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EDUCATION FOR SUSTAINABILITY IN GALAPAGOS: A PUBLIC-PRIVATE PARTNERSHIP FOR STRENGTHENING EDUCATION IN THE ISLANDS

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The **Galapagos National Park Directorate** has its headquarters in Puerto Ayora, Santa Cruz Island, Galapagos and is the Ecuadorian governmental institution responsible for the administration and management of the protected areas of Galapagos.

The **Governing Council of Galapagos** has its headquarters in Puerto Baquerizo Moreno, San Cristóbal Island, and is the Ecuadorian governmental institution responsible for planning and the administration of the province.

The **Charles Darwin Foundation**, an international non-profit organization registered in Belgium, operates the Charles Darwin Research Station in Puerto Ayora, Santa Cruz Island, Galapagos.

Galapagos Conservancy, based in Fairfax, Virginia USA, is the only US non-profit organization focused exclusively on the long-term protection of the Galapagos Archipelago.



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Education for sustainability in Galapagos: A public-private partnership for strengthening education in the Islands

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The quality of the local education system is among the most important factors that will determine the future of Galapagos. During July 2014, a five-day observation and data collection process was completed to identify priorities for improving preK-12 education in ways that would prepare Galapagos youth to assume their pivotal role in shaping a sustainable society. This work was facilitated by Galapagos Conservancy (GC) and the Scalesia Foundation (SF).

This work began in 2012 following a weeklong, multi-sector visioning workshop in Galapagos funded by the Helmsley Charitable Trust, during which GC, SF, and the Ecuadorian Ministry of Education (MoE) began to explore ways to collaborate to strengthen education in the Islands. In May 2014, the MoE authorized GC and SF to conduct a needs assessment for a school improvement program. GC and SF worked with the Center for Policy Research in Education (CPRE) based at Teachers College, Columbia University, to design a strategy for developing the program.

The first phase of data collection was named the Listening Phase, to underscore the central role school directors, teachers, and other local stakeholders must play in the early phase of project development and planning in any school improvement program.

The Listening Phase was carried out by a team of educators¹ with expertise in priority areas identified by the MoE: natural science, English language, language arts, and educational leadership. Groups of two or three Listeners conducted observations in at least two different schools every morning and participated in two different focus groups (teachers, parents, students, or school leaders) every afternoon. The team visited 14 of the 20 schools offering preK-12 education and interviewed all school directors on Santa Cruz and San Cristóbal.

Framework for observations and analysis

The framework used to guide observations and analysis was based on work by sociologist and organizational development practitioner Marvin Weisbord (1978), and the research of Tony Bryk and colleagues from the Chicago Consortium for

¹ This article summarizes a more extensive report presented to the Ministry of Education (MoE), the Scalesia Foundation (SF), and Galapagos Conservancy (GC), by a team of educators selected by these organizations to conduct an initial assessment of the state of preK-12 education in Galapagos. Team members included the authors of this article and Dr. Jessica Ivonne Duchicela (Universidad de las Fuerzas Armadas, Ecuador), William Stroud (CPRE/Teachers College, Columbia University), Adriana Martín del Campo (Instituto Thomas Jefferson Valle Real, Guadalajara, México) and Amelia Farber (Stanford University).

School Research (Bryk *et al.*, 2010). It focused on seven areas of activity identified as vital to school effectiveness (Figure 1). These include:

1. **School leadership.** Research identifies the following essential leadership tasks: 1) defining purpose; 2) embodying purpose in programs; 3) ensuring quality of teaching and supporting improvements in teaching; 4) defending the organization’s integrity, and 5) maintaining order with respect to internal conflict. Studies also highlight the importance of inclusive leadership and the director’s ability to cultivate a team of leaders that develop a sense of shared responsibility for school improvement (Burke, 1994; Selznick, 1957; Bryk *et al.*, 2010).
2. **Professional capacity of teachers.** Bryk *et al.* (2010) describe schools as “human resource-intensive enterprises that are only as strong as the quality of faculty, the professional development that supports their learning, and the faculty’s capacity to work together to improve instruction.”
3. **Relationships within schools.** Weisbord (1978) points to the importance of relationships between peers, supervisors, and subordinates, as well as between units or departments that perform different tasks (Singh, 2010).
4. **Parent and community relationships with schools.** Bryk *et al.* (2010) highlight the importance of trusting relationships between schools, parents,

and communities that are focused on strengthening student learning.

5. **Teacher incentives.** Research shows that although both monetary and emotional incentives can be effective motivators, the latter often bring better results (Kotelnikov, 2008, cited by Allred *et al.*, 2008).
6. **Helpful mechanisms.** Bryk *et al.* (2010) highlight the importance of timely access to information on teacher and student performance, and to coherent instructional guidance systems that articulate the “what” and “how” of instruction, such as professional development, teaching materials, and instructional routines.
7. **Outside environment/everything else.** Bryk *et al.* (2010) identified the importance of various aspects of the community context (available resources, social capital, etc.) that can impact school performance. CPRE expands this concept to include external policies and professional cultures potentially crucial to schools in Galapagos.

