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CASE STUDY

Voices of Nature: Inspiring Creativity, Curiosity, and a Connection to Nature for Biodiversity Conservation

Paraguay

CONTRIBUTOR

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GEEP is a partnership of the U.S. Environmental Protection Agency, the Environmental Protection Administration of Taiwan, and the North American Association for Environmental Education.



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Overview

Voces de la Naturaleza (Voices of Nature) is a Paraguayan environmental education movement supporting a network of more than 30 eco-clubs across the country that connect over 600 children ages 7-14 to local biodiversity issues every week. The eco-club network is designed to respond to the growing disconnect between the youth of Paraguay and their environment using the Eco-Leadership Curriculum, which is centered around the “3 C’s”: Creativity, Curiosity, and a Connection to Nature.

Through this approach, the 3 C’s form the building blocks for eco-leadership in club members: creativity strengthens self-confidence and innovation; curiosity builds analytical skills and ownership of their own beliefs; and a connection to nature builds empathy and a sense of social responsibility. This program is inspired by international curricula such as those by Leave No Trace and Project Wild and rooted in the principles of effective environmental education practice, including inquiry and place-based learning. This case study highlights a comprehensive program to empower young people to connect to their local environment and develop their own solutions to protect it. An accompanying online resource of activities and games is openly accessible to educators around the world and is shared at the end of this case study.



Photo: © Voces de la Naturaleza (Voices of Nature)

Background

Voces de la Naturaleza is the environmental education branch of Fundación Para La Tierra, a conservation NGO working to protect the threatened ecosystems of Paraguay through three interwoven pillars: Scientific Research, Community Engagement, and Environmental Education. From mentoring university students on field research to working directly with local stakeholders to design conservation initiatives, each pillar targets an audience with different but complementary forms of environmental education. This multi-pronged approach ensures that conservation action strategies are well founded in scientific knowledge, supported by the community, and designed to last.

We saw environmental education as a strategy to reconnect children to the country's amazing nature.

In 2015, when Voces de la Naturaleza was launched, the World Economic Forum ranked Paraguay as the second worst in terms of quality of primary education, and the country had one of the fastest rates of deforestation in the western hemisphere. By visiting schools in rural areas, it became clear that these two problems were widening a rift between Paraguayan youth and the increasingly threatened biodiversity that surrounds them. We saw environmental education as a strategy to reconnect children to the country's amazing nature.

Since launching Voces de la Naturaleza, the program has grown from a single club to a network of more than 30 clubs spread across the country reaching hundreds of children. The program focuses on getting children outside into the natural world and learning about species and habitats that are relevant to their communities, and we drew from international programs such as Leave No Trace and Project Wild to adapt lessons and games to Paraguayan flora and fauna. The program has also empowered more than 50 volunteer facilitators to bring a new brand of environmental education into their communities.

Approach

• **Six-Step System:** The eco-clubs are structured around a six-step process with a custom Eco-Leadership Curriculum that is designed to connect children to the environmental issues that most affect them. Independently managed by members of the community in which they operate, each club sets its own schedule, most meeting for two to three hours once a week. Volunteer eco-club facilitators are often partnered with United States Peace Corps volunteers that have received training from our organization in our educational approach. Through games, participatory activities, and art, Voces de la Naturaleza allows children to learn about nature in a way that is grounded in their own experiences, and we adjust the language, subject matter, and complexity to ensure that each lesson is relevant to the children. The six steps are:



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1. Finding Our Voices: building personal confidence and a group identity
2. Learning About Wildlife: active learning and knowledge development
3. The Connected World: understanding the natural cycles that keep the planet healthy
4. Our Role in the World: focusing on our power to improve our surroundings
5. Focus on My Community: identifying issues that affect the people we care most about
6. My Voice, My Power: action projects that address issues identified in Step 5

The goal of the six steps is to take each child on a journey from discovery to action – beginning with a connection to the biodiversity that surrounds them and then inspiring an action project to conserve their local habitats.



