findings were case studies of early adopters of makerspaces.<sup>10</sup> In 2016 this author's article in *Journal of Library Administration*<sup>11</sup> included a literature review of makerspaces in academic libraries, examined what constitutes a makerspace, and explored the types of resources that can be found in makerspaces. The article also discussed the ideas of pop-up making and LEGO® play as a stimulating, affordable, and ephemeral way to connect with students, faculty, and staff. Greg Landgraf notes that libraries have always had making-centric programs and activities, but what is different now is that the perception of these programs is changing and expanding.<sup>12</sup> In lieu of scholarly research, there is a wealth of knowledge about makerspaces in trade journals, books, social media sites, blogs, and many useful online sources.

There is evidence that making events are taking place in art libraries. In 2013, a question was posted to the ARLIS-L listserv (Art Libraries Society of North America) asking for advice on how to help students de-stress during finals with activities that were cheap, easy, and non-messy. Responses included suggestions for making activities such as providing baskets of yarn and knitting needles, box-making, a “confess your stress” selfie photo booth, coloring, graffiti walls, jigsaw puzzles, LEGO, origami, pumpkin decorating, and snowflake making.<sup>13</sup> In January 2017, this author posted queries on ARLIS-L and on the ACRL-ARTS listserv (Arts Section of the Association of College & Research Libraries), about makerspaces and making events happening in art libraries. A handful of responses were received, four of which related to art libraries or art librarians. Ashley Booth, a public art librarian from Saskatoon, Canada, is exploring pop-up making projects including linocut lessons, music clubs, zine nights, and beading circles; she is also working on a sketch book project. At the Philadelphia Free Public Library, Karen Lightner, head of the Art and Literature Departments, reported multiple making events including book-making workshops, origami, and snowflake making. Heather Slania, director of the Decker Library at the Maryland Institute College of Art, stated that her library has a recreation station that offers toothpicks, pipe cleaners, fabric, paper, and googly eyes. She added that her library is located at

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9. Tara Radniecki and Chrissy Klenke, “Makerspaces: Supporting New Literacies & Skills” (paper presented at the Association of College & Research Libraries conference, Baltimore, MD, March 22–25, 2017), 15–22, <http://www.ala.org/acrl/sites/ala.org/acrl/files/content/conferences/confsandpreconfs/2017/AcademicLibraryMakerspaces.pdf>.

10. Candice Benjes-Small, Liz McGlynn Bellamy, Jennifer Resor-Whicker, and Lisa Vassady, “Makerspace or Waste of Space: Charting a Course for Successful Academic Library Makerspaces” (paper presented at the Association of College & Research Libraries conference, Baltimore, MD, March 22–25, 2017), 428–36, <http://www.ala.org/acrl/sites/ala.org/acrl/files/content/conferences/confsandpreconfs/2017/MakerspaceorWasteofSpace.pdf>.

11. Megan Lotts, “Playing with LEGO, Learning about the Library and ‘Making’ Campus Connections: The Rutgers Art Library Lego Playing Station, Part One,” *Journal of Library Administration* 56, no. 4 (2016): 359.

12. Greg Landgraf, “Making Room for Informal Learning: Librarians Discuss the Future of Makerspaces,” *American Libraries* 46, no. 3/4 (2015): 32.

13. Megan Lotts, “Implementing a Culture of Creativity: Pop Up Making Spaces and Participating Events in Academic Libraries,” *College & Research Libraries News* 76, no. 2 (2015): 72.

an art and design college, so the entire campus is a makerspace. The Columbia College Library in Chicago is exploring the idea of making with its project Aesthetics of Research that looks at the role of collections in the artistic process, community building, and resource-sharing in the arts. This project includes art vending machines, zine swaps, and “The Library Sketchbook Project,” a collection of volumes scattered throughout the library to collect and display student work.<sup>14</sup> A few respondents said they had been thinking about incorporating pop-up making into their libraries and would like to know more, and others shared making experiences happening in non-art libraries.

At the 2016 ARLIS/NA + VRA joint conference in Seattle, Washington, Marisa Taichman, visual resources librarian at Cornell University, moderated the panel “Do It, Make It: Current Initiatives and Advice on Creating a Makerspace in Academic Libraries and Visual Resources Centers.” This panel included Cynthia Frank, architecture and visual resource librarian at University of Maryland; Chris Strasbaugh, digital resource archivist and curator in the Knowlton School of Architecture at Ohio State University; and this author, art librarian at Rutgers University. Strasbaugh’s presentation provided information about the basics of making, where and how it is happening, and the benefits of making.<sup>15</sup> Frank’s presentation addressed the John and Stella Graves Makerspace at the McKeldin Library and included images and information about a 3D printing project and collaboration with a history of architecture course.<sup>16</sup> This author spoke about the history of making in libraries, provided a brief literature review of existing research on making in academic libraries, and shared information about four making projects happening at the Rutgers University Libraries: Holiday Card Making, Edible Books, Polynomiography, and the Rutgers Art Library LEGO Playing Station.<sup>17</sup> At the ARLIS/NA conferences in 2016 and 2017, the special interest group Stimulating Creativity in Practice (ARLIS-SCIP) hosted two card making pop-up making spaces. The members of ARLIS-SCIP donated all the materials, stamps, and time to create this makerspace, resulting in hundreds of cards being made and sent. Figure 1 is an image from the 2016 SCIP pop-up makerspace. At the New Orleans conference (2017) pop-up makerspace, participants also had an opportunity to make a card to send to their local politicians in support of continued funding for the National Endowment for the Arts, National Endowments for the Humanities, and Institute of Museum and Library Services.

