Making Space with Play: Designing and Evaluating Early Childhood Library Playspaces in Philadelphia

Joel A. Nichols
Strategic Initiatives, Free Library of Philadelphia, Philadelphia, United States
E-mail address: nicholsj@freelibrary.org

Christine D. Caputo
Youth Services and Programs, Free Library of Philadelphia, Philadelphia, United States
E-mail address: caputoc@freelibrary.org

Abstract:

The Free Library of Philadelphia is building three "Playbrary" spaces, playspaces at three neighborhood libraries in a controlled experiment to determine what kind and scale of play opportunities and space interventions create the best parent/young child literacy interactions. To launch the process, we convened a series of design charrettes with children and parents in the designated communities, and held workshops with neighborhood library staff. Based on this input, the design team, comprised of architects, play experts, playground designers and fabricators, has created a flexible ecosystem of play features and interventions that are being customized and recombined for each of the three libraries, and early language acquisition and play scientists are studying the outcomes.

Keywords: play, public libraries, early language acquisition, early literacy, play space design

Introduction

Public Libraries have been serving children and families since the late nineteenth century and during that time, and through much of the twentieth century, public libraries in the United States and other countries focused on building collections that both complemented school libraries and school curriculums, but also provided books for children to read for fun (Maack, 2008). Programming was often related to books and assisting children in finding a good book to read. Much of the programming included storytimes, book talks, storytelling, outreach visits to schools, and generally providing one on one assistance to help children find the right book at the right time for personal enjoyment. Throughout the mid and late twentieth century, public libraries began offering structured play activities including reader's theater, dramatic play with puppets and flannel boards, story programs with props for children to engage with, and similar activities (Nespeca, 2012). In the late twentieth century, research that about young children learning literacy through play and fun interactions with grown ups became more available and libraries began to incorporate more and more play not only into

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programming for children and families, but also into the design of library spaces for children. In the 21st century, play in libraries has exploded with all kinds of play activities and play spaces. In Philadelphia, librarians have been hosting 'pop up' play activities for many years. These play programs have included wooden blocks, LEGOs, dramatic play, Play Parties, playing with manipulatives and toys like trains and play kitchens, and more. More recently, The Free Library of Philadelphia is moving forward with implementing play spaces that children can learn and play in any time the library is open.

The Free Library of Philadelphia is building three "Playbrary" spaces, playspaces at three neighborhood libraries in a controlled experiment to determine what kind and scale of play opportunities and space interventions create the best parent/young child literacy interactions. To launch the process, we convened a series of design charrettes with children and parents in the designated communities, and held workshops with neighborhood library staff. Based on this input, the design team, comprised of architects, play experts, playground designers and fabricators, has created a flexible ecosystem of play features and interventions that are being customized and recombined for each of the four libraries. In a very general sense, we are creating a conceptual "kit of parts," which includes features and installations such as climbing walls and perching towers to activate the benefits of active play and motor development; a reconfigurable black box stage that promotes and facilitates pretend play, performance, and creating and sharing stories; "accordion" or "ripple" floor spaces that use relief, angle, slope and texture to remake the library floor into snuggle seating and can be set up with marble runs or vehicle tracks; and nooks and tunnels in bookshelves that provide either quiet, reflective places to curl up with stories or interactive ways of "tunneling" or even "worm-holing" between different parts of the library's collections.

The three neighborhood libraries chosen for this project are in geographically disparate parts of the city, and have unique, vibrant and diverse neighborhood make-ups. One is a stately Carnegie building, two are modern buildings. Two serve neighborhoods where dozens of languages are spoken. One is in a more homogeneously African American neighborhood experiencing gentrification and change. One has stagnating attendance numbers at storytime, and the other two have numbers through the roof. These baselines and controls are helping to design a study, led by Dr. Kathy Hirsh-Pasek, a Temple University professor and expert on language development and young children's play, that understands how these new spaces affect child- and parent-level outcomes in terms of vocabulary building and "language dancing," the conversations between children and caregivers that promote healthy literacy development. This project will also help us understand what works best in terms of managing and working in these new "Playbrary" spaces.

The past several months of planning with designers and evaluators, and community input, were crucial to settling on this approach. We expect it will give us evaluation results that are more useful to our library system (and other libraries) in terms of replication. But also, in the near-term, this approach responds more directly to the communities that will benefit from these first Play Spaces.

The use of similar elements across three different library locations affords us the ability to compare across sites, rather than looking at each site individually and comparing the sites to one another. Each site will have similar elements; therefore, our findings will be more robust than they would have previously. An increased sample size of sites (n=3, versus n=1 of each type previously) will allow us to report our results with greater confidence and will eliminate the issue of potential site-level confounds, as described above.

In terms of programming these spaces, we understand that learning happens socially, and we know that caregivers and peers are responsible for teaching children first how to play imaginatively and eventually how to read. From visiting libraries, we saw that the spaces were not setup for interaction or play between peers or across generations. Floor-level seating or chairs in the children's areas are difficult for aging hips and knees, and the ledges and adult-sized chairs otherwise available do not invite closeness. Part of the experience of reading or playing together is physical.

