On the Road, Playing with LEGO, and Learning about the Library: The Rutgers Art Library Lego Playing Station, Part Two

Rutgers University has made this article freely available. Please share how this access benefits you.
Your story matters. [https://rucore.libraries.rutgers.edu/rutgers-lib/49578/story/]

Article begins on next page

On the Road, Playing with Legos®, & Learning about the Library: The Rutgers University Art Library Lego Playing Station, Part two

On October 3, 2015, a Ford Escape was loaded with a mobile making space of 100 pounds of Legos, an accordion folder full of model releases and Institutional Review Board (IRB) forms, 300 Lego faces, one documentarian, and the author of this article. On Friday, November 13, 2015, the project ended after travelling 5,675 miles, visiting 19 academic library organizations in 7 states, and facilitating 20 workshops including 245 participants. The aim of the #LeGOMAKE project was to learn more about the possibilities and benefits of low-cost, hands-on makerspaces in academic libraries, as well as introducing how creative problem-solving skills can be used by academic library faculty and staff in a collaborative environment.

As noted in the first paper of this series, "*Playing with LEGO®, Learning about the Library, & Making Campus Connections: The Rutgers University Art Library Lego Playing Station, Part One*," the author discusses the importance of outreach, creativity, and innovation to the future of academic libraries (Lotts, 2016). Low-cost making activities, such as playing with Legos, can encourage creative problem-solving skills and be an innovative way to engage with and teach students, faculty, and staff more about academic libraries. In this article, the author will look more closely at the hands-on learning experiences that resulted when library faculty and staff were introduced to active learning by means of a mobile making space.

From the results of the #LeGOMAKE project, one can see that libraries are about people, both employees and patrons. In a recent video, *Campus Libraries Rethink Focus as Materials Go Digital* by Jeffery R. Young, and Sari Feldman, the current president of the American Library Association, states, "[C]ampus libraries are so much about the people who work there and the talent they bring to support student research, student researchers, and faculty researchers. The

place, the actual library space, is undergoing a transformation because there's so much more collaborative activity and making" (Schmalz, 2015). The results of the #LeGOMAKE project, show that making and makerspaces can be beneficial to library faculty and staff as well as patrons. But it is the engagement that happens between these individuals and how they work together that will transform collaborative spaces and the future of academic libraries. Academic libraries need to embrace the idea of makerspaces and appreciate the skills that can be developed in these spaces, such as creative problem solving, innovation, and teamwork. This article will look at how Legos were used to educate library faculty and staff about the power of making and the potential for makerspaces in academic libraries.

Literature Review

The LEGO Group was founded in 1932 by Ole Kirk Kristiansen, and in 1934, the company adopted the name "LEGO," formed from the Danish words "LEg GOdt" ("play well") (Mortensen, 2012). In 1958, the "LEGO stud-and-tube coupling system" was patented and became what we know today as "the brick" (Mortensen, 2012). In the fall of 2001, the LEGO Group unveiled LEGO Serious Play, the method of using Lego bricks to solve real-life work challenges.

Lego(s) are Everywhere

In the 21st century, Legos can be found everywhere, from preschool play rooms to corporate offices, and also in many public and academic libraries. One can find individuals on Etsy (a global community of online makers curating and selling unique items) using Legos to make jewelry, clothing, wallets, keychains and many other Lego-themed creations. Further, one can

visit Pinterest (a visual bookmarking tool used to discover, save, and share creative ideas) to find other creative ways to use Legos, such as helping children learn math, building a Lego car powered by a balloon, or preparing a Lego-themed party or wedding, among other activities. One can also find a large presence of Lego on social media sites such as Facebook and Twitter. For instance, one can learn more about Legos with "Brick Fanatics", a Facebook page and website based in the United Kingdom, which covers Lego news in addition to reviews of Lego sets, books, and games. Or one can simply google the word Lego and come up with over 200 million results discussing, using, or promoting this toy.

Many artists use Legos as their medium, such as Nathan Sawaya and Ai Weiwei. Artist Olafur Eliasson is known for the use of Legos in many of his community-based, site-specific artworks, and from May 29 to October 12, 2015, Eliasson exhibited *The Collectivity Project* at the High Line in New York City. (High Line Art Presented by Friends of the High Line, 2015) The High Line is "a 1.45-mile-long linear park in New York City that was built in Manhattan on an elevated section of a disused New York Central Railroad spur called the West Side Line" (Wikipedia, n.d.). The installation consisted of white Lego bricks that featured an imaginary cityscape conceived and designed by the public. This project invited individuals to play and create in a community setting, which is similar to how makerspaces can be used in academic libraries.

Lego is also a toy that is widely used in science and engineering. One can visit the online website *LEGO® Engineering* to learn more about the ways in which teachers can bring Lego-based engineering to students, including a variety of challenge ideas, lesson plans, and organizing Lego workshops. At a Science Fair in 2014, Shubham Banerjee, a 12-year old 7th grader, created a low-cost Lego braille printer he calls Braigo for a science fair project (Kooser,

2014), This printer was made for roughly $350; in contrast, regular a braille printer can cost as much as $2000 (Kooser, 2014). In early 2015, a video of a disabled turtle getting a wheelchair made out of Legos went viral, and the world was introduced to the veterinarian who conceived the solution, Dr. Carsten Plischke. In an article by Kimberly Yam, explains that Plischke used six pieces of his son's Lego bricks, as well as tortoise-safe glue, to allow the tortoise to move more easily after a metabolic bone disease rendered it unable to bear the weight of its shell (Yam, 2015).