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• **3 C's Building Blocks:** Creativity, Curiosity, and a Connection to Nature are the three building blocks of our Eco-Leadership Curriculum. We believe that through these three skills the children who participate in the eco-clubs will become “eco-leaders,” developing the confidence, knowledge, and empathy necessary to lead their communities to a happier, healthier, and greener future. Activities as simple as coloring a picture of their favorite animal and showing it to their classmates are key to our program’s focus on developing self-confidence.

Exploring nature with a facilitator can unlock important questions from a group of children: “How tall is that tree?”, “How many different kinds of bird are there?”, “Why doesn’t that flower grow in my garden?”. However, asking these questions is only the first step. The curriculum urges students to go further to investigate the questions by collecting new information, developing important skills in the process.

- **Starter Kits:** With the support of external donors, we supply all volunteer facilitators with an Eco-club Starter Kit that contains all the resources they need to run a club for a whole year. Although the materials within are quite simple (crayons, coloring pencils, glue sticks, etc.), the starter kits allow our facilitators to start hosting clubs as soon as they generate interest. When distributing the Starter Kits, our program staff take time to introduce the core philosophy of Voces de la Naturaleza to our facilitators and train them in some of the most popular activities. These training sessions help build the facilitators' confidence and establish a supportive relationship between them and our organization. We strive to remove as many barriers to high quality environmental education as possible through these starter kits and facilitator training.
- **Community Action Project:** All participating eco-leaders end their annual club participation with a Community Action Project. These projects empower the children to take initiative and help them understand that they can make the world a better place through hard work and determination. Addressing issues that are identified by the children themselves, the Community Action Projects vary from club to club. Some examples include litter picks, sign painting, speaking on local radio shows, and even a theatrical play to communicate an environmental message to community elders.
- **Partnerships:** In 2017, we began a collaboration with the Peace Corps, in which volunteers stationed around the country serve as ambassadors for Voces de la Naturaleza and provide support to their community partners who want to improve education in their community. Thanks in a large part to this collaboration, we grew from six to 36 active clubs in 2019.

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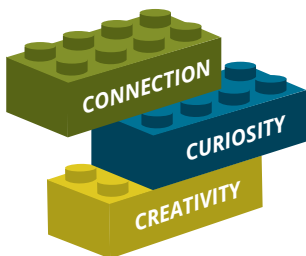


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Outcomes

Our Eco-Leadership Curriculum is published online and has been accessed by hundreds of educators across the U.S. and Latin America (Haiti, Guyana, and Paraguay). A truly living document, the curriculum is regularly updated and improved based on facilitator feedback. It contains over 200 unique lessons, games, and art activities and is available online free of charge in both English and Spanish (see Resources below for links). This online resource has enabled us to easily recruit and onboard volunteers by immediately sharing materials with them, and it is this technological adaptation that has allowed us to grow the eco-club network so quickly. An adapted version of the curriculum is also under review by the Paraguayan Ministry of Education for inclusion in the national curriculum. It has already been used in several teacher training events and we hope that the positive results from in-class trials will lead to the eventual adoption of the curriculum in classrooms across the country.

To assess our impact on the development of soft skills in our participants, we conduct periodic interviews and collect anecdotes from parents. We created a semi-structured interview script with open-ended questions like: “How would you describe the impact the club has had on your son/daughter?” and “Would you recommend the program to other parents/communities? Why or why not?”. This structure allowed us to gather informative stories that help us better understand and align with community expectations. We also analyzed the interview material for keywords like Science, Confidence, and Environment. This simple analysis gave us a strong impression about what aspects of our program were having the largest impact on the families of our participants.

“... the children began to speak more enthusiastically about the animals and sometimes they would even correct us when we made a mistake.”

