



Museums and Community-Based Organizations Partnering to Support Family Literacy

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Students who have low literacy skills in fourth grade are four times more likely to drop out of school than students who read at grade level; the risk may be higher for lower-income children (Hernandez, 2011). Some studies suggest that, compared to more affluent children, those from lower socioeconomic strata are exposed to fewer words and fewer books in their formative years, have fewer books at home, and are read to less often by caregivers (Golinkoff et al., 2018; Hoff, 2013). Adult and family involvement positively influences young children's social competence, cognitive development, communication skills,

and attitudes toward learning (Rowe, 2012; Weiss et al., 2006). Parent involvement might be best conceptualized as a community issue addressed through co-constructed, collaborative partnerships involving families, schools, afterschool programs, community-based organizations (CBOs), and other key stakeholders in a community's social and educational infrastructure (Bouffard & Weiss, 2008; Luke & McCreedy, 2012).

The William Penn Foundation launched Philadelphia's Informal Learning Initiative (ILI) to support the development of literacy-rich programming for families with children aged 3 to 9. The initiative was designed as a network of partnerships in which a cultural organization—usually a museum—paired

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with one or more CBOs to design literacy-rich informal learning experiences for caregivers and children. The initiative involved 11 cultural partners and 15 CBOs. Two partnerships dropped out after the first two years, and three new partnerships joined in the third year.

Programs exposed three- to nine-year-old children and their families to literacy practices in the context of original artwork, live animals, science experiments, natural settings, new foods, and cultural or historical sites. Programming was delivered at no cost to families, often in community settings such as recreation centers or school auditoriums. Offerings ranged from biweekly afterschool programs to weekend and evening family events, open houses in museums, and home visits. Convenient times and locations, as well as snack or meal options, supported family participation, as did book giveaways, take-home activity packs, and special museum visits.

Each museum–CBO partnership’s project team decided how many families to serve. Some smaller programs maintained months- or years-long relationships with as few as eight families, while others served 100 or more families in one-time events. Several programs encountered the same families across multiple years of programming. Programs served diverse families in multilingual and multicultural settings. Two programs involved families with five or more different first languages; some were strongly bilingual in Spanish and English; others were conducted primarily in English.

Content reflected the intersection of community interests or needs with the disciplinary expertise of the cultural organizations. The cultural organizations included natural history and science museums, art and children’s museums, gardens, zoos, aquaria, arts groups, and media producers. CBOs offered services in a wide variety of areas including education, workforce development, housing, health, and parenting.

ILI calls on cultural organizations to become part of collective efforts to improve family literacy. As informal learning institutions, cultural organizations design learning experiences as part of their mission. They offer resources ranging from one-time experiences in exhibition halls and event-based programming to ongoing programming and internships. Designed infor-

mal learning experiences are an essential part of educational ecosystems (National Research Council, 2009), enabling families to learn about science, art, nature, and culture with the support of educators and experts who help them develop their interests and deepen their knowledge. Whereas schools focus on proficiency and a standard curriculum, informal learning settings can help children and caregivers identify their individual interests. They can “activate” children toward building identities and competencies that can provide lifelong, life-wide learning pathways (Crowley et al., 2015; Hecht & Crowley, 2020).

Although cultural organizations may think of themselves as shared community resources and important parts of the educational ecosystem, families from many communities do not visit these institutions or use them as learning resources (Crowley et al., 2014; Dawson, 2014). Originally designed for civic enlightenment, cultural organizations such as museums have always had an exclusionary and political angle (Coffee, 2008; Gurian, 2006). They are designed to showcase the treasures of the state and public. Education per se is only one small part of their mission; curating and preserving the collection is their dominant mode. They have envisioned the problem of audience as being concerned with getting more people through the door to experience their resources (Coffee, 2008; Gurian, 2006).

More recently, museums have recognized the need to become more accessible and inclusive. Structural barriers such as transportation, location, and cost are not the only reasons families choose not to visit museums. Visitors from historically marginalized communities can feel unwelcome because they sense that museums do not acknowledge or represent their history, values, or lived experiences (Dawson, 2014). In response, many museums have tried to demonstrate their value and become more relevant by creating exhibitions that represent excluded communities or by inviting input from varied communities (McSweeney & Kavanagh, 2016; Sandell & Nightingale, 2012). But organizational practices have made it difficult for museums to reimagine themselves as connected to local communities. Attempts to modify institutional pro-

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cesses not only have been difficult to sustain but also have been critiqued as “empowerment lite” and “doing for” rather than “doing with”—stances that further disempower communities and maintain existing power structures (Lynch, 2011).

