Evaluating a Constructivist and Culturally Responsive Approach to Environmental Education for Diverse Audiences


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experience surveys were given to students as they arrived at NorthBay. Post-experience surveys were given during their last meal at NorthBay. Follow-up surveys were administered in students’ classrooms three months after their trip. The researchers tested for sampling bias due to a lower response rate in the 2007-2008 follow-up survey, but found no differences between the two samples.

**Questionnaire Design:**
A participatory process with NorthBay staff helped the researchers design the evaluation system, which followed the steps of the Sustainable Evaluation Framework. After interviewing and holding strategic planning workshops with NorthBay staff to determine the goals of their program, survey items were developed to reflect those goals. The survey instruments were then developed and pilot-tested with 265 students from five schools during 2005. The survey was refined using exploratory factor analysis and cognitive testing.

Confirmatory factor analysis (CFA) was conducted to confirm that the survey items, which reflected the main outcome goals of the program, statistically represented the constructs. From the CFA, three indices reflecting participant outcomes were developed. Survey items were measured on a five-point scale, with four question types.

As mentioned above, the **environmental responsibility index** is composed of six items that reflect NorthBay’s goal of students acquiring a sense of environmental responsibility and community respect. Examples of these items are:
- My actions impact the health of the environment.
- I have the power to help protect the environment.

The **character development and leadership index** is made up of seven items reflecting two goals of the program—to empower students to realize they can make positive choices for their future, and to encourage leadership skills. Examples of these items are:
- The choices I make today can change my entire life.
- I have people who support me when I need help.

The **attitudes toward school index** is made up of seven items reflecting two goals—improved academic performance among students and a healthier and more empowered culture in participant schools. Examples of these items are:
- Going to school is a waste of time for me.
- I enjoy school.

Lastly, the researchers asked about students’ overall level of satisfaction with the NorthBay program and their perception of the program’s impact on their own lives.

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| **Evaluation Insights:** | **What worked well?**
According to Marc Stern, one of the program’s evaluators, it was very helpful to start out with a day and a half of strategic planning with NorthBay’s staff before even getting into the details of the evaluation. This participatory approach helped to ensure that the staff was invested in the process and in the results, so that they understood the need to administer and collect the surveys, enter data, etc., and so that results would actually be incorporated into improving the program.

**What were important evaluation “lessons learned”?**
Stern notes that something they learned from previous evaluations was that they needed to be aware of turnover in staff, and therefore the evaluators were careful to institutionalize the components needed to be completed by NorthBay staff—they had one person solely in charge of these tasks, (such as entering data from the surveys,) and then when that person left, they were sure to have the first person train the next.

**What could have been done differently?**
Stern recounts how they have made minor changes over time with the evaluation, and would like to add a qualitative research piece to it to get at the “why,” especially concerning differential impact on urban vs. non-urban students.
2011-2012 is NorthBay’s sixth year of evaluation, not including the pilot, and they have continued to have Stern as an external evaluator. Williams notes that they are thinking of changing it somewhat in order to examine more specifically the different effects on urban vs. rural students and the effects of different components of the program on students, such as the daytime lessons and NorthBay live evening show.

Williams also mentioned that they have a lot of qualitative data, such as photocopied pages of students’ journals from NorthBay, teacher interviews, and discussions with teachers and staff at the end of the week. They are interested in evaluating this data, but it requires more labor than they are currently able to invest in.

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