

# GENIAL

Generando Entusiasmo y Nuevas Iniciativas para Audiencias Latinas

## Community Collaboration and Empowerment

Salvador Acevedo, Scansion, Inc.

Paul Dusenbery, National Center for Interactive Learning, Space Science Institute

### EXECUTIVE SUMMARY

Community collaboration and empowerment was identified by the GENIAL organizers as an important theme to include in the Summit. Informal STEM learning (ISL) organizations strive to engage Latino audiences in their science, technology, engineering, and math (STEM) programming on a long-term basis and recognize the importance of understanding the needs, motivations, interests, and challenges of the diverse Latino community in the context of STEM participation. An effective way to collaborate with a community is to involve them as equal partners in the co-development of ISL experiences. A key idea discussed during the Community Collaboration and Empowerment panel was “co-creating ISL programming *with*, instead of *for*, the Latino community.” Panelists also highlighted that there is a need to implement organizational changes within ISL institutions and build the internal capacity of staff across the institution for working with diverse communities. During small group discussions, GENIAL participants were asked to consider a set of actionable insights and recommendations. Based on a synthesis of these discussions, the last section of this paper includes a list of recommendations and emerging research questions for the informal STEM learning community to address.



This paper covers three main topics:

- Principles for Co-Creation and Co-Design
- The Inside Perspective: Organizational Change Within ISL Institutions
- Looking Toward the Future

Principles for collaboration with communities include: respect, understanding the community by acknowledging its knowledge base and working with cultural connectors, and building trust through sustained relationship. The importance of valuing resilience in communities is also highlighted with a call to recognizing that persistence is part and parcel of the Latino communities' DNA.

The article also emphasizes the importance of identifying internal institutional practices to foster capacity for working effectively with diverse communities. These include a committed leadership, diversifying staff at all levels, and paying attention to power dynamics within the organization and with partners.

In looking toward the future, several recommendations and areas of emerging research are discussed in the context of program sustainability and building long-term community relationships.

## INTRODUCTION

The Community Collaboration and Empowerment strand and panel was led and facilitated by the authors of this article, who also served as strand leaders and panel conveners as well as GENIAL advisors. The panelists included:

- Antonia O. Franco, Executive Director, SACNAS<sup>1</sup>
- Santiago Ruiz, Executive Director, Mission Neighborhood Centers, Inc.
- Maddie Correa Zeigler, Education/Outreach Consultant

Over the years, organizations that create STEM programming have relied on collaborations and partnerships with community-based organizations (CBOs) to identify challenges that can be addressed, create relationships, and build trust among intended populations, such as recent immigrants, low-income residents, and/or families with school-age children. CBOs could be of any size, budget, primary language focus, and internal capacity, but a common characteristic is a deeply sophisticated knowledge and empathy for the intended audiences. Some of these organizations might be casual or affinity associations with no formal structure or budget, such as dance troupes or neighborhood associations. The main value to the STEM programming organization is the bridge of trust from the CBO to the informal STEM learning (ISL) institution.

---

1 Society for the Advancement of Chicanos and Native Americans in Science.

The panel presentation served as a framework for subsequent discussions during the Summit. Panelists offered strategies on how institutions can rethink the ways they work within communities and what healthy and sustainable collaborations look like.

A useful metaphor for such collaborations is a STEM learning ecosystem that articulates the function and impact of various educational components that extend beyond the formal education system. These components include early childhood education and afterschool programs, as well as ISL organizations such as science museums and public libraries. Most science is learned outside of school and average Americans spend less than 5% of their lives in classrooms (Falk & Dierking, 2010). There is considerable research about the positive role that out-of-school-time experiences can play in student achievement (e.g., Afterschool Alliance, 2014; National Research Council, 2014 and 2015). The National Research Council (2009) concluded that learning experiences across informal environments positively influence science learning in school, attitudes toward science, and pursuit of science-related occupations.

GENIAL Summit participants came from diverse backgrounds and represented many of the organizations that can participate in a learning ecosystem. Their expertise and experiences resulted in rich discussions around key ideas presented by the Community Collaboration and Empowerment panelists.