Imagine the conversation that could happen in a reading place with movable foam blocks, and the satisfaction from creating the safe, cozy space to rest and read together. The space could be constructed differently every times, interacting with a potential theme or articulating a child's play idea, but always inviting and providing positive reinforcement for the experience.

By creating an open-ended space with good bones for initiating playful, rich experiences, caregivers and children will be invited to use their imaginations in the library. That imaginative play practices symbolic representation, a critical skill for building oral and written language proficiency. Sometimes explicit graphic treatments or specific props that cater to learning outcomes can be useful in fostering a guided play approach, however they can also be constraining. Such elements can become weak or backfire without context or other kinds of support, and may grow tiresome for repeat library visitors if a part of a permanent installation. Prompts, props, or graphics can also communicate specific uses, and initiate unnecessary corrections, directives, or negatives from adults. When adults overuse that kind of language in play, it can prevent a child's play from maturing.

In a freer space, caregivers may feel more confident allowing for more child-centric and experimental uses. Librarians will be tasked with priming the spaces for deep thematic exploration without over scripting them through the use of programmatic elements. In that setting, children can take more control of their play narrative, telling the story of their play and gaining the cognitive and language skills necessary to describe and create their own worlds and contexts on a relatively blank canvas along with their caregivers or peers.

Children will also be able to learn in context and pursue the outcomes they are interested in which may, in a moment, be a physics investigation in the way gravity interacts with their body while hanging upside down from a hammock-like reading book. Feeling and knowing that experiment's results are just as valuable to a child as more "academic" pursuits. Librarians will have the flexibility to create play invitations that engage their specific users' interests and abilities infinitely.

Community Engagement and Design Process
Our design and community partners Studio Ludo and Smith Memorial Playground held, with our architect, Digsau, design charrettes in each library. These workshops were structured as play workshops that invited young children and their caregivers to build with loose parts, experiment with cardboard and tape, draw and and fill-in a Mad Libs-like, prompted fill in the blank story, and paint a wall-sized mural. In addition, adults responded to a series of precedent images and answered a survey. Studio Ludo analyzed these data, and determined a fascinating set of modes of play from these workshops. They analyzed what children wanted both in activities and spaces for themselves, and compared it to what adults wanted in

children's activities and kids/family spaces in their library. Similar modes stood out for both groups: bright, quiet, big, active, building, art-making, storytelling and reading.

We had originally used language describing a level of architectural intervention and scale to describe these playspaces. We used this scaled language: pop-up, theme center, immersive, installation, because we ignorantly assumed that the degrees of physical change reflected in design and build were key to transforming library spaces into playbrary spaces. Our design process and learnings from our communities have demonstrated instead that it is not exactly the physical spaces we are testing, but rather the forms and modes of play those spaces influence and guide. To understand the outcomes on "language dancing" and conversation between parent and child, we must evaluate the play itself, and consider the spaces we have created as inspiring backdrops and armatures for that play. By refining our conceptions of scaled space into instead diverse modes of play, we transform and unlock an entire ecosystem.

- Pop-up becomes *active, building, art-making, temporary and reconfigurable*
- Theme center becomes *enclosed, calm, reading, quiet, reflective, observant, related to specific neighborhood or content areas such as nature or science*
- Installation becomes *storytelling, expression, dramatic play, pretending*
- Immersive becomes *active, calm, physical activity, discovery, cooperation, multivalent and intersectional*

We will evaluate the degree to which the architectural interventions are facilitating these outcomes in a much more specific and holistic way compared to our initial formulation that they would examine each space separately and unto itself.

To describe the play and learning categories we are trying to affect outcomes in:

1 Active Play:
- Healthy bodies support healthy minds
- Postural control, gross and fine motor skills, proprioception and vestibular sense are crucial foundations for cognitive development
- More time in active play increases concentration, reduces the need to fidget, improves behavior.

2 Pre-Literacy Language Learning
- Frequency matters--the more you hear it, the better you learn it.
- Interest matters--if you don't care about it, you don't remember it
- Interaction is key: there has to be a back and forth, an exchange
- Context counts for vocabulary: learning words in isolation is very difficult
- Early exposure to complexity and diversity created opportunity rather than confusion
- Vocabulary and grammar knowledge inform each other

3 Dialogic Reading
- Child actively tells part of a story with help from questions or prompts
- Expand or clarify the story: leverage distancing prompts
- Increase the level of skill and complexity required along with the child's ability

To measure and assess this work, we engaged the Learning Landscapes team consisting of Dr. Kathy Hirsh-Pasek, Dr. Roberta Michnick Golinkoff, Dr. Brenna Hassinger-Das, Itai Palti, and Cas Holman. the goal of the new FLP play spaces is to encourage play between

caregivers, such as parents and educators, and children—especially kinds of play and interaction that foster high quality language experiences.

