DEVISE: Building evaluation capacity in PPSR and Informal Science Education



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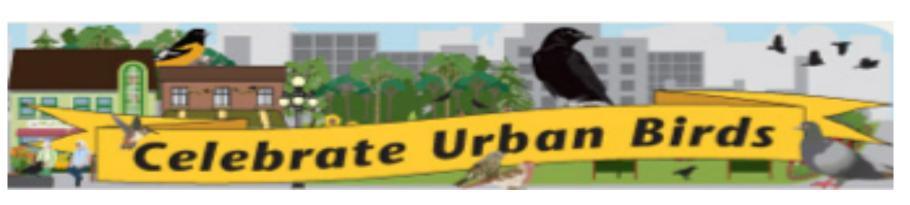
Big Idea

DEVISE (Developing, Validating, and Implementing, Situated Evaluation Instruments) is an NSF-funded project spearheaded by the Cornell Lab of Ornithology. A major goal of DEVISE is to develop generalizable, yet customizable, tools and strategies to effectively measure learning outcomes across PPSR (Public Participation in Scientific Research) projects and ultimately, informal science education programs.



Audience

Through additional funding from the Noyce Foundation, we intend to test and validate existing, new, or modified instruments with members of the public engaged in scientific research¹ (sometimes referred to as "citizen science") and in afterschool settings². We are specifically seeking out underrepresented youth to help field test many of our scales and instruments.







Alliance for Aquatic Resource Monitoring

Challenges

- Creating effective "generalized" STEM evaluative tools
- Constructing psychometric items and instruments
- Recruiting participants for in-person field testing
- Establishing validity & reliability
- Developing sensitive enough measures for citizen scientists

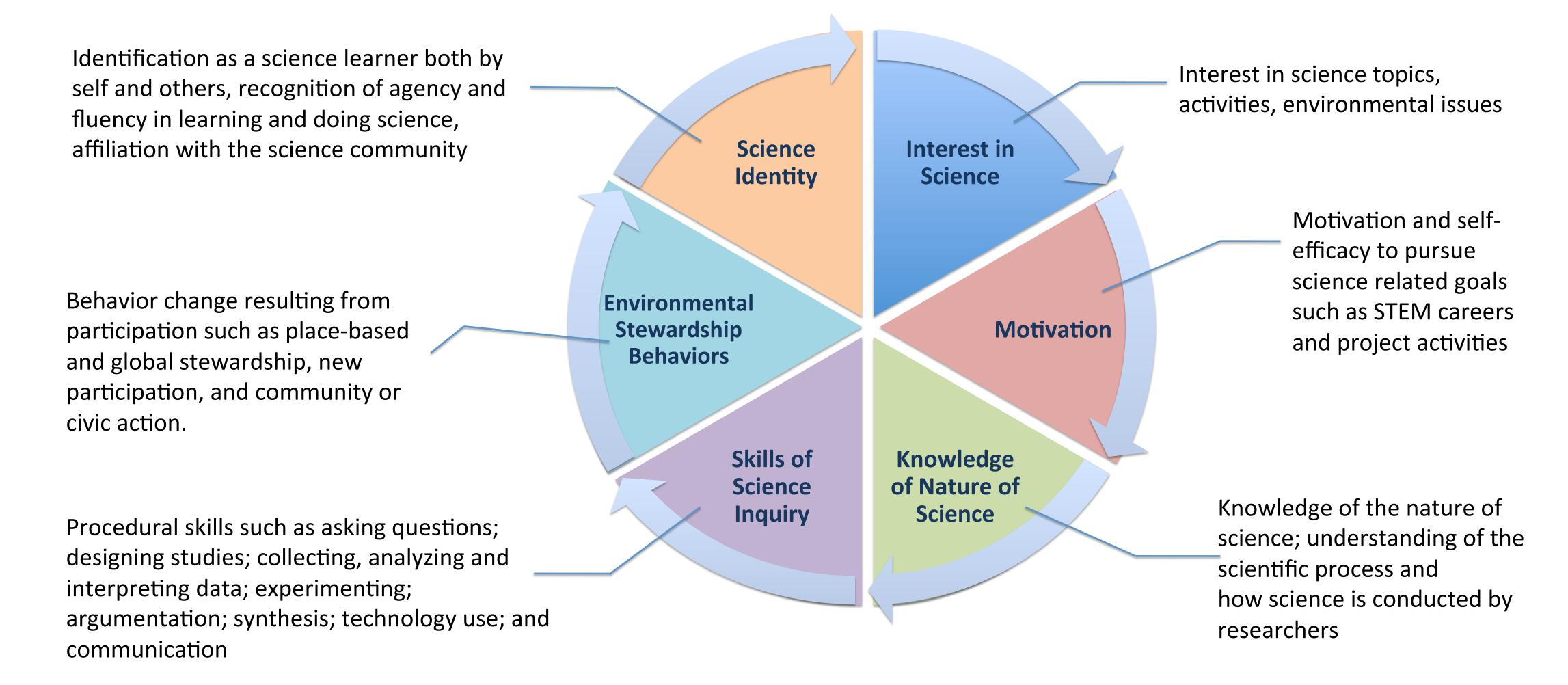
Potential Impacts

- Improved goal and objective setting by projects
- Public access to tested, validated, and contextually appropriate evaluation tools
- Increase adoption of tools by diverse programs to facilitate cross-programmatic analyses
- Increased evaluation capacity and improved evaluation quality for PPSR and ISE programs