— A club parent

The mother of one club member shared, “The project definitely had a positive impact on my son. I noticed primarily that he spoke more confidently and stood up a bit taller when walking through the house.” Another parent noticed that “the children began to speak more enthusiastically about the animals and sometimes they would even correct us when we made a mistake.” Through these interviews, we also observed that parents tended to care more about their child’s development of inter-personal skills (confidence, enthusiasm, communication) than knowledge development through the eco-clubs.

This evaluation tool has allowed us to continue improving our programming as well as adjust the way we speak about our clubs to better capture the interest of parents. Changing the language in our outreach documents towards more leadership-skill development and less STEM-linked learning has been a major shift that came as a result of our interviews. These exit interviews are relatively simple yet valuable. Despite the challenges of transcribing and managing interview data, we have gained great insight through regular feedback from the communities in which we work. On top of the program’s impact on individual participants, we have also seen impacts of their Community Action Projects on their communities. For example, one of the largest projects led by our eco-leaders was the installation of a recycled tire park, equipped with several tire swings and even a giant tire ‘dragon’ for the children to play on. A different club took the opportunity to present an interactive reading of the book *The Great Kapok Tree* at one of Paraguay’s most visited nature reserves. In front of an audience of parents and visiting tourists, the children acted out the various local animals featured in the book and finished their presentation with a plea to the audience that they respect the biodiversity that call the reserve home. Overall, empowering children to take ownership of their Community Action Projects teaches them a very important lesson about the power they have to change the world.

Evaluation plan



Photos: © Voces de la Naturaleza (Voices of Nature)

“Our evaluation focuses on growth and skill building at the individual level...”

The principal goal of Voces de la Naturaleza is to empower children to become champions for the nature that surrounds them and the community that supports them. We evaluate our work by assessing changes in eco-club participants, the effectiveness of our program implementation processes, and the utility of our free online resources.

First, to assess the soft skills we work to develop through the 3 C’s system, we train our facilitators to take notice of smaller changes in behavior and track an individual’s progress over time. For example, activities featured in our curriculum, such as [Louder](#), [Animal Scenes](#), and [An Alien Visits Earth](#), are designed to give the children an opportunity to build their confidence. Our facilitators are trained to take note of each child’s comfort level and work with them individually until they are comfortable speaking in front of their classmates. For some children, standing up in front of the club is the best part of the whole day, but for others it can be terrifying. Each child is unique, so our evaluation focuses on growth and skill building at the individual level, rather than knowledge acquisition or objective performance. Our curriculum is also designed to provide club members opportunities to have their voices heard. Games like [Four Corners](#), [The Ball of Questions](#), and [Jump Forward, Jump Back](#), allow us to spark discussions in an unthreatening way. Mini-quizzes throughout these activities allow our facilitators to gauge the children’s prior knowledge, their comfort with the activities in the club, and provide a forum for the children to participate in planning the club’s direction. Furthermore, we periodically conduct interviews with the parents of participants to gain a deeper understanding of skill development in their children and better integrate community and parent perspectives into how we lead and communicate about the program.

Second, we also regularly evaluate our processes and how the program is implemented. Are we reaching the children with information that is relevant to them? Are we serving a need that the community identified themselves? When possible, we conduct interviews with parents of club members to better understand our project’s efficacy, and their responses help us reinforce our focus on effective leadership development and the 3 C’s.

Our third area of evaluation assesses whether the curriculum materials are designed and organized in a format that is useful and accessible to our network of facilitators. The curriculum is openly available online and can be commented on and edited by our community of users, constantly evolving and improving. We also host bi-annual updating sessions in which we invite our facilitators to share constructive feedback over the phone regarding their favorite activities and areas for improvement, and to brainstorm new ideas. For example, as a result of one session, we identified and acted on the need for a more user-friendly file management system to organize the program’s activities and resources. Our ever-evolving curriculum demonstrates the value of continually seeking and integrating feedback on educational materials from those who use it most.