Results

The Listening Phase provided a snapshot of the state of education in Galapagos. Key findings included:

1. **School leadership.** Listeners described the mode of leadership in most schools as vertical and highly administrative. School directors reported that they

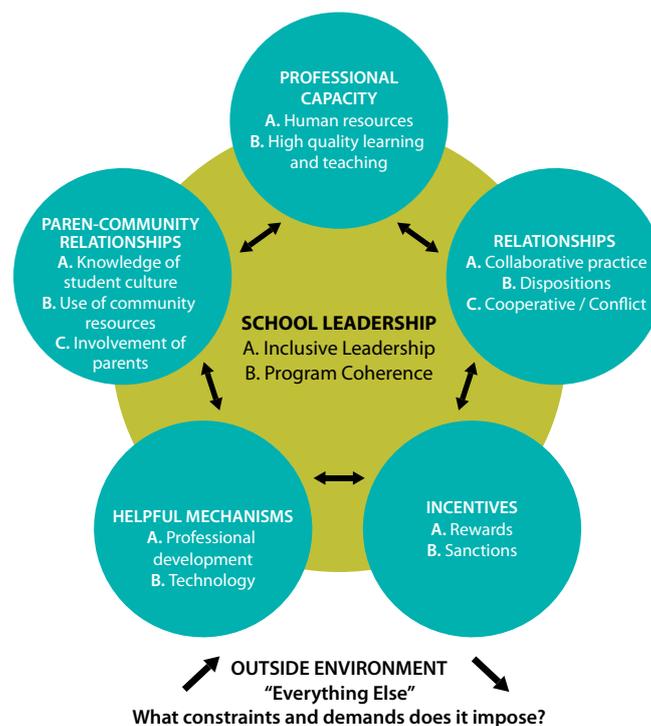


Figure 1. The adapted CPRE (Center for Policy Research in Education) Framework.

dedicate most of their time to administrative duties as opposed to classroom supervision, engaging their faculty in discussions about instruction, or providing professional development. Teachers reported that they tend not to be involved in decisions affecting their work.

In terms of school mission and vision, the MoE requires all schools to develop and submit an Institutional Education Plan (IEP), a strategic plan focused on medium- and long-term actions designed to assure quality learning and a positive school environment. The MoE's new guidelines for developing the IEP² call for a collaborative planning process involving directors, teachers, and parents. Based on conversations with these groups, the IPEs are not yet "living documents" for which the entire school community feels a sense of ownership.

In terms of leadership teams, the MoE requires each school to create an Executive Council, Teacher Advisory Board, Teacher Council, Student Council, and Parent Council. These structures were not mentioned by directors, teachers, or parents, suggesting that they are not yet playing their intended role.

Improving education in Galapagos will require considerable attention to the issue of educational leadership and transforming the role of school directors from that of administrator to instructional leader. Most school directors interviewed stated their desire and showed potential to assume such a role with appropriate training and mentoring.

The new IPE guidelines and the structures called for in Acuerdo 382-11 provide a framework through which directors can build the kind of shared purpose and leadership teams needed to shape school improvements.

2. **Professional capacity.** Listeners observed instances of high-quality teaching, but noted that most teachers lack effective teaching strategies; instead they rely on traditional, knowledge-recall techniques that do not prepare students to be critical thinkers. Listeners reported teachers' readiness for dialogue about improving instruction in all subjects. However, teachers will not necessarily embrace professional development opportunities if they are not provided the time, flexibility, and support to do so, and if this training is not linked to pay scales or other formal and informal incentives.

Both teachers and directors noted the need for better

performance evaluation mechanisms to help them understand if they are "doing their jobs correctly" and for professional development to help them improve their practices. Such feedback is essential for educators to improve their teaching skills.

3. **Relationships in the school.** Listeners report that communication between teachers and school leaders focuses mostly on administrative matters. Some schools hold regularly-scheduled faculty meetings, but few teachers valued these; in particular, they objected to the extended time used to explain new MoE requirements without sufficient guidance for implementation or explanation of how these new initiatives contribute to educational improvements.

Although teachers and directors agreed that collaboration is important, they reported that few formal systems exist for planning with colleagues within schools or between schools. Participants in the teacher focus groups, organized by subject areas, expressed interest in collaborating with their peers at other schools. Creating a culture of collaboration among Galapagos educators is central to improving education in the Islands.

