



Summer Institute in Program Evaluation: June 3 – 7, 2013

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Case Study Submission

Organization: University of Manitoba

Program Name: Schools on Board

Reason for evaluation:

Our program evaluations are used to measure and communicate the effectiveness and impacts of our program to stakeholders (schools, educators, high school students) and funding agencies (NSERC PromoScience, ArcticNet, UofM, participant sponsors). They are also used to provide strong rationale to scientists to continue to contribute their time and resources to outreach programs. These evaluations inform our programming, indicating the strengths and weaknesses of the program.

We would like to be able to use the data from our program evaluation for research and publications.

Program Description:

Schools on Board is a scientific outreach program of ArcticNet and the University of Manitoba. It was created in 2003 to bridge Arctic research with science and environmental education in high schools across Canada. The key components of the program are: 1) an annual Arctic field program in conjunction with the ArcticNet scientific expedition; 2) an Arctic Climate Change Youth Forum held every 2 years in conjunction with a national or international science conference, and 3) Arctic Science Days held annually in partnership with science teams and educators.

Program Goal:

Our program goals are to: increase awareness of climate change research and the environmental importance of the Canadian Arctic; inspire the next generation of scientists, resource managers, and policy-makers; and promote scientific outreach within our science community.

Program Objectives:

The long term objectives include:

1. Promoting Arctic marine sciences and Arctic climate change research in schools across Canada through active participation of schools in our programs (ie increasing references to Arctic climate change research in schools that participate in our programs)
2. Increasing interactions between high schools (students and educators) and scientists through authentic and simulated experiences
3. Promoting science as a career choice or field of study

The short term objectives include:





1. Exposing high school students to the possibilities for future studies and careers related to science and scientific research
2. Increasing scientific knowledge related to global climate change
3. Stimulating interest in natural sciences, engineering, technology and research
4. Increasing awareness of climate change in the Arctic
5. Increasing awareness of Northern culture and traditional knowledge
6. Increasing sensitivity and awareness to cultural and environmental issues related to climate change in the Arctic
7. Increasing participation of graduate students and scientists in scientific outreach.

Target Audience:

Our main target audience is Canadian high schools (students, teachers, extended community).. During international research initiatives we have extended our program to international participants. More specifically:

- Arctic Field program targets - High school students & educators – grade 10-12
- Arctic Climate Change Youth Forums target High school students & educators – grade 10-12
- Arctic Science Days – both Middle Years and High School students and teachers

Our secondary target audiences for all programs are the general public and scientists.

Key activities:

For this workshop, I would focus on our Arctic Field Program. This program is held every year in conjunction with the ArcticNet scientific expedition. This two-week adventure to the Arctic brings a small team of students (9) and teachers (2), who have been selected by their schools, to join a team of scientists on board the Canadian research icebreaker CCGS *Amundsen*. The trip includes travel to the Arctic, visits to northern communities prior to and after boarding the ship, and up to 10 days on board a working research vessel. While on board the ship, participants live and work with scientists, collect and process samples, attend lectures, and work on group projects. A distinguishing feature of our program is the high level of involvement of schools. Schools apply to our program for the opportunity to send a student and/or teacher. Selection of schools is based on a detailed outreach plan included in their application form that describes how they will involve integrate this individual experience into their programs, and outreach it to their broader community.

Data Collection:

We currently conduct formative evaluations in the field through observations and meetings with program leaders and participating educators; and summative evaluations that include participant evaluations completed on the last day of the field program, school evaluations completed a couple of months after the program, and scientist evaluations completed in the field or shortly after the field program depending on their availability.

Evaluation Questions

We use evaluations to summarize the impacts of our program – both short term and long-term. ‘Schools on Board’ is a relatively short program with intense transformative impacts to the individual participants (based on 9 years of evaluations). It is important to better understand and identify metrics and methods for measuring ‘transformation’ in experiential learning – What are the indicators? What are the best evaluation questions/tools?





Finally, we use evaluations to provide strong evidence to funding agencies and supporters that is consistent with their metrics of success.

Implementation Plan

This summer (July) we plan to critically re-evaluate the approach and tools we use for evaluation. The evaluation framework developed in this workshop would guide this process. In the fall of 2013 we plan to send an external evaluator in the field during the program to conduct and implement our revised evaluation (*in situ*). Results will be shared with stakeholders and funding agencies. The evaluation framework will be evaluated and adapted as required following the field program. We are currently leading an international Program Assessment Working Group (iPAWG). This is an online network of practitioners working in experiential polar education. The focus of our group is program assessment (a challenge we all struggle with). Lessons learned from the workshop and implementation of our evaluation will be shared.

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