One can also see Lego used widely in higher education. In a recent project in early 2015, the Rhode Island School of Design (RISD) announced that they would collaborate with LEGO® Education, a division of the LEGO group based in Billund, Denmark. The RISD course covers "the interplay between digital and analog modalities – looking at how these forms of engagement can most productively inform each other" (*PRWeb*, 2015). In a press release about the collaboration, RISD Interim President Rosanne Somerson states, "LEGO Education and RISD share a deep commitment to learning through making; and to story-telling, problem-solving, and connecting, we are natural partners, and I'm excited to see what we can make and build together!" (PRWeb, 2015). At Massachusetts Institute of Technology (MIT), students and researchers use CityScope, a 30-inch by 60-inch Lego model of Kendall Square (Cambridge, MA), to project data on (Gillies, 2014). With CityScope, an "urban observatory," individuals can learn more about flows of traffic, goods, people, energy, and how people live and work in a city (Gillies, 2014). Lastly, in June 2015, Cambridge University announced that it would be hiring a professor of Lego. Unfortunately the author of this article is not an expert in the role of play and development learning in education, otherwise she might consider applying.

Legos in Public Libraries

Legos can be found in public libraries in a variety of roles. They are commonly used for block parties, family Lego events and science, technology, engineering, arts, and math (STEAM) learning, and Lego as well as in many makerspaces. On July 18, 2015, Yvette posted a question to the *ALA Think Tank* (ALATT), an online Facebook page that is not officially affiliated with the American Library Association (ALA), that she wanted to start a Lego club and needed help finding resources to why this would be valuable for her library (Yvette, 2015). As of December 9, 2015, 94 comments were posted in response to this question, including accounts of projects and experiences with Legos in libraries, papers written about the importance of play, links to information about the possibilities with Legos, and how to host a block party or Lego exhibition (Yvette, 2015). The author of this article suspects that most of the posts, if not all, were geared toward public libraries. There were many educational activities and programming ideas that could be easily used in an innovative academic library.

At the Radnor Memorial Library, in Wayne, Pennsylvania, as many as 50 patrons ranging from toddlers to teens, all under the age of 14, show up for the monthly block party on the last Sunday of each month from 1:30-3:00pm (Klebanoff, 2009). Klebanoff notes that playing with Legos can increase one's attention span, memory, and creativity, as well as improve one's language and vocabulary skills (2009). Many kids and parents at Radnor Memorial Library have eagerly requested the addition of a weekly Lego club, and although they currently don't have permanent space for the Legos, they are thinking about hosting more pop-up Lego events.

In 2014, the Association for Library Service to Children (ALSC) and LEGO SYSTEMS, a North American division of the LEGO group, announced that they would work together to bring junior maker spaces to libraries across the country (Ison, 2014). As stated in the press release, junior makerspaces are areas that provide an opportunity for children from ages 4 to 6 to create

and make (Ison, 2014). Over 750 libraries nationwide received a tool kit including 10,000 Lego bricks, an activity guide, and an inspirational poster (Ison, 2014). This project was inspired by the hope that play and the use of imagination would encourage young children to become makers, sharers, and innovative problem-solvers.

The Houston Public Library has been using LEGO Mindstorms to interact with their teen community. Lego states, "LEGO MINDSTORMS is a programmable robotics construction set that gives you the power to build, program and command your own LEGO robots" ("What is LEGO® MINDSTORMS®?," n.d). In one instance, the Houston Public Library partnered with Citizens Schools to provide a 10-week afterschool program to sixth graders. Each week, the library transports the materials needed for the program, including Lego kits and laptop computers, to the middle school. The librarians begin by providing information on how robots are used in the real world, and then students work in groups of three or four to create their own robots. At the end of the 10-week program, the participants present their work to their parents and their peers (Stout, 2015). Through this collaboration, the students learn more about the library as well as how to innovate, make, and share. The library also further integrates itself into the local community and teaches teenagers how to become creative problem-solvers and team players while they get to build a robot.

Legos in Academic Libraries

Although toys might not be something one thinks of as being present in higher education, in this day and age, one can find Legos in many academic libraries. Perhaps the most common use of Legos in college libraries is during finals events, commonly known as Stressbusters. Legos are often left out for patrons to help them slow down, take a break from their studies, and maybe even make a new friend. In December of 2015, the Walter Library at the University of Minnesota

offered free snacks, Legos, and many other making events for patrons to participate in during the stressbusting season at the end of the semester (Studying 24/7 and Stress Busters, 2015).

For their Open Access week in October of 2015, the Cabell Library at Virginia Commonwealth University (VCU) used Legos to help students better understand the benefits of open access. Legos were left out in the library from Oct. 19-23, 2015, for students to build, create, re-mix, and engage with library employees and patrons in a collaborative manner. McNeill notes that Hillary Miller, VCU's Scholarly Communications Outreach Librarian, believes, "Building and collaborating with Lego is a great metaphor for open access, in which scholars freely share their results and invite other scholars to build upon their work" (McNeill, 2015). Miller noted over lunch with the author of this article that while VCU's Legos were acquired specifically for this project, they would be used again for more innovative library-related projects in the future.

In Denmark, Copenhagen University Library has created a stop-motion movie in which it uses Legos to introduce new students and patrons to the library system. The video is roughly 3 minutes and 53 seconds long and teaches viewers about "the basic need-to know stuff like locations, opening hours, course literature print, wifi, etc…" as well as a bit more about what can happen at the Copenhagen University Libraries (Lauersen, C. (2015); Lauersen, 2015). In a blog post, Lauersen, one of the creators of the movie, noted that he got the idea from a Lego stop-motion movie that explained the idea of open source (Lauersen, C.2015, April 28). Laursen feels that Legos capture the attention of the viewer and that the "universal language of Lego" is good for explaining a concept.