4. **Parent and community relationships with schools.** Listeners reported the following perceptions of parents, students, and teachers:

- Parents expressed concern for teaching quality (especially in English), the lack of a system of teacher evaluation, the need for a Galapagos-centric curriculum, high teacher turnover, and poor communication between parents, schools, and the MoE. Parents in Santa Cruz were enthusiastic about the newly instated English and Science clubs, but noted the need for better organization.
- Students expressed concern that school directors and administrators rarely solicit their input regarding their needs. Although student councils exist, students felt the councils are symbolic and are underutilized as a forum for students to make positive contributions to educational improvements.
- Teachers reported the teaching profession is not valued as much in Galapagos as it is on the mainland. Many teachers feel that they have not been given the tools or orientation needed to implement MoE mandates, such as how to organize academic clubs and ensure that clubs integrate instructional themes. Teachers also noted a lack of support from parents related to academics, such as helping their children with homework.

² Guía Metodológica para la Construcción Participativa del Proyecto Educativo Institucional, 2012.

In terms of the broader community, Listeners learned of a number of examples of local organizations partnering with schools to provide learning opportunities for students (Table 1).

Improving education in Galapagos will require greater parental and community engagement. The governance structures called for by the MoE, as well as rights and obligations of teachers, students, and

parents laid out in the Organic Law for Intercultural Education (LOEI – Spanish acronym), could help promote such engagement.

Additionally, the expertise of Galapagos-based NGOs and professionals working in science, conservation, and the business community represent a valuable but underutilized resource for classroom learning and professional development of teachers.

Table 1. Local organizations partnering with schools.

Organizations	Activities
Galapagos National Park Directorate (GNPD)	The GNPD has presented proposals to the Ministry of Education to help with micro-curricular design in the area of natural science and to help strengthen the content knowledge of science teachers. The GNPD also works with schools to offer a number of hands-on environmental education activities.
Ecuadorian Navy	The Navy offers marine-related extracurricular education via the Guardians of the Ocean Program (Guardianes del Mar).
Scalesia Foundation (SF)	The SF continues to dialogue with local school directors and Ministry of Education officials regarding its desire to serve as a local champion of education improvements in the Islands. The SF also seeks to develop the Tomás de Berlanga School as a demonstration site of proven educational practices for teachers from throughout Galapagos.
Local NGOs (FUNDAR Galapagos, Grupo GECO, Pasos Equilibrados, and Agentes de Cambio) and International NGOs (Conservation International, Ecology Project International, and Outward Bound)	These NGOs offer programs in areas such as environmental education, entrepreneurship, leadership training, and service learning. Some of these organizations work closely with schools to offer activities related to extracurricular activities that can help sophomores and juniors to fulfill their 200-hour community service requirements.

5 Teacher incentives. The MoE's 10 Year Education Plan prioritizes raising the profile of the teaching profession through such means as merit-based pay, better working conditions, and opportunities for professional development. However, while the LOEI lays out specific merit-based incentives, teachers overwhelmingly described a lack of formal and informal incentives associated with their work.

High quality professional development that is directly and immediately relevant to teachers' subject areas, grade levels, and classroom practice, and which will lead to improving student performance, can be highly incentivizing to teachers, especially if connected to the salary structure. In-service training opportunities with schools and universities in Ecuador and elsewhere could represent attractive incentives for Galapagos educators. In addition, teachers' incentives formerly received, such as diplomas and public awards for service, should be revived.

6. Helpful mechanisms. The MoE and the National Institute for Education Evaluation (INEVAL – Spanish

acronym) administer standardized student evaluations in grades 4, 7, and 10 to measure student learning in math, language and literature, and social studies. The MoE and the Secretariat of Higher Education, Science, Technology and Innovation administer the National Exam for Higher Education (ENES – Spanish acronym), which measures verbal, numerical, and abstract reasoning. While aggregated results of these exams are published by the MoE, directors and teachers do not receive the results in time or in a format needed to adapt curricula or instruction.

Similarly, the MoE reports that teacher evaluations will be conducted annually by INEVAL, using knowledge-based testing focused on the primary subject area of each teacher⁴. The results will be used to identify gaps in knowledge to generate individualized plans for professional development. However, this system has yet to be fully implemented.

Since 2011, most professional development has occurred on the mainland or on-line. Teachers report that accessing professional development outside

⁴Reglamento General a la Ley Orgánica de Educación Intercultural.

Galapagos is both time-consuming and expensive and that on-line training is virtually impossible because of the slow internet connection.

The Listeners repeatedly heard teachers and directors call for professional development designed by subject and grade level as follows:

- Subject area, topic-based instruction to deepen teacher expertise
- Modeling as part of teaching
- Differentiation for children with special needs
- Teaching methodologies
- How to adapt curriculum to island goals
- Ways to engage and motivate students
- Classroom management
- Lesson design
- Integrating technology into curricula
- Conducting labs and inquiry-based lessons
- Organizing and managing science fairs and clubs

Considerable improvements could be made in Galapagos schools if teachers and directors had timely access to data on their performance and that of their students, and if teachers had access to high-quality professional development that is well-connected to Galapagos realities. Local educators would also benefit from observing examples of proven practices in action through model classrooms or a demonstration school in Galapagos.