Efforts like ILI are rethinking how cultural organizations consider public outreach. These initiatives work closely with communities and focus on the specific needs of particular audiences in order to tailor their resources and co-design educational experiences that are relevant, accessible, and useful to target audiences. Partnerships between cultural organizations and CBOs encourage the museums’ informal learning professionals to move away from traditional one-way outreach models toward collaborative, community-centered design. ILI’s long-term impact could include sustained changes in how museums see community in their work and how they conceptualize their roles in the educational ecosystem. The partnerships also encourage CBO staff to see their part in that same educational ecosystem and to envision themselves as agents with the social capital, knowledge, and power to co-design learning experiences that are accessible and welcoming to their communities.

Remixing Literacy and Informal Learning

ILI’s operation as a networked learning community became a key driver for its success. Regular network convenings, responding to the evolving needs of network members, supported reflection on program design, literacy training, informal learning design support, and evaluation capacity building. CBO and museum staff members appreciated the opportunity to learn from the work of colleagues—a rare opportunity for professional development in the nonprofit education and community service sectors.

Network convenings frequently focused on the nature of early literacy, the best ways to support it, and the best ways to measure impact. These questions reflected a tension at the heart of the initiative. The official launch event, attended by many project staff members, made it clear that ILI was publicly aligned with a citywide reading proficiency campaign. But reading instruction is traditionally the turf of schools, and most

of the resources designed for literacy function best in school settings.

It took some time for network members to figure out how best to address literacy within their informal programming. In an early network convening, a technical assistance provider who works mostly in formal settings gave a presentation that outlined six interlocking “puzzle pieces” of early literacy: oral language, phonological awareness, letter knowledge, print awareness, vocabulary, and background knowledge. The framework offered clear, easily defined goals for programming. Network members discussed how their program activities could include vocabulary building, use conversation as a focal point, or build background knowledge.

However, through discussion and some program implementation trials, network members began to wonder if the puzzle pieces were well aligned with the network’s expertise and potential impact. It would be difficult, for example, for informal educators to develop programming on phonological awareness or letter knowledge, as they worked with children on a short-term and sometimes ad hoc basis. Therefore, with support from the technical assistance provider, project teams refocused their literacy programming on two questions:

- How are books and specialized vocabulary used?
- How are caregivers invited to participate in reading with their children?

These two areas felt authentic to the nature of informal learning and could be woven into programming by all network partners.

Early in the network convenings, the use of books during program activities especially emerged as a shared focus. Reading books aloud to children helps with language development; early readers come from homes where they have been read to (DeBruin-Parecki, 2009). According to Reese and Cox (1999), effective read-alouds can be broadly construed as descriptive, or focused on describing the pictures; comprehension-oriented, or focused on story meaning; or performance-oriented, with an introductory overview and questions afterward.

In ILI Year 1, programs experimented with strategies for read-alouds and other ways of using books in program activities.

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- Some programs used books as tools and information sources, asking families to look in books for specific evidence.
- Some used pictures in wordless books to encourage children to describe what they were seeing and to create a story from the pictures.
- Theatrical storytellers created excitement and engagement for the emerging narrative.
- Some programs gave each family a copy of the book that the educator was reading aloud so caregivers and children could follow along.
- Tip sheets suggested questions adults could ask children during the reading.
- Educators led “picture walks” through books to pique families’ interest in reading the book together.
- All programs gave families books and related activity sheets to promote the development of a family library.

Reading aloud was just one of the literacy strategies network partners remixed and extended from formal education as they stretched to integrate literacy for young children into their programming. The program snapshot in the box Bugs at Dinner illustrates the many factors that combined to create effective informal literacy programming for families.

- Caregivers and children learn, read, eat, and talk together. The atmosphere is comfortable and fun.
- Organized activities for everyone are balanced with station-based activities where families can choose how to engage.
- Activities are designed for children of a broad range of ages. ILI targets three- to nine-year-olds, but families sometimes brought along younger or older siblings.
- Museum and CBO educators facilitate, encourage, question, and notice what children and caregivers are doing and saying.
- CBO staff, who participate as learners and facilitators, offer a familiar and welcoming presence.
- Text, talk, reading, and writing are infused throughout.
- The strong informal learning content—in this case driven by live bugs and science-inspired activities—reflect the collection and commitments of the cultural partner, in this case a natural history museum.

Bugs at Dinner

Children and caregivers are sitting at tables in an afterschool space in North Philadelphia, sharing a take-out dinner from the local South American restaurant. Most have been part of a series of programs at this site. As they eat, the six families each look through their copy of a nonfiction picture book about bugs. Three museum staff members and two CBO staffers circulate, welcoming families and asking questions about the book in English and Spanish.

To begin the program, an educator from the natural history museum invites all the adult and child “scientists” in the room on a treasure hunt. First she asks families to find a picture of a bug that makes a “sssss” noise. Children excitedly leaf through the book and then yell out the answer. Next, “Find a bug that hides”—and so on with other attributes of bugs. Caregivers help younger children manage the books. At one point, a boy holds his book up over his head, open to the picture he found, waiting to be recognized by the educator.

