

**IMLS Convening
on
Learning Spaces in Libraries
May 15, 2014**

San Francisco City Librarian Luis Herrera

Luis Herrera welcomed attendees to San Francisco Public Library and opened the convening.

IMLS Director Susan Hildreth

Susan Hildreth thanked attendees for coming to help inform IMLS grant-making and advance work in the field.

IMLS Deputy Director for Libraries Maura Marx

Maura Marx introduced “learning spaces in libraries” as all the things that libraries are doing in the shift to participatory learning, such as learning labs, makerspaces, and digital commons. She asked participants to provide input throughout the day to get to some tangible outcomes, and she proposed some possible questions to be explored, as follows:

- What are the skill sets that librarians need today to support hands-on learning?
- What's needed to support a thriving community of practice?
- What can we share about forming and maintaining good community partnerships to support this kind of learning?
- What are the most relevant measures of impacts of learning spaces and activities?
- What are we measuring and how do we evaluate?

Session 1: Library Learning Spaces: the Shift to Participatory Learning

Luis Herrera (Moderator)

Susan Nutter

Erica Compton

Andrea Saenz

Susan Nutter talked about North Carolina State University and her vision to build a great library there. Today the library is 99 percent full at all times and features 20 different kinds of learning spaces. Ray Oldenberg first described the concept of third space as a place that's not your home and not the place where you work, but a place to be surrounded by meaningful community. He felt the third space was important for democracy and civic engagement, and it was obvious that the library was that kind of place. In academic environments they started off with computer-filled information commons, where collaboration was lacking, but it was a first attempt to create a space that users wanted and needed. Most of us have visited institutions where every chair looks alike and is uncomfortable, and these dated and tired spaces need to be addressed in a transformative way to become third spaces. Most importantly, they didn't tell stories, and we've learned how important those are. NC State's learning spaces emphasize natural light, openness and transparency, seamless technology, and the importance of color, which is critical with new generations coming into the library. They prioritized the quality and diversity of furniture, with 85 different chairs in 115 different colors, and the school looked at making the space modular whenever possible. Universities are challenged with large central facilities and construction operations that are traditionally very conservative. To counter that, it's important to be tough and persuasive and engage with the community. Today, NC State's library is a favorite place on

campus. The university's best ideas came from public libraries and from European libraries, and they hired their own architect and interior designer. A major issue for their learning spaces now is staffing. We need to look at the skills needed in these spaces and how to best provide them, as well as return on investment and how to define success. We need to find ways to fund different kinds of visualization environments with much cheaper technology, which could be a game changer. Lastly, integrating mobile devices with large displays and physical spaces is really crucial to our future.

Erica Compton framed the discussion in terms of learning spaces for school-aged youth, and posed the question of why learning spaces should be in libraries. We need engaged, excited youth, who are passionate problem solvers, but according to the nation's report card, three-quarters of all 12th graders lack proficiency in science, and reading scores aren't much better. According to these statistics, our kids aren't ready for the next stage of life, so how do we address this? Out-of-school learning is as important as in school, and children are in school only 18.5 percent of the time. Some kids have access to afterschool learning opportunities, but many do not. A million kids in kindergarten through fifth grade are home alone after school, and this speaks to why we need to do something. Current research also shows that effective afterschool learning opportunities really do work for all kids. We should embrace the philosophy of the library as a kitchen, where you cook, rather than a grocery store, where you passively consume. In Idaho, they first envisioned makerspaces in pilot libraries, but then switched their focus to creating makers rather than spaces because that's what's important. Their libraries have created environments where kids are free to explore, play, experiment, test, and understand that failing isn't the end. They reached over 9,000 kids in the first year, and the librarians say they're seeing different kids, which is key. There are many afterschool organizations, but in looking at their board membership, conference attendance, and other activity, almost nowhere are libraries part of that conversation. Libraries are out-of-school learning spaces already and need to join the national discussion and be active in helping to drive what's happening.

Andrea Saenz talked about how they're tackling participatory learning across the Chicago Public Library system, which is very large and involves change throughout the entire organization. They began to engage library staff in strategic priorities a year ago and decided to define their role in the city of Chicago as an institution that accelerates lifelong learning. They have taken very seriously their role as a place where people come to get help finding jobs, furthering their careers, and advancing economically. Even though it's hard to measure, they believe they have an important role to play in strengthening communities. They began to engage their library staff in participatory learning through a reinvented all staff day where people engaged in making stations in the morning and during the breaks. They also launched an unconference for staff. They've asked how they might serve as a catalyst for creativity and learning, and they're working on iterations of possible answers, testing them out, and letting people know it's okay not to have it down perfectly. When YOUmedia started six years ago, it was considered a strange thing to be doing in a library, but they're now in a place where they can engage all 1,000 of their staff in learning practices developed by the YOUmedia team and integrate that thinking, which is starting to yield results. People who wouldn't normally cross paths are coming together in their spaces and building relationships, so they're starting to see real transformation.

Luis Herrera asked how you create that buy-in and ownership within your staff when the challenge of organizations is that they're change adverse.

Andrea Saenz responded that those were her takeaways. First, they do everything in partnership, which helps with staff buy-in, because they're not asking them to become new kinds of professionals. They make sure staff receive the support they need, and they remove the bureaucratic obstacles.

Erica Compton noted that at the state level, they have no sticks, but only carrots. They handpicked the first five libraries for their project based on prior relationships, and the second cohort applied, knowing what they were getting into. They created a Memorandum of Understanding to clearly outline expectations, provided hands-on education when needed, and educated libraries about the “why.”

Luis Herrera asked for the other speakers’ takeaways.

Erica Compton reiterated that we have to join the national discussion for out-of-school learning, and it won't happen without us reaching out first and jumping on the table. Second, we need to support the innovative options for learning, and that includes a push for professional development. Finally, we have to develop effective evaluation tools, because if you try to figure out how to evaluate the learning taking place in a makerspace, it's really challenging.

