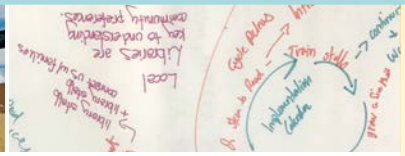
Community Catalyst

LOGIC MODELS

STEM Charging Stations

Explora Science Center & Children's Museum

Albuquerque, NM | APRIL 2019



Project Description:

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Grantee Reflections:

Creating & Adapting the STEM Charging Stations Logic Model

While leading a unique project with many parts and an emphasis on relationships and resource-exchange around early childhood STEM learning, the Explora team has discovered the value of logic models to capture the sometimes complex, interrelated components and relationships of their project.

Tara Henderson, Director of School and Community Programs at Explora and project team lead, explains: "We've got a pretty big project in that there's a lot of components. It spreads out all over the state with partners that aren't necessarily interacting with each other and they're not going to be interacting with each . . . so we're sort of in the middle of the spider's web."

The Explora team developed their logic model for the first time as a reflective process at the second in-person Community Catalyst Initiative cohort gathering in 2019, approximately 17 months into their project. They then refined it in the following months.

While they did not develop or use a Logic Model in the earlier stages of their work, the team did create alternative forms of visualizing key project components including long-term and short term goals as well as resources and activities.

"At the very beginning of the project, [with] everyone who was on-boarded [we] broke up the different components and asked them to map out: 'What does this look like? Who are our partners? How do we know we're going to be successful?' And then, at the end of year one, [we] invited them to come back and brought back out those papers. . . And then they got a different color marker and . . . added data points of things that we thought would make it successful, and, 'How did that actually happen?' and other things that happened during the course of the project. I think it allowed a lot of people see themselves or communicate a lot of other ideas, instead of me coming in and saying, 'This is what we wrote in the grant. I know we sent you guys the narrative, but that was 12 months ago when we last looked at all of this. Here are our categories, here's what we said but what does this look like?'"

One key to the team's success which became clear during their logic model creation was the importance of remaining flexible with their project design. "We've really just treated our stuff as super flexible in that we know the minimum of what we need to do based on what we wrote in the grant proposal, but keeping in mind when . . . an opportunity has presented itself under a line and being open to seeing what that is--not saying, 'Sorry, that's not in our proposal, we can't do it." Additionally, they have discovered the value of "building on, 'Where are the relationships? Where are the people's passions?'"

Since creating a more traditional model, the team reflects that "it can be a useful tool in thinking about how your work has fit together, and helping group thoughts together and seeing how different things have connected--and really just capturing some of those things that are happening in a concrete way."

The group planning and reflection processes as well as the work of creating a logic model recently have allowed the team to see clearly what had shifted and what had remained the same since the launch of their project. Changes include:

- **Who was involved and who the team and partners thought might want to be involved.** "As we went through the first year it sort of became a lot more apparent that there was a lot of interest statewide in 'What does science look like for young kids?' . . . who is participating and coming to the table really expanded and grew."

- **Shifting levels of involvement of various partners and stakeholders** "There have been very consistent people who are always at the table but there have also been people who have sort of come and gone as their work-flow changes, like they'll be really involved then they'll disappear and then they'll come back in."

- **The ownership and contribution level of participants** Many new individuals from various sectors have increased their engagement and contribution levels since the project's launch.

"If I could say, 'This is our input and this is our output, this is our outcome there's no iteration, no variation,' it'd be super easy to write a report on that – but that doesn't make it impactful."

Tara Hendderson
Director of School and Community Programs, Explora

- **Outputs** Based on learning about the community's existing assets and actors, the team adjusted "outputs" (activities). For examples, "Those activity outputs were supposed to be originally in a calendar that lists community events and that wasn't what we ended up doing. There's a lot of community calendars out there, and so the thing we kept hearing time and time again was, 'We need simple activities that we can do with everyday materials that are like postcards, that families can use, parents can use, professionals can use them in a variety of different things.'"

Other aspects of the original project design changed in their execution but remained the same in spirit or intention. "When we did a summit for early childhood educators, when started in year 1, we didn't know what it was going to look like. We had a lot of objectives or ideas of, 'This is what's going to happen, these are … behaviors or connections that we're going to see over it.' And when came back at beginning of year 2, we had actually met a lot of those, which is kind of surprising because when we went in we had no clue what this was going to look like. There were ideas of, 'Oh we're going to have a big summit, we're going to bring in business leaders. They're going to talk to the early childhood providers.' And it didn't look like that *at all!* It was interesting to see one idea percolating around one group and we still had a lot of the same ideas that were coming through and things we wanted to see even though, even though our hard deliverable was very different … but our ideas of what might happen were still all there."

The team also found limitations of the standard logic model, and perhaps of logic models in general, to capture certain nuances and dynamics of community catalyzing work. As a project spanning a state with many different cultures and communities, they adapt constantly. Additionally, engaging new partners and community members in particular involves a suspension of certain expectations – for example, "being flexible in terms of when you're working with the parents and kids together to do a science program and what they're bringing to the table, even if it's not what you anticipated and expected, just being excited because they're excited and holding your frustration till you're not there anymore because that can really dampen the excitement. . . You expected 12 kids and you got really 12 families, but they're all very excited. . . You can't really capture that on a logic model."

