

STAR Library Network (STAR Net) Phase 2

DRL-1421427

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Key Question: How can librarians be the curators of community STEM knowledge and expertise?

Project Overview

Building the capacity of public libraries and library staff to deliver engaging, inspirational, and educational STEM programs has the potential to transform the STEM education landscape across the country. What started in libraries some years ago as independent experiments in STEM programming has become a national STEM movement.

STAR Library Network (STAR Net) is a national program led by the Space Science Institute's National Center for Interactive Learning (NCIL). STAR stands for **Science-Technology Activities and Resources**. NSF funds this Broad Implementation Phase 2 program. Core partners include the American Library Association, Lunar and Planetary Institute, Afterschool Alliance, Datum, and Education Development Center. The STAR Net community of practice (CoP) has grown significantly and now includes over 8,000 members. STAR Net Phase 2 includes the following components:

- Large & small interactive library exhibitions hosted by 69 libraries (see map)
- Hands-on activities (including How-to Videos)
- Training opportunities for library staff (e.g., workshops)
- Outreach activities (e.g., Lights On Afterschool)
- Online resources (Webpage, STEM Activity Clearinghouse)

Research Foundations

- The concept of libraries as a *Third Place* (Oldenburg, 1999; Pastore, 2009)
- The *6 Strands of Learning* identified by Bell et al. (2009). Baek (2013a) found that the following three Strands fit best in a public library setting: **Strand 1** (Supporting Excitement, Interest, and Motivation); **Strand 5** (Engaging in Scientific Practices); and **Strand 6** (Development of a Science Learning Identity).
- Free Choice Learning: *Contextual Model of Learning* – Falk and Dierking (2000)
- Organizational Readiness/Concerns-Based Adoption Model (CBAM): STEM readiness in public libraries (Holt, Armenakis, Feild & Harris (2007))

Challenges

- The nature of an exhibit tour was a challenge in terms of training and building a CoP because the interventions were not simultaneous but sequential. These types of interventions, however, can be profoundly impactful on the host library, its staff, and community.
- **Scaling:** Large interactive exhibitions are expensive and are hosted by a small number of libraries (<100). Consider that the number of public library locations is enormous (16,000). Small interactive exhibitions show promise for achieving positive impacts in terms of attracting the interest of partners and patrons.
- **Equity:** While 93% of host libraries reported reaching at least one underserved audience, many reported challenges in achieving the full vision described in their applications. Equity continues to be a priority in both the library and STEM professions, so this is an area of natural partnership.
- **Managing a large CoP:** It's key to decide early on what the CoP's purpose is and how to effectively engage its members.
- **Partnership Building:** It's essential though partnerships are hard to sustain. This is a key factor in librarians taking on the role of curators of community STEM knowledge. It's the essential activity in a healthy STEM Ecosystem. Where have you had success in sustaining partnerships?