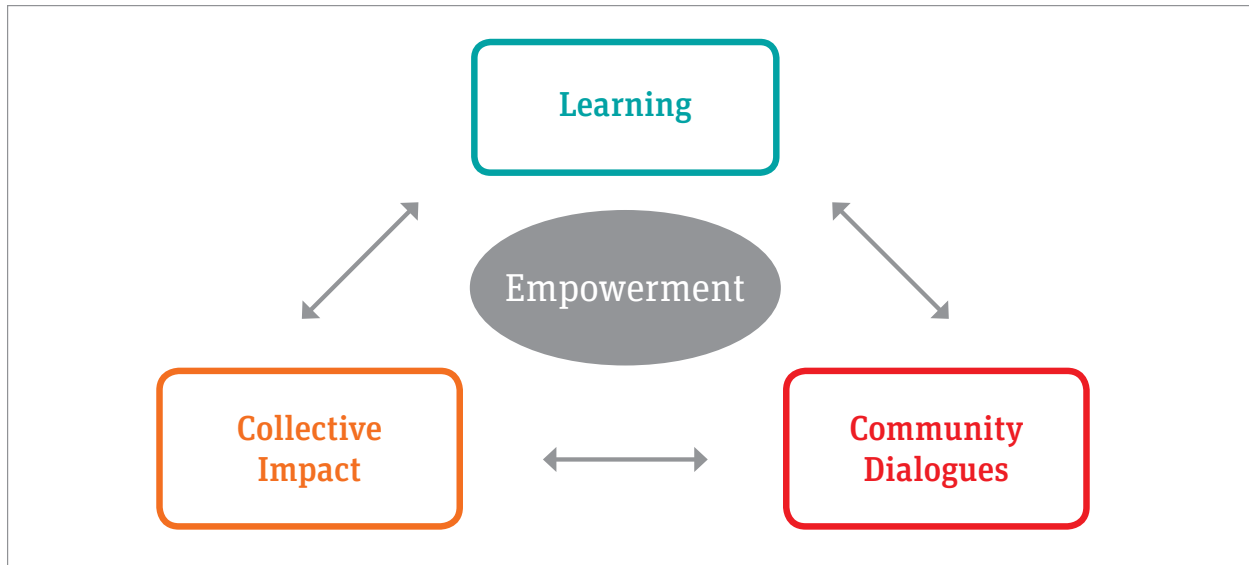
## CONTEXT

In the twenty-first century, a basic understanding of STEM is part of being an informed and engaged citizen (Institute for Museum and Library Services [IMLS], 2009). Science and technology are widely recognized as major drivers of innovation and industry. The United States will not be able to meet future STEM workplace demands if we are not able to engage, inspire, and educate our growing ethnically diverse populations in a variety of STEM disciplines (NSF, 2013; Zeigler, 2015). For example, in 2016 the U.S. Census estimated that there were 57.5 million Hispanics in the United States or 17.8% of the total population, a considerable increase over 2000. U.S. Census projections for 2060 are 119 million Hispanics in the United States or about 29% of the population (U.S. Census, 2017). While nonwhite ethnic populations are increasing, most continue to be severely underrepresented in STEM fields (NSF, 2013). Spanish-speaking populations of Latin-American ancestry in the United States have a legacy of STEM that spans millennia; thus, inclusion of Latinos in all STEM fields will not only meet a recognized workforce need, but can potentially contribute new and innovative research and development efforts in the future.

What strategies can program developers adopt that would help them effectively engage underrepresented populations in STEM? The diagram on page 4 was shared with Summit attendees to frame the discussion about how institutions can rethink the ways they work with and within communities, what collaboration really means, and what a healthy learning ecosystem looks like.

“ *I look at all of us, I say how are we all connected and committed to addressing the achievement gap? That’s the future of our families, our state, and our nation. ”*

—Santiago Ruiz, Executive Director,  
Mission Neighborhood Centers, Inc.



*A three-part strategy for developing communities of transformation.*

A STEM learning ecosystem (Traphagen and Traill, 2014) includes the formal education system, afterschool programs, and the informal education sector (such as science museums and public libraries). A healthy system is one in which all these elements work collaboratively to maximize their collective impact to benefit the whole community in such things as engaging Latino youth and their families in STEM. A variety of afterschool and informal education programs were discussed at the Summit.

Collective Impact (Kania and Kramer, 2011) is a strategy to harness the power of collaborative programs to solve complex and often intractable social challenges. In terms of STEM learning, it requires that all organizations within the STEM-learning ecosystem work together. Certain conditions must be present for such collaborations to be successful (e.g., a shared vision, shared measurement system, shared activities, open communication, and organizational support). Traphagen and Traill (2014) reviewed fifteen learning ecosystem efforts and provided useful lessons that others can follow including programs that were described by participants at the GENIAL Summit. A few of these are summarized in the following sections.

