

Title: STEM Equity Framework: Building Equitable, Inclusive Library Services That Address Community Needs

Summary: Cornerstones of Science (CoS) is requesting an 18-month Laura Bush 21st Century Community Catalyst, Continuing Education Project grant of \$249,900. We propose to: (1) create a *STEM Equity Framework for Public Libraries* by synthesizing existing equity, inclusion and informal STEM frameworks into a cohesive approach that will provide the basis for a professional development online training series; (2) produce and beta-test the training needed to build the capacity of library leadership and staff to intentionally develop equitable access to library services around critical science-based community issues; and (3) pilot the training with forty-five public libraries who will develop a *STEM Equity Plan*, in partnership with key stakeholders, that results in ALL members of the community able to access and receive critical STEM community resources, information and supports from their library. Examples of IMLS *indicators of project success* include: (1) *Broad impact*: a process, tools and resources that will enable library staff to strengthen equity, inclusion and STEM skills/competencies and develop equitable services and access around science-based community services; (2) *Demonstrated expertise*: a proven and diverse project team, including equity, STEM learning, building library capacities and online professional development expertise able to develop effective and transformative products and supports for libraries and, (3) *Strategic collaborations*: with over sixty state and public libraries and WebJunction, a program of OCLC, plus equity/inclusion, MLS Education and informal science experts.

Statement of Broad Need: Our nation is in the midst of renewing its commitment to social equity and inclusion in all facets of society. There is strong evidence that many of our nation's pressing health (e.g., Covid-19 pandemic, lead in drinking water, food security, etc.) and environmental issues (e.g., a changing climate, energy security, etc.) are having a disproportionate effect on our most vulnerable, disadvantaged populations^{1,2}. Increasingly public libraries are "go-to" places, moving beyond lending out books helping people navigate a variety of community systems which influences library programming around these issues³. While there are great examples of libraries that have successfully applied innovative, transformational approaches to address these disparities (e.g. [Houston Public Library's Healthy L.I.F.E Initiative](#), and recognized by the [Urban Libraries Council's Innovation Initiative Award Winners in Health, Wellness and Safety](#)), many library staff are not hired or trained in these approaches. Also, there are few organized systematic resources to help libraries undertake these efforts. Finally, taking the first steps toward social justice can be difficult for many public libraries owing to a low organizational tolerance for risk and chronic underfunding^{4,5,6}.

Project Design: Our long-term goal is to enable libraries to develop and provide inclusive, equitable services and access to ALL members to relevant and critical science-based community resources. Immediate project outcomes include measurable changes in library staff behavior, attitudes, knowledge, confidence and skills needed to integrate equity, inclusion and community engagement with diverse stakeholders in their library operations. Because of the expertise of the project team and the use of existing frameworks, we are confident in accomplishing the following in 18 months: 1. **Adapt, field-test and refine a STEM Equity Framework for Libraries** (Months 1-3) – The Framework will provide the structure and process to strengthen the capacity of library leadership and staff to develop and implement inclusive, multi-generational, customized equitable library services relevant to their needs and communities. While there are thoughtful diversity, equity, inclusion and informal STEM learning Frameworks ([GARE Racial Equity Model](#), [ALA's ODLIS Frameworks](#), [Informal Science Learning Framework](#)) they are not organized systematically nor easily applied by public library leadership and staff. Selected frameworks will be synthesized into a more systematic and cohesive STEM Equity Framework specifically designed for public libraries. The STEM Equity Framework will describe a step-by-step process for libraries to reflect on current library services, policies, and programs as well as strengthen capacities to engage those audiences not being served with the goal of increasing access to critical community resources, knowledge and services. The Framework will be field tested by our state and public library partners and advisors to assess its effectiveness and identify implementation impediments. The framework will then serve as the basis for a unified and accessible professional development training series.

