



Evaluation of the Chesapeake Bay Foundation's Conservation Education Programs

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Program Profile	
Program Description:	<p>The Chesapeake Bay Foundation (CBF) offers a variety of conservation education programs. This evaluation focused on the following four youth programs and two teacher programs:</p> <ol style="list-style-type: none"> 1. One- and three-day field trips that allowed youths to participate in on-the-water activities such as canoeing, water-testing, and fishing with nets; 2. Two-week field trips that allowed “gifted” youths to learn about Bay ecology, conservation issues, and the local fishing culture while traveling and camping along Bay tributaries and islands; 3. The “Catch of the Bay” module of the <i>Chesapeake Choices and Challenges (CCC)</i> curriculum, which was designed to build students’ awareness and skills necessary to investigate their connections to the Bay, weigh choices about their personal actions, and develop solutions to Bay issues. Teachers were encouraged to use the module’s eleven classroom activities and complete at least one of the three service learning activities; 4. The “Schools in Schools” shad-restoration project in which students raised juvenile shad in the classroom and then released them into a local waterway; 5. Two-day workshop for teachers to learn about CBF’s “Catch of the Bay” curriculum; and 6. Five-day, field-based in-service professional development that provided primary and secondary teachers with hands-on opportunities to learn about the Bay.
Program Goals:	<p>The mission of CBF’s Education Program is <i>“to create a constituency who will value the Bay and its watershed as a living, connected system and who will act to restore clean water and ensure a high quality of life for all inhabitants.”</i> Through conversations with CBF personnel, the evaluators found that specific goals for the environmental education programs being evaluated included promoting environmentally responsible behavior (ERB) among youths and reducing the perceived barriers primary and secondary teachers face in teaching about the Chesapeake Bay.</p>
Program Funding:	<p>In 2006, CBF income was from these sources: 66% grants and gifts, 20% membership, 7% investment income, 4% education contracts and tuition, and 4% other.</p>
Program Links:	<p>http://www.cbf.org</p>

Evaluation Profile	
Evaluation Goals & Questions:	<p>The overall goal of the evaluation was to improve CBF programs by determining the extent to which existing programs promote ERB among youths and reduce teachers' perceived barriers to teaching about the Bay.</p> <p>To determine the extent to which CBF educational programs influenced the behavior of youths and teachers, CBF educational staff identified and prioritized environmental knowledge and behaviors addressed by their programs that were specific to the Bay. The most frequently mentioned topics and behaviors were then selected and used to investigate the following characteristics related to ERB:</p> <ul style="list-style-type: none"> • Environmentally sensitivity • Knowledge of ecology • Knowledge of issues • Personal responsibility • Knowledge of actions • Perceived skill in actions • Individual locus of control • Group locus of control • Intention to take action <p>Teachers' perceived barriers to teaching about the Bay were investigated by assessing their perceptions of:</p> <ul style="list-style-type: none"> • Financial resources • Preparation time • Materials and resources • Classroom time • Access to field trips • Flexibility in curriculum • Support from school • Support from parents • Science knowledge • Other (than science) knowledge • Student interest in the Bay • Personal interest in the Bay
Evaluation Methods:	<p>Pre and post surveys were used to assess the ERB characteristics described above in youths participating in the one- and three-day field trips, the two-week field trips, and the shad restoration project. A follow-up survey, investigating the same issues, was sent to participants 6 months after each program. The same pre, post, and follow-up surveys were also administered to a youth comparison group. In addition, teachers implementing the "Catch of the Bay" curriculum and those participating in the shad restoration project were asked to predict the degree to which their students improved in each of the nine outcomes listed above. Teachers who had implemented these programs with their students in prior years were also asked to assess the degree to which their students changed in ERB characteristics as a result of CBF programs.</p> <p>Retrospective pre and post surveys were used to assess the ERB characteristics in youths who had participated in one- and three-day field trips, two-week field trips, and the CCC curriculum in previous years.</p> <p>Pre and post surveys were used with teachers participating in the two-day curriculum workshop and the five-day in-service training to assess ERB characteristics and teachers' perceived barriers to teaching about the Bay. A follow-up survey, investigating the same issues, was sent to five-day in-service teachers two months after the program.</p> <p>Retrospective pre and post surveys assessing teachers' ERB characteristics and perceived barriers to teaching about the Bay were also sent to teachers who had participated in prior years in the two-day curriculum workshop and the five-day in-service training.</p> <p>Teachers of students experiencing activities from the "Catch of the Bay" module were asked</p>

	to complete an activity log to monitor implementation of the modules' activities. As part of this log, teachers were also asked about their intention to use CBF programs in the future and to respond to program satisfaction measures.
Instruments:	The measures used to collect data from evaluation participants are described in the article's methods section. Instruments can be obtained from the authors.
How were results used?	Instead of attempting to influence all ERB characteristics through each one of its programs, CBF decided to adapt each program to target a smaller number of specific ERB characteristics. CBF also focused on encouraging teachers to use multiple activities and programs which build on one another. Last, more effort was put into helping teachers implement the curriculum as intended and reducing their barriers to teaching about the Bay.
Evaluation Cost:	For the 1.5 year project (1998-99), the total budget was \$86,600: Photocopying (\$8,400), Scantron (\$1,700), Postage (\$4,900), Telephone (\$1,800), Office supplies (\$2,000), Office assets (\$3,400), Travel (\$5,400), Focus groups (\$800), Office rental (\$1,200), Misc. (\$3,400), Salary (\$53,600). In-kind services provided by the university faculty member (\$8,000) were not included in the budget.
Evaluation Insights:	<p>What worked well?</p> <ul style="list-style-type: none"> - Working as a team consisting of a former CBF educator, university faculty member, and graduate students. - Using the Hungerford and Volk behavior model to help guide the evaluation. - Adapting measures from previous studies that were shown to be valid and reliable. - Triangulation of some data; i.e., gathering data from current year students and their teachers as well as from past students and their teachers. - Involving CBF staff members from the beginning to the end, helping to ensure use of the evaluation's results. CBF staff members also provided information that helped to identify and contact evaluation participants, provided important information about the content of their programs, helped to administer some of the surveys, and incorporated evaluation results into their staff professional development programs. <p>What were the important evaluation "lessons learned"?</p> <ul style="list-style-type: none"> - Teachers who took their students on field trips were easy to convince to include their students in the evaluation. They were invested in the program. Teachers who were trained in the CCC curriculum as part of required professional development were less willing to include their students. <p>What could have been done differently?</p> <ul style="list-style-type: none"> - Organizations interested in assessing longitudinal effects should track contact information. For example, CBF did not track contact information for youths who had participated in field trips in the past, making it difficult to identify and thus, survey these individuals as part of this evaluation.
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