Then comes time to introduce a real bug—a large hissing cockroach. “Ewwwww!” Educators coax family members to hold or touch the cockroach, pointing out its hard exoskeleton. This activity is a great leveler, as adults and children experience the same level of awe and disgust. They challenge one another to get closer and touch the bug. There are lots of laughs. Cell phones come out to document the moment with photos.

Next, families are invited to a table where a plastic aquarium box holds a large centipede. A CBO staff member provides some background about centipedes and the food they like. When the families are told that they will feed the centipede, caregivers and children alike can barely contain their excitement. More photos are taken as two crickets are dropped into the cage. The families wait, mesmerized. Children call out attacks and near misses as the crickets jump away from the creepy predator. It takes a while, but eventually the crickets are eaten.

Children move on to build-a-bug stations. They construct imaginary bugs and habitats out of craft materials, in an activity intended to showcase adaptations and encourage observation and classification of insects.

In this fun evening, literacy was supported not only by use of the book but also by encouraging families to record information about the bugs in “arthropod journals” in English or Spanish.

Source: program observation, March 20, 2019

Methods

Investigation of informal learning poses specific challenges (Diamond, 1999; Knutson & Crowley, 2005; Crowley et al., 2015). Many families visit museums to have a fun or social experience; learning may not be a primary goal at all (Falk et al., 1998; Packer & Ballantyne, 2002). The engaging, continuous, and exploratory nature of informal learning is at odds with tests and surveys, which are typically used to study learning in formal education (Zapata-Rivera, 2012). Introducing tests can undermine the goals of a supportive, positive learning environment that builds confidence and allows learners to try something new without feeling judged (Fu et al., 2019).

As the evaluation team for ILI, we structured our work to support the development of a networked community of practice, collecting data for improvement and exploring the best ways to measure impact across projects. We relied on “light touch” research methods (Borun, 1977; Knutson & Crowley, 2005; Yallowitz & Bronnenkant, 2009) so as not to disrupt the program culture and trust with families that partners were building over time. Understanding that rigid, test-focused approaches to evaluation can prioritize measurement over context, to the extent that the evaluation can disrupt the program and hinder the formative learning function of evaluation (Dahler-Larsen, 2009), we adopted a participatory approach. Learning from evaluation, a recognized strength of collaborative approaches, is a form of accountability in and of itself (Cousins et al., 2013).

We developed a structured observation protocol that would allow us to characterize the extent to which partners implemented key programming features and provided engaging learning environments. The observation protocol had a section on program implementation and one that tracked the participation of individual children through a single session. We also noted snippets of conversation; described interactions among children, caregivers, and educators; documented the content and sequence of each observed program; and noted the atmosphere and appearance of the space and activities. Soon after each observation, using our observation sheets and photographs, we wrote a reflective observation summary.

In addition, CBO staff and educators conducted interviews with children and caregivers in their programs. We decided to have educators conduct interviews because families already knew and trusted them. We collaborated with the educators to develop, pilot, and refine the interview questions. Interview questions for children focused on what they remembered, learned, and were interested in. Interview questions for caregivers probed their perception of their child’s participation in the program, the caregiver’s own participation, and whether and how any of the ideas or materials from the program found their way into subsequent activities at home. Child and caregiver interviews were audio-recorded and conducted in the language preferred by the participant. Interviews that were not in English were translated and transcribed by the educator who conducted the interview.

Our field notes contain many examples of children crowding around a demonstration, eagerly participating in discussions, concentrating on individual projects, chasing down facilitators to show off their work, or asking questions of adults and other children.

Children’s Engagement and Learning

We collected observational records for 117 children participating in ILI programming. We tracked two measures of children’s participation: a code for child engagement with program activities (high = 2, medium = 1, low = 0) and a code for whether children successfully completed the day’s activities (1 = yes, 0 = no).

Findings suggest high levels of engagement, with an average of 1.75; the completion rate was 85 percent. Program-specific engagement ratings ranged from 1.20 to 1.91, while completion rates ranged from 70 percent to 100 percent. Our field notes contain many examples of children crowding around a demonstration, eagerly participating in discussions, concentrating on individual projects, chasing down facilitators to show off their work, or asking questions of adults and other children. Educators noted that one of the best parts of ILI programs was the level of attention and engagement, which they had not expected because of the children’s young ages. Children often became noisy and animated during programs, but educators did not identify behavior management as a major problem; they are used to the high energy and sometimes chaotic flow of informal learning. Over time, programs across the network evolved to better accommodate children of different ages, abilities, and attention spans.