In the U.K., University Campus Suffolk (UCS) has introduced Lego Serious Play (LSP) into its academic and library support training sessions with the students. In an initial study, Becky

Blunk, an Academic Liaison Librarian at Suffolk, found that many students needed time to work up to the idea of using Legos for metaphor, but once they caught on, they became more confident (2014). From the LSP study, Blunk found out more about how the students played and engaged with each other, as opposed to how they use the libraries for research. The author of this article finds Blunk's study intriguing and sees value in learning more about students' learning processes, and how they share these experiences with their peers. As any academic librarian knows, the best way to spread a message is through peer-to-peer sharing and learning.

Lego Serious Play

In an article, *The Power of Play: Fostering Creativity and Innovation in Libraries*, L. Kurt, W. Kurt, and A. Medaille (2010) discuss the idea of organizational play within libraries as a means to stimulate employee creativity and to help develop innovative ideas. Play allows individuals to think with their hands and experience the process of making in a more creative and tangible way. Play encourages creative thinking, which can be beneficial to libraries in a time where services and ideas about the libraries are changing even as budgets remain tight. Further, as noted by the authors, "work" is moving more into our everyday personal lives, in the form of checking emails on the weekend, or taking laptops on vacation (Kurt et al., 2010). So why aren't we allowing ourselves to play more in our work lives?

The CEO of LEGO, Jorgen Vig Knudstorp, also believes that we should stop being so serious and allow more fun in our work lives, arguing, "play is a transformative agent in society, and we need more creativity to solve the world's problems" (Confino, 2015). Play can stimulate imagination and encourage adaptability, as well as allow individuals to address difficult problems in non-confrontational ways. Play and making can also help individuals practice spontaneity and alleviate stress. However, we do not see enough play in the work place yet.

Perhaps Knudstorp was right when he noted that "some people simply believe that learning should be dull and boring" (Confino, 2015).

Lego states that the LEGO SERIOUS PLAY (LSP) methodology is "based on research which shows that hands-on, minds-on learning produces a deeper, more meaningful understanding of the work and its possibilities" (LEGO SERIOUS PLAY Method, 2015). LSP is about solving complex issues with Lego bricks. Through the use of metaphor, group discussion, and knowledge sharing, Lego bricks can help foster a culture of creativity and help individuals find unique solutions to everyday problems.

Methods

As noted in Part One of this series of articles, the author was introduced to Lego SERIOUS® PLAY® (LSP) in March, 2014. She began running workshops based on the LSP methodology with Rutgers University Libraries (RUL) faculty and staff in May 2014. The Rutgers Art Library Lego Playing Station was installed in August 2014, and, after a year of programming, teaching and assessment of the Lego Playing Station, the author began exploring the possibilities of sharing ideas and the significance of making with a wider audience. In August of 2015, the author began planning the #LeGOMAKE project, and the first workshop took place on October 5, 2015.

Libraries

Planning a tour to visit multiple places and have multiple points of contact at each university can be a slow, tedious, and time-consuming process. It is important to ensure one has ample time when coordinating dates and to be clear and concise in all manners of communication so that all parties involved know what to expect and prepare for.

For the #LeGOMAKE tour, 20 academic libraries participated, including those at the following universities: Ball State, College of William & Mary, Eastern Illinois University, Illinois State University, Indiana State University, Indiana University, Miami University, Northern Illinois University, North Carolina State University, Ohio State, Penn State, Purdue, Southern Illinois University- Carbondale (SIUC), University of North Carolina- Chapel Hill, University of North Carolina- Greensboro, University of North Carolina- Wilmington, University of Illinois- Springfield, University of Maryland, and Virginia Commonwealth University. Although 20 workshops were facilitated in all, only 19 campuses were visited because two workshops were facilitated at one of the universities.

Of the 19 campuses, the author had connections to eight individuals she knew either from her previous position at SIU-C, from colleagues who left RUL, or from colleagues she met while working on national committees for the Association of College & Research Libraries (ACRL). When choosing the individuals to contact at each library in which the author did not have a connection, she reached out to the subject liaison for the arts or the Assistant University Librarian for Reference and Instruction, or equivalent thereof. In total, the author contacted 23 academic libraries. One school declined due to previous priorities, two schools did not return the author's emails, and one university is still pending the scheduling of their workshop.

Participants

Finding participants for the workshops happened in two ways. Some universities chose to have specific groups or committees as part of the workshop, and those individuals were required by their university libraries to participate. In one instance, the author worked with the University Librarian & Associate University Librarians (AUL's) of one library to facilitate a workshop. To some this might seem a bit out of the ordinary, as one does not see many high level

administrators in academia taking time to play. This is unfortunate because many leaders could benefit from more opportunities to think creatively and work in a hands-on manner. However, following the workshop, this author and documentarian heard nothing but positive comments. In particular, one AUL admittedly confessed "he was forced to come to the workshop and felt that he had better things to do with his time", but after the workshop, "he could not believe how much he had learned, how much fun he had, he would definitely recommend this experience to other individuals, and he was very happy that he was forced to participate."

Some university libraries invited all library faculty and staff to participate in the workshop. This required the author or a point person at each university to set up an anonymous sign-up sheet to get an idea of how many participants might attend. It should be noted that when using an anonymous registration to such an event, it is likely that the number of participants who registered, may not be the same as the number of participants who attend. Some individuals will cancel at the last minute; some will forget to register but show up to participate, and a few individuals who do not read their email will stumble across a giant pile of Legos and cannot help but want to participate.