Lessons learned

1. *“It isn’t half as important to know as it is to feel.” – Rachel Carlson*

This quote is featured in our facilitator handbook and is one of our curriculum’s guiding principles, meaning that we do not have to know the names of every bird singing in the trees to enjoy their music. As an educator, it is easy to feel that you must become an expert on your local ecology in order to teach about it. As the world becomes more complex and the global issues of climate change and habitat degradation have growing impacts on small communities, the barriers to quality environmental education can feel intimidating. Often our volunteer facilitators ask, “How on earth could I teach children about the environment? I don’t know enough!” Our response is this: Even if you do not have formal training, you can still make a difference as an educator if you are able to address a community need, are willing to spend time and lead meaningful activities with children, and are able to share your love and enthusiasm for nature. If you are mesmerized by the magic of the natural world, then you can help others discover that magic too. We build on these important qualities through the starter kits and training in our educational approach and key activities to reduce barriers to quality environmental education for the educators and students alike.

2. **Believe in your vision.**

When we began Voces de la Naturaleza, environmental education was a new approach for us. We certainly did not plan to create a national network of eco-clubs, but we did want to communicate our love and appreciation for nature with the children living near the habitats that we work to protect. Our very first eco-club session attracted only three kids, who attended because it was hosted at their house! We persevered through low attendance rates, frequent cancellations, and some parents who suggested we were wasting their children’s time. Despite this, the smiles and engagement from the children that did join kept us going. By focusing on these small successes, we were able to maintain our enthusiasm and not feel discouraged by small speed bumps along the way. Thanks to our perseverance and building valuable partnerships along the way, the program that started with three kids playing games in front of their home now attracts hundreds of children to clubs across the country.



Photo: © Voces de la Naturaleza (Voices of Nature)

3. **Collaboration is key to success.**

The program’s journey has demanded hard work, but much of our success can be attributed to our philosophy of accepting our role as newcomers and inviting guidance from others. We asked for help, accepted any and all feedback, and actively sought new ideas to improve the program. For example, when we first published the curriculum online, we held a workshop with graduate students to assess the program’s strengths and weaknesses. Although we were nervous that the experienced educators would have a lot criticism of our novice approach, we were instead rewarded with very positive feedback and constructive advice. The more we invited others to help strengthen the program, the more people became willing and enthusiastic about contributing. As we continue to grow, we will continue to embrace the fact that there will always be room for improvement.

4. **Don't reinvent the wheel.**

At the beginning, we started by researching effective practice and found a wealth of information about structuring and running eco-clubs. This offered us a foundation upon which we could build a program that is student-centric, founded in inquiry, and adaptable to various levels of knowledge. Taking time to research what others have learned through their experiences will help your project start out as strong as possible. There are many amazing resources available online – do not be shy about borrowing ideas from other successful projects. For example, the NAAEE [Guidelines for Excellence](#) and [Research Library](#) helped us get started.

5. **Be brave.**

After every eco-club arts and crafts activity, the children are prompted to share their artwork with their peers. This is an important lesson that we reinforce with the group as often as possible: being a leader can be hard. Public speaking can be scary. Sometimes, just showing off a crayon drawing can be cause to cry. This program has shown the real difference these small gestures can make in building eco-leaders. Whenever you share a new idea or pitch a new initiative, you are inviting criticism from your audience. This is not just scary for kids, it is scary for everyone. But if you want to make a difference in this world, you must confront that fear of judgement. No matter what challenge you face, be like the children of our eco-clubs. Be brave!

Resources

Para La Tierra Website:

www.paralatierra.org

English Curriculum Link:

<https://drive.google.com/drive/folders/1eNo-4XviKgkuHSzign9FQFclDrR2N5FI?usp=sharing>

Curriculo en Español:

https://drive.google.com/drive/folders/1ec_5WFvkX7ZgkOSvXq2qiksfN5NLfz_q?usp=sharing

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