7. **Outside environment/everything else.** According to Listeners, the following aspects of the school context have a significant impact on school effectiveness:

- Ecuador’s ambitious national education reform process. The pace and scope of changes associated with the 10 Year Education Plan are dramatic, and are a source of significant stress and heavy workload among school leaders and teachers. On the other hand, the reform process is rolling out new processes and approaches that should prove helpful over time in addressing many of the challenges noted above.
- The physical and electronic isolation of the Galapagos Islands. The cost and time associated with travel between Galapagos and the mainland, and between islands in the Archipelago, limit access of educators to professional development and hamper the exchange of ideas. Slow internet connectivity in Galapagos limits school operations, student learning, and professional development for Galapagos educators.
- The need for a local champion to support a school improvement program. Research points to the important role played by “middle tier” entities, non-profit organizations that operate between schools and central governments, in support of education improvement programs (Aston *et al.*, 2013). Listeners believe that the physical and electronic isolation of Galapagos heightens the need for such an organization in Galapagos.

In addition to these external factors, the Listening Team learned of several institutions whose missions and mandates impact PreK-12 education (Table 2). These entities are well placed to make valuable contributions to the design of any school improvement program.

Table 2. Institutions with interest/involvement in education.

Organizations	Interest/Involvement in Education
Galapagos Governing Council (CGG)	The CGG is responsible for overall planning and management in Galapagos. It has a strong interest in seeing that education is optimized in ways that strengthen local capacity and “good life” (<i>buen vivir</i>). The CGG also oversees Galapagos migration issues, which has direct implications for staffing public and private schools in the Islands.
Ecuador’s Ministry of the Environment (MoEn) and the Galapagos National Park Directorate (GNPD)	Ecuador’s MoEn and the GNPD, in their 2014 <i>Management Plan for the Protected Areas of Galapagos for Good Living</i> , recognize education as a key component of protecting the Galapagos environment and commit their support to the formal education sector. The GNPD also carries out a number of environmental education initiatives that could be connected to the learning objectives of the national curriculum, and coordinates research and conservation with international scientists whose expertise could be tapped by Galapagos teachers and local schools.
Municipal governments of Galapagos	The three municipal governments in Galapagos have an increased responsibility to construct, equip, and maintain schools in their jurisdiction. Both the LOEI and draft text associated with the new Special Law for Galapagos describe this evolving role.



Photo: © David Lansdale

Recommendations

Based on these and other observations contained in the Listening Team's full report, the team recommends that GC, SF, and the MoE pursue a five-part school improvement program to be conducted over five years. The proposed activities could be supported by the MoE, fees for service from schools, and grants from individuals, businesses, and foundations. The components and the recommendations follow.

- 1) **Demonstration school and education support team.** Due to the isolation of Galapagos and the continuous technical support required for an effective school improvement program, it is important to:
 - Develop the SF's Tomás de Berlanga School as a demonstration site of effective educational practices, given its relatively small size, its strong focus on English language, and its ongoing efforts to incorporate the Galapagos environment into student learning.
 - Develop an Education Support Team (EST) to provide ongoing professional development and to coordinate with the MoE and external consultants. The EST should consist of master teachers/mentors in educational leadership, English language, mathematics, science, and Spanish, who would work directly with directors and teachers at schools throughout Galapagos to promote the adoption of proven educational
- 2) **Instructional leadership.** Strengthen school leadership through an instructional leadership program with two components: 1) professional development for school directors to help them become instructional leaders, and 2) formation of instructional leadership teams at each school to set and act on priority school improvements (ideally by strengthening the Teacher Councils and School Improvement Teams mandated by MoE Agreement No. 382-11).
- 3) **Subject-specific professional development.** Improve instruction in literacy (English and Spanish), math, and science through subject-specific professional development, including workshops and ongoing mentoring connected to the directives of the Ecuadorian curriculum.
- 4) **Extra - curricular education.** Provide technical assistance to extracurricular education initiatives of schools and other organizations to optimize out-of-classroom learning, especially academic clubs and extracurricular requirements for sophomore and juniors; connect these activities with the learning objectives of the formal curriculum.
- 5) **Program monitoring and evaluation.** Develop a

monitoring and evaluation program to optimize program delivery, and document impact on teacher and director practices as well as student learning.

These school improvement components must build on MoE priorities and be designed based on research collected from numerous studies over several decades, which identifies those interventions that have the greatest impact on education quality (Corcoran, 2007; Wei *et al.*, 2009; Desimone, 2009; Odden *et al.*, 2002; Timperly *et al.*, 2007).

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