On August 2, 2016, the ARLIS/NA Art and Design School Library Division held an afternoon chat titled “Makerspaces and Alternate Modes of Outreach and Engage-

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14. Laura Damon-Moore, “Aesthetics of Research at Columbia College Library,” *The Library as Incubator Project*, January 5, 2017, <http://www.libraryasincubatorproject.org/?p=17495>.

15. Chris Strasbaugh, “Introduction to Makerspaces” (presentation given at ARLIS/NA + VRA Joint Conference, Seattle, Washington, March 10, 2016), <https://www.arlisna.org/images/conferences/2016/so8p03-Strasbaugh-Sterkenburg.pdf>.

16. Cynthia Frank, “University of Maryland’s Makerspace; 3D Printing in an Architecture History Class” (presentation given at ARLIS/NA + VRA Joint Conference, Seattle, Washington, March 10, 2016), <https://www.arlisna.org/images/conferences/2016/so8p01-Frank.pdf>.

17. Megan Lotts, “Implementing a Culture of Creativity” (presentation given at ARLIS/NA + VRA Joint Conference, Seattle, Washington, March 10, 2016), <https://www.arlisna.org/images/conferences/2016/so8p02-Lotts.pdf>.



**Figure 1.** 2016 annual ARLIS/NA conference pop-up makerspace, Seattle, Washington. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

ment,”<sup>18</sup> which generated several great ideas. Stephanie Grimm, art and art history librarian at George Mason University Libraries, noted that while her library does not have a dedicated makerspace, they host workshops that encourage creation. Laura MacDonald, from the San Francisco Art Institute, observed that makerspaces are a way to bring the studio into the library. Multiple art librarians discussed the use of pop-up makerspaces, including activities such as card-making, coloring, creating digital art, LEGO, mini-comic workshops, and the use of whiteboards. Tabitha Lewis from Brock University noted that their makerspaces were focused on technology resources like 3D printing and scanning, and that they hoped to collaborate with a group of students on developing a 3D model of the campus.

There are a few high-tech permanent makerspaces that can be found in academic art-related libraries. The University of Michigan 3D lab is in the Art, Architecture, and Engineering Library and offers services such as 3D printing, 3D scanning, virtual reality, and motion capture. Although not part of the library but located in the same building, the Columbia University Output Shop is part of the Graduate School of Architecture, Planning, and Preservation and offers 3D printing, laser cutting, and design-jet plotters. Considering the funding, staff, and space requirements of permanent makerspaces, however, it is not surprising that many art libraries in the business of making are using pop-up makerspaces and making workshops to educate their communities. The Rutgers Art Library also has had to consider whether it should

<sup>18</sup>. Chat transcript of “Makerspaces and Alternate Modes of Outreach and Engagement,” ARLIS/NA Art and Design School Library Division, August 2, 2016, [https://artdesschlib.files.wordpress.com/2016/08/arlisna\\_adsl\\_division\\_afternoon\\_chat\\_log.pdf](https://artdesschlib.files.wordpress.com/2016/08/arlisna_adsl_division_afternoon_chat_log.pdf).

compete with the campus makerspace, which is a well-funded space that is open to all Rutgers students, faculty, and staff, regardless of their departmental affiliation. In an ideal world, the Art Library would partner with the Rutgers campus makerspace to produce programming that reaches wider audiences and benefits both organizations.

### WHY DO MAKERSPACES MATTER TO ART LIBRARIES?

In the twenty-first century, it is common to talk about STEAM (science, technology, engineering, arts, and mathematics) learning in academia and libraries. This provides an opportunity for the arts to be seen and understood as a critical element of the learning process. The principles and opportunities found in makerspaces are closely intertwined with the arts. As Erin Fischer notes, makerspaces are important because they give people the chance to learn with their hands and play, which generally is only otherwise encouraged when studying art, theater, music, and dance.<sup>19</sup> As a library liaison to the arts, most of the faculty and students with whom I work are makers. Although their materials vary, they generally learn with their hands or kinetically and do not always see how the library, traditionally understood as a book warehouse, can help them in their pursuits as artists and scholars. From my experiences at Rutgers, one way an art library can connect with patrons is to provide engaging making opportunities that encourage hands-on learning experiences outside the classroom in a community setting. These types of activities can target specific communities that already use the library and bring in new users who have not been encouraged to embrace the arts in their academic pursuits.