Susan Nutter shared that in terms of the reaction to their makerspace, she has never seen anything that has so engaged the community and everyone who comes into the library. In terms of changing the culture, it is really hard, can take decades, and requires persistence. They changed their whole search process to bring in the right people with intelligence, passion, commitment, and a love for working with other people. They eventually developed a fellowship program that required some time spent leading an effort on one of the library's top initiatives. Why do librarians have to be trained for a year before working the reference desk, when you can come out of an MBA program and become a vice-president? Now 67 percent of their fellows accept permanent jobs, everyone else gets several contract periods to reinvent themselves or find another job somewhere else, and their overall workforce has been transformed. Something needs to be done about library schools, because they don't interview their candidates and they tend to hire the same types of people, when what we need is diversity.

Issues/Questions/Comments from Group Discussion:

Question: Chicago Public Library has done a great job of engaging the whole staff; has the community also been engaged?

Andrea Saenz: The library conducted a recent patron survey for every cardholder over the age of 14 and implemented human-centered design training that teaches staff how to engage with and observe patrons and get a deeper sense of what they want.

Susan Hildreth: Erica's comments about getting at the table for discussions and reaching outside our world to other worlds were great. It's tough to make progress, but this is the way to go, because we are not, sadly, at the top of anybody's mind.

Question: Can you talk about going into other community spaces and making connections between STEM education and the workforce and the potential for 3D printing in real world situations?

Andrea Saenz: The library joined the Chicagoland Workforce collaborative, which involves attending meetings regularly and collaborating on basic digital skills with those organizations. They've begun to work closely with the city college system and send folks from the maker lab out to visit. They work closely with museums and cultural institutions in the area as well as schools.

Erica Compton: Several Idaho libraries have already started taking the materials and doing outreach to Head Start facilities, elementary schools, community centers, boys and girls clubs, etc. Outreach is one of their biggest pushes.

Susan Nutter: The university was picked as a lead institution by Obama to build new manufacturing capability, which involves six universities and about 12 companies. The library is at the center of this effort with its makerspace. They're one of the hosts of the maker faire, and kids that come in for manufacturing summer camps spend a day of workshops in the makerspace.

Session 2: Approaches to Technology & Space

Nate Hill (Moderator)

Corey Wittig

Andrew Sliwinski

Jason Griffey

Corey Wittig noted that when people see their learning labs program from a distance, they might say it's a technology program for youth, but it's really about connected learning, which is a big shift altogether. Their program is currently in three of their 19 library branches with weekly workshops around creative experiences for teens. They also have open lab time, which provides a chance for teens to hang out with the mentors. The question is how to create similar experiences in their other 16 branches. It might be represented by a "best practices bullseye," where the center is an existing program like theirs, and the second rung might be going out to other branches to match their needs with tested programs. The next step might be sending out the kits created for other branches on a county-wide scale, followed by a state-wide or national-level program in a box. Mobile or pop-up projects can be tough because ideally the equipment and staff should be there every day to best serve the teens. Building that capacity with staff is key. It's not asking them to become experts, but it's extending the idea of what librarians already do by knowing the basics and the community connections.

Andrew Sliwinski shared that DIY.org has about 100 skills that kids connect to through an online digital community, where the purpose is to connect passionate kids or individuals to other people that love the same thing. He offered some lessons learned the hard way. The first is that access is not enough, which means that in addition to creating a space, it needs to be about building a community. The last panel talked about what libraries can do to connect with spaces outside of themselves, and that is one of the community-building pieces. We're seeing a shift in learning from push knowledge to pull knowledge, with people going out and seeking information. We've also learned that learning requires a community. Sometime in the 1980s we passed a threshold where the complexity of technology surpassed the ability for any individual to internalize an entire domain. The side effect is that we live in an age of information abundance, but of contextual scarcity. Communities are the best way to help people overcome this lack of context, and the deepest connections happen through people. Finally, we have to be less afraid to talk about the scary stuff, such as Internet privacy, the safety concerns that come with these spaces, or insurance liability. This means having open and honest conversations with parents and teachers around technology. We need to be leaders in sharing best practices and sharing information on how to solve some of these problems.

Jason Griffey offered the story of how their small university's planning process for a new library has taken over six years, which is an eternity in the land of technology planning. The state planning officer told them that the technology should last 30 to 40 years, and any kind of long term infrastructure involves a huge amount of future proofing. They're tackling this by creating spaces that are as reconfigurable as possible. They fought for access flooring in the entire space, which adds cost, but is incredibly important for a flexible space. The core takeaway is that you don't want to create a locked down technology space, because it will guarantee that space goes out of date. Part of their plan was to

create a studio for making, including audio, video, 3D renderings, etc. They want to open up the concept of the makerspace and make it more about the generalized creation of digital things. Finally, there's a lot of focus on how we serve our patrons, which is correct, but having a makerspace also enables a library to accelerate itself. Having the ability to create our own tools, like connecting an Arduino to some sensors and having it report to a Raspberry Pi server, means you can cheaply measure the activity in a room in a way that hasn't been done before. Right now, we don't have a good way of assessing much of what happens in library buildings the way we measure our websites, and this would be like Google Analytics for our buildings. Having makerspaces in libraries enables this sort of creativity and technological advancement that we may not get any other way.

Nate Hill asked how the panelists' institutions are addressing the management of these new technologies.

Corey Wittig responded that their program is creating kits to go out to the other branches, and they just got okayed to ship this technology with the books, which is huge. There's some degree of central management and inventory, but no real system yet for knowing what is where. For a field that's about organization, this kind of stuff feels so disorganized, but part of it is because of that culture shift.