We also tracked children's talk, with codes for whether they talked with educators, caregivers, or other children and for whether their talk included disciplinary content, questions, or target vocabulary. Observations showed that 93 percent of children engaged in rich learning conversations with informal educators. In many such conversations, children and educators used content-specific vocabulary and concepts to describe, question, label, connect, and explain. Other codes for talk showed that 50 percent of children talked about informal learning content, 46 percent asked questions, and 37 percent used vocabulary targeted by programming objectives. We observed 69 percent of children engaging in conversations with peers. Talk with caregivers was less common, at 63 percent, but this result can be explained by the fact that some programs were afterschool programs in which caregivers typically did not participate. In the programs designed for full family participation, we observed 88 percent of children talking with their caregivers during learning activities.

During program activities, children were exposed to new topics and themes. For example, they learned about the role mussels play in filtering water, tasted vegetables they had never eaten before, observed that seeds come in different kinds and sizes, and learned how artists create a collage. In interviews, children gave many examples of what they remembered from program books and activities. For example, one four-year-old recalled an animal featured in a program:

Interviewer: Do you remember when we did this?
[Shows picture of armadillo]

Child: He eats worms.

Interviewer: Do you remember what he is?

Child: Arm-da-dillo!

Interviewer: Right! He eats worms, what else?

Child: He has a pointy nose. He can dig with his nails to find some food. He eats worms.

Caregiver interviews indicate that some of the children's learning connected to engagement and learning at home:

My child is always happy to come to [the program]. He loves it! He says he learns lots of things. We at home can see that he is learning a lot.

He loved hearing the inchworm story. He went home and measured everything. He used his feet to measure and counted 17 steps.

Another caregiver spoke of the confidence the program inspired in her child:

She lacked confidence in reading, so I wanted to find something for her alone so she could get the hang of it. Her brother is an obstacle and takes over. Now she can show her brother something he didn't know.

Caregivers' Engagement and Learning

ILI programming targeted families, with special attention to the role of caregivers in supporting their children's literacy development. This characteristic separates ILI informal programs from center- or school-based programs, which may recognize that parents can support learning but focus primarily on child outcomes. Most programs, except for the afterschool programming, were designed for families to attend together. All projects had family learning components and provided literacy resources families could use to extend the learning at home. Resources included free picture books, home learning activities, journals, and parent guides.

One of the clearest messages to emerge from the caregiver interviews was appreciation for how the programs modeled engaging ways for adults to read picture books with children. Fully 83 percent of caregivers said that they had learned a new strategy; for example:

I have learned how to read to her. I explain more to her about what we're reading. Sometimes one reads to the children, but one really doesn't know how to read to them.

By the second year of the project, a shared set of read-aloud practices had emerged. Programs focused on ways readers could reframe stories or ask questions to keep children interested and actively focused. Our interviews suggest that caregivers took up some of these practices; the most common strategy, asking questions while reading, was cited by 42 percent of caregivers. Another strategy, using the pictures in a book to tell the story, was mentioned by 38 percent of caregivers. In this strategy, adults encourage children to describe what they see happening in the pictures, perhaps making up their own story. Some caregivers found this technique useful when they didn't themselves know all the English words.

About one-third (33 percent) of caregivers talked about making the reading theatrical and engaging. For example, one said:

The tone that you read in, I'm getting better at the

tone that you say things, the emotion. The manner in which you read—the intensity, the tone of voice, how you ask questions with mystery or happiness.... Like yesterday with *Los Gatos Negros*... there was a door that made the sound AEEEEEE! Like, the drama it creates, the mystery, [continues to recall parts of the book with excitement and sound effects] so [the baby] even wanted to know what was going on!

All projects came to see read-alouds as useful not only for exposing children to literature but also for modeling strategies for adults. Some projects went further, adding caregiver-only segments in which staff talked to caregivers about reading strategies and how to connect reading to children’s interests.

Caregivers who were themselves English learners were not always ready to read books in English. Programs that served such families often read books in both languages. The most common practice we observed was reading books in English but translating and paraphrasing a few elements on each page. We also observed projects using books in Spanish or books with pictures and no words, which could be narrated and discussed in any language.

Some caregivers were not comfortable reading in their first language. One project that served families experiencing homelessness had several struggling readers among its caregivers. The program developed a practice of having families sit around the room with multiple copies of a book and then inviting both caregivers and children to read aloud, while the other families followed along. We observed this practice in three separate program sessions. Our field notes suggest that the program was a supportive environment for emergent readers, adult and child alike. One caregiver said, “It’s a more inviting place to read. It’s not a chore in this setting. And [my child] sees other people reading.” The CBO staff were key to creating this inviting place. The caregivers trusted them and thus were encouraged to take risks. Everyone, fluent or not, took a turn as reader. We recorded in our notes that, if a caregiver struggled to decode a word, other adults and sometimes children would call out the word; the adult would pick it up and move on. After one mother

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slowly but successfully read two pages of a book without help from the group, she gave a big smile as her child leaned in to hug her and said, “Good job, Mom! I love you!”

