Evaluation of NOAA Teacher at Sea Alumni Association

Executive Summary

February 2017

Report prepared by STEM Consulting Services

Introduction

The data in this report were collected during 2016-2017. Findings presented in this report are drawn from multiple data sources intended to enable the association leaders to gain insight into the impacts of the Teacher at Sea Alumni Association (TASAA).

Overview: Summary of Evaluation Findings

- Across all data sources, all Teacher at Sea Alumni study participants noted positive benefits of their participation in the association, and the Teacher at Sea (TAS) Program, with the majority of those benefits impacting their teaching skills, related science knowledge, and pedagogical practices. Additionally, many respondents considered the Teacher at Sea Program and the Teacher at Sea Alumni Association to be a seamless programmatic experience and did not differentiate between the two.
- Participants valued how TAS/TASAA continued to offer valuable opportunities for continued professional growth and opportunities for professional networking.
- TAS alumni participants spoke highly of the immersive nature of the program as well as the opportunity to work as part of a team alongside other professionals conducting research and engaging in real world science. The experience was seen as a once in a lifetime opportunity that has the potential to bolster participants' professional identities and knowledge levels.
- Study participants offered suggestions for TAS/TASAA improvement including opportunities for deeper outreach to potential participants and opportunities for TAS alumni to repeat participation. In addition, respondents suggested the development of more detailed programmatic information for potential participants to review including past TAS alumni developed resources.
- TAS alumni valued the program's regular communication and opportunities for conferences but noted a desire to have increased regional or even cohort based networking opportunities.
- Of the fifteen significant change stories that were analyzed, each had a unique element. These stories revealed alumni who are making significant impacts in the lives of individuals and bringing about systemic change. As one alumnus stated:

> ***"I'm not just helping stakeholder groups, I'm making stakeholder groups. I'm influencing future voters. In our tiny corner of the U.S., Teacher At Sea is having a powerful impact. I can't imagine my life without it, and I am so grateful for the opportunity that it created for our students."***

Program Evaluation

The evaluators employed the Most Significant Change (MSC) Evaluation Technique as the guiding program evaluation framework supported by best practice research techniques regarding interview protocol development and execution, triangulation during data analysis, and other strategies and techniques that increased confidence in the findings and assertions. Specifically, this evaluation employed a revelatory, embedded, single-case design that included surveys, interviews, reflection papers, and artifacts from Teacher at Sea alumni, non-participants in the Teacher at Sea Program, and Teacher at Sea Alumni Association leaders. Data sources and analyses were employed to address four primary evaluation objectives: 1) Documentation of Significant Change stories among participants; 2) Empirically measured evidence from non-participants of programmatic impact related to Significant Change stories; 3) Identifying barriers to Significant Change among participants; and 4) Evaluation of general program implementation and congruence between program leader and participant expectations

Data Sources

The evaluation achieved a survey response rate of approximately 42% (n=130), with 41 alumni focus group interview participants, and 15 alumni final reflection participants. Data sources utilized in this evaluation included: a) Survey of TASA participants' experiences and perspectives; b) Survey of non-TAS participants' perceived impact of the TAS Program and TASAA; c) Content analysis of TASA participant and non-TAS participant artifacts (e.g. lesson plans, email communications, digital images, etc.); d) Semi-structured, focus group interviews with TASA participants; e) Survey of TAS Program and TASAA leaders expectations and experiences; f) Observations and artifacts regarding general program implementation; and g) Final TASA participant written reflections

Recommendations

A summarized account of recommendations from the vast majority of the TASA survey respondents indicate that the TAS Program and TASAA should both increase operations and staffing in order to meet current and future participant demand and needs. Additional specific recommendations include:

- The TAS Program and TASAA embedded research opportunities be expanded to include additional domains that are increasingly representative of content included in the Next Generation Science Standards, including those involving engineering and economics/policy-making
- Construction of a scalable, alumni development model that has the capacity to support educators who have varying levels of ability and interest and is flexible enough to accommodate changes in those abilities and interests that occur at variable rates
- The most critical recommendation overall is that the TAS Program and TASAA, which appear to function symbiotically, need to both continue in order to maintain their individual effectiveness.

Viewed together, the TAS Program and TASAA have made a tremendous impact locally, regionally, and nationally on science education teaching and learning and dissemination of NOAA-related science and resources, as evidenced by the Most Significant Change stories.