

Can K-12 Education Save Galapagos?

by **Richard Knab**, *Galapagos Conservancy's Director of Strategic Partnerships*

In 2007, when UNESCO considered placing Galapagos on the list of World Heritage Sites in Danger, its Mission Report identified 12 areas, including education, in need of urgent attention. The report noted the local education system's failure to address issues related to conservation and heritage preservation and lack of attention to preparing Galapagueños for employment opportunities that were often filled by non-residents. In its 2010 Mission Report, UNESCO noted progress in many areas. But it could not point to any significant improvements in the area of education.

Local residents and external observers have long expressed concern about the weak education system in Galapagos. Teachers have received little training in effective teaching strategies or the content of areas they teach. Instruction has relied heavily on rote memorization, and teachers have not been trained to take advantage of their physical surroundings to focus their lessons and to strengthen the connection between young people and their natural environment.

This lack of connection with the environment should not come as a surprise. Much of the current population of Galapagos arrived during the 1990s and 2000s, in response to poor economic conditions on the mainland and employment opportunities related to tourism. While migration to Galapagos is regulated much more closely than in previous decades, 74% of those living in Galapagos are migrants and 35% of children under the age of 11 were born outside of the Islands (INEC, 2010). Consequently, many observers agree that there isn't a strong "sense of place" in Galapagos or a deep understanding of or connection to what makes Galapagos special.

The bottom line: Galapagos education has failed to arm its youths with the basic skills needed to join the local labor market, enter and complete college, or to fill important leadership roles in conservation, science, and sustainable tourism.

The Power of Education for Sustainability

Given this situation, where should we begin to improve education in Galapagos? And perhaps more importantly, can K-12 education prepare Galapagos youths for the local workplace and empower them to become engaged members of a sustainable society? The concept of education for sustainability has become commonplace in public and private education in the US and other countries, both at the K-12 level and in higher education. Definitions vary, but at its core, education for sustainability helps young people to understand the inter-connectedness of the social, environmental, political, and economic issues affecting their communities and the world beyond. It also increases the connection students feel with the natural environment and brings relevance to their daily lives. But beyond developing knowledge and understanding, education for sustainability prepares young people to act on their knowledge to make a positive difference in their communities.

This isn't just wishful thinking. A growing body of research shows that this approach, when implemented effectively, improves students' content knowledge across subject areas and develops the critical thinking and problem-solving skills they need to be successful in an increasingly complex world.

How Do We Get There in Galapagos?

Over the past five years, Galapagos Conservancy has worked closely with the Galapagos-based non-profit *Fundación Scalesia* and Ecuador's Ministry of Education to identify opportunities for improving education in the islands in ways that reinforce long-term sustainability. Despite the remarkable success of the Ministry's 10-Year Education Plan in transforming education on the mainland, national exams had revealed that the performance of Galapagos students lagged behind national averages in core subject areas and critical-thinking skills. The isolation of Galapagos, among other factors, represented a significant barrier to education reform.

In 2014, the Ministry of Education, Galapagos Conservancy, and *Fundación Scalesia* coordinated a participatory needs assessment, conducted by a team of





Above, left: High school biology teachers learn to make low-cost microscopes using smart phones and the focal lenses of inexpensive laser pointers. **Above, right:** Arthur Powell works with elementary math teachers on the use of manipulatives to teach fractions. **Left page:** Teachers gather at the end of their weeklong workshop on Santa Cruz Island. All photos © Jonathan Drake, T2T-I

education experts who collected and analyzed the ideas and concerns of teachers, school directors, students, parents and community leaders.

The assessment recommended intensive professional development in Galapagos (workshops and ongoing coaching), the establishment of a local demonstration school, and focused training for school directors to empower them as leaders of educational change. The report also stressed that it can take up to five years of intensive professional development for teachers to significantly change their practice, and that it can take up to a generation of students (12 years) to see the kind of deep change that will transform Galapagos in positive ways.

Ideas in Action

In April 2016, Galapagos Conservancy, the *Fundación Scalesia*, and the Ministry of Education launched the Education for Sustainability Program, a five-year teacher training program comprised of intensive workshops (weeklong Teacher Institutes conducted every April and October) and continuous mentoring from full-time Galapagos-based coaches. We were assisted by a new partner, the Galapagos Governing Council, which is the coordinating governmental entity in Galapagos.

The program is designed to help Galapagos educators shift away from traditional teaching methods that rely on lectures and rote learning. The focus is “student-centered instruction” — an approach that changes the role of the teacher from “giver of information” to “facilitator of student learning.” Student-centered strategies engage students in problem solving activities, collaborative team projects, hands-on experimentation, independent projects, and out-of-classroom learning. The program will also help teachers strengthen their content knowledge in the areas they teach, develop lesson-planning skills, and to use Galapagos (its most pressing social and environmental issues, real data collected by scientists, and the natural environment) to teach their classes and to facilitate learning beyond the classroom.

How was all of this manifested during the April Institute? Here are a few examples.

On San Cristóbal, joint literacy and social studies sessions introduced problem-based learning (PBL), an approach

that helps students develop problem-solving strategies and disciplinary knowledge through their engagement in real-life problem solving. Elementary teachers developed a plan to address population growth in the islands. High school teachers used the PBL approach to tackle an issue related to the Galapagos Special Law.

On Santa Cruz, math teachers learned to use “manipulatives” for teaching fractions. Manipulatives are small objects that can be handled by students, which can help demonstrate or model abstract concepts.

While visiting natural areas in close proximity to schools, biology teachers learned to help their students formulate simple research questions based on observations made at these sites, and to answer these questions through practical experimentation.

All of the lessons modeled by the trainers connected directly to the curriculum teachers will need to teach during the current school year.

Moving Forward

While the first Institute was a great success, the heavy lifting has just begun. Even the best teacher training will have limited impact without intensive and strategic follow-up.

Fortunately, we have two exceptional Ecuadorian educators on the job — Miriam Chacón on Santa Cruz and Lilliana Garcés on San Cristóbal. Both have extensive experience as instructional coaches. They are working 1:1 with teachers, observing classes, providing feedback, and helping them to implement what was presented during the Institute. Miriam and Lillian both report that teacher enthusiasm remains very high following the Institute and that many teachers have already implemented a number of the lessons modeled by the trainers.

None of this work would be possible without a talented group of education specialists from the US and Latin America, the full support of Ecuador’s Ministry of Education, and the generosity of a growing number of donors who share our conviction about the importance of quality education in the islands. Galapagos Conservancy is extremely grateful for the commitment of these essential partners. We look forward to sharing our progress over time. ■