Jason Griffey noted that they're taking some cues from the software/coding/development communities because documentation really is the best answer for long term knowledge retention. As they go through the process of replacing an extruder on their MakerBot they document the process as they're doing it and put it up on a wiki.

Andrew Sliwinski referred to a term in engineering called dogfooding, which requires you to be using the tools that you're making in order to close the feedback loop. As the means of production are being democratized, there's a tremendous power that can be unlocked by using these tools in libraries. Technology requires deep institutional knowledge, and everyone within the organization needs to be able to adapt to meet the changes that are happening when technology is embedded at such a low level in any organization. At DIY, they have an apprenticeship program, in which a big part of the learning is mimicry, giving apprentices access to someone with a bit more experience.

Nate Hill asked for the panelists' recommendations.

Corey Wittig started with the idea of incentivizing learning spaces across systems, and more easily converting these spaces into a room that makes all kinds of programming possible. When we're talking about this kind of experience, it should truly include the community and not just an expectation for people to come to the space to find out what it's about. Professional development around connected learning is a key need, especially in how it's done in retrofitted spaces, not ideal ones. We rely on our partners in the community to come in and do a lot of that work, but how best do you make that a sustainable part of your program? Adding to that is the informal learning curriculum. The learning labs cohorts talk a lot about sharing knowledge, and the Google Plus community is one option for sharing. However, there's still not quite that place where we can all look to share this curriculum as it's being developed.

Andrew Sliwinski noted that we need a national platform that shares these best practices. Libraries need to be leading this discussion, because they are the largest potential space where this can thrive. The amount of information, best practices, and scary stuff referenced earlier that can be shared between spaces—both informal learning environments and more formal learning environments—offer a tremendous opportunity for libraries to lead that discussion and to lead that platform.

Issues/Questions/Comments from Discussion:

Question: Do we have any data on what people are building in libraries? Are people coming in and saying 'I want a preconceived project and help me build a skill,' or 'I have this great idea and I just want to reify it?'

Nate Hill: It's a bit of both. People need some structure, so it's not just a free for all. We have people coming in, trying things, and failing, but we do see some pretty amazing outcomes, including a guy who came in and built a prosthetic yogurt scoop for his kid.

Jason Griffey: In an academic library, students usually come in with a pretty firm idea of what they want.

Andrew Sliwinski: Within hacker spaces, it runs the gamut. A lot of times you'll have somebody show up at an open lab and they know exactly what they want to build. On the other side, it's, 'I saw blinky lights, I like blinky lights.' We try to get somebody in that stage of learning to understand the potential, so there's more light on the dark space of any given knowledge domain, and those seem to be the majority of our users.

K-Fai Steele: How do you make these spaces more inclusive, so it's not just for the kid who aspires to become an engineer? Also, how do you teach the tinkering process for kids who aren't taught the scientific inquiry process and care more about the end product?

Andrew Sliwinski: One of the ways DIY thinks about this is teaching the growth mind set. If you have a diverse population within your library and the people within that library are modeling the behavior, amazing things can happen. One of the unfortunate side effects of the discussion around makerspaces is that it is so focused on STEM and that dominance cuts away from the discussion that's needed around accessibility, from demographic and topical standpoints. Why aren't we talking about sewing or bee keeping or farming? DIY's approach it is that all skills are equal, and we don't create those value judgments. It really comes down to people, where you have someone that can see that kid slowly backing out of the room and grab them and say 'what do you love to do?'

Corey Wittig: We try to make our programming broad for that reason. Our workshops have become more inclusive and more open and scalable, with a low bar for participation. One of our workshop design principles is things should be in the teen's hands within five minutes of the start of the workshop, which came out of a consultancy exercise. There's also an icebreaker hook that's meant to make it seem less intimidating. That entry point needs to be really low.

Amy Kautzman: If we're working in systems that are locked in place, how do we shift our thinking towards getting people on board with flexible planning?

Jason Griffey: Some of it is leading from below, but some of it is really visionary and related to the ability for someone to make it happen. You have to have a team that can actually see and understand the changes that are coming. We've done a lot of relationship building and have made it our priority, so that if there's something being talked about on campus, a librarian is there as part of the conversation.

Question: Have you used or do you see a need for a narrative to make maker culture more inclusive, and have you used it?

Andrew Sliwinski: Yes. There's a media part of DIY, and we've been trying to use video to tell those stories, to try to diversify the conversation. It takes a lot longer to build up that kind of storytelling platform than it does to build a website, which you can do in a day. A big priority for us is to try to shift the narrative, to try to diversify what people think of when they think of the word maker or makerspace or learner.

Session 3: Staffing & Mentorship Models

Tim Carrigan (Moderator)

K-Fai Steele

An-Me Chung

Kristin Fontichiaro

K-Fai Steele talked about Philadelphia Free Library's maker initiative, in six libraries in low socioeconomic status neighborhoods. One of their big achievements is that they've recently hired part time temporary city positions as maker mentors, college prep mentors, and workforce development for youth mentors, and none of them are librarians. It involves a lot of professional development and community building between the mentors as much as between a mentor and a youth. The library offers them formal and informal tinkering sessions internally within the community and through various MOOCs and Google communities. The reason they are able to do all this is because they have executive buy-in support for what they do. A big question to think about is who gets to be a librarian? It seems like the traditional model of library services is not working. It's made for teens, not with teens, and it's not based on community engagement. Working alongside youth through every single step of the design and construction process and the programmatic side is essential. One problem is that the traditional model for innovative grants means hiring grant-funded staff, which are part-time. When your grant is over you move on to the next grant, which could be something completely different, and whatever you've built gets absorbed by others. Library promotions in the civil service also ensure that you're not following a career trajectory, you're just moving up ranks. The challenge is that many libraries are dysfunctional systems, and their rigid structures in many ways need to be eased open.