Makerspaces provide an opportunity for play, which is often lacking in educational experiences and libraries. As noted previously, play is a skill that is familiar to scholars in the arts.<sup>20</sup> List Kurt et al. note that play fosters creativity and problem-solving, which are crucial to innovation, as well as developing strong communication and social skills.<sup>21</sup> These skills can be helpful when creating knowledge, performing library research, or engaging with one's peers. Play can mean anything, be all inclusive, and it does not need to cost a lot of money.<sup>22</sup> Makerspaces and play encourage exploration, collaboration, and the chance to embrace failure as a positive part of learning. If academic librarians want to encourage innovation and cutting edge ideas, then they must empower patrons and employees to explore new ideas and maybe even fail a time or two.<sup>23</sup> Play creates a dynamic narrative that promotes engagement and community building.<sup>24</sup> Play and making can be a great way to expand one's audience as well as build cross-disciplinary communities. In short, making activities allow individuals

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19. Fisher, "Makerspaces Move into Academic Libraries."

20. Fisher.

21. List Kurt, William Kurt, and Ann Medaille, "The Power of Play: Fostering Creativity and Innovation in Libraries," *Journal of Library Innovation* 1, no. 1 (2010): 8–23.

22. Megan Lotts, "Floating Castles, Legos, Candy, and Play: Counterplay 2016," *Library Hi Tech News* 33, no. 5 (2016): 18–20.

23. Megan Lotts, "On the Road, Playing with Legos®, and Learning about the Library: The Rutgers University Art library Lego Playing Station, Part Two," *Journal of Library Administration* 56, no. 5 (2016): 499–525.

24. Kurt et al., "The Power of Play," 8–23.

to cultivate their creative side, come up with innovative ideas, and harness problem-solving skills in a playful manner. Individuals are likely to come back to the library if they are making new connections while learning and having fun.

Finally, makerspaces provide an opportunity for individuals to shut down their brains and let their hands do the thinking. In many academic libraries, pop-up makerspaces are planned for “stress-busting” events. These programs are meant to give students, faculty, and staff an opportunity to rest their minds while redirecting their energy and taking a short break. In their article “Seven Surprising Benefits of Maker Spaces,” Carrie Barron and Alton Barron note that makerspaces keep people in the present, promote blood flow, foster independence, spark a brain boost that comes from using one’s hands, improve mood, offer a sense of community, and can break the habit of wastefulness.<sup>25</sup> The article “7 Things You Should Know About Makerspaces” notes that interaction among makerspace users fosters a highly collaborative learning dynamic that is excellent for peer-to-peer learning as well as working as a team.<sup>26</sup>

### **POP-UP MAKERSPACES AT THE RUTGERS UNIVERSITY ART LIBRARY**

The Rutgers University Art Library, which houses a non-circulating collection of over 90,000 volumes, is roughly a thirty-minute walk away from most of the students, faculty, and staff who research in the arts. The majority of art library users are undergraduates majoring in non-arts fields. I use low-cost pop-up making spaces to engage with the departments with which I have liaison responsibilities, including Art History, Digital Filmmaking, Landscape Architecture, and Visual Arts. Based on personal experiences in art school, I know that not all members of the arts community at large research institutions like Rutgers know the value of libraries and understand how libraries can support their scholarship and everyday lives; they may see no reason to visit the art library or connect with the library liaison. For this reason, the Rutgers University Art Library organized three pop-up makerspace events intended to help educate and connect with the students, faculty, and staff in the Rutgers arts communities.

### **ART LIBRARY COLORING BOOK**

In the twenty-first century, a resurgence of coloring has swept the nation. Many authors are creating coloring books that speak to a wide range of audiences, and libraries are hosting coloring events. Coloring books are traditionally a medium for relaxation or artistic expression, but they are also used for education. Will Butler, in a 2016 article for *Look* magazine, noted that the coloring craze started as a sensation and has become the next big mindfulness breakthrough.<sup>27</sup> At the Woods Hole Public Library

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25. Carrie Barron and Alton Barron, “Seven Surprising Benefits to Maker Spaces,” *School Library Journal*, August 2, 2016, <http://www.slj.com/2016/08/technology/seven-surprising-benefits-of-maker-spaces/#...>

26. “7 Things You Should Know about Makerspaces,” *Educause*, April 9, 2013, <https://library.educause.edu/resources/2013/4/7-things-you-should-know-about-makerspaces>.

27. Will Butler, “Why Have Adult Colouring Books Been Sweeping the Nation?,” *Look*, September 14, 2016, <http://www.look.co.uk/list-for-life/play/adult-colouring-books-popular-21615>.



in Massachusetts, Kellie Porter started a coloring club because of the relaxing nature of coloring. She remarked that, unlike a book club, one does not need to prepare to color—simply show up and get to work. Porter also observed it is a way for individuals to unplug from a world inundated with electronics.<sup>28</sup>