“ You have to include the people you want to impact from the very beginning, throughout the entire process. Programs have to be genuine, authentic, and culturally responsive to the community that you’re working with. ”

—Antonia O. Franco,  
Executive Director, SACNAS

Learning ecosystems and collective impact ideas were first tested and refined in what are known as communities of practice (CoPs). More than 18 years of evidence-based research strongly suggests that extended networks of professionals, organized into what Lave and Wenger (1991) originally termed “communities of practice,” are effective tools for organizations striving to improve performance (Wenger, 1998; Smith, 2003). Communities of practice are “groups of people who share a common

concern or passion for something they do and learn how to do it better as they interact regularly,” (Wenger, 2015). Recently, the American Library Association (ALA), in partnership with the Harwood Institute for Public Innovation, launched the Libraries Transforming Communities initiative (Harwood, 2015), which includes guides, tools, and professional development opportunities to “strengthen the role of librarians and libraries as conveners and facilitators of community innovation and change.”

A promising strategy to bring organizations together has been piloted by the Space Science Institute as part of its work with public libraries. It is called Community Dialogues (Holland, 2015). These events facilitate conversations between library staff and community members and leaders (including science museum staff, formal educators, and research organizations). They have yielded valuable data about the needs of identified underserved audiences (e.g., how they use the library, barriers to participation in certain types of programming), identified or solidified potential community partnerships, and began the process of establishing a shared vision among participants, consistent with the collective impact strategy defined earlier.

## PRINCIPLES FOR CO-CREATION AND CO-DESIGN

### RESPECT

One of the most important values to consider when working with CBOs is respect. It is of utmost importance to understand and focus on the human element of the relationship instead of transactional ones if an organization is interested in establishing a real collaboration or partnership. Spending time getting to know and understand the organization you’re engaging with is vital, and by extension you should get to know and empathize with the community that the organization serves. Respect also includes getting to know and understand the social composition of the organization, its hierarchies and priorities, its sources of expertise and experience in STEM, and its communication style.

Example: Many ISL institutions approach Latino-serving CBOs in order to secure support for a specific program, idea, or initiative. Early in the process, the head of the ISL organization should make her or his presence known to show the institution’s commitment.

### UNDERSTAND THE COMMUNITY

Establishing a collaboration or partnership with a Latino community looks very much like creating an interpersonal relationship. You need to start by getting to know the community, its dynamic, and communication style. The panel identified a few guidelines:

1. **Actively seek to include the knowledge base of the intended audience in all phases of an initiative.** The social capital of a community might often times be different from what you are used to. Being open to considering new ways of working with communities is important, taking into account that this process may include exploring nontraditional partnerships, wherever that may lead.

**EXAMPLE:** A program for Latino audiences in Denver partnered with the Catholic Church to provide programming after the noon mass to engage individuals from the parish in STEM

activities. The church was not their initial partner, but the partnership enabled the program to reach its goals.

2. **Identify connectors or cultural brokers who are respected in their communities, seeking their input throughout the process.** Be aware that leadership might look very different from what you're used to, so pay special attention to how hierarchies work, and be sensitive about how you articulate your message so you can optimize the communication.

**EXAMPLE:** A Chicago street artist who was well loved in the community became an effective gateway to reach the community.

3. **Recognize power dynamics.** Just as with any group of people, there are power dynamics at play that you might not be aware of, or might not be able to recognize because of cultural differences. But it's always safe to assume that they exist and have to be acknowledged. One of the most effective ways to sensitize yourself to recognizing the power dynamics at play in a community is by starting to recognize how they play in your own organization, specifically as it relates to diversity initiatives. Being aware of this will give you credibility, since you'll be aware of your own biases.

**EXAMPLE:** An organization in San Francisco hired a communications manager and assigned her to be the "de facto" Latino liaison and community engagement representative because she was Latina herself, regardless of her capacity to do or interest in doing this type of work. This is a common mistake among many ISL organizations.

