

Sharing the Universe Project Summative Evaluation Findings

Bolstering Amateur Astronomy Clubs' Education and Public Outreach

FOCUS: Impacts on Clubs



Inverness Research



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Evaluation Question: Club Impacts

To what extent and in what ways did the Sharing the Universe project support a wide range of amateur astronomy clubs' abilities and commitments to conduct more and better education and public outreach efforts?

Other evaluation domains we studied:

- Define and make explicit the STU project's Theory of Action
- Study STU as a model of a research & development partnership/collaboration

Data Sources

- (1) Broad-net Reach and Impact Survey administered to all NSN clubs
- (2) Club outreach coordinator interviews (two rounds)
- (3) NSN Mentor pre/post interviews and focus group
- (4) Research outcomes from ILI studies
- (5) Monitoring the project and events over time

Broad Net EPO Survey

- **Co-developed with ASP and ILI**
- **38 questions – ratings, likert scale**
- **Administered to 397 NSN clubs in May 2011**
- **46% of the clubs responded; 41 states were represented**
- **Survey Domains:**
 - Background, demographics about Clubs
 - Club outreach efforts
 - Awareness, knowledge and use of NSN resources and services
 - Value and impact of NSN on club (EPO) activities and structures
 - Involvement in the NSN community and other NSN clubs
 - Summary Questions
- **Survey form available upon request**

Sample Questions:

15. How high a priority is each of the following possible outreach goals for your club?

	Not a priority	Low priority	Medium priority	High priority	Very high priority
Providing the general public with information about astronomy events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing a place for amateur astronomers to learn science content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing a place for amateur astronomers to inspire and engage the public around astronomy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing a place for amateur astronomers to find tools, resources, activities and supports for conducting outreach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please rate priority, then describe below)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other outreach priorities

FINDINGS



We identified five significant contributions to NSN member clubs' outreach efforts:

1. Meeting clubs' EPO needs and priorities
2. Producing a diversity of supports (resources and services) increases the likelihood that different club profiles and personalities would take up or try the supports
3. Clubs' capacity to do outreach increased
4. Research findings played an integral role in the development process and outcomes – Supports were research-based
5. Pilot Mentor Program was a win-win-win

1. MEETING NEEDS AND PRIORITIES FOR EPO

*STU designed club outreach supports that were highly compatible with the needs, interests and priorities of the clubs. Thus the supports were seen as **valuable** to clubs that used them, and of **high quality**.*

What are NSN club members' priorities in terms of outreach?

Most clubs have multiple high priority outreach goals, the higher priorities including:

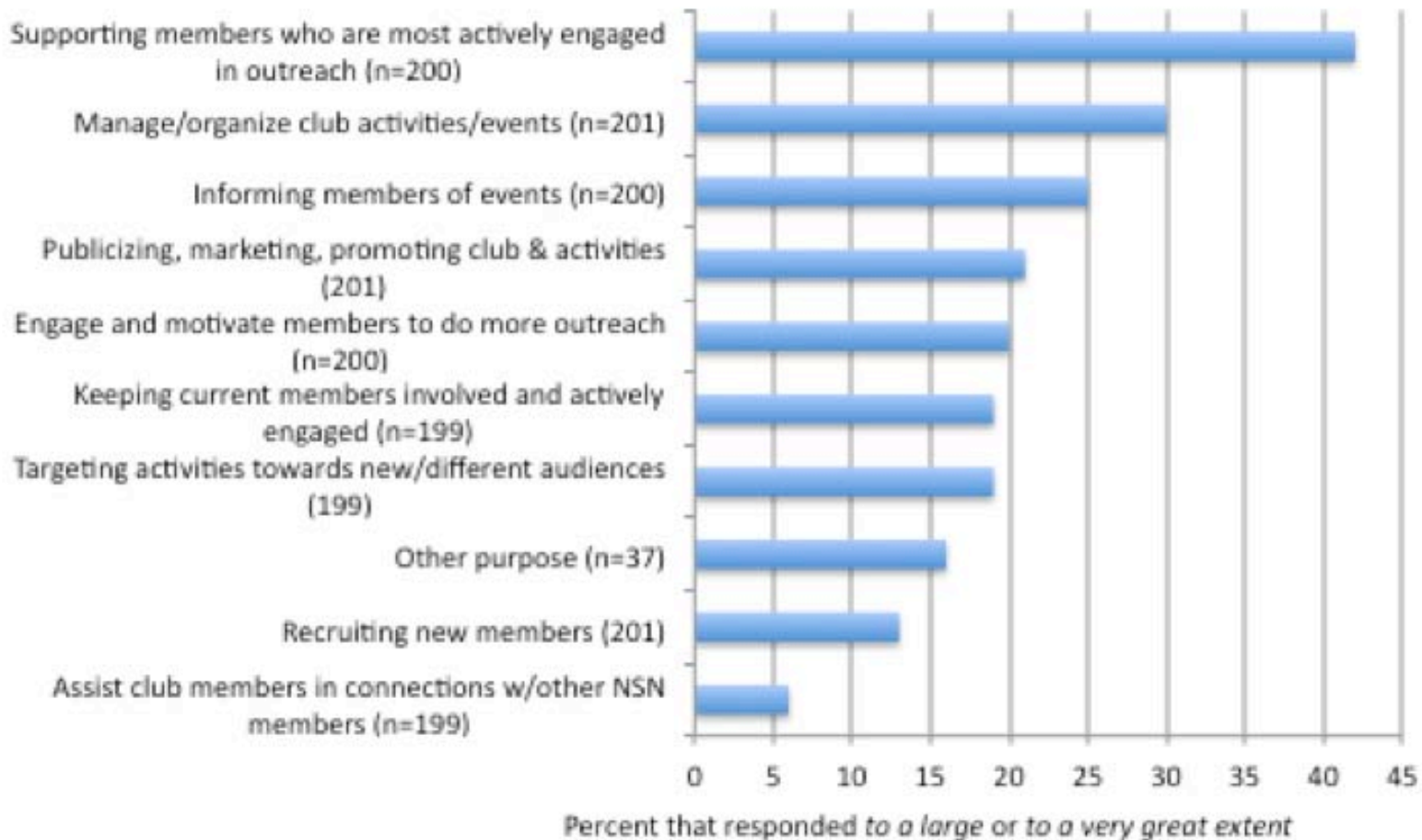
- Providing a place for amateur astronomers to inspire and engage the public around astronomy
- Providing the public with information about astronomy events