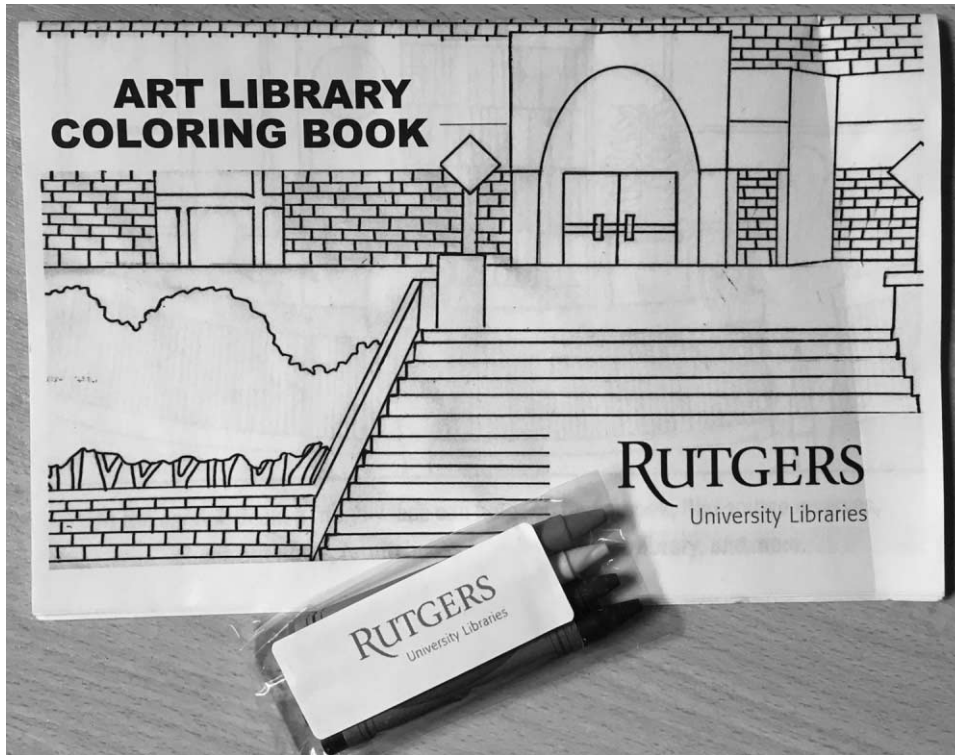
The Art Library Coloring Book was a self-driven learning experience created to connect with individuals who are scholars in the arts while also educating non-arts patrons about the possibilities available in a university library, all while creating and having fun. On October 3, 2016, the library held a pop-up makerspace to release the coloring book, which I wrote and illustrated. Five hundred copies were printed and distributed over a three-week period. The cost to print the books, using in-house library printing services, was fifty-two cents a book, for a total cost of \$260. An additional seventy dollars was spent on 500 units of individually wrapped four-crayon packs, which were stickered with the Rutgers University Libraries Logo (Figure 2).

“Color the archives” pages, created by Tara Maharjan, Rutgers processing archivist (Figure 3) were also available at the event. These pages were created from images available in the Rutgers University Libraries Special Collections and University Archives (SC/UA) and provided patrons with an opportunity to learn more about the history of Rutgers while coloring and having fun. Following the release of the coloring book, I was contacted by the Rutgers Office of Disability Services (ODS) and asked for multiple copies of the Art Library Coloring Book to provide students waiting in their offices with an educational, stress-relieving activity. Unfortunately, all the Art Library Coloring Books had been distributed, but the libraries were able to provide digital files of the “color the archives” pages, which ODS could print out as needed. This opportunity was a wonderful collaboration for the library as well as an opportunity for ODS students to learn more about the libraries while waiting to meet an ODS representative.

The October 3<sup>rd</sup> pop-up making space also provided an opportunity to showcase rare materials related to coloring from the Rutgers Art Library X-Room (rare book room) like *Interaction of Color*, a quintessential text in the arts created by Joseph Albers in 1963, and *Naked Ladies, Naked Ladies, Naked Ladies*, a coloring book created by Lynda Barry, first printed in 1984. The X-Room, a small collection of rare materials pertaining to the arts, houses many unique items unknown to Rutgers students, faculty, and staff. Pop-up makerspaces provide an opportunity to highlight selected materials from this special collection such as the Albers book, which is one of 2,000 original copies (Figure 4). Those who attended the coloring event were awestruck by the saturated silkscreen color plates that accompany the book and the book’s enormous size. Although many individuals own a personal copy of this book, it is most likely the smaller 1975 trade edition also shown in Figure 4. One can now purchase an edition of *Interaction of Color* for iPad through iTunes; the full version has an interactive aspect that allows users to create their own digital color studies. Giving patrons the op-