Kristin Fontichiaro shared her experience with the Michigan Makers Project at the University of Michigan School of Information. The program is in its second year, and in addition to empowering community youth, it prepares pre-service librarians for a new kind of library. Graduate students mentor makers in grades four through eight in a weekly pop-up makerspace in different schools, and this year they intentionally expanded to underserved communities. The students select from eight to ten activity options each week, or work on making something not on the list. They do a little bit with STEM, but are finding it's a limiting definition when they really want the widest range of participation. As opposed to the one-size-fits-all approach, the recognition of individual pathways better serves the overall community. They see four states of work: some folks come to calm down from the world outside them and do repetitive things; some are dying for stimulation; some folks putter and come to one of every workshop; some folks have their own vision and come because there's a sense of community in the space and some tools. With some kids they hear a lot of 'I hate this,' and they've had to consciously train the mentors that it means 'I love this, but I'm frustrated right now.' There are times when we need to step in for a few minutes so students can step back and regain a sense of agency. Kids who envision something really big and realize they don't have the stamina sometimes need a break for the project to get past that hurdle. We need to have folks who work in libraries who know how to teach in various

settings because if we value patrons the way we say do, we should not be having amateurs do the teaching. There are moments when direct instruction is really useful and moments when mentoring is really useful. If we're really committed to connected learning we should see ourselves as partners with teachers, not as replacements.

An-Me Chung talked about how Mozilla can help support what's happening in these communities. Mozilla, a nonprofit public charity, has an overall mission of creating a web literate world, and they're moving forward on building the tools. Their web literacy map includes the three strands of exploring, building, and connecting. Librarians have an incredible opportunity to be the community hub for teaching web literacy skills, and many times the library is the only community program in place that is free and open to the public. Imagine librarians learning these skills, and at the same time earning Mozilla web literacy badges for them. Why badges? There's no one institution that's responsible for all the learning that one person has, and badges have the ability to represent competencies that are achieved in other spaces and complement existing assessments. Because they're digital, you can add evidence to them and instantly see the skills that a particular person may carry. There are some other tools that Mozilla is building that can support communities, such as Appmaker. Rather than waiting for an app to be built and searching for it, the goal is to teach everyone they can actually build their own apps. Mozilla is also building low cost smart phones for about \$25 that will increase access and equity. It's really about providing the opportunities to empower more individuals and communities.

Tim Carrigan asked the panelists for recommendations to IMLS.

K-Fai Steele suggested a staffing model planning grant for innovations in the way libraries operate and in the services they provide to teens. It might have two categories within the grant, such as innovative program models and innovative staffing models. There's also been discussion of a sort of national community to have this conversation across libraries, much like the learning labs grant. Another idea would be funding to encourage people who are outside the traditional library school student, such as artists, to become librarians. This requires changing library schools and libraries, and requires a critical mass within library systems. There could also be funding for library schools to offer classes in tinkering, scientific inquiry, community building through creative projects, and community embedded librarianship. The kind of person who's generally attracted to becoming a librarian is someone who takes pride in having answers, but what if we tried to attract librarians who are more interested in knowledge building through asking questions, and changing the reference interview to collaborative inquiry?

Kristin Fontichiaro agreed that we need to turn out librarians who are aware that it's a different world. It could be incentives for library schools that are often dealing with enrollment issues or have financial reasons that keep them from innovating. These incentives could go toward refining formal course work or practicum experiences. Our students often watch their friends who do human computer interaction go off to paid internships at Google, Facebook and Yahoo, and they go to the free internship at the public library, so it would be nice to mediate that a bit. It also holds back our profession from being as diverse as possible, because if you don't have the financial backing to work an unpaid internship then librarianship will remain a middle class profession. Funds could also support guided service learning projects in informal learning. Importantly, how we can bring the energy of today into K-12 schools? They are a real crisis area, especially in certain geographic areas of the country. We can also reach out more to school libraries that are struggling so much to stay afloat right now.

An-Me Chung shared that a good space is meaningless without good staff, so investment in professional development is really critical. Basic skills like digital literacy are important, as well as empowering patrons to use them in a way that will engage with the community. Another piece is funding pilots that enable collaboration across communities. There is power in bringing people together from across

communities who have never had the opportunity to interact and allow them to compare notes and problem solve together. The ability to do that both in person and online is critical. We should figure out how to embed librarians into existing initiatives that allows them to grow and develop, such as Maker Corps through the Maker Ed initiative. Lastly, let Mozilla know what they can build for you.

Issues/Questions/Comments from Discussion:

CJ Lynce: Has anyone implemented a more formal model of patrons as mentors for the library staff?

Kristin Fontichiaro: A good chunk of what we learned came from Maker Works and All Hands Active in Ann Arbor. The maker community has been so invested and willing to share that expertise. It's okay for libraries to tell advanced students that the people who can really help them are the down the street.

An-Me Chung: For youth and teenagers, it's a really powerful experience for them to see mentors struggle with them, and that leads to community building. You're never going to get it right the first time, but what's important is they see you fail at it, which makes it okay for them to fail. Another general example is AARP, which is starting to fund reverse mentoring with young people around digital literacy skills.

George Martinez: In terms of badging, I know it's to certify that people have proficiency in certain skills after taking classes; is it also to certify that people are capable of teaching those classes?

An-Me Chung: That's actually the model that Mozilla is supporting, and they're finishing work on super mentor badges that test folks around the ability to teach others.

K-Fai Steele: You can make badges for kids, but the only way to see if they're meaningful is if you or your institution does the activities. In Philly, we're developing a mentor badging system and working with a group of 50 high school seniors this year to develop badges for rising eighth graders.

Question: Is Mozilla collaborating with existing community badging services like St. Paul's North Star that certifies that individuals have met the GED requirements and then are then recognized by businesses, or are they standalone?

