

Findings from a Five-Year Evaluation of the Planetary Science, Science Education and Public Outreach Forum

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Background

In 2009, the Planetary Science Education and Public Outreach Forum (SEPOF) received a five-year grant to coordinate the work of the education and public/outreach (E/PO) community—those who conduct E/PO activities using SMD content, expertise, and facilities, such as mission and program staff, contractors, and grantees.

It's mission is to collaborate with NASA's Science Mission Directorate (SMD) to increase the coherence of the SMD Planetary Science E/PO program via three goals:

- **Goal 1:** The SMD E/PO community is engaged and leveraging SMD E/PO resources, expertise, and best practices relevant to their E/PO efforts. External science and education communities are engaged in SMD E/PO.
- **Goal 2:** The SMD E/PO portfolio is organized and catalogued for accessibility, connectivity, and strategic growth.
- **Goal 3:** A NASA SMD E/PO infrastructure provides the means for coordination across SMD and with NASA E/PO.

Benefits of a Mixed-Methods Approach

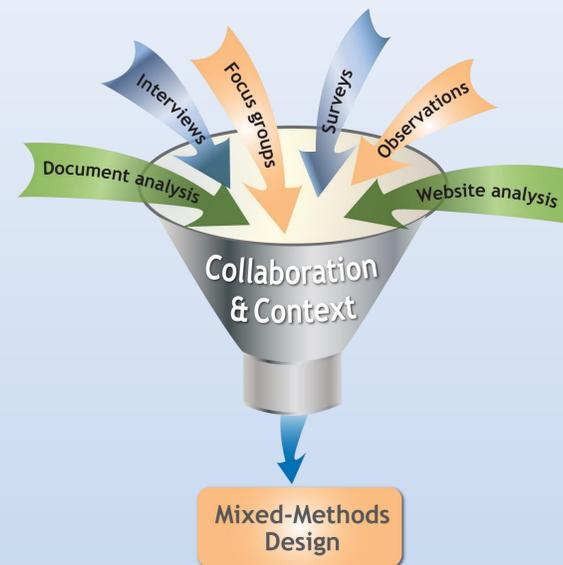
A mixed methods approach can...

- Strengthen the validity of results by using two or more methods (**triangulation**) to identify areas of convergence and divergence.
- Increase the validity of results by using the findings from one method to help inform the other method (**development**).
- Increase the meaningfulness of results by using qualitative and quantitative methods **complementarily** (i.e., to elaborate, enhance, illustrate, and clarify the results from one method with results from the other method).
- Inform the breadth and depth of results through identification of new perspectives and paradoxes that lead to a re-framing of the research question (**initiation**).
- **Expand** the breadth and range of research by using the most appropriate method for the inquiry component at hand.

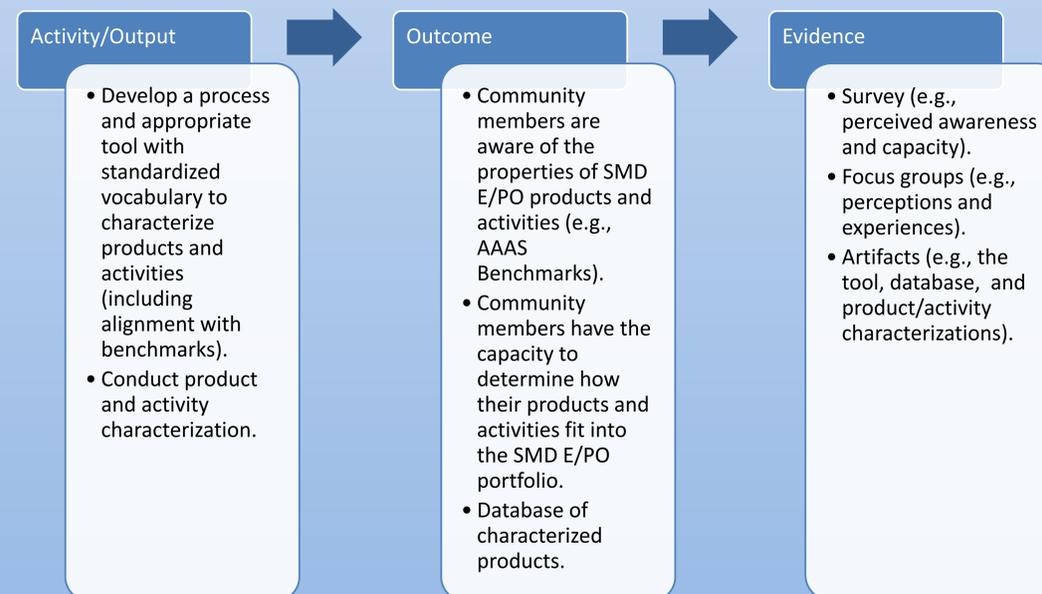
Planetary SEPOF Evaluation Design

Collaboration with the project lead and contextual factors determine design choices.

- **Design decisions:** Concurrent and/or sequential, depending on the question at hand.
- **Timing:** Most instruments are administered on an annual basis, but these decisions are revisited at the outset of each project year.
- **Sources:** The Planetary SEPOF Forum team, community members, and key SMD staff.
- **Methods:** Methods include interviews, focus groups, surveys, observations, and analysis of artifacts.
- **Data Analysis:** Includes data reduction, data display, data correlation, data consolidation, data comparison, and data integration to support interpretation and inform the evaluation questions.



Alignment to Program Logic Model



Excerpt of the Planetary SEPOF logic model for Objective 2.1:
Improve characterization of the contents of the SMD E/PO portfolio

Findings

Evaluation activities are transitioning from formative (supporting the efforts of the Planetary SEPOF in meeting its goals) to summative (whether the identified goals were achieved).

Goal 1: preliminary data suggest this goal has been met.

- The community has grown from 72 to 155 members.
- The Forum supports various modes of involvement (e.g., coordinates monthly tag-ups, has a presence at major conferences, provides professional development, hosts an online workspace).
- The majority of community members (63.8%) participate in at least one community activity on a weekly basis.
- The majority of community members use the community workspace to share resources, information, and/or expertise (59.7%) and to collaborate with others (61.4%) at least "to some extent."

Goal 2: preliminary data suggest this goal has been met.

- 71.1% of survey respondents indicate they are aware of the SMD E/PO products in the portfolio at least "to some extent."
- The catalogue (nasawavelength.org) includes 458 products, each categorized in 14 areas and available to the general public.
- Wavelength strand map display allows users to view alignment to American Association for the Advancement of Science standards.

Goal 3: there is insufficient data to determine if this goal has been met.

- Coordination occurs via a SEPOF Coordinating Committee, cross-forum implementation teams, and cross-forum working groups.

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