4. **Build trust with the community, which takes time.** Strong community partnerships take a long time to form and maintain, so planning for the long term is best. When planning new initiatives, it is always a good idea to establish a connection and invite partners from the very beginning, ideally to brainstorm and co-create ideas, so they can feel ownership from the very beginning of the process (i.e., a shared vision). This is a key tenet from the Collective Impact strategy mentioned earlier. Strategies for building trust might be unconventional, so it's important to keep an open mind and check with your partners frequently.

**EXAMPLE:** Before discussing a potential collaboration, a Maya organization in San Rafael wanted to get together and share a meal with a potential partner. Allowing for "social, personal time," made a big difference in developing a sense of camaraderie and community that paid off later when the project took off.

## **VALUE RESILIENT COMMUNITIES**

Resilience was identified as an important cultural value of the Latino population prior to the GENIAL Summit, and it became important to reflect on how this manifests in the work with communities. We identified the following elements to valuing a resilient community:

1. **Ascertain priorities.** Many Latino communities, specially immigrant ones, struggle every day with needs that for many might be an afterthought because they are so fundamental,

such as the assurance that your family won't be torn apart from one day to another. Asking the community what is important to them (instead of assuming that they need and value STEM or STEAM programs for example), and using that understanding to move forward in ways that make sense is vital and a very important way to show respect.

**EXAMPLE:** During a community meeting with Latino families in Santa Cruz, it became clear that jobs for teenagers was one of the most important needs; more so than informal education and leisure time activities as a family.

2. **Persistence is in the communities' DNA.** With closed-knit communities based on strong networks, the Latino population has endured many struggles for many years, yet resilience is based on persistence over time. Politics change, always going through cycles, but there's a clear sense that by sharing stories and inspiring and empowering people, communities always prevail. Persistence and resilience are strong cultural values.

**EXAMPLE:** SACNAS was the first diversity organization to partner with the 2017 March for Science. SACNAS members wore T-shirts with their community's slogan: Persistence is in our DNA.

3. **Partnerships.** With such a strong emphasis on networks, partnerships are highly important and culturally relevant ways to collaborate. The collaboration you are able to establish with a particular group doesn't go unnoticed by many others in the community, since there are multiple connections at many different levels, usually with the same or similar goals. Closing the achievement gap (a Collective Impact level activity) is an important priority for many communities, so aligning goals shouldn't be difficult. Those with an ability to open doors for collaborations and partnerships, will also do it for others.

**EXAMPLE:** A partnership developed between Mission Neighborhood Center (MNC) and the Exploratorium to offer STEM training for early childhood care providers. Because MNC's budget is limited, the organization relies on these kinds of partnerships to provide quality professional development learning experiences.

## **THE INSIDE PERSPECTIVE: ORGANIZATIONAL CHANGE WITHIN ISL ORGANIZATIONS**

While it's important to understand and be sensitive to the needs and values of Latino communities, it is also vital to reflect and identify practices inside our organizations that might facilitate (or prevent) successful community collaborations. This section provides insights on a few organizational factors to consider within our own institutions when planning a potential community collaboration project.

### **INSTITUTIONAL CAPACITY BUILDING**

More generally, GENIAL participants discussed the capacity building that is required for co-creating and engaging Latino audiences. Creating capacity should go beyond grant-based work. Ideas included ways to

empower staff, paying attention to how power is shared within an organization, developing staff capacity and leadership skills, and considering cultural differences while creating job positions and/or recruiting diverse staff.

### **INSTITUTIONAL DIVERSITY**

A priority is to understand that diversity initiatives are an organization-wide responsibility and not that of a few staff members.

- Acknowledge that diversity initiatives are the responsibility of everyone in the institution.
- Develop systems to acknowledge the time, resources, and skills needed to implement effective engagement strategies and tactics.
- Create systems to distribute tasks pertaining to diversity programs and initiatives among all pertinent staff. These systems need to be sustainable beyond a particular grant.

Discussions during the Summit also sparked ideas about hiring and promotion practices to increase and support diversity.

- Reflect on ways to achieve diversity at the senior level.
- Recognize the need to shift organizational culture rather than just hire diverse staff as an add-on.
- Ensure that diverse employees are not primarily relegated to entry-level jobs with low authority and outside programmatic decision-making.
- Foster and promote those staff members with enthusiasm, experience, and skills attuned with traditional Latino norms and cultures.
- Value what diverse staff members contribute to an organization's vision and mission.

### **INSTITUTIONAL LEADERSHIP**

GENIAL participants also reflected on the importance of strong, committed leadership as well as the current lack of Latino leadership.