Regardless of how the libraries choose to find individuals, the author prepared an introductory letter for each workshop, including background information about the workshop, what would happen during the workshop, the scheduled time and date, and a link to the author's ACRL conference paper and Powerpoint presentation, *Lego® Play: Implementing a Culture of Creativity & Making in the Academic Library* (Lotts, 2015). There was no cost involved in participating in the #LeGOMAKE project other than the libraries providing a space to facilitate the workshop and the time it took to coordinate the workshop.

Most of the individuals who participated in the workshops were academic library faculty and staff. However, in at least three cases, libraries asked permission to invite a few graduate students from their library school. In another instance, two of the libraries asked if they could invite faculty from departments outside the library; in both cases, the faculty were from the school of education. The author did not see a problem with either of these requests, nor did any of the "non-library" individuals stick out in any of the workshops. The author also personally invited a fellow artist and facilitator of Non-Violent Communication (NVC) to participate in one of the workshops, with the intent that he could adapt the LEGO® SERIOUS PLAY® methodology to his own work.

Workshops

The workshops were spatially set up in different ways at each university library. This was in part because the author was not familiar with most of the spaces in which the workshops were facilitated. However, the author was happy to have any available space, and with an adaptable attitude and with help from the documentarian of this project, was able to make each space work. In one case, the workshop took place in one of the historical heritage rooms in the library, used for important events and special occasions; see Figure 1. In another case, the workshop took place in an open space in the middle of the library's commons area, with students studying in the background; see Figure 2. Regardless of the different locations and spaces, in general each workshop's content was the same.

[INSERT Figure 1. #LeGOMAKE workshop set up. Photo by Brady Smith.]

[INSERT Figure 2. #LeGOMAKE workshop set up. Photo by Brady Smith.]

Upon arriving to the workshop, participants were welcomed and invited to sit on any seat they would like and to feel free to start playing with the Legos. Each participant was given a consent form and model release, a survey worksheet, a pen, and a Lego face paddle that they could exchange if they did not like the face they received; see Figure 3. Participants were also invited to take their Lego face home. Many individuals asked for an additional face or two to give to a friend, colleague, or a loved one.

[INSERT Figure 3. #LeGOMAKE workshop, Lego face, and pen. Photo by Brady Smith.]

To start each workshop, the author would spend roughly 5 minutes talking about the workshop and making sure the participants had the opportunity to read the informed consent language approved by the Rutgers Institutional Review Board. The introduction included information about the author, the LEGO® SERIOUS PLAY® methodology, low cost pop-up making spaces, active learning, creativity, innovation, and teamwork. Following the introduction, the author would answer any questions before starting the first task.

In the workshop, participants were asked to accomplish five tasks. They were encouraged to talk, take pictures, and post their thoughts and creations on Twitter with the hashtag, #LeGOMAKE. For the first task, they were asked to create and draw a library superhero on the Lego person template found on their worksheet; see one example in Figure 4. The second task invited participants to create a Lego model that was a depiction of who they are, either in their work or their personal life. The third activity was to build a model of what makes the library they work in awesome. For the fourth activity, the author gave participants one minute to choose 15 Lego pieces for building a Lego model about the challenges they face in their libraries. Once they found the 15 Legos, each participant was unexpectedly asked to pass their 15 Legos to the individual sitting on his or her right. Each participant was then asked to create a model about the

challenges he or she faced in the library, using the 15 Legos given by his or her neighbor. For

the final challenge, workshop participants were organized into groups and asked to work together

to create what they believed was the best library ever; see one example in Figure 5.

[INSERT Figure 4. Library super hero drawing. Photo by Megan Lotts.]

[INSERT Figure 5. Participants working in groups to build the best library ever. Photo by Megan Lotts.]

Following each activity, participants were asked to share their creations with other workshop

participants within their group. The size of the groups chosen depended on the number of

participants in the workshop. If there were under 10 participants in the workshop, there was no

need for small groups, and after each activity there was time for everyone to share their work

with all participants in the workshop. However, if a workshop included more than 10

participants, then individuals were split into smaller groups for discussion and had the

opportunity to share their creations with the group as a whole only twice. After the final task and

discussions of the best libraries ever, the author asked the participants what they had learned

from the workshop, invited them to fill out a six question survey, and to take a group photo with

their Lego faces on; see one example in Figure 6.

[INSERT Figure 6. Workshop participants with Lego faces on. Photo by Brady Smith.]

Throughout the workshops, many individuals wanted to know more about the Rutgers

University Art Library Lego Playing Station, the events of the 6-week #LeGOMAKE tour, and

the other academic libraries that were participating in the project. Upon completion of the travel

portion of the #LeGOMAKE tour, the author sent out a project newsletter that included a few

immediate facts and figures and an invitation for participants to send further thoughts or ideas about how they might apply what they learned from their experience.

Results and Discussion

There were 245 participants in the workshops, 235 surveys that were returned, and 10 individuals who chose not to take the survey. The ten surveys not taken could have resulted because a few individuals had to leave early, or because some individuals do not enjoy taking surveys. However, the response rate for the survey is high, at 95%. This could be in part because participants were in a good mood from playing with Legos for an hour and a half previous to taking the survey, or perhaps because many of them were excited to be part of the #LeGOMAKE project and looked forward to hearing about the project's outcomes. After completion of the project, the author feels there could have been additional questions and information she would have liked to know about the participants and their workshop experiences, although the results provided a wealth of information. The survey included the following questions:

- What did you learn from this workshop?