Play spaces literally make room for play in a society starved of opportunities for play. Incorporating playful elements into architecture, public spaces, and playgrounds also promotes curiosity and a desire to learn. The physical environment can influence internally driven curiosity through the creation of a disposition and readiness to engage in and explore a learning activity. Putting things in place for a learning activity will engage children more readily, while also encouraging conversations involving a targeted learning goal. These are key ingredients to keep in mind when designing play spaces for children (and adults) of all ages. But why is play effective for learning? Research has demonstrated the ability of playful learning to affect a variety of child outcomes. Playful learning may be successful because it embodies the key ingredients for learning; it is active, engaged, meaningful, and socially interactive. These are key ingredients to keep in mind when designing play spaces for children (and adults) of all ages.

Active learning refers to contexts that are "minds-on" and require careful thought and deliberation. Physically active play is also important, since it can mediate obesity and other health risks in addition to fostering motor skills. Engaged learning happens when children are focused on a task and not distracted. The enjoyable nature of play helps draw children in and allows them to focus while having fun. Play doesn't need a ton of bells and whistles; a simple play space featuring visually interesting block play or other child-friendly activities is enough to get children interested.

Research also shows that when content is presented in a meaningful way that relates to children's previous life experiences, they are more likely to learn that information. Play spaces can accomplish this by incorporating elements from the neighborhood that are familiar to the children to help them connect with the space. Finally, socially interactive learning involves children working together to learn new concepts and ideas. Play spaces can encourage social interaction by including elements that require the participation of more than one child to operate. Through pursuing our work with the Learning Landscapes initiative, our team has thought a lot about how to bring aesthetic and learning together.

Assessment
The design and assessment processes are iterative, so it is critical that our evaluation team also be present in the design process from the very beginning. We start with collecting the following: surveys, observations, and informational interviews. These instruments will be designed to best capture the learning and interactions inherent within the play spaces once they are fleshed out.

Caregiver survey. The survey instrument was developed for an event led by Drs. Hirsh-Pasek and Golinkoff called the Ultimate Block Party (UBP) through a collaboration between evaluators at Yale University, UBP organizers, and with consultation from the faculty group at Sarah Lawrence College's Child Development. The survey was designed for administration in a chaotic environment characterized by crowds and noise, and where respondents were distracted by the need to attend to their children.

In the settings of the various play spaces, it is essential that open-ended responses could be hand recorded as well as electronically recording since extensive background noise may disrupt any recordings, and that the survey can be completed in a relatively short time. The

instrument will include Likert scale questions on play-related attitudes and perceptions, open-ended follow-up questions, and questions capturing socio-demographic characteristics (caregiver education, age of oldest child, caregiver gender, caregiver race/ethnicity) demonstrated to be related to attitudes about play and child development

A modified survey instrument (omitting questions that ask specifically about the play spaces themselves) will be fielded in an additional set of surveys with caregivers, selected at random, who were visiting the future sites of the play spaces in the months preceding their unveiling. We will also collect control data at other libraries that are not participating in this project as a comparison at both pre- and post-time point.

Observation of discourse and engagement. We hypothesize that exposure to the play spaces will be capable of influencing caregiver attitudes and perceptions, because engaging with the installations would allow them to absorb critical messages about play and learning. To assess engagement, we will collect pre- and post-implementation observational data to examine whether caregivers and children are more engaged with the public space and each other after the installation of the play spaces by noting usage of the space and changes in the types of caregiver-child discourse. We will also track how long caregivers and children spend at each play space as another measure of exposure through by observational data and survey responses.

We will also collect control data from other neighborhood libraries in Philadelphia that are not participating in this project as a comparison at both pre- and post-time points.

Informational interviews. As a part of the data collection process, our team will also interview children's specialist librarians involved in the project both before and after the implementation of the play areas. These interviews will ask the librarians about their beliefs about play and the ability of the library to serve as a stay-and-play space. We will also inquire about the challenges and successes of this particular project. We will also collect control data with other librarians who are not participating in this project as a comparison at both pre- and post-time points.

Data Collection and Data Analysis
Six trained research assistants will collect the observation, survey, and interview data and they will be trained on the observation protocol. There will be four 1.5-hour training meetings.

We will seek to determine the effectiveness of each play space for offering opportunities for high quality language use and increased interaction. For each outcome variable, we start with simple comparison of means across different strata of engagement. For time on site, respondents will be grouped into categories that will be derived after we see how long people generally spend at the play spaces as a group.

However, the play spaces might also not simply reinforce the connections between play and learning, but also clarify the multiple pathways – direct and indirect – through which play may influence learning. To assess caregiver attitudes, we will use the responses to the eleven metaphors for play about which parents were asked.

We hope this evaluation will guide how we build and design for children and families as we renovate and rebuild our libraries and improve spaces, and help our librarians and other

library workers to serve families and young children in superior ways as we facilitate creating place in these communities. One parent who was at the charrette at the Cecil B. Moore Neighborhood Library said it best, "A place in the library for my child to relax, but bright and open so they can play organically. The space [should] feel inviting and clever that draws in the minds of little people. The space should make children question where they are and allow them to explore over and over."

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