- Foster leadership with a commitment to community.
- Insist on the need for organizational leadership and board commitment.
- Identify concrete ways to increase Latino leadership in cultural institutions, including board members.
- Foster diversity in organizational leadership and in the ISL field in general.
- Envision a distributed leadership model that can allow for authentic co-development between the ISL institution, the CBO, and the Latino communities.

### **PROGRAM SUSTAINABILITY**

For many, the panel discussion raised the issue of sustainability, considering that many programs are funded by grants and depend on a grant's short-term focus.

- Identify ways to create sustainable programs.
- Avoid the trauma of losing funding for a program.



- Plan ahead to avoid creating unnecessary burdens in communities once the program ends, or find ways to continue the work long term.
- Consider that it takes time to build trust and respect in communities, and this time needs to be added to the overall process.
- Clarify the needs of the funder versus the needs of the community.

## LOOKING TOWARD THE FUTURE

### CREATE RELATIONSHIPS WITH COMMUNITIES

The panel prompted much discussion about respecting, understanding, and valuing the audience.

- Focus on what Latinos value the most—respect, comunidad, education, and family.
- Reflect on what respect looks like in practice and create actionable guidelines for how to actualize this value in your everyday work.
- Be aware that perceptions of some organizations as untrustworthy usually stem from a transactional partnership that are task-focused not relationship-focused.
- Work in collaboration with your partners to create a sense of value to the end-participant.
- Think about your work in terms of a relationship (i.e., always consider the benefits for both partners.) A few things to consider:
  - Relationships take time, and leadership needs to know that.
  - Trust in telling me what you're interested in, not what I think you're interested in.
  - Authentic, sincere care really matters in creating bonds.
- Actively explore unconventional partnerships between STEM-focused organizations (museums, afterschool programs, public libraries, etc.), churches, the media, community organizations, etc., focusing on those that are more important for your target community, showing that you understand them.
- Develop a way to gather feedback and learnings before you start, so you know what works and what doesn't.
- Realize that our organizations don't do enough to be in the community. Lots come to us, but how do we go to them?
- Always think about your goals and the community goals. Shared goals are an important tenet of "collective impact." For example, ask yourself: How do we engage with a community to understand the importance of STEM? How do we engage with a community to understand their priorities?

### RECOMMENDATIONS

- Share the knowledge. During the Summit, participants expressed a strong interest in developing networks, sharing best practices, and creating learning communities that would help level the playing field using each other's expertise.
  - How do we coordinate practices across institutions? Is it necessary?
  - How do we share best practices?

- How do we get the ISL community to a level where there is a common foundation to push boundaries?
- How do we learn from each other?
- Consider cultural competency when developing internal capacity. Focus on understanding two things: What do we know? What don't we know?
- Focus on what staff members with diverse backgrounds bring to the organization rather than checking a diversity box.
- Some potential programs and partners to consider:
  - Techbridge Girls, which developed some insights about their work with parents that might be useful for thinking about how to help them and their daughters.
  - SACNAS
  - Micro-internships
  - The National Association of Latino Arts and Cultures (NALAC) runs a fellowship program that could be adapted to STEM programs.
  - SciGirls
  - Girl Scouts

### **EMERGING RESEARCH QUESTIONS**

Two topics emerged as relevant during the Community Engagement and Empowerment strand at the GENIAL Summit: early childhood education and family engagement. Data presented about the school readiness gap in the Latino community prompted discussions about engaging parents and families in early childhood learning. Both are part of developing the necessary conditions for an adequate child development, relevant in closing the achievement gap, and creating more equitable communities. Here are few potential research questions to consider:

- How does family engagement increase success in STEM programs?
- What strategies work best for engaging parents in STEM experiences when challenged by limited time and resources?
- What are the best ways to include a STEM focus in prenatal and early childhood classes to increase parents understanding of their child's enormous capacity for learning?

### **ACKNOWLEDGMENTS**

The authors thank the GENIAL Summit organizers and Exploratorium staff for all their help managing Summit activities. Special thanks to Antonia O. Franco, Executive Director, SACNAS; Santiago Ruiz, Executive Director, Mission Neighborhood Centers; and Maddie Correa Zeigler, Education/Outreach Consultant, for their participation on the panel and for their wise and informed perspective about engaging Latinx populations in STEM.