- What did you like best about this workshop?

- Did you have a positive experience during this workshop? (yes or no)

- How would you improve this workshop?

- Would you recommend this workshop to someone else? (yes or no)

- Any additional comments about this workshop experience?

What Did You Learn?

To the first question, 224 participants responded, often with multiple comments, as shown in Figure 7. The top theme, which 66 participants wrote about, was teamwork and collaboration. It

appeared that many individuals who participated in the workshops were from different departments within the libraries, and some people were meeting their colleagues for the first time. Many individuals noted that they enjoyed working with individuals that they did not see or work with very often. Most importantly, however, participants enjoyed working as a team. One participant noted that he or she learned more about "teamwork, listening to others, being heard, as well as my colleague's visions of challenges and solutions." Many individuals noted, both in the survey and throughout the workshop, that they wished all their committee and collaborative work could be this productive, engaging, and fun.

The second most important theme in the participants' reply, mentioned by 49 participants, was the knowledge that participants were on the same page as most of their colleagues. Many participants noted that they worked in different areas of the library and rarely had an opportunity to talk, and they were surprised that most of them shared the same issues and concerns. One participant noted, "[W]hen you put the stress, frustration, and busy days aside, we are all on the same page". Ideally, in a large organization such as an academic library, one would hope that although everyone performs different work, they are, in fact, working toward the same goals or mission. However, as the author has learned from her own experience as an academic librarian, larger organizations can mean that departments find themselves isolated and often competing for limited resources. Sometimes they forget that they are working toward the same goals. This can result in a disjointed organization and teams of workers who are not on the same page.

Creativity was the third most prominent theme in the respondents' answers. Forty individuals noted that they learned more about creativity. The author, from her experience as an art librarian and former student in the arts, has concerns that creativity is not a skill that many academic library faculty and staff are encouraged to cultivate. One participant noted, "I loved expressing

ideas, aspirations, and frustrations. Using creativity and building something can alleviate anxieties about sharing one's thoughts or ideas". Stretching one's creative muscles can be risky and perhaps involve failure. Thinking abstractly is not always encouraged in organizations that base their success on numbers. Although failure is not a word the author of this article believes in, for one learns something from every project, she does recognize that some projects or ideas have more impact than others. However, if academic libraries want to encourage innovation and cutting edge ideas, then they must empower their employees to explore, try out new ideas, and maybe even fail a time or two.

 [INSERT Figure 7. Survey responses to the questions, "What did you learn?", Please Refer to Figure 7 in text]

<mark>What Did You Like Best?</mark>

The second question, "What did you like best?, was answered by 233 participants (see Figure 8). Fifty-four participants liked learning about their colleagues, meeting new colleagues, and working with individuals with whom they did not normally work. This was not surprising, for as noted in *Playing with LEGO®, Learning about the Library, & "Making" Campus Connections: The Rutgers University Art Library Lego Playing Station, Part One*, the author states that pop-up making spaces can be a great way to build community (Lotts, 2016). One participant stated, "I liked communicating with staff I'm not normally in close contact with and sharing our challenges and goals." Perhaps making and working together across library departments more creatively is one way for organizations to build stronger communities that move together cohesively towards a common vision or goal.

Forty workshop participants indicated they liked the collaborative nature of the workshop and working in teams. One participant responded that he or she liked "the group work where we had to work together and realize a common vision." Perhaps this is because when individuals work in groups, they have the opportunity to share ideas as well as learn more about others' ideas. Although academic library faculty and staff work together regularly the author has concerns that much of the group work that is completed is not done in a very productive manner. Perhaps it is worthy of academic libraries investing more time in educating their staff on how to work together, which would most likely benefit the organization as a whole.

Thirty-seven participants indicated that they liked playing, a number similar to an additional 32 who liked laughing and having fun at work, all non-stressful activities. Providing less stressful and more playful situations within the workplace can lead to happier employees who are creative problem-solvers and work well together as a team. One participant noted, "[T]his workshop showed me that every challenge that comes along can be overcome when a positive and creative environment is being provided." From the author's experience in academic library meetings, there can be much more focus on the negative or barriers, not looking at what is possible when dealing with challenges. The act of creation and play can be a means to engage in a more productive conversation as well as address difficult issues in a non-threatening way.

Thirty participants indicated that they liked having the opportunity to be creative at work, and an additional 30 individuals indicated that they liked sharing the models they made as well as hearing more about what others created. This could be because individuals in general, like to create and share. In particular, when one creates something with one's hands, one is often proud of the results, and wants to share it with others. One individual noted, "[E]ven though there was limited time for activities, at no time was anyone made to feel stupid or un-creative [sic],

everyone's creations were celebrated". These responses could indicate that perhaps individuals are not provided enough creative outlets at work, or perhaps we are not celebrating individuals for their hard work and ideas. Worse yet, the author of this article is concerned that in some academic libraries an employee is more likely to hear from the boss when they have done something wrong, as opposed to something good. Perhaps if employees were given more creative opportunities in the workplace as well as the opportunity to share and discuss their ideas with their colleagues, they would be more involved within the organization and have a desire to excel and innovate.

[INSERT Figure 8. Survey response to the question "What did you like best?", Please Refer to Figure 8 in text]

Did You Have a Positive Experience?

When workshop participants were asked if they had a positive experience, 235 individuals responded yes, 10 individuals did not respond to this question, and no one indicated that they had a negative experience. This outcome could be in part because throughout the workshop most participants were laughing, smiling, and appeared to be having a good time, perhaps a symptom of playing at work. It could also be that this workshop was different and not something academic library employees experience in the workplace. Alternately, individuals had a positive experience because the workshop offered fun, hands-on learning rather than a podium and PowerPoint.