Building Trust and Community Roots

How does an informal learning institution create a trusted relationship with a family? Many interventions designed to address economic and racial/ethnic disparities in learning outcomes take a deficit approach, targeting the development of knowledge and skills that families seemingly lack (Cabrera et al., 2012). This deficit approach disempowers families and ignores rich social and cultural competences.

In contrast, ILI network partners attempted to take a culturally responsive and strengths-based approach. Relatively few studies document exactly how best to implement strengths-based programming (Leyva et al., 2021). Network partners promoted a culturally responsive approach by validating families’ languages, cultures, and historical perspectives and by asking for their input on subjects and books that would reflect their community and interests. By building positive social relationships with children and caregivers, partners worked to create safe and welcoming environments whose norms supported all participants.

One goal of ILI was to find meaningful ways to connect families with informal learning institutions. Indeed, 78 percent of caregivers we interviewed said that they’d never been to their CBO’s partner cultural organization; some had never even heard of it. The rest of the caregivers said that they had been to the museum once before, usually when they were young. The projects made many families more aware of museums as resources. Several caregivers noted that their level of comfort with the cultural organization increased the more time they spent in the program:

It was very fun! We participated in things we had never done before. It’s right down the street from our house. We had never been to a museum.

The truth is, we were never in any museum before going to [this one]. It’s a very good place filled with beautiful paintings. Sometimes it has to do with a lack of time. Plus, I have five children and they are a bit restless, especially the baby. Then at

a museum, you cannot touch anything, and I have to continually tell the boy, “Don’t touch this, don’t touch that.”... The other day my whole family went to the museum. Everyone loved making houses with cardboard.

Thus, museums began to find new audiences for their work, in partnership with the CBOs. Some programs catalyzed museum-oriented communities of families:

[This program] is like family. It brings people together with common ground. Community nights give us an incentive, and we get to see and spend time with parents we don’t see at the community center.

One caregiver said that the program gave her child an opportunity to do something new, though it was initially scary. The child developed positive relationships with the educators (“the ladies”) and looked forward to returning to the program:

She didn’t want to do it at first, because she thought that I would be leaving her here. There were very fun things for us to do together. She kept asking, “When do we get to go to the activity?” And I tell her, “No, the activity isn’t until tomorrow.” “Okay, are we going to see the ladies?” “Yes, we are going to see the ladies.”

Projects worked with highly diverse audiences; during one observation, we noted five languages being spoken. Multilingual and multicultural programming can be particularly difficult for museums whose educators and audiences both tend to be much less diverse than their communities. Bringing CBOs and museums together has been an innovative step toward bridging cultural differences. Projects with English learners have been careful to value and include the learners’ first languages, as recommended in the literature (Auerbach, 1989; Reyes & Torres, 2007). Caregivers who were not fluent in English said in interviews that they appreciated programs’ care in creating multilingual and multicultural settings where families felt comfortable learning together:

I like that the teacher speaks Spanish. This way, [my son] is comfortable in class. For me, I know

that he’ll be understood and that he can participate in class. He is also learning English words. He now knows the names of the colors in English and in Spanish.

Researchers have noted the importance of building relationships and paying attention to the needs of parents (Alameda-Lawson & Lawson, 2019; Bess & Doykos, 2014). They also emphasize developing parents’ leadership skills (Warren et al., 2009). The norms, expectations, ways of knowing, cultural resources, and forms of expertise of underrepresented minority parents often have less currency and impact in schools than those typically associated with White, middle-class families (Baquedano-López et al., 2013). The ILI network worked to help families from underrepresented groups to feel invited and to take ownership of the programs.

I love this program because it taught me a lot of things that I didn’t know and had never done, especially to participate with my children.... I had never done a program like this. I liked it a lot. I felt very good.

The truth is, you all are very nice, very helpful. You pay attention to each person, to each group, to each child. You give us suggestions ... to the parents. The truth is, it feels very full. You give the best of yourselves. You provide complete activities for us to do. It is super good. I hope it continues.

We don’t take time to dedicate to the kids, share with the kids things that they did at school. This is a good little bit of time that I get to spend with them and let them know that what they do matters to us.

Some programs engaged directly with caregivers to great effect. One project had caregivers gather without their children to recommend books to one another. The caregivers broadened the discussion to include internet literacy resources and family play activities. Another project, working with Black families, built caregiver feedback sessions into their regular programming. Early in these sessions, caregivers said they wanted more

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books featuring Black authors or Black characters so that their children could see themselves represented in the text. This input helped the program better reflect the needs of the community. We later interviewed the program staff about this process:

Staff 1: I know we all agree on this. Ownership is a key tool to get folks to invest and show up. And the team did an amazing job of coalescing caregivers to make some of those decisions....