## BIBLIOGRAPHY/RESOURCES

- Afterschool Alliance (2014). "America After 3 pm: Afterschool Programs in Demand." Washington, DC. Retrieved from [afterschoolalliance.org/AA3PM.cfm](http://afterschoolalliance.org/AA3PM.cfm).
- Falk, J. H. and Dierking, L. D. (2010). "The 95% Solution: School Is Not Where Most Americans Learn Most of Their Science." *American Scientist*, Volume 98.
- The Harwood Institute for Public Innovation. (2015). "Libraries Transform Communities: A Step-by-Step Guide to 'Turning Outward' to your Community." Retrieved from [ala.org/transforminglibraries/sites/ala.org.transforminglibraries/files/content/LTCGettingStarted\\_DigitalWorkbook\\_final010915.pdf](http://ala.org/transforminglibraries/sites/ala.org.transforminglibraries/files/content/LTCGettingStarted_DigitalWorkbook_final010915.pdf).
- Holland, A. (2015). "Discover Health/Descubre la Salud Community Dialogues Report." Boulder, CO. Retrieved from [nc4il.org/papers.html](http://nc4il.org/papers.html).
- Institute of Museum and Library Services (2009). "Museums, Libraries, and 21st Century Skills." Retrieved from [imls.gov/about/21st\\_century\\_skills\\_home.aspx](http://imls.gov/about/21st_century_skills_home.aspx).
- Kania, J. & Kramer, M. (2011). "Collective Impact". *Stanford Social Innovation Review*. [ssir.org/articles/entry/collective\\_impact](http://ssir.org/articles/entry/collective_impact).
- Kezar, A. and S. Gehrke (2015). "Communities of Transformation and Their Work Scaling STEM Reform." University of Southern California, Los Angeles, CA. [pullias.usc.edu/wp-content/uploads/2016/01/communities-of-trans.pdf](http://pullias.usc.edu/wp-content/uploads/2016/01/communities-of-trans.pdf).
- Lave, J. and E. Wenger (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press.
- National Research Council (2009). *Learning Science in Informal Environments: People, Places and Pursuits*. Washington, DC: National Academies Press.
- National Research Council (2014). *STEM Learning Is Everywhere: Summary of a Convocation on Building Learning Systems*. Washington, DC: The National Academies Press. [nap.edu/catalog/18818/stem-learning-is-everywhere-summary-of-a-convocation-on-building](http://nap.edu/catalog/18818/stem-learning-is-everywhere-summary-of-a-convocation-on-building).
- National Research Council (2015). *Identifying and Supporting Productive STEM Programs in Out-of-School Settings*. Washington, DC: The National Academies Press.
- National Science Foundation, National Center for Science and Engineering Statistics. (2013). "Women, Minorities, and Persons with Disabilities in Science and Engineering: 2013." Special Report NSF 13-304. Arlington, VA. Available at [nsf.gov/statistics/wmpd/](http://nsf.gov/statistics/wmpd/).
- Smith, M.K. (2003). "Communities of Practice," *The Encyclopedia of Informal Education*. [infed.org/biblio/communities\\_of\\_practice.htm](http://infed.org/biblio/communities_of_practice.htm).

- Traphagen, K., and Traill, S. (2014). "How Cross-Sector Collaborations Are Advancing STEM Learning." Los Altos, CA: Noyce Foundation.
- U.S. Census (2017). "Vintage 2016 Population Estimates." Retrieved from [factfinder.census.gov/bkmk/table/1.0/en/PEP/2016/PEPASR6H](https://factfinder.census.gov/bkmk/table/1.0/en/PEP/2016/PEPASR6H).
- Wenger, E., (1998). *Communities of Practice: Learning as a Social System*, Systems Thinker. [thesystemthinker.com/communities-of-practice-learning-as-a-social-system](https://thesystemthinker.com/communities-of-practice-learning-as-a-social-system).
- Wenger-Trayner, E. and Wenger-Trayner, B. (2015). "Introduction to Communities of Practice." Retrieved from [wenger-trayner.com/introduction-to-communities-of-practice/](https://wenger-trayner.com/introduction-to-communities-of-practice/).
- Zeigler, M. (2015). "Engaging Audiences Underrepresented in STEM Fields. Public Libraries & STEM Conference, 2015 in Denver, CO. Retrieved from [nc4il.org/papers.html](https://nc4il.org/papers.html).