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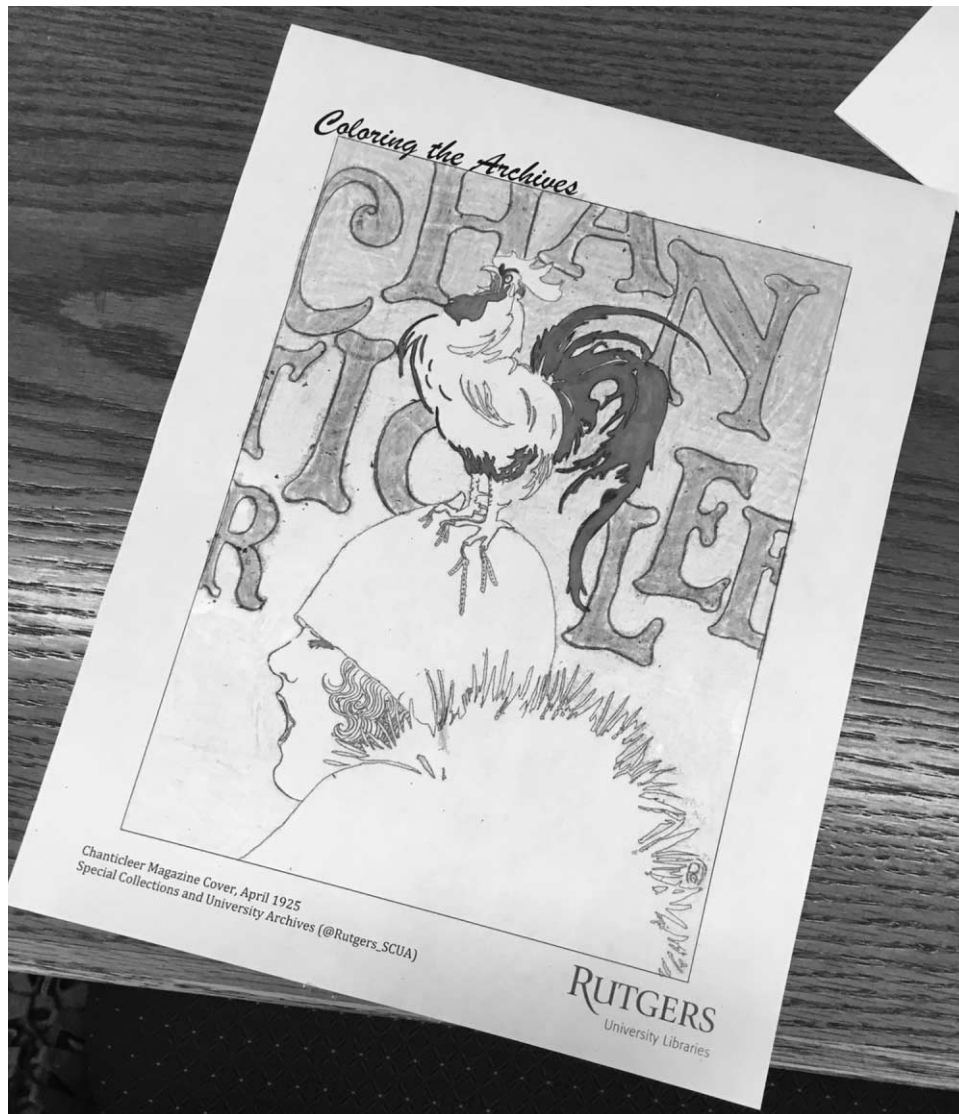
28. Alison Marcotte, “Coloring Book Clubs Cross the Line into Libraries: Woods Hole Public Library Embraces Newest Craze by Offering Stress-Free Analog Coloring Activities,” *American Libraries*, August 24, 2015, <https://americanlibrariesmagazine.org/blogs/the-scoop/coloring-book-clubs-cross-the-line-into-libraries/>.



**Figure 2.** Cover of the Rutgers Art Library coloring book and branded crayons. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

portunity to view and discuss all three versions of the *Interaction of Color* inspired a rich discussion about how books are made, what one can learn from unique materials, and how one accesses resources in a rapidly changing digital age. By highlighting these resources, we emphasized their importance to the arts and making culture. Most importantly, we expanded the audience of users of the Art Library X Room. Many patrons set up appointments to learn more about rare materials relating to the arts and what else can be found in this unique collection.

Following the release of the Rutgers Art Library Coloring Book, the Art Library received multiple inquiries via phone and email from individuals and organizations in the Rutgers communities who wanted to acquire copies of the book to use for educational and stress relieving purposes. I also received an overwhelming amount of positive feedback about the coloring book, including responses such as: “AWESOME,” “This is so cool,” “I love this book,” “I love to color,” “The art library is awesome,” “I learned so much,” and “I want one, and to meet the librarian who made this.” In one instance a patron called to praise the book and then followed up with two reference questions. From this phone call, I realized that creating this coloring book gave a student an opportunity to connect with her library liaison to learn more and have some of her library-related questions answered. In another case, a student posted an image on



**Figure 3.** Example of a colored “color the archives” page. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

Twitter, stating that although he was not an artist, the art library is a pretty cool place (Figure 5).<sup>29</sup>

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29. To learn more about the Art Library Coloring Book Project, see *Rutgers Coloring Books Inspire Creativity*, a video created by *Rutgers Today*, the university-run campus news source that highlights special events and happenings on the RU campuses: <https://www.youtube.com/watch?v=Zvg6GaiVStA>. In addition, an article titled “Adult Coloring Books Come to Rutgers Art Library” was published in the *Daily Targum*, the local campus newspaper: <http://www.dailytargum.com/article/2016/11/adult-coloring-books-come-to-rutgers-art-library>.