Staff 2: ... It's worked best so far to see the ownership of the families taking it over. They've pointed out good books. That was one of the best learning experiences I've had so far. They took us to a really good place.

Staff 3: Right, the value should be placed on where they're coming from. To be reflective [in our program design] is what I'm most proud of, and making the shifts. We want to get good rich literature where they can see themselves. We're putting it in their hands.

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In a reflective evaluation interview, staff members from more than one project talked about how hard it was to get everyone on the same page about how to be culturally sensitive. They said it took time to work with partners to understand the specific needs of the families—but there were rewards. Staff members said they appreciated seeing the change in children's artwork when they used culturally representative books. They loved the feeling of connection with communities. They were excited to see adults enjoying the programs and feeling comfortable in the museum. They also spoke about broader effects, such as showing the value of family engagement to the staff of the school where the program was housed. One staff member said that the best part was seeing "community in action, love in action. And joy."

Recommendations for Museum-CBO Partnerships

Support for equitable educational outcomes in urban settings involves all aspects of life, including families, neighborhoods, and communities. Children spend most of their time outside of classrooms. What learn-

ing opportunities do they have when they are not in school? Healthy educational ecosystems provide equitable access to learning resources and learning pathways (Akiva et al., 2020; Hecht & Crowley, 2020). In such ecosystems:

- Communities feel invited to participate in informal learning and empowered to co-construct learning experiences to reflect their values, needs, and strengths.
- Diverse opportunities and pathways allow children to pursue differentiated interests and identities.
- Learning opportunities are often informal, place-based, and distributed across the city.
 - In their daily lives, children encounter all sorts of adults—educators, caregivers, role models—who know how to facilitate learning through collaboration, conversation, and facilitation.
 - The city, seeing itself as a managed educational ecosystem, makes investments to improve the health of the system rather than restricting investment to a single niche, connection, or entity.

Our study examines how museums can connect to collective impact efforts in literacy and how informal learning programs can be re-oriented to better respond to community needs. ILI programming was designed to capitalize on the strengths of cultural organizations. Children were exposed to new topics and themes in a range of content areas. They enjoyed the programs and showed high levels of engagement in, and completion of, program activities. They engaged in rich learning conversations with informal educators and caregivers—a critical component of informal learning experiences that support literacy development. Observations documented the use of content-specific vocabulary and concepts. Interviews with children and caregivers suggest that children remembered what they learned and sometimes extended that learning at home. Furthermore, caregivers learned strategies to support children's reading. They felt welcomed in and connected to the programs, and they formed relationships with educators and other families. These outcomes can empower caregivers to be brokers and advocates for their children's learning. Partners are planning to further strengthen caregiver engagement by

involving adults as learners, not just as facilitators of children's learning.

Four elements of the ILI approach have challenged museums and CBOs to move beyond their traditional roles to become central actors in Philadelphia's educational ecosystem. Other systems could use these suggestions to engage families in literacy development outside of school.

Center Community

ILI funded CBOs as a strategy to bring communities into the work of literacy development. Building on the trusting relationships they have established with their communities, CBOs recruited families for the programs and supported community engagement. Language, culture, and neighborhood were woven into programming. Museum educators connected with and learned about families who rarely, if ever, visited their institutions. They became aware of responsibilities beyond promoting learning outcomes; they came to think of their practice as addressing social and emotional learning, food insecurity, and adult learning. Partners aspired to work both in and with communities. CBOs pushed back against deficit perspectives and focused the network on strengths-based approaches. As of the third year of the five-year initiative, almost 1,500 families have participated in ILI programs.

Support Family Learning and Caregiver Engagement

Caregivers were central to ILI programming. Findings suggest that they often felt like full participants in the program; they not only learned strategies to support their children's learning but also acquired new knowledge and skills themselves. Informal learning is life-long and free-choice. Giving caregivers meaningful roles and treating them as learners in their own right helped them stay interested and engaged enough to return for multiple sessions. Caregivers reported using strategies from the program at home, creating the possibility that program impacts could continue beyond the end of the project.

Develop and Support Informal Educators

Museum and CBO educators developed relationships with children and caregivers over time, learning about

them and their communities. The educators developed new practices and routines for supporting early literacy. Compared to many out-of-school learning programs, ILI programs had a large proportion of adults in the room. Partners recognized that learning conversations with children and caretakers are an essential aspect of informal literacy learning. Personalized conversations helped families feel included and empowered.