2. Pilot STEM Equity Professional Development Training Series (Months 2-16) –The [Empowering Libraries STEM Literacy](#) training materials will be augmented to incorporate the core values of equity, inclusion and community engagement into daily operational decision-making. These materials include: a Public Library Handbook; State Library Guide; and Toolkits on STEM Facilitation, Communications, Community Engagement, Fund Development, and Evaluation (developed in our 2015 National Leadership grant LG-80-15-0041). They will define the types of skill sets and approaches for library leadership and key frontline staff to purposefully plan and engage all stakeholders (e.g., underserved/underrepresented audiences; local, county and state government agencies; community organizations, etc.) in the development of equitable library services. Our state library partners will use a competitive process to select three pilot cohorts of 10-15 libraries (each cohort with similar organizational profiles and with diverse library leaders and front line staff). State library partners will serve as mentors and provide cross-agency training for participating library staff. The libraries will beta-test an online training program through WebJunction. Throughout the training, participants will apply their new skills, to create a STEM Equity Plan that identifies specific strategies to create an inclusive advisory group of key stakeholders, reflect on who currently is not being served, and identify the types of equitable services and resources their library needs to address a relevant science-based community issue.

3. Assessment and Evaluation (Months 1-18) – An independent evaluator will quantitatively and qualitatively assess overall effectiveness and impact of the STEM Equity Framework and training series on state and public library staff.

Diversity Plan: This project’s primary focus is on public library equity and inclusion. The pilot will be comprised of a diverse group of participants and provided the process and steps to make real forward progress on forming intentional, equitable library-community partnerships and produce inclusive, equitable and effective library services, programs and resources that address specific science-based community issues.

Broad Impact: The project will produce a process, tools and resources that generate measurable changes in behavior, attitudes, knowledge and skills of participating library staff. All deliverables and results will be available at and promoted through [STEMlibraries.org](#). The training will be disseminated via WebJunction. Project results will be presented by CoS, state and public library staff at state and regional events and COSLA meetings.

Lead Agency and Key Project Staff: Our project team reflects the diverse working coalition needed to inform the project goals and includes: Cynthia Randall (Project Lead), Executive Director of CoS, building STEM literacy library capacity expert; Dr. John Falk (Co-I), Innovation free-choice and informal STEM learning expert, Executive Director, Institute for Learning; Dr. Nicole Cooke (Co-I), Associate Professor, equity and inclusion expert, School of Information Science, University of South Carolina; WebJunction (TBD); and Alan Melchior (Co-I), independent evaluator - Brandeis University - retired. Project Partners include: State Library Agencies (STEM and Continuing Education Coordinators from CT, ID, MA, ME, MD, MN, TN); public libraries (Margaret Stone - Dakota County Library/MN, Ali Turner – Hennepin County Library/MN, Wanda Green – Tom Green Library/TX, Sarah Dentan – Stanislaus County Librarian/CA). Advisors include Dr. Dennis Schatz, Retiring President of the National Science Teaching Association and co-author of the Informal Science Learning Framework; Dr. Sandra Hirsh Associate Dean of Academics - San Jose State University.

Budget Summary: The requested budget of \$249,900 in federal funds includes: Salaries and Wages (\$60,000) and Fringe (\$12,600); Technologies (\$7,300); Contracts and sub awards (\$170,000) for project coordination, project evaluation, research and development of the STEM Equity Framework, development of seven training modules, hosting an online training series and library stipends. Total Direct (\$237,300) and Indirect Costs (\$12,600); Total Costs (\$249,900).

(1) – Stanford Center on Poverty and Inequality med. 2017. “State of the Union: The Poverty and Inequality Report.” Special Issue, Pathways Magazine. (2) – Race and Economic Opportunity in the United States: An Intergenerational Perspective Raj Chetty, Nathaniel Hendren, Maggie R. Jones, and Sonya R. Porter NBER Working Paper NO. 24441 March 2018, Revised June 2019. (3) - <https://www.brookings.edu/blog/up-front/2017/03/30/how-public-libraries-help-build-healthy-communities/> (4)- (<https://www.civilbeat.org/2017/02/libraries-struggle-with-a-new-role-social-services-center/>) . (5) - <https://www.libraryjournal.com/?detailStory=why-social-justice-in-the-library-outreach-inreach>. (6) – A Focus on Gnarly Issues. Public Management Magazine, August 2019.