How would you improve this workshop?

To the question "How would you improve this workshop?", 155 responded (see Figure 9). Of these, 46 responses indicated that the workshop was fine as it was; 32 wished the workshop had

been longer. This could be because individuals were having fun and wanted to prolong the experience. Although the author has considered making the workshop longer for future studies, she has concerns that extending the workshop's duration might entail the loss of its fast-paced, hands-on creative nature, and that some individuals might get bored or overthink their Lego models. There is also a logistical concern about extending the workshop, because currently an hour and a half is a lot of time to take out of one's daily work life, especially for an activity that one's bosses might not appreciate or approve.

Throughout the workshops, many participants indicated that they wanted to learn more about how they could use Legos and making activities to connect with patrons within their libraries. Thirteen participants responded that they wanted to know more about the Rutgers Art Library Lego Playing Station and how the act of play could be applied to teaching information literacy skills. For this particular study, the author intentionally chose not to prepare a PowerPoint or use any type of technology for presentation purposes. Instead, the author wanted the workshop to be hands-on and somewhat self-directed learning experience. From her own experiences working with students, faculty, and staff, the author believes that individuals are more likely to pay attention and engage with each other when they are having fun, which encourages them to participate in the learning experience. The author was sometimes able to provide more information on how she has personally used Legos in her pursuits to connect with patrons and teach information literacy skills; however, the time for such discussions was not built into the workshop. The author did encourage individuals to read two of her recent articles on the topic, *Implementing a Culture of Creativity: Pop-up Making Spaces and Participating Events in Academic Libraries"* and *Lego® Play: Implementing a Culture of Creativity & Making in the Academic Library,* and included links to these papers in the workshop invitation (Lotts, 2015).

Further, upon return from the workshop tour, the author sent out a digital newsletter including

initial facts and figures about the project to the point of contact at each university visited, with

hopes they would share this with the libraries and workshop participants. Due to restrictions

from Rutgers IRB, the author was not privy to the names of individuals who participated in the

workshop, unless the participant introduced themselves to the author personally.

[INSERT Figure 9. Survey responses to the questions, "How would you improve this

workshop?", Please Refer to Figure 9 in text]

Would You Recommend this Workshop to Someone Else?

When asked the above question 231 participants indicated "yes." Additionally, there was one

"maybe" and one "no," while 12 individuals did not respond to this question. Similar to the

previous survey question, "Did you have a positive experience?", the author assumes that

because most participants appeared to have a good time, they were likely to recommend this

experience to another person. It is also possible that participants would recommend this

workshop because it was a unique experience for many of them, and that learning by playing

with toys is not often an activity that one experiences in the workplace.

Additional comments:

When provided an opportunity for additional comments, 129 participants responded mostly

with positive remarks; see Figure 10. Fifty-two participants responded with comments such as

"amazing," "excellent," "awesome," "fun," "enjoyable," "fabulous," and so on; see Figure 10.

Forty-three participants responded with "thanks" and 15 participants responded with "great

job/workshop." There were three constructive comments, including, "[W]ish you would have left

the Legos at our library," "[W]ish the Legos were organized," and "[W]ish we had more time for

discussion." Unfortunately, it was impractical to keep the Legos organized, in part because the workshops were back-to-back, which did not permit enough time to keep 100 pounds of Legos organized. It would have been wonderful to leave Legos at each library; but because this was this was an unfunded project and most of the Legos were donated to the Rutgers University Art library, the author was only able to provide participants with the handmade Lego faces she created as a workshop take-away (see Figures 4 and 7). A few participants provided new ideas for challenges, and one individual wanted to know more about the results of this project. One comment stated, "[T]his could be a nice workshop to offer as a pre- and post- assessment [sic] of a big task or challenge." Another participant noted, "[T]his workshop was an excellent way to introduce team building activities and foster creativity." As noted previously, it is likely that most of the comments were positive because 235 out or 245 participants responded that they had a positive experience. Alternately, it is perhaps fair to note that academic libraries and their employees can benefit from offering/featuring making experiences that encourage creativity, innovation, and teamwork within their organizations.

 [INSERT Figure 10. Survey response to "Additional Comments?", Please Refer to Figure 10 in text]

The Best Library Ever…

   For the final task of the workshop, participants were organized into small groups of two to five participants each, depending on the overall size of the group, and asked to use Legos to create a model that depicted "the best library ever" in their view; see one example in Figure 11. Participants created 58 Lego libraries in the 20 workshops. As each group presented their Lego library, the author wrote down the words the participants used to describe their models. In

Figure 12, you can see a word cloud created from the most common terms the participants used to describe their Lego libraries.

[INSERT Figure 11. Example of "the best library ever." Photo by Brady Smith.]

[INSERT Figure 12. Words most commonly used to describe "the best library ever."]

Of the 245 academic library faculty and staff that participated in this study, many individuals created models that spoke about the individuals who worked in the library and the patrons who use the library. The number one word used to describe the Lego libraries was "people". This could be due to multiple factors. Legos are known to be a tool that can be used for storytelling, and the 100 pounds of Legos used for this project included a large population of mini-figures. Also it could be simply that libraries are full of people, including patrons as well as staff, which encouraged the participants to use Lego figures in their storytelling. Another reason for the Lego libraries being full of people could be because patrons often come to the library looking to take action, such as studying, using the printer, getting help, checking out materials, or meeting their peers, which were activities featured in many of the Lego libraries.