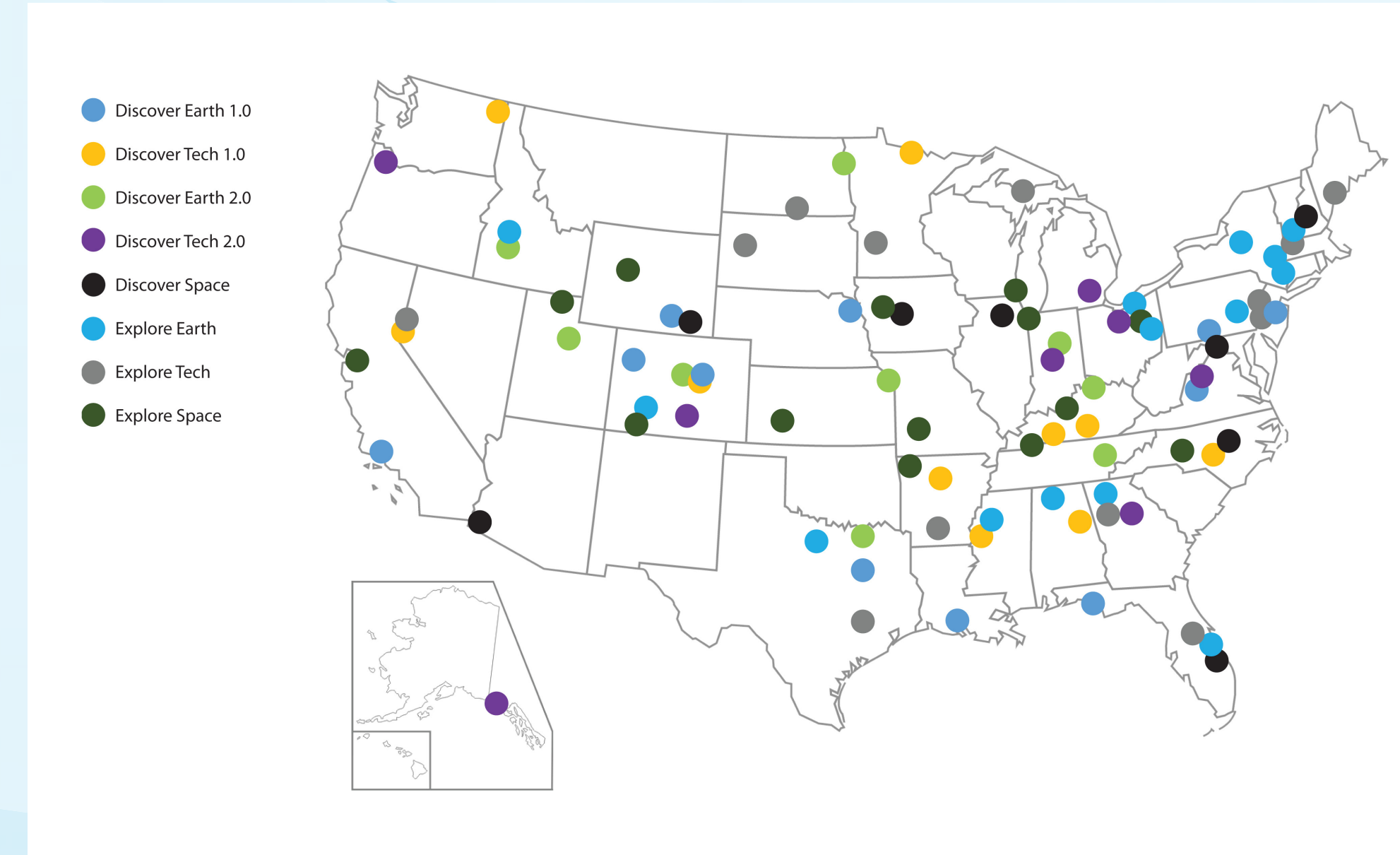
Possible Answer to the Key Question

Librarians can be the curators of community STEM knowledge and expertise given the following conditions:

- 1) library staff are adequately supported;
- 2) STEM programs are built upon a strong research foundation; and
- 3) libraries help build a strong STEM Ecosystem that leverages community resources and expertise.

Web Resources

www.starnetlibraries.org (STAR Net Website)
<http://ncil.space-science.org/papers.html> (Papers & Reports)



This map shows the location of the Discover and Explore exhibit host libraries.

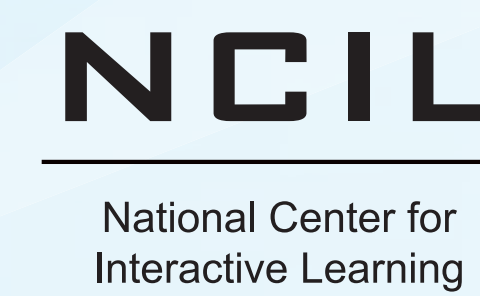
Support Systems

- ALA: Recognized Brand/Tour Management/Online Reporting System
- A growing STAR Net Brand
- Promotion Templates and Resources (e.g., STEM Activity Clearinghouse)
- Training (In-person workshops, webinars, conference sessions)



STARnet

Science-Technology Activities & Resources For Libraries



Next Steps

- STEM Readiness Navigation Tool goes live and provides a valuable resource for libraries and library staff to improve STEM programming.
- STAR Net website continues to evolve.
- STEM Activity Clearinghouse continues to grow.
- Community Dialogue resources and training help libraries build durable community partnerships and sustain healthy STEM Ecosystems.
- Librarians co-create kits/exhibits with community partners.