An-Me Chung: Mozilla is primarily building the tools, but also supporting an emergent organization about to be launched, which is about helping to build the ecosystem and connect people (BadgeAlliance.org). Mozilla itself is content agnostic except for web literacy badges and the things that it makes.

Trent Miller: Madison Public Library's Bubbler Program is doing a lot with artisan residents or makers in residence for two to three months at a time, and it's been wildly successful. Do you see these types of programs as a way to get more artists in quickly as opposed to going through other channels?

K-Fai Steele: We're doing that as part of our LSTA grant and we have month-long residencies that include working with kids two days a week and interfacing with the mentors. It has to be a transformative relationship where the artist gets something out of it and the community gets something out of it.

Amy Eshelman: We are seeing a number of the learning lab teams using the artist-in-residence model as a way to support staffing. The Anythink Libraries in Colorado have a highly developed artist-in-residence

project as well, comprised of six to twelve month stints to not only mentor youth but also become part of the community. It's a great way to think about staffing.

Santa Ana Public Library: Can you talk about youth themselves being mentors to younger youth? Is there any research behind peer mentoring and whether it's an effective educational tool or approach?

Kristin Fontichiaro: If we look at the education literature there's a lot of discussion about mentoring. It's a sign of health in our community when we see students teaching one another, we just don't have that experience with our program. However, multi-age classrooms and peer mentoring is a good place to look in the educational literature.

Post-Lunch Update

Maura Marx talked about upcoming changes to the National Leadership Grants program, one of the IMLS discretionary programs. IMLS hopes to align funding with its strategic plan, which addresses learning, community, and content. Learning spaces in libraries falls under the community goal, and this convening will contribute to new guidelines that are more narrow and focused. One of the new developments will be a second deadline in October (existing deadline in February).

Session 4: Connected Learning

Susan Hildreth
Jen Humke

Jen Humke talked about connected learning, which grew from the Digital Media and Learning initiative that the MacArthur Foundation has funded for almost ten years to better understand how young people learn today, especially with digital media. At its core, connected learning is really about creating learning experiences that are relevant for young people growing up in the digital age. In practice, it's recognizing that learning is, in fact, social, and needs to be relevant.

Susan Hildreth Could you tell us a little bit about the Cities of Learning, which is kind of version 2.0 of Learning Labs?

Jen Humke noted that the Cities of Learning launched in Chicago last year. The mayor approached MacArthur because he'd heard of digital badges and thought they would be a great way to help engage kids in the city's Summer of Learning. MacArthur partnered with the Mozilla Foundation and the city to help over 100 Chicago organizations, including the library, park district, and a number of other community-based organizations, issue over 100,000 badges to about 30,000 youth. It was a very messy endeavor, but it was a pilot year. There was enough evidence at the end of the summer to start having conversations with Chicago Public Schools and employers in the city about building out a badge ecosystem that had real value. MacArthur is interested in how to connect in- and out-of-school learning, and the badge effort is really the beginning of being able to do that. Many other officials from other cities watched this effort, and this summer there are a total of seven cities including Pittsburgh, Los Angeles, Dallas, Columbus, Boise and others. There's a lot of momentum and a growing community around badging summer learning.

Susan Hildreth asked about the opportunities and challenges for libraries in this kind of environment.

Jen Humke noted that the City of Learning is a great way to build infrastructure to connect in- and out-of-school learning, but that it wouldn't alone transform learning in your city. You need organizations and networks of people working together, and that's a role libraries can and are taking on. In terms of challenges, badges are still pretty nascent, and we don't have an infrastructure yet. Participating in the Cities of Learning at this point means some things work and some things don't, and you have to be willing to work with some messiness. Another challenge is that it does cost money to do this, and the Cities of Learning model is that every participating city should be raising funds on its own. If cities have the mayor or other city leadership behind them, it becomes pretty easy to get people on board, but if they don't have that, it can be tricky.

Susan Hildreth noted that IMLS made a grant to the Brooklyn Public Library to help develop a digital badging system along with the Open Badging Alliance. It's focused on how to do badging effectively in libraries, because when we talk about privacy and security, kids getting badges is not that easy. They have to have parental permission under the age of 14, which can sometimes be hard. In many situations kids already have library cards that parents have signed off to authorize. This grant is attempting to figure out to use the existing mechanism of an authorized library card and transfer that to the badging system. We'll keep you posted.

Issues/Questions/Comments from Discussion:

Greg Lucas: Why badges? Why is that such a desirable reward or acknowledgment?

Jen Humke: Badges have the potential to transform learning for a couple reasons. They can recognize learning no matter where it takes place, and they can be set up so learning is acknowledged and documented. Badging can also say more about what a person knows and can do, and for that reason, they can have more value than a transcript or grade. Badges help to create more equitable learning experiences, and we're seeing that in Chicago.

Susan Hildreth: One of our speakers previously said that badging was not meant to take the place of our traditional credentialing systems, but it is a framework that can validate the learning that goes on outside of the traditional setting. K-12 education is in a full mode of disruption, and libraries and museums have to be in a strategic place as that K-12 disruption continues even further. We want to be ahead of the game and have a way to validate the learning that goes on outside the classroom.

Jen Humke: In our conversations with Chicago Public Schools they were really thrilled that they could have all this data about what's happening with their kids outside of school. We're in conversation with them about how badging can connect to what's happening in the classroom.

Comment/Question: Originally the importance of badging was that it emanated from gaming culture and was relevant to the target demographic. In MacArthur's version of badging, is there a master review board to set standards?

Jen Humke: As part of the Chicago City of Learning, we did align many badges with Common Core and we're thinking about how to align badges with certain standards. However, in terms of having a

standards body that's going to determine which badges have the most credibility, I think we want to avoid recreating the same system we have now.

Question: Then how do you get around notions of expertise?