The second most common word used to describe the Lego libraries was a tie between "open to patrons" (as in all inclusive), "the spaces," and "technology." The author notes that these three terms are similar to the number one word – "people" – used to describe the Lego libraries. As noted in the introduction of this paper, Sari Feldman, the President of ALA, stated that libraries are about the people working in them, and her statement seems to be proven true from the perspective of this study. In the case of the second most-common words to describe the Lego libraries, we see workshop participants focusing on creating spaces for the people and about the people, as well as providing technological access to the people.

The rest of the most common used words to describe the Lego libraries, ranked in order of their frequency from 5 to 10, are: "eco-friendly" (5), "books" (6), "money" (7), "makerspaces" (8), "computers" (9), and "art" (10). "Books" was the sixth most-common word used to describe the Lego libraries; 20 of the Lego libraries included books, and 38 did not. There was discussion among participants and the author that perhaps this could be because academic libraries are becoming more patron-centric than collection-centric. Further, the reason could be because many participants were focused on collections or on services that their libraries did not already provide, such as working heating, ventilation, and air conditioning, makerspaces, rooftop pools, party rooms, and rocket boosters to the future were included in one Lego library.   The author, being an art librarian as well as an artist, was delighted to find "art" in the top ten most common words used to describe the Lego libraries. She hopes this indicates that academic library faculty and staff see the value of art in libraries. Howeve, the author wonders if "art" was commonly included in the Lego libraries because individuals were feeling creative and appreciative of aesthetics after playing for over an hour.

Observations

From the author's experiences facilitating 20 workshops at 19 different universities, most workshop participants had a good time playing with Legos and engaging with their colleagues. This was indicated by lots of laughter, smiling, and sharing throughout the workshops. Many individuals appeared relaxed and were able to let their guard down during the workshops. This could indicate that play in the workplace is a great way to interact with colleagues and relieve stress. Perhaps academic libraries need to make more time for community-building activities that benefit morale as well as bring together individuals who do not always have an opportunity to

work with each other. This could create a more cohesive team that is moving together towards a common vision.

It was important for these workshops to succeed so individuals were eased into group play. Participants had the opportunity to get familiar with the Legos and thinking with their hands, before having to work with their colleagues. Many workshop participants pointed out that they liked starting with solo tasks, createing a nice flow before they began working in groups. It was also important that after each building challenge participants were encouraged to share their models with the group. It provided them an opportunity to expand upon their own visions and, in some cases, share how they got there.

Many participants were able to quickly relate to the Legos and their peers by using Lego mini-figures to represent themselves within their creations (see one example in Figure 13). By being able to visualize themselves within real life work situations, some individuals were able to come up with new innovative and creative ways to solve problems. However, in multiple instances throughout the workshops, it was noted that libraries are about diversity and inclusivity, and the LEGO group could do better when creating Lego mini-figures.

[INSERT Figure 13. Model made by a workshop participant titled, "trying to fit big data through a small door" Photo by Megan Lotts.]

Overall playing with Legos helped participants create a better sense of community and allowed individuals to address difficult conversations in a non-threatening way. Many individuals noted that it was nice not to take work so seriously. Some participants felt like they were able to have more light-hearted and constructive discussions over issues they had been trying to work out for years.

An issue that was brought up multiple times throughout the workshops was time, and never having enough of it. Some participants had trouble working under time constraints, which felt similar to their work situations. They wanted or needed more time to work on their models. Also, because Legos can be a toy that is used in a metaphorical way or for story-telling, sometimes, participants were long-winded about their creations or over-passionate in sharing their models. However, the timed challenges provided to individuals who have trouble working under time constraints the opportunity to realize that good solutions can come from quick thinking and decision making. One participant noted that "she was someone who tended to over-think ideas and it was good for her to have time constraints, otherwise she will still be working on perfecting the first challenge." Perhaps the issues with time indicate that we need to make more time in sharing the good work we are doing, whether that be with each other or a greater community. Also perhaps academic libraries do not need to take themselves so seriously, or to over-think things, and remember, it's OK to fail. Libraries are fluid collections and spaces, which will always be changing.

Conclusion:

If you visit the LEGO® SERIOUS PLAY® home page you will find the quote, "You can learn more about a person in an hour of play than you can from a lifetime of conversation" (LEGO SERIOUS PLAY Method, 2015). The quote has been noted as a quote from Plato, however the author was unable to find concrete evidence that this was in fact a direct quote. Regardless, from 6 weeks on the road, touring with a pop-up makerspace of 100 pounds of Lego, the author believes this statement could be true.

From the result of this study, it was overwhelmingly expressed that academic library and staff enjoying working together as a team and learning more about their colleagues. Participants were

surprised to find that even though they may not see or work with their colleagues regularly, they all share the same challenges and are on the same page. Also, individuals want to have more fun at work and be encouraged to think creatively and try out new ideas.

The #LeGOMAKE project has taken a closer look at the possibilities of making and shown that playing and learning with toys, such as Legos, can inspire individuals to think creatively and solve problems in non-traditional ways. Although Lego play might not be right for every academic library, the author encourages academic libraries to think about the ideas of fostering a culture of creativity within their libraries and ask themselves, in what ways does their library provide their faculty, staff, and patrons the freedom to be creative and innovative.

Making in academic libraries is an area that needs more research. We need to look more closely at the principles that are involved in making and the types of skills making develops such as spontaneity, imagination, and adaptability. In this case, play and building with Legos allowed and provided academic library faculty and staff an opportunity to slow down, think with their hands, and spend some time sharing with and listening to their colleagues. Legos and the act of making created community and encouraged individuals to think more about teamwork and how they engage with their colleagues. In the case of Lego play and making, generally there are no right or wrong answers, yet many ways to solve a problem. Perhaps, similar to the chaos of our everyday work lives, one can create order out of a giant pile of Legos, when working in a positive environment that supports innovative problem-solving, creative thinking, and team work.