Focus on Learning and Innovation

Recognizing that education is a systems problem, network partners did not begin by identifying proven strategies to implement in similar ways across the city. Instead, they bet on partnerships between museums and CBOs as a catalyst for exploration and change. We saw evidence that the partnership strategy was successful in that partners spent time learning, reflecting, and experimenting together. Staff members engaged in new kinds of work that spanned the museum–CBO boundary. By networking the partnerships together, ILI supported broad conversations and encouraged a culture of co-design and iterative improvement. This impact goes far beyond what individual children or caregivers learned from any given program. ILI's investment in connections within the ecosystem created a collaboration infrastructure that can be reused and extended through future investments.

Of course, meaningful changes in an ecosystem take time and patience. Most partnerships needed two years to begin to function smoothly, and the network is still in a formative phase. Continued investment in joint work and innovation is needed for this—or any—network to become a sustainable learning community.

References

- Akiva, T., Delale-O'Connor, L., & Pittman K. (2020). The promise of building equitable ecosystems for learning. *Urban Education*. <https://doi.org/10.1177/0042085920926230>
- Alameda-Lawson, T., & Lawson, M. A. (2019). Ecologies of collective parent engagement in urban education. *Urban Education*, 54(8), 1085–1120. <https://doi.org/10.1177/0042085916636654>
- Auerbach, E. R. (1989). Toward a social-contextual approach to family literacy. *Harvard Educational*

Four elements of the ILI approach have challenged museums and CBOs to move beyond their traditional roles to become central actors in Philadelphia's educational ecosystem.

- Review, 59, 165–181. <https://doi.org/10.17763/haer.59.2.h23731364l283156>
- Baquedano-López, P., Alexander, R. A., & Hernandez, S. J. (2013). Equity issues in parental and community involvement in schools: What teacher educators need to know. *Review of Research in Education*, 37(1), 149–182. <https://doi.org/10.3102/0091732X12459718>
- Bess, K. D., & Doykos, B. (2014). Tied together: Building relational well-being and reducing social isolation through place-based parent education. *Journal of Community Psychology*, 42, 268–284. <https://doi.org/10.1002/jcop.21609>
- Borun, M. (1977). *Measuring the immeasurable: A pilot study of museum effectiveness*. Philadelphia: Franklin Institute.
- Bouffard, S., & Weiss, H. (2008). Thinking big: A new framework for family involvement in policy, practice, and research. *The Evaluation Exchange*, 14, 2–5.
- Cabrera, N. J., Beeghly, M., & Eisenberg, N. (2012). Positive development of minority children: Introduction to the special issue. *Child Development Perspectives*, 6(3), 207–209. <https://doi.org/10.1111/j.1750-8606.2012.00253.x>
- Coffee, K. (2008). Cultural inclusion, exclusion and the formative roles of museums. *Museum Management and Curatorship*, 23(3), 261–279. <https://doi.org/10.1080/09647770802234078>
- Cousins, J. B., Whitmore, E., & Shulha, L. (2013). Arguments for a common set of principles for collaborative inquiry in evaluation. *American Journal of Evaluation*, 34(1), 7–22. <https://doi.org/10.1177/1098214012464037>
- Crowley, K., Barron, B. J., Knutson, K., & Martin, C. (2015). Interest and the development of pathways to science. In K. A. Renninger, M. Nieswandt, & S. Hidi (Eds.), *Interest in mathematics and science learning and related activity* (pp. 297–313). American Educational Research Association.
- Crowley, K., Pierroux, P., & Knutson, K. (2014). Informal learning in museums. In K. Sawyer (Ed.), *Handbook of the learning sciences* (pp. 461–478). Cambridge University Press.
- Dahler-Larsen, P. (2009). Learning-oriented educational evaluation in contemporary society. In K. E. Ryan & J. B. Cousins (Eds.), *Sage international handbook on educational evaluation* (pp. 307–322). Sage.
- Dawson, E. (2014) “Not designed for us”: How science museums and science centers socially exclude low-income, minority ethnic groups. *Science Education* 98(6), 981–1008. <https://doi.org/10.1002/sce.21133>
- DeBruin-Parecki, A. (2009). Establishing a family literacy program with a focus on interactive reading: The role of research and accountability. *Early Childhood Education Journal*, 36, 385–392.
- Diamond, J. (1999). *Practical evaluation guide: Tools for museums and other informal educational settings*. Alta Mira Press.
- Falk, J., Moussouri, T., & Coulson, D. (1998). The effect of visitors’ “agendas” on museum learning. *Curator: The Museum Journal*, 41(2), 107–120. <https://doi.org/10.1111/j.2151-6952.1998.tb00822.x>
- Fu, A. C., Kannan, A., & Shavelson, R. J. (2019). Direct and unobtrusive measures of informal STEM education outcomes. In A. C. Fu, A. Kannan, & R. J. Shavelson (Eds.), *Evaluation in informal science, technology, engineering, and mathematics education. New Directions for Evaluation*, 161, 35–57. <https://doi.org/10.1002/ev.20348>
- Golinkoff, R., Hoff, E., Rowe, M., Tamis-LeMonda, C., & Hirsh-Pasek, K. (2018, May 21). *Talking with children matters: Defending the 30 million word gap*. Brookings Institute. <https://www.brookings.edu/blog/education-plus-development/2018/05/21/defending-the-30-million-word-gap-disadvantaged-children-dont-hear-enough-child-directed-words/>
- Gurian, E. H. (2006). *Civilizing the museum: The collected writings of Elaine Heumann Gurian*. Routledge.
- Hecht, M., & Crowley, K. (2020). Unpacking the learning ecosystems framework: Lessons from the adaptive management of biological ecosystems. *Journal of the Learning Sciences*, 29(2), 264–284. <https://doi.org/10.1080/10508406.2019.1693381>
- Hernandez, D. J. (2011). *Double jeopardy: How third-grade reading skills and poverty influence high school graduation*. Annie E. Casey Foundation. <https://assets.aecf.org/m/resourcedoc/AECF-DoubleJeopardy-2012-Full.pdf>
- Hoff, E. (2013). Interpreting the early language trajectories of children from low-SES and language minority homes: Implications for closing achievement gaps. *Developmental Psychology*, 49(1), 4–14. <https://doi.org/10.1037/a0027238>
- Knutson, K. & Crowley, K. (2005). Museum as learning laboratory: Developing and using a practical