Figure 4. Image of Joseph Albers, *Interaction of Color*, 1963, along with the 1975 recent trade edition. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

#### BUTTON MAKING

In 2016, the Art Library requested that the Rutgers University Libraries' Learning and Engagement team purchase a button maker. The inspiration for the button maker came from the Association of College & Research Libraries 2013 annual conference at which Char Booth, associate dean, Library at California State University San Marcos, spoke about libraries building good will within their communities and noted that their button maker was worth its weight in gold. After hearing Booth's statement, I knew the Rutgers University Libraries needed a button maker and began planning ways to make this happen.

Button making offers a low-cost pop-up making activity that addresses the idea of object, from concept to consumption. In the case of a button, a wearable item is the outcome. Creating a button can strengthen creative thinking and problem solving skills as well as offering opportunities to discuss finding images and understanding copyright laws. Perhaps most important, it is mesmerizing and fun (Figure 6).

The button maker has become a key point of engagement, yet it cost the libraries only \$580, including the machine, a graphic punch, and supplies to make 1,000 buttons. Following the initial investment, each button cost roughly eight cents and, in six months, the libraries had hosted eight well-attended events at which over 1,400 but-

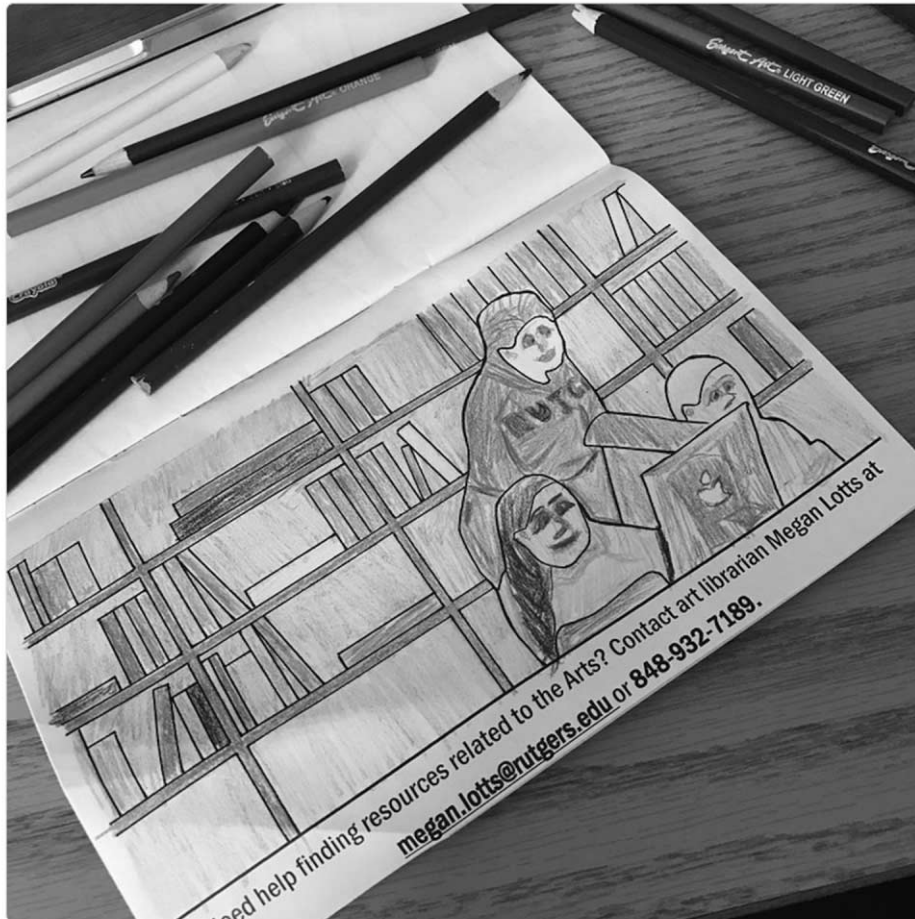


**Ryan Kreutzberg**  
@RyanKreutzberg



Follow

I'm no artist, but the Art Library is a pretty cool place @RULibraries



**Figure 5.** Image tweeted by Ryan Kreutzberg, SAS Honors Student. Please see the online edition of *Art Documentation* for a color version of this image.

tons were made. As expected, many Rutgers students, faculty, and staff love making buttons and are excited to learn they can create their own buttons by contacting the art librarian. The machine has been used to make Rutgers University Libraries-branded buttons and post-tour take-aways with images from Special Collections and the University Archives (SC/UA); it has also been used at stress-busting events where patrons design and make their own buttons. Some campus arts affiliates have requested



**Figure 6.** Group of students making buttons with Art Library reference assistant Janki Patel. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

the button maker's presence on more general visits to work with students to make buttons, talk about finding images for scholarly research, and help community members learn more about the libraries. Partnerships have included the Mason Gross Visual Arts Print 1A course, Rutgers Art History Student Association, SAS Honors Program, and Zimmerli Art Museum. I have also taken the button maker to weekly office hours in the lobby of the Mason Gross Visual Arts Department. At another event, seventeen students from the Print 1A course spent five hours in the Art Library making buttons, playing with LEGOs, looking at library resources, talking about copyright issues, finding images, learning more about the possibilities at the Rutgers University Libraries, and discovering how the Art Library can benefit student artists.