References

Blunk, B. (2014, November 5). One Lego brick at a time: Using LSP to teach library skills. In *SeriousPlayPro* . Retrieved from http://seriousplaypro.com/2014/11/05/one-lego-brick-at-a-time-using-lsp-to-teach-library-skills/

Confino, J. (2015, September 26). Why Lego's CEO Thinks More Grown-Ups Should Play At Work. In *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/entry/lego-and-the-power-of-play-to-transform-business_55d72809e4b020c386de52bd?utm_hp_ref=business&kvcommref=mostpopular

Gillies, Maguire C. (2014, December 18). Lego: Can this most analogue of toys really be a modern urban planning tool?. In *The Guardian*. Retrieved from http://www.theguardian.com/cities/2014/dec/18/lego-toys-urban-planning-tool-architects-mit

High Line (New York City). (n.d.). *In Wikipedia*. Retrieved December 13, 2015, from https://en.wikipedia.org/wiki/High_Line_%28New_York_City%29

High Line Art Presented by Friends of the High Line. (2015) *Olafur Eliasson The collectivity project*. Retrieved from http://art.thehighline.org/project/olafureliasson/

Ison, J. (2014, July 15). ALSC and LEGO Systems partner to create Junior Maker Spaces. In *American Library Association*. Retrieved from http://www.ala.org/news/press-releases/2014/07/alsc-and-lego-systems-partner-create-junior-maker-spaces

Klebanoff, A. (2009, July 1). Block party: Legos in the library. In *School Library Journal*. Retrieved from http://www.slj.com/2009/07/programs/block-party-legos-in-the-library/#_

Kooser, A. (2014, February 14). 12-year-old builds low-cost Lego braille printer. *In CNET*. Retrieved from http://www.cnet.com/news/12-year-old-builds-low-cost-lego-braille-printer/

Kurt, L., Kurt, W., & Medaille, A. (2010). The power of play: fostering creativity and innovation in libraries. *Journal Of Library Innovation*, *1*(1), 8-23.

Lauersen, C. (2015, April 28). Connecting with new students – the making of a LEGO Library Stop-Motion Movie. In *The Library Lab*. Retrieved from http://christianlauersen.net/2015/09/08/the-university-library-brick-by-brick-a-lego-library-movie/

Lauersen, C. (2015, September 8). The university library brick by brick – a LEGO Library movie. In *The Library Lab*. Retrieved from http://christianlauersen.net/2015/09/08/the-university-library-brick-by-brick-a-lego-library-movie/

Lauersen, C. (Executive Producer). Norkjaer, J. (Narrator). (2015). *Welcome to Copenhagen University Library* [Online video]. Retrieved from https://www.youtube.com/watch?v=kgABWpEhY5A

LEGO SERIOUS PLAY Method (2015). LEGO. Retrieved from http://www.lego.com/en-us/seriousplay/

Lotts, M. (2015). Implementing a culture of creativity Pop-up making spaces and participating events in academic libraries. *College and Research Libraries News, 76(2)*. 72-75. http://crln.acrl.org/content/76/2/72.full.pdf+html

Lotts, M. (2015). Lego® play: Implementing culture of creativity & making in the academic library [Electronic version] ACRL Conference Proceedings, 409-418. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2015/Lotts.pdf

Lotts, M. (2016, May). Playing with LEGO®, Learning about the Library, & "Making" Campus Connections: The Rutgers University Art Library Lego Playing Station, Part One. *Journal of Library Administration*, *56*(4).

McNeill, B. (2015, October 16). With the help of 15,000 Lego bricks, VCU students to engage in creativity, collaboration. In *Virginia Commonwealth University*. Retrieved from https://news.vcu.edu/article/With_the_help_of_15000_Lego_bricks_VCU_students_to_engage_in

Mortensen, T. F. (2012, January 9). LEGO group history. In *LEGO*. Retrieved December 5, 2015, from http://www.lego.com/en-us/aboutus/lego%20group/the_lego_history/1930

PRWeb. (2015, January 14) *Rhode Island School of Design Kicks off Collaboration with LEGO® Education.* Retrieved from http://www.prweb.com/releases/2015/01/prweb12438576.htm

Schmalz, J. (Producer). Young, J. R. (Narrator). (2015). *Campus Libraries Rethink Focus as Materials go Digital*[Online video]. Retrieved December 10, 2015, from http://chronicle.com.proxy.libraries.rutgers.edu/article/Video-Campus-Libraries/234341

Stout, R. (2015). Hand in hand: teens, tech and community engagement. *Young Adult Library Services*, *13*(2).

Studying 24/7 and Stress Busters. (2015). In *University of Minnesota Libraries*. Retrieved from https://www.lib.umn.edu/about/finals

What is LEGO® MINDSTORMS®?(n.d.). In *LEGO*. Retrieved from http://www.lego.com/en-us/mindstorms/support

Yam, K. (2015, January 12). Tortoise gets wheelchair made from Legos, skates around like a pro. In *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/2015/01/12/tortoise-lego-wheelchair-_n_6458142.html

Yvette, C. (2015, July 18). ALA Think Tank. In *Facebook*. [Group page]. Retrieved December 14, 2015, from https://www.facebook.com/groups/ALAthinkTANK/permalink/882089835197171/