Susan Hildreth: You need to develop the skill set that you want a person to achieve in order to be able to obtain one of these badges. There's a lot of work going into that right now in terms of developing the criteria and skills for badges, but we have a ways to go before we get to a national or international accreditation body.

Jen Humke: There are a number of people doing research on badges, and MacArthur is funding some of that. These are the types of issues they're looking into: how do you ensure badges have credibility, how do you ensure quality, etc.

Session 5: Community Engagement: Partnerships & Programming

Linda Crowe (Moderator)

Catherine Bracy

Carolyn Anthony

Elyse Eidman-Aadahl

Linda Crowe invited questions from the audience throughout the panel and then asked the how the panelists choose partners or how partners choose them.

Carolyn Anthony responded that partners aren't chosen at the time a project arises, but grow out of relationships. Opportunities come along because you see that intersection of a need in the community with a library's capacity. It's an organic process.

Elyse Eidman-Aadahl noted that whenever a partnership has been truly powerful and transformative, at the center of that is a synergy among some individuals who found something in a relationship that enhanced all of their work. Developing relationships long term and being able to have them in a low stakes exploratory creative space is where the best ideas come from. We know to create those inclusive spaces for our patrons, and the program designers and institution builders need that same kind of environment to get beyond their own divisions and limitations.

Catherine Bracy added that we are going from an age of top-down hierarchical institutions to one where the institutions that govern us are networked. Networks have nodes and lines connecting the nodes, where partnerships are the lines. We've basically been talking about community organizing today, and the fundamentals of that involve creating spaces where the nodes are connected. In terms of selecting partners, it's more about how you create opportunities for people who don't often talk to each other to connect and build relationships.

Sherrel Ellis has found is that everybody wants to partner with the library. They're trying to establish guidelines for choosing partners, so the question is, have you had to make clear decisions about when to say yes and when to say no?

Carolyn Anthony responded that it all goes back to strategic planning and knowing your priorities very clearly. Their priorities are immigrant integration, economic development, and education. They were approached recently by some people who wanted to do a health project. They're supporting but not taking a lead on that; they have to see if it's going to work for them and how much work it will take.

Catherine Bracy added that networks push power to the edges. The question shouldn't be how you can be a better gatekeeper but how you can build power at the edges so that no one needs to come to you to get something done. That allows for scale.

Elyse Eidman-Aadahl noted that there are things we do for one level of partner to pay attention to each other in our ongoing regular institutional operations, such as sharing listservs. They're not really synergistic, but more about developing efficiencies in the way we work. Sometimes, what you're about at some deep level is common to another partner, and it fits together in an ecosystem to leverage each other. That's a different kind of partnership, and those are rare.

Linda Crowe asked the panelists to give an example of a recent successful collaboration and what made it successful, as well as an unsuccessful one and what made it unsuccessful.

Elyse Eidman-Aadahl offered an example in which NSF supported a series of writing projects for young people with local science technology museums. When people joined this network, they had to come in, not with an idea, but with an expression of why they ought to work together. Then they participated in a week-long residential institute that involved iterative design, followed by a couple months to pitch ideas to local communities that they would work with, and only then were they allowed to write the RFP to access their dollars. This was a huge leap because when the National Writing Project received the money they couldn't tell NSF who was a member or what they were doing. One project team from Charlotte never would have envisioned what they did or proposed it for \$30,000 a year for two years, if they hadn't been in that setting. The low stakes, common design, and relationship building aspects are what made this highly successful.

Carolyn Anthony shared another successful partnership example, which began as five women over lunch who were talking about the existing Skokie Festival of Cultures, which is great, but limited to one weekend. They started brainstorming and ultimately put together a range of programs held at multiple venues across the community, which has grown over five years. It had an organic element to it where everybody volunteered what they could do to help. The earlier hesitancy about the noted health partnership was that somebody came to them with the idea all set. It takes a little bit of exploration where you can see what each party has to offer.

Catherine Bracy summarized that when partnerships don't work, there's a power dynamic that's out of whack. It has to be about relationship building in order to get to the trust that makes for a meaningful partnership. Trying to find a quick fix, like a weekend or two-week project is just not going to work.

Linda Crowe asked what partner organizations look for when they come to a library.

Carolyn Anthony responded that many times they look at the library as an organization that touches every aspect of the community. Oftentimes they don't know what to ask for, as in one case where a church was giving up the school they had run for 100 years, and invited people to talk about what their new ministry could be. They came up with the idea of a list of places that

needed volunteers, and a notebook format was suggested. But the library offered to develop a database for them instead and turned it around in a week, which astonished them. Others don't always think of what the library might do, but if we're embedded and see the opportunity to use our skills, we can really help.

Nate Hill noted that networked organizations are flatter and empower people all across the organization to create partnerships. Could you speak to how you empower folks in your organizations?

Elyse Eidman-Aadahl responded that in their case, the local project sites have a tremendous amount of autonomy, so the national entity tries to connect common work happening. She shared a story about a community of people who professed to love their libraries, but many hadn't used them since they stopped taking their kids. A vacant commercial space in this same community eventually turned into a thriving hub where people brought donated books and couches and had book talks. It came down to the issue of agency, because community members had brought that sofa and knew they wouldn't have to go through any red tape to participate. The feeling of ownership versus bureaucracy made the difference.

Carolyn Anthony noted that empowerment can be related to top down versus bottom up. Why hire professionals if you're not going to let them do things? Their library has people assigned to some constituent community, who are then empowered to make suggestions for that audience.

Catherine Bracy added the characteristics of tolerance for risk, trusting your people, and allowing for growth through potential failure.

Linda Crowe asked about the responsibility of each partner when you have collaboration.

Catherine Bracy responded that Code for America is in the business of creating collision venues. "Collision" is purposeful, because when you're bringing people together that don't often connect, there's friction. There have to be some principles that are important for both sides, and they have codes of conduct that include things like mutual respect, empathy, listening more than you talk, curiosity, etc.