Following one of the button-making events at Alexander Library (main library), a student reached out from the Rutgers Learning Living Communities (LLC) to ask for twenty-three Paul Robeson buttons. The day before, the student had made a button of an image found in SC/UA of Paul Robeson, a well-known Rutgers alumnus. At the time, the LLC was researching Robeson, and they all wanted this image from the library collections to wear proudly to celebrate his work and life. This also provided the libraries with an opportunity to work more closely with the LLC to share additional resources pertaining to Robeson. Since this collaboration, the Art Library has received

multiple reference questions from this LLC on other topics related to their coursework. The button maker has provided many student artists and Rutgers community members with a chance to create and produce a one-of-a-kind work of art quickly and affordably that can be taken home easily, given to a friend, or worn as an art object—all while learning about the libraries.

#### LEGO PLAY

In 2014, I encountered the LEGO SERIOUS PLAY® (LSP) methodology at the “i2c2, Innovation, Inspiration, and Creativity Conference” in Manchester, UK. LSP believes “that hands-on, minds-on learning produces a deeper, more meaningful understanding of the world and its possibilities” and “deepens the reflection process and supports an effective dialogue.”<sup>30</sup> Upon discovering that LEGO play is a hands-on active learning experience that encourages creative thinking and hones problem-solving skills, I was certain there was a use for this in the Rutgers University Art Library.

After learning more about the methodology and process of LSP, I invited Rutgers libraries faculty and staff to attend one of three LEGO workshops. The workshops were fun, and participants appeared to leave the workshop happy, and for some, in a better mood than when they arrived. Colleagues left talking about new ideas for the libraries, some of which they thought of when using LEGOs to depict challenges they faced in the libraries. Participants made many positive comments about what was learned throughout the workshops. In 2017, almost two and a half years after the workshops, participants still comment on the workshop, reporting how much fun they had and that they need to come to the Art Library to play with the LEGOs because they have a problem to solve.

After running these workshops and learning more about how to coordinate a teaching event that uses toys as a medium for learning, encourages loud voices, and at moments, resembles organized chaos, I began thinking about what might happen if a pile of LEGOs was left in the middle of the Art Library. In August 2014, the Art Library LEGO playing station was installed (Figure 7). Since implementing this makerspace, over 800 pictures have been taken of LEGO creations at the station. Figure 8 shows an image of a model created at the playing station in fall 2016. The cost of this makerspace and the more than twenty events we hosted has been less than one hundred dollars. Most of the LEGOs were recycled and donated by an international junk removal company, while a few donations were given to the Art Library from Rutgers alumni.

As a result of this makerspace, the Art Library has seen an increase in visits to the library from community members in the visual arts, the Landscape Architecture Department, and the public. The LEGOs have also been used in multiple course collaborations to introduce students to the Rutgers University Libraries, as well as to refine critical thinking, problem-solving, and 3D building skills. In one example, LEGOs

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30. LEGO® Serious Play methodology, LEGO website, <https://www.lego.com/en-us/seriousplay>.



**Figure 7.** Rutgers University Art Library LEGO® Playing Station. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

were used as a tool for collecting data: thirty-five students from the students in transition program, run by the office of Academic Services, attended one of three workshops at the Art Library in which participants were asked to work in groups to build models of the best library ever, and then share their creations with their peers. From this workshop, the libraries learned more about what students expect or would like to see happening in the libraries. In addition, many participants left the Art Library smiling and saying that they have never been to the Art Library before and that it “seemed like a great place to study.” They commented, “I met new friends, which was great because I’m new to campus,” “I liked having fun and learning with toys,” and “If I need help, I am going to contact a librarian.”

Perhaps one of the best parts of the playing station is the storytelling nature of LEGO. Students create, remix, and sometimes finish another player’s models left at the table. It is exciting to visit the makerspace at the end of the day to see what has transpired. Some days it appears that a group of young children have been let loose at the table and bricks are strewn everywhere, including some on the floor. Other days I find





**Figure 8.** Model created at the Rutgers Art Library LEGO® Playing Station. Photograph by Megan Lotts. Please see the online edition of *Art Documentation* for a color version of this image.

elaborate models that tell stories about the students, their lives, their imaginations, and their dreams.<sup>31</sup>

### ASSESSING POP-UP MAKERSPACES

Assessing pop-up makerspaces can be challenging, in part because they are often quick ephemeral experiences at which there is no time for formal assessment. Capturing statistics such as how many people attended or the amount of supplies that were used is a good starting point. Providing surveys or comment cards with pens can be an anonymous and noninvasive way to get input from patrons.

The events should be documented by capturing digital images and video recordings. In the case of the LEGO playing station, images were analyzed to get an idea of how individuals were using the table and what they were creating.<sup>32</sup> However, if one

31. To learn more about the existing collaborative library work with LEGO, see "Playing with LEGO Learning about the Library, and 'Making' Campus Connections: The Rutgers University Art Library LEGO Playing Station, Part One," <https://rucore.libraries.rutgers.edu/rutgers-lib/49576/>. To learn specifically about a LEGO collaboration with the Rutgers Landscape Architecture Department, see "Landscape Architecture Students Play With Legos to Learn About the Library," *ACSA News*, May 12, 2016, <http://www.acsa-arch.org/acsa-news/read/read-more/acsa-news/2016/05/12/landscape-architecture-students-play-with-legos-to-learn-about-the-library>. Finally, for a case study that includes nineteen academic libraries and 240 library faculty and staff, see "On the Road, Playing with LEGO, and Learning about the Library: The Rutgers University Art Library LEGO Playing Station, Part Two," <https://rucore.libraries.rutgers.edu/rutgers-lib/49578/>.

