



Environmental service learning: Outcomes of innovative pedagogy in Baja California Sur, Mexico

Schneller, A. J. (2008). Environmental service learning: outcomes of innovative pedagogy in Baja California Sur, Mexico, *Environmental Education Research*, 14(3): 291-307

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Program Profile	
Program Description:	<p>This environmental education course was based in the village of Pescadero, in Baja California Sur, Mexico. Patricia Baum, a United States expatriate, created the yearlong experiential program as way to increase environmental consciousness in a more engaging learning atmosphere than the current television-based classroom</p> <p>The program was an environmental course that incorporated experiential coursework and service learning. This program had been in place for 6 years at the time of the evaluation, though it has since ended, as the program’s creator moved on. The participants were middle school students from families working in the agriculture, textile, construction, and retail industries. The course was developed in response to inadequate environmental learning in the formal curriculum and widespread exploitation of endangered sea turtles. The course met weekly at school and several times in the field, including participation in a campout and cleanup of a beach, throughout the entire school year. Students completed a multitude of activities through this program that focused on the needs of their community, such as cleaning up the beach, posting environmental signage, collecting supplies for compost, and releasing baby sea turtles. While the program’s focus and projects changed from year to year, it always sought to complement existing community and municipal education and environmental protection efforts.</p>
Program Goals:	The program sought to address the causes behind bioregional environmental problems (including littering and sea turtle endangerment) while exploring the physical environment, and promoting both individual stewardship behaviors (such as choosing not to eat sea turtles) as well as public outreach (such as convincing friends or family members to not eat sea turtles).
Program Funding:	The original creation of the program was privately funded, driven by the motivation of Baum to raise environmental consciousness in the region. However, Global Green Grants, Surf Industry Manufacturers Association (SIMA), and the PADI foundation have all funded the implementation of the program.
Program Links:	Not available
Evaluation Profile	
Evaluation Goals & Questions:	<p>Evaluation Goals</p> <p>By evaluating students directly before, during, and after the course, as well as evaluating a previous cohort of students two years after completion of the course, this study sought to understand both how attitudes and behaviors changed immediately after the course, as well as their durability.</p> <p>The evaluation also sought to contribute to the sparse literature on the effects of creative pedagogical approaches with Mexican learners.</p> <p>Evaluation Questions</p>

	<ol style="list-style-type: none"> 1. What are the reactions of Mexican students participating in an experiential environmental learning course with service learning components? 2. To what extent do Mexican students participating in (school-based) experiential environmental learning become more aware of, and involved in, environmental issues facing their community? 3. What is the cultural, political, educational, and economic atmosphere in student homes and the community of Pescadero? 4. What specific aspects of the environmental learning course do students find most influential in affecting their experience?
Evaluation Methods:	<p>An interview was the main tool for data collection. The interview was designed as a semi-structured instrument written by researchers, faculty at the University of Arizona, the course designer, a local interpreter, and a teacher at the school. The interview was developed to incorporate life-history techniques to judge whether the program affected the life of the student. These above contributors served to ensure that the interview explored the research questions and addressed the curriculum, while also being sensitive to the regional dialect and concerns. The interview was pilot tested and further refined before implementation.</p> <p>The first set of interviews was conducted during 2006 with 23 students who were about to begin the course for the 2006/2007 year. Post-course data was then collected 3 to 4 weeks after the course from the same students. During this same 2007 time period, the author also interviewed a group of 15 students from 2004/2005 year. These interviews sought to examine the durability of the program outcomes two years after this group of students had finished the course.</p> <p>Interviews were also conducted with the director of the Telesecundaria, teachers, the course designer, and a convenience sample of seven parents of students who completed the course. These interviews provided insight into the school environment, the views of instructors, and whether the students were having an impact on their families.</p> <p>Finally, influential members of the community were interviewed to learn about the environmental, social, and political context of these programs. Field activities were also observed to confirm the information from interviews, as well as further contextualize the program.</p> <p>The multiple interview sources were used to triangulate information to in order to obtain stronger reliability and validity.</p> <p>Note: This evaluation is focused on the qualitative information collected through interviews; the quantitative information collected is currently undergoing peer review.</p>
Instruments:	A partial set of evaluation instruments is available in the article.
How were results used?	<p>The evaluation results were used to contribute to the sparse literature on teacher practice and the outcomes of creative pedagogy with Mexican learners. The evaluation was published in <i>Environmental Education Research</i> to fulfill that goal.</p> <p>As the evaluation was being analyzed and completed, the program itself continued to evolve due to the needs and resources of the community, as well as those of the head of the program. As a result, the evaluation was not able to play a significant role in that process.</p>
Evaluation Cost:	At a cost of less than \$10,000, the evaluation was completed on-site in the Telesecundaria and in the community of Pescadero over the course of one complete school year. The most substantial cost was payment to a Spanish-English interpreter who worked with the evaluator during the course of conducting all interviews. Other costs included transportation to and from the study site and the purchase of a van that was driven to Baja California Sur, Mexico (later donated to the environmental learning program upon conclusion of the evaluation process), and housing for the duration of the study.
Evaluation Insights:	<p>What worked well?</p> <p>Among the most successful elements of this evaluation was the opportunity to interview students at the school in their own community, which made them feel as if they were helping students who would become involved in environmental learning in the future. Additionally, interviewing their parents provided unique insights into the ways that students brought stewardship behaviors home and shared them with the rest of the family.</p>

	<p>What were important evaluation “lessons learned”? During this evaluation, an unexpected difficulty consisted of tracking former course participants for post treatment interviews. The program did not track the students, and they did not always have street addresses or phone numbers (land line or cell phone). Students who belonged to migrant families were particularly difficult to find or were simply unavailable for the interviews. Thus an important lesson learned is the need to take into account the mobility of the community and evaluation subjects when designing and interpreting an evaluation. In addition, the evaluator encountered difficulty in explaining the IRB process to the parents of course participants to obtain consent for participation; signing documents in Mexico is at times treated with suspect.</p> <p>What could have been done differently? The author of this evaluation expressed that he would have preferred to spend more time in the community conducting the evaluation. This would have allowed for more on-site evaluations to complement the interview data gathered and facilitate a more holistic understanding of the program.</p>
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Posted on:	August 29 th , 2012