Additionally, playing the convener and connector role as Explora does involves a great deal of "letting go" of the need to know what the outcomes of all activities. "Different people from different tables have come in and taken ideas and come back, and sometimes you don't hear how they're implementing those ideas for months and months on end. Which can be sort of hard, but sometimes you just have to let that go and hope you hear back on the different 'ripple effects' down the road. . . You start the ripple and sometimes it's just going to go and you'll hear back eventually, hopefully."

The team reflects that since returning from the last cohort workshop, "we've started the next iterations of a lot of things. And that's one of the things that's come through, it's like 'OK, we can't capture this but we know that one model does not fit everything,' and so being flexible with that."

Furthermore, community engagement work is not always as simple and linear or one-directional as "Point A" to "Point B." "If I could say, 'This is our input and this is our output, this is our outcome there's no iteration, no variation,' it'd be super easy to write a report on that – but that doesn't make it impactful."

The advice that the Explora team offers to others seeking to use logic models in their work to catalyze community is: "Don't be stuck to your logic model because you'll miss a lot of great opportunities. It's great to think about how everything fits together, but have the conversations and don't pass them up."

LOGIC MODEL

INPUTS

engaged organizations, institutions, and community members

funding

knowledge

program area expertise

collaboration

connections and relationships between programs and individuals

OUTPUTS

SHORT-TERM OUTCOMES

- Build interest and awareness
- Increase access to STEM learning opportunities

MEDIUM-TERM OUTCOMES

- Build capacity

LONG-TERM OUTCOMES

- Demonstrate collective impact
- All children and families have access to high-quality STEM learning opportunities in their communities

Building the Capacity of Librarians, Teachers & Child Care Providers

OUTPUTS	SHORT-TERM OUTCOMES	MEDIUM-TERM OUTCOMES	LONG-TERM OUTCOMES
Professional Development Workshops for Library Staff	Cumulative 120 librarians participate in workshops developed with their guidance and designed to support librarians in developing their own STEM and literacy-connected activities that are relevant in their communities.	• Librarians use and extend ideas from the workshops. • Librarians develop their own STEM activities connected to literature.	• Librarians develop their own STEM activities connected to literature. • Librarians feel confident in their ability to create and foster STEM learning experiences. • Library programs integrate literature with STEM building on local knowledge and experiences.
Early Childhood STEM Summit	Bring together approximately 125 early childhood educators, funders, parents, and other stakeholders.	• Early childhood teachers use ideas gained in the workshops of the summit. • Early childhood teachers make connections with others in the field and share ideas.	• Early childhood teachers engage their students in developmentally appropriate math and science. • Early childhood teachers feel confident in their abilities to foster STEM learning in their classrooms. • All young children have the opportunity to engage in math and science in ways that are relevant and meaningful to them.
3-credit-hour course at Central New Mexico Community College (CNM)	25 CNM student will complete the course over the period of 2 semesters. CNM students will collectively reach 750 young children.	• Early childhood teachers use ideas gained in the course in their own classrooms. • Early childhood teachers have a greater awareness of math and science in the early childhood classroom.	• Early childhood teachers engage their students in developmentally appropriate math and science. • All young children have the opportunity to engage in math and science in ways that are relevant and meaningful to them.

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Building the Capacity of Families and Activating STEM Charging Stations in Communities

OUTPUTS	SHORT-TERM OUTCOMES	MEDIUM-TERM OUTCOMES	LONG-TERM OUTCOMES
"Growing a Scientist" programs for young children and their adults	120 families will participate in "Growing a Scientist" workshop series offered in collaboration with partner sites over the course of 2 years.	• Caregivers (parents, grandparents, aunts, uncles, etc) replicate or extend STEM investigations outside of the workshop. • Families will use their Explora membership to visit Explora.	• Caregivers feel confident fostering STEM learning for the young children in their care. • Caregivers replicate or extend STEM investigations outside of the workshop. • Families share what they discovered with other families. • Families use their membership to visit Explora.
Public Awareness Campaign	15 second spots on NM PBS that show adults and children participating in STEM together.	Public media includes examples of ways that STEM is part of everyday experiences.	Public media includes examples of ways that STEM is part of everyday experiences.
"STEM to READ" Kits available for librarians to use in programming	Increase number of "STEM to READ" kits available for librarian use at library locations statewide.	• STEM to READ kits are regularly checked out and used by librarians state-wide. • Librarians bring in their own literature and activities to compliment STEM to READ kits.	• STEM to READ kits are regularly checked out and used by librarians state-wide. • Librarians bring in their own literature and activities to compliment STEM to READ kits. • Librarians develop their own STEM programming.
Science Kits for checkout by families/ early childhood providers from Toy Lending Library	Toy Lending Library is able to lend out Science Kits at no charge.	• Science Kits are regularly checked out and used. • Science kits support learning in Growing a Scientist and other programs at the Toy Lending Libraries.	• Science Kits are regularly checked out and used. • Science kits complement programs at the Toy Lending Libraries. • Families feel confident in their ability to engage in STEM learning experiences together.
Try This At Home activity idea "postcards"	"Postcards" are shared with community partners, families who participate in program, early childhood providers	• Community partners develop activity "postcards". • Early childhood providers use "postcards" as part of their work with families. • Early childhood providers and families feel confident in their abilities to do STEM	• Early childhood providers use "postcards" as part of their work with families. • Early childhood providers and families extend and build on the ideas. • Early childhood providers and families feel confident in their abilities to do STEM.

Prepared for the Institute of Museum and Library Services by the DePaul University and ABCD Evaluation Team in collaboration with the Explora Science Center & Children's Museum.
Photos courtesy of the Explora Science Center & Children's Museum.

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