Deliverables

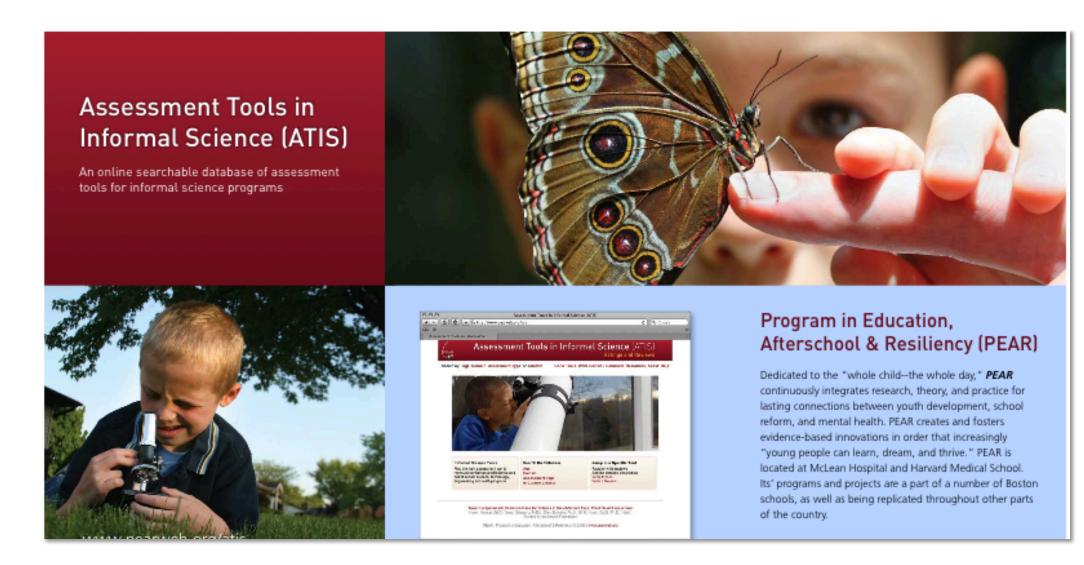


A Framework for Evaluating Outcomes of PPSR Projects³⁻⁵





A Searchable Online Database of Tested Scales and Tools (through ATIS)



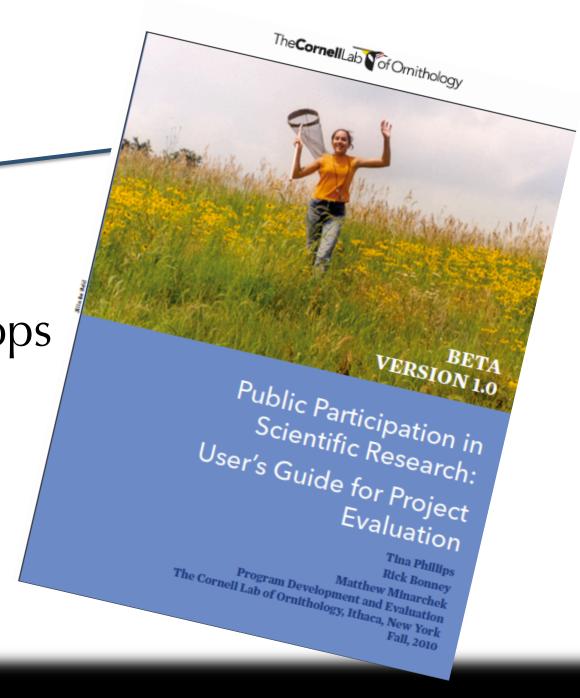
www.pearweb.org/atis

The ATIS (Assessment Tools for Informal Science) web site, developed by Harvard Medical School's Program in Education, Afterschool, and Resiliency (PEAR), can help you find the right assessment tool to measure performance of informal and out-of-school science, technology, engineering and math programs. As DEVISE scales are tested and developed they will be added to the ATIS web site.



Online Toolkit for Practitioners and Evaluators

- User's Guide for Project Evaluation of PPSR projects
- Inventory of sample goals, outcomes, and indicators for PPSR projects
- Professional development opportunities: tutorials, webinars, and workshops
- Case study highlights from projects reaching diverse audiences
- Research on learning in informal environments
- Technical assistance for ongoing evaluations



Literature cited:

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- (3) Friedman, A. E. 2008. Framework for Evaluating Impacts of Informal Science Education Projects (Available at: http://insci.org/resources/Eval_Framework.pdf).
- (4) National Research Council. 2009. Learning Science in Informal Environments: People, Places, and Pursuits. Washington, D.C.: National Academies Press.
- (5) National Research Council. 2011. A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas. Committee on a Conceptual Framework for New K-12 Science Education Standards. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington DC: The National Academies Press.

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