32. To learn more about the assessment of the LEGO playing station, see "Playing with LEGO®, Learning about the Library, and 'Making' Campus Connections: The Rutgers University Art Library LEGO Playing Station, Part One," <https://rucore.libraries.rutgers.edu/rutgers-lib/49576/>.

plans to use the images including people for social media or in other public forums, there must be signage posted with language about taking images and their intended use. Depending on an organization's policies, it may be necessary to ask participants to sign a release. Social media tags can allow patrons to tag the library, the event, and or leave comments or images.

Following each event at the Rutgers Art Library, a post-event assessment form is completed to collect the basic information. This includes a space to add any comments overheard or note anything that worked well, or not so well, for future planning. In a perfect world, there is one individual for each event who is responsible for documentation, including capturing digital images, video, and the overall tone and comments heard from participants.

## **DISCUSSION**

The most important influences that makerspaces have had on the Rutgers Art Library have been their ability to encourage engagement and help form partnerships. Through making activities, the Art Library has discovered and formed lasting partnerships with departments such as Art History, Landscape Architecture, the SAS Honors Program, and the Visual Arts; these groups have participated in LEGO play, the Art Library Coloring Book project, and button-making. When planning any type of engagement or learning opportunity, it is important to have partnerships in place. This makes it more likely that there will be participants who are interested in the topic and who have shared the information with their friends. Peer-to-peer sharing is one of the best methods of getting the word out. Partnering can also help when it comes to sharing fiscal responsibilities and cost of labor.

As previously noted, makerspaces provide hands-on learning that can hone creative thinking and problem-solving skills, tools that are essential when performing scholarly research. These types of activities provide opportunities to have discussions about visual literacy, copyright, the creative commons, and how students, faculty, and staff are documenting and providing access to their own work. For the button-making activity, in working with the Print IA course I spoke with students about unique objects, mass production, and ephemera. We looked at rare materials from special collections and discussed what else can be found at the Rutgers University Libraries. There was dialogue about the students' websites, how they present and provide access to their work, and what "scholarly resource" means in the arts. During the button-making activity with the Rutgers Art History Student Association (RAHSA), there was an opportunity to discuss copyright, as many students brought copyrighted images to be made into buttons. We discussed the fair use of images, when one can or should not use an image, and how to cite an image in a paper.

Finally, making activities can be learning moments that tell an interesting story that highlights the library's positive community impact. It is wise to reach out to the campus and local news resources. Forming these connections secured free publicity, in print and digital formats, for the Art Library making initiatives. This publicity included four videos and articles in the *Daily Targum* and *Rutgers Today*. In addition, be-

cause of these relationships, the Rutgers publicity teams often reach out for permission to use the Art Library as a venue or space for campus publicity. In the case of one production, I was invited to participate in a welcome-back video that featured the Art Library. This video reminds individuals that libraries and librarians are important resources on campus, and that they are there to support students, faculty, and staff in their scholarly pursuits and everyday lives.

## CONCLUSION

Although there are not currently many makerspaces in art libraries, making activities are a way to engage community and provide support for scholars of the arts. The Rutgers University Art Library does not have a state-of-the-art makerspace, but pop-up makerspaces have been used as a way to foster a lasting culture of creativity with little money and limited space.

Makerspaces encourage and support cross-disciplinary collaboration and bring new users to the libraries. These activities bridge a gap between Rutgers students, faculty, and staff and the art library/librarian. Faculty, students, and staff who attend pop-up makerspace events report that the libraries are an important part of their arts curriculum, and they are happy to have a librarian to assist them with their research and scholarly pursuits. Creative outreach through makerspaces has helped the Rutgers University Art Library engage patrons, brought the arts community into the Art Library, and connected patrons with the art librarian.

In the article "Making Room for Informal Learning," Sarah Windhowsky is quoted as saying, "Not all learning comes out of a book, and libraries looking to have the maker movement flourish, need to embrace the informal learning that is taking place."<sup>33</sup> Scholars studying the arts form a community of makers who are also visual learners. For this community, the ideal learning moment will likely not come from a book; these learners benefit more from an ephemeral hands-on experience in which they make or physically experience a work. Although libraries may have traditionally been seen as book warehouses and librarians as gatekeepers of knowledge, it is now time for art libraries to embrace the maker movement and informal learning in order to highlight the relevance of the arts in modern culture and the important role that libraries play in the advancement of our society.

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33. Sarah Windhowsky, quoted in Greg Landgraf, "Making Room for Informal Learning: Librarians Discuss the Future of Makerspaces," *American Libraries* 46, no. 3/4 (2015): 32.