- theory of informal learning. *Hand to Hand. (Part 1 of 2)* 18(4). <https://upclose.lrdc.pitt.edu/articles/2005%20Knutson%20&%20Crowley%20Hand%20to%20Hand.pdf>
- Leyva, D., Weiland, C., Shapiro, A., Yeomans-Maldonado, G., & Febles, A. (2021). *A strengths-based, culturally responsive family intervention improves Latino kindergarteners' vocabulary and approaches to learning*. <https://www.edworkingpapers.com/sites/default/files/ai21-349.pdf>
- Luke, J. J., & McCreedy, D. (2012). Breaking down barriers: Museum as broker of home/school collaboration. *Visitor Studies*, 15(1), 98–113. <https://doi.org/10.1080/10645578.2012.660847>
- Lynch, B. (2011). Custom-made reflective practice: Can museums realise their capabilities in helping others realise theirs? *Museum Management and Curatorship*, 26(5), 441–458. <https://doi.org/10.1080/09647775.2011.621731>
- McSweeney, K., & Kavanagh, J. (Eds.). (2016). *Museum participation: New directions for audience collaboration*. MuseumsEtc.
- National Research Council. (2009). *Learning science in informal environments: People, places, and pursuits*. National Academies Press.
- Packer, J., & Ballantyne, R. (2002). Motivational factors and the visitor experience: A comparison of three sites. *Curator: The Museum Journal*, 45(3), 183–198. <https://doi.org/10.1111/j.2151-6952.2002.tb00055.x>
- Reese, E., & Cox, A. (1999). Quality of adult book reading affects children's emergent literacy. *Developmental Psychology*, 35(1), 20–28. <https://doi.org/10.1037/0012-1649.35.1.20>
- Reyes, L. V., & Torres, M. N. (2007). Decolonizing family literacy in a culture circle: Reinventing the family literacy educator's role. *Journal of Early Childhood Literacy*, 7(1), 73–94. <https://doi.org/10.1177/1468798407074837>
- Rowe, M. L. (2012). A longitudinal investigation of the role of quantity and quality of child-directed speech in vocabulary development. *Child Development*, 83, 1762–1774. <https://doi.org/10.1111/j.1467-8624.2012.01805.x>
- Sandell, R., & Nightingale, E. (Eds.) (2012). *Museums, equality and social justice*. Routledge.
- Warren, M. R., Hong, S., Rubin, C. L., & Sychitkokhong Uy, P. (2009). Beyond the bake sale: A community-based relational approach to parent engagement in schools. *Teachers College Record*, 111(9), pp. 2209–2254. <https://doi.org/10.1177/016146810911100901>
- Weiss, H. B., Caspe, M., & Lopez, M. E. (2006). *Family involvement makes a difference: Family involvement in early childhood education*. Harvard Family Research Project. <https://archive.globalfrp.org/publications-resources/publications-series/family-involvement-makes-a-difference/family-involvement-in-early-childhood-education>
- Yalowitz, S., & Bronnenkant, K. (2009). Tracking and timing: Unlocking visitor behavior. *Visitor Studies*, 12(1), 47. <https://doi.org/10.1080/10645570902769134>
- Zapata-Rivera, D. (2012). *Embedded assessment of informal and afterschool science learning*. https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse_072564.pdf