Carolyn Anthony noted that they've never had a written agreement about partner responsibilities, because it's based on trust. They developed a much closer relationship with the schools, which started with an author visit followed by library card sign ups. Then they embedded public library card numbers in student records so parents didn't have to worry about lost cards. They integrated library databases with the school's homework site. Now they're trying to get feedback on summer reading through test scores, and it's happening because of the trust. If you were just starting from scratch asking for the students' scores, you wouldn't get near them.

Elyse Eidman-Aadahl added that for public institutions, synergy might once have come from the available bandwidth of committed professionals, and we've eroded a lot of that. Institutions are underfunded in many ways, and people's jobs have intensified in unsustainable ways. That takes away bandwidth for those organic relationships. It's not often understood as something that should be supported in public institutions, but vertically we can put some structure to it and give people cover to actually take the time to think about their work. It needs to be named as a real part of the job.

Catherine Bracy shared that Code for America has fellows take a year off from their jobs to work full time with cities on a particular issue. Sometimes the issue touches multiple departments in the city, and

the fellows will convene people who have never met each other, and they end up having a really productive meeting. In theory, the job is to go in and build some piece of technology that makes lives easier, but the more powerful thing is convening people who don't normally talk to each other.

Carolyn Anthony noted that the discussion has focused on creating learning spaces for our public, but we have to create learning spaces for our staff as well.

Question: How do you mentor your community staff in the art of collaboration?

Catherine Bracy responded that you can train your staff on community organizing, because it is a practice with intentional techniques. When we talk about the suite of things that library staff should have training in, community organizing is one of them. The other thing is consistency over time. You have to keep showing up, because that's how you develop trust. There is going to be conflict and you have to build a tolerance for that. Creating safe spaces is an important part of it.

Linda Crowe asked for the panelists' three take-aways.

Elyse Eidman-Aadahl: We have to think about how to support that creative infrastructure for people to work across sectors with their communities. It's a real space. It has real skills connected to it, and everything about the way we are funded is probably in contradiction to everything we just said. We have to rethink how we fund the public sphere. Part of how we mentor people to be more collaborative is not to give them mixed messages that their job is to go into a meeting and fight for the biggest budget. We need to give people time to actually iterate and fail. We can't require everyone to have a brilliantly formed idea that will always succeed, paired with an evaluation study that proves that everything always succeeded. We have to think of it as a sustainable infrastructure and not a project-by-project investment.

Carolyn Anthony: It's all about relationships and thinking holistically. The library should be a place where for your whole life, you can come in and there will be interesting things going on and you can connect with other people.

Catherine Bracy: Going back to the network metaphor, focus on the lines and not the dots. The orientation around funders is to fund programs that are owned by a certain organization. Instead look at ways you can fund infrastructure that supports the connections. Funders may need to develop tolerance for a lack of immediate clarity. A lot of value in connecting communities isn't measurable in the short term. It requires a tolerance for longer term infrastructural ways of thinking about relationship-building.

Session 6: Measuring Success: Evaluation

Bob Horton (Moderator)

Amy Eshleman

Shannon Barniskis

Katie Davis

Amy Eshleman talked about evaluation in the context of the learning labs. Participants struggle with evaluation because much of this work is about broadening the notion of learning beyond what we can

measure. The teams are working towards identifying outcomes that are important to the learner and to them as institutions and communities. Individual participation and outcomes vary widely in environments that are designed for multiple pathways, so they're building measures that are keyed to more social and relational outcomes. This sort of skill development and content measurement might be better assessed through something like badges. The collective outcomes that they've been working on with New York University and the learning labs characterize a thriving connected learning environment and include:

- a supportive and safe environment for pursuing different interests and expertise;
- exposure to the depth and breadth of interests;
- deepening and extending interests that already exist; and
- stronger links between interests and opportunity.

Examples of survey questions for participating youth include (agree, disagree, neutral):

- "I learned things that I could use in college one day if I go."
- "My involvement has helped me communicate better with adults in my life."
- "My involvement has helped me communicate better with other teens in my life."
- "I learned things that will help me go deeper into an interest that I already have."

She's also been thinking about how youth own their own data and characterize what their own success looks like. It's a heavy lift to go from adult-driven outcomes to learner-centered engagement, as well as holding ourselves accountable to what it means to design that way.

Shannon Barniskis shared the perspective of a PhD student researching makerspaces. On the pathway to human well-being, learning is one stop, but further down the pathway is human agency and power. How do we get past learning outcomes to how are we making lives better? Somebody said earlier we shouldn't have amateurs as teachers, which is valuable if we're looking at learning as the outcome. If we're looking at agency and human wellbeing, maybe we do need amateurs. Her research with limited life histories asked how people understand the library in relation to their creative lives. She found that despite using the library, they positioned it nowhere in their creative lives, revealing that libraries are often forgotten in this sphere. She also conducted a discourse analysis of the rhetoric around makerspaces: what we say they are, what we present that they are, and what we actually do in practice. We say they are about all kinds of making, but what we present to our funders is a very economically viable creativity related to STEM. In practice libraries support all types of making (beekeeping, cooking, etc.), but there's still that kind of strange face we're showing to the world. Three findings from an ethnography project relate to contingency, social making, and librarian as enzyme. When we prepackage makerspace programs we often lose some of the contingency and failure, and researchers have identified that as something that brings communities together. Social making speaks to people not caring about the tools as much as the social connections. In this vein, it's important for amateurs to be teachers, because makers highly value the times they taught or learned from other people, especially people who didn't know much more than they did. Finally, what the librarian provides in creating community is enzymatic, just like microbes in compost. We are often invisible, as the limited life histories project demonstrated, but we're making things happen.