When asked about other outreach goals 78 respondents named others. These goals were quite varied and also in general were ranked as a high priority. Among other high or very high priority outreach goals described that occurred multiple times in these additional responses were:

- Reach out to school-age students (public and private schools)
- Providing the public telescope viewing (opportunities)
- Investigate science in concert with nature and environment activities

Extent to which clubs use NSN for particular purposes

Extent to which club uses NSN for these purposes



The NSN outreach resources have been a big part of inspiring our club to participate in public outreach, whether it's using a toolkit activity, or getting an idea from the resources to create our own activity to use at our events.

2. DIVERSE RESOURCES SERVE A DIVERSE SET OF CLUB PROFILES AND CULTURES

A wide range of resources and a diverse set of clubs meant that the STU project helped clubs in many different ways and to varying extents. Resources provide a breadth of access points and possibilities in an effort to meet the clubs where they are.

Ways STU resources contribute to clubs' outreach efforts include:

- Recruiting and retaining members, in particular engaging younger members, females and more ethnically and/or racially diverse members
- Creating supports for getting public outreach *going*
- Helping clubs welcome and interact with visitors
- Providing strategies for handling challenges that come up during events, including difficult questions
- Helping clubs cultivate volunteers
- Supporting club members who are most actively engaged in outreach
- Managing/organizing club events
- Publicizing and promoting club activities and events
- Customizing events for different audiences

The resources allow us to make better use of our time. We don't have to do the research and testing... The videos make it easier for those who haven't done these kinds of things before by giving them examples and confidence.

3. CLUBS' CAPACITY TO DO OUTREACH INCREASED

Nearly two-thirds of the clubs indicated that more of their club members are now involved in doing outreach (compared to three years ago – prior to STU). On average 10 more members per club are doing outreach.

The toolkits' handouts, and other materials are so valuable when members do outreach. I think outreach events would be infrequent without this material.

4. RESEARCH INFORMED DEVELOPMENT IN DEEP AND CONSTRUCTIVE WAYS

- Using the research lenses of association, hobbyism and volunteerism ILI provided multiple perspectives on the studies of club cultures.
- Concepts that emerged from the research that influenced design and development included: the diversity of club “types”, the “cycle of participation”, “inreach and outreach”, the balance between clubs, focus on business and astronomy, recruitment and retention, specific challenges related to organizational structure and activities, barriers and motivators for doing outreach

Intellectually challenging work



They (the resources) are well thought out, well constructed – a pleasure to use.

5. Pilot Mentor Program was a win-win-win

- Increased the mentors' own knowledge of and facility with the resources and services, as well as contributed to their communication and leadership skills.
- Clubs served by the mentors increased their EPO, and other clubs that were not served by mentors (but may have known about them) also increased their EPO. One mentor termed it a “ripple effect”.
- The Mentor Program provided a mechanism for the NSN to “distribute leadership” by making knowledgeable EPO mentors available to interested clubs in their regions who want personal support and coaching. It built the capacity of the network to get better at supporting its members.

The mentor program has helped these clubs learn how to use the NSN – they were not using it. And it gives new clubs a quick start – I was a Quick Start guide...

I do feel part of a network... the biggest advantage being part of the mentoring team is to learn about people from all over the country who do what we do; how they use the system. Being able to put a face to the name really helps. Mentoring made me feel more a part of a network. Not just a random list any more.

Final Reflections on the Return on the NSF Investment – This investment:

- (1) Contributed to public outreach efforts of NSN amateur astronomy clubs across the U.S.
- (2) Increased the capacity of a national network (Night Sky Network) to support amateur astronomy clubs' education and public outreach efforts.
- (3) Generated and shared new knowledge and insights about amateur astronomy clubs for the broader field
- (4) Demonstrated a strong and illuminative case of investing in an existing improvement infrastructure.
- (5) Demonstrated conditions resources necessary for research and development efforts to be productive, and raises the question of the role of evaluation in these efforts.

STU Final Summative Evaluation Report (including Executive Summary)

Available at:

InformalScience.org

OR

Inverness-research.org

For other queries or resources:

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