Katie Davis talked about her research at the University of Washington Information School, particularly around Providence After School Alliance, a network of afterschool programs that offers high school credit for what kids are doing outside of school. She's found that there's a lot more opportunity for kids

to experience connected learning in these out-of-school spaces. She's also been looking at how badges fit in. There's been a real standardization turn in schools, and increasingly that is now taking place in afterschool settings. The emphasis is on quantitative data, generalizable findings, and the ability to compare programs across the country. To establish legitimacy in Providence's afterschool programs, they have to show that they're aligned to the Common Core, and it's somewhat concerning. We don't measure what kids are doing across their contexts in how it connects to what they're doing at school, at home, and with friends and peer networks. Program providers feel pressure to show that what they're doing has value, even though they know it has value. Part of what Providence did to show value at the end of each program was have kids write a blog about what they learned, and the kids hated it. Some ideas for how to measure success include finding a way to connect school data to what's going on in other contexts to really get the big picture. We need to go beyond the post test, and badges have utility because they can be removed from their initial context and transported across contexts. There are tons of challenges associated with badges, including interoperability and getting all the necessary stakeholders to recognize them. Kids are not interested in badges if they don't have actual value, so colleges and job providers need to be on board to recognize their value. We need to get creative about how we collect and analyze data and move beyond multiple-choice tests. We need multiple data sources, such as observation, direct questioning, talking to kids' service providers, and talking to parents. We should leverage new computational techniques and get big data scientists helping us. We should do some social network analysis, and coordinate and triangulate across different projects.

Issues/Questions/Comments from Discussion:

Andrea Saenz: My soapbox is this idea that evaluating your program's performance should be left to PhDs to come in afterwards to tell you if the thing you did for two years was worth your time. There are imperfect but practical ways to empower your staff to understand for themselves whether the effort they're making to create learning gains or new social networks are working. It's really important that we not set the bar so high that we scare people away on evaluation. They use surveys, observation, and task completion as evidence that something's happening, and those techniques aren't costly. It's important that practitioners own their own data and feel empowered to make changes as a result.

Carolyn Anthony: I'm thinking of the very real difference between younger children, for whom we usually project an outcome, and teens, where the real value is the self-directed learning. I read that the greatest predictor of future success is not test scores or grades in school, but being involved in an afterschool activity, and that's because it's self-directed. It takes a certain amount of discipline, focus and social skills. I think for teens, the hanging out and messing around is where kids are exploring, and you can't measure that.

Question: Are you tracking the kids after they age out of programs?

Amy Eshleman: There's some work happening around longitudinal connected learning, and most of that has been pretty anecdotal to this point. We tracked our kids levelling up through the learning labs. We've got great anecdotal information about youth who found a pathway that they didn't have before, such as scholarships for higher education, and they come back and talk about it. As far as official studies and capturing data, we haven't done that yet, because so many of our projects are still in the planning and design phase.

Katie Davis: Part of the challenge of longitudinal tracking for research is that your grant only lasts

so long, and keeping track of youth is also hard. I do think that's one opportunity for badges.

Corey Wittig: We've got a five-year longitudinal study set up for two of our three learning labs, and it comes from a different funding stream. It's going to involve interviews with the youth and tracking them as best they can. We also have a short survey of all the youth at our locations. I worry about too much research coming at our youth and turning them off from the programming.

K-Fai Steele: We found with a lot of the pre- and post-tests, the literacy level required is too high for teens. As a mentor you develop a special relationship with a kid, and then if you throw a survey at them it is totally different from that relationship outside of the test. It's about figuring out ways to get them to communicate with you that doesn't feel like I'm being creepy and prying.

Amy Eshleman: A number of our teams are making sure that they build in time for documentation from the adults and mentors in the space. That's a really useful way to capture a lot of this information. When you're thinking about staffing, you've got to build that time in for documentation and reflection, and building in this culture within your own institution.

Jennifer Nichols: We've been doing developmental evaluation in our learning labs site. In our case, it's taking the onus off the kids to answer questions designed for the evaluator and putting it back on the adults. They lead the discussion in the language of the youth, such as, 'What's happened in your life in the last six months?' They reflect in their own words, and we can extrapolate the data from there. They also created a video about what they're doing and asked each other 'What's success?' If we want to be creative, we can use media to collect that data, and mine it ourselves to pull out what we want. That's real authentic feedback rather than a checkbox on a survey.

Erica Compton: We're kind of mining the data as well, and one way we're doing that is videotaping activities and taking time later to look at those. We're looking at an outside evaluator to come help us if we can get enough kids that we can talk to, or track what they're doing in a long enough period.

Bob Horton asked for the panelists' final recommendations.

Amy Eshleman: Professional development is really critical, and particularly this area of evaluation. I think Elyse's idea of making these grants multi-year is really valuable, and how do we start to fund professional development within libraries around this work over two or three years.

Shannon Barniskis: Number one, we need to clarify what our goals are. If we as librarians say we want to hear the cool stories about what happens in creative spaces, is a cool story making perfectly fitted pants, which is harder than making an interactive LED thing? Are we going to really mean all making? If not, that's okay too. We just need to decide. Number two, we need to refocus on libraries. We have an access and intellectual freedom core foundation that no other institution has that's spread across the country like we are. When we only provide STEM without the arts, are we limiting that access to certain people? Number three, look at research aimed at practitioners and researchers working together, because when we have theory by itself, it's not that interesting, and when we have practice by itself we lose some of the critical eye because we're in it. I think we need ethnography or other observing types of research at the front end, hopefully with longevity. Then we can maybe we can operationalize what we find there on the back end to do quick badges or surveys, or whatever quantifiable research we need.

Katie Davis: I'll quickly recap: make an effort to connect data across contexts; go beyond the post test and track long term impact; and get creative about our data collection and analysis.