Empowering Immigrant Voices in the Fight for the Environment  
Location: Miami, FL, United States of America  
Nominating institution: Worcester Polytechnic Institute  
Project leader: Sol Giesso (Argentina, Worcester Polytechnic Institute)

Summary
This project gathered a group of eight immigrant high school students for a month-long summer program in Miami with the goal of helping them develop as leaders in the environmental field. The students fortified their knowledge base, explored the natural environment of South Florida, participated in local volunteering efforts, developed sustainability initiatives, strengthened their college applications, and connected with local leaders, experts, and peers.

Project description
This project was designed to address two issues: the global environmental crisis and the need for diverse individuals to solve it. The relative paucity of youth environmental leadership programs is at odds with the urgency of remedial action necessary to secure a safe future on Earth. To have an environmental workforce that is representative of distinct global views and prepared to collaborate for planetary peace, students must be given the opportunity to learn the basics, explore the professional field, and get involved.

It can be especially difficult to secure opportunities in higher education as an immigrant high schooler. For one, the absence of a support system familiar with US colleges can be difficult. Second, the application process itself can prove challenging, even more so if there is a language barrier. Third, the prospects for federal or private aid are slim, as they often exempt non-citizens. Fourth, and perhaps most importantly, the engagement and preparation activities that make for strong college applications – extra-curricular activities, volunteering, exam scores, and more – can be expensive and inaccessible. I personally struggled with all of this as an Argentine living in Miami, so I wanted to design a project that could help this group.

Four weeks, a condensed crash course. Monday through Friday, five hours per day, in the sunny July of South Florida. Myself as the teacher, something I have envisioned and wanted for a long time. Eight high school students of immigrant backgrounds with a wish to pursue a career in an environmental field but little understanding of what that requires. Few of the students had ever taken an environmental class. Many struggle to convince skeptical parents that their college path is worthwhile. All of them are enthusiasts in fighting for what they recognize as the biggest challenge facing humanity. All in all, the perfect storm: potential for the kind of learning that opens eyes and drives change.

Miami-Dade County, which overlays the southeast tip of Florida, has an immigrant community that exceeds 50% of the population. It is also due to become a protagonist in the American realization of climate change. The region faces the unfortunate trifecta of extreme heat (due to warm further), hurricanes (expected to become even more aggressive), and surrounding ocean (already on the rise). As we push earthly boundaries, it is clear who will suffer the consequences most: those most vulnerable, those least equipped to adapt. So, it is imperative that the large immigrant population not only gains knowledge but also produces experts who can lead tomorrow’s environmental solutions.

The current Miami culture is both quite aware of and lax about the environmental crisis. All those seeking hot new real estate know to check for flood zones, but they also know that the fine for destroying coastal mangroves is negligible. There are many people and organizations, however, that are pushing to make the Miami populace environmentally literate. During this project, my students and I had the pleasure of interacting with many of them. Our most crucial partnership was with the Abess Center for Ecosystem Science and Policy at the University of Miami, which provided us with a working classroom free of charge (securing a space was the biggest obstacle in making this program happen). We also collaborated with the CLEO Institute, Miami Waterkeeper, Clean Miami Beach, and the Marjory Stoneman Douglas Biscayne Nature Center, which hosted us for field trips or provided expert guest speakers. Michele Drucker, the environmental stewardship chair at the Florida PTA, was also a helpful figure in making this project successful. What is great is that the kids (and I) not only got to learn from these people during the program, but also made connections that will come in handy as they grow and dabble in the professional field.

The program itself was divided into four pillars and four themes. The pillars were to (i) build knowledge about environmental themes, (ii) volunteer and develop initiatives, (iii) develop college readiness, and (iv) experience nature. These pillars were chosen to provide students a well-rounded experience that fostered their personal development as environmental stewards and leaders. The weekly themes included (i) the Anthropocene, (ii) ecosystem dynamics, (iii) waste and pollution, and (iv) energy and climate change. The themes were chosen to provide students with an overview of environmental health, systems thinking, and
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the human relationship to the environment. The pillars were present in the day-to-day activities, while the themes informed the purpose of those activities.

To build knowledge about environmental themes, students learned about ecosystem balance, discussed the existence of the Anthropocene, wrote poems about pollution, analyzed environmental footprint calculators, read environmental literature, set up mesocosms as closed systems, inquired into the carbon cycle, evaluated global temperature data, explored the consequences of habitat destruction, read a book about the oceans, gave presentations about endangered species, made observations about atmospheric and oceanic patterns, delved into critical case studies, surveyed drinking water data, measured water pollution, recorded ocean temperatures, proposed sustainable product designs, investigated local waste management practices, realized the consequences of pollution, watched inspiring documentaries, compared energy production and use across the world, calculated carbon emissions, modeled Earth’s energy imbalance, analyzed climate solutions and their impacts, debated big environmental questions, developed posters to inspire action, and pitched projects to help advance sustainability in their communities.

To achieve the pillar of volunteering and developing initiatives, students were introduced to many organizations around South Florida. They worked with the CLEO Institute’s youth program manager, Diego Molina, to start their own CLEO chapter school clubs. With Michele Drucker of the PTA, the students looked at the “Green Schools” initiative (which seeks to encourage schools to evaluate operations, set sustainable goals, and take action), examined its application, and planned how they could implement it in their schools. Furthermore, with the Miami Waterkeeper, the students collected trash on Pelican Island and input trash data into citizen science databases. Using microplastics, the students created beautiful art projects at a workshop hosted by Clean Miami Beach’s Sophie Ringel and Trent Bryan. All of these interactions had lasting impacts on the students. When asked what their favorite part of the program was, one student wrote: “I enjoyed speaking to people that devote their lives to researching and helping in the environmental field. It inspired me to enact change.” With all that they learned from these institutions and people, the students came up with their own initiatives and received $150 in startup funds to take the first steps.

To prepare students for college, two approaches were taken. The first was to help students with their college applications. We spent some time working through SAT/ACT exams and content, which one student described as “super helpful, whenever I had a question, [Sol] had a great answer for it.” For the students who were more advanced in their college applications, we brainstormed essay ideas and improved upon their in-progress responses. I also helped the students by answering general college questions and curiosities they possessed. The second approach was to give students a better idea of the environmental field. Dr. Diego Liman, a marine biologist specializing in disturbance ecology, came as a speaker to talk about his career and current work. Using virtual reality sets, the students experienced the underwater process of coral restoration. We even got the chance to take a tour of his lab, where they grow corals asexually. Dr. Esber Andiroglu, a mechanical, civil, and architectural engineer who focuses on sustainable building solutions also came to speak with the students. He was very helpful in explaining the particular path he took to where he is today and answered the many questions students had about STEM careers geared towards the environment. One student said: “My favorite part of partaking in this program was being able to learn so much about environmental topics and discovering what specifically interests me.”

The last pillar involved experiencing Florida’s natural environment. Students went to the Frost Science Museum, which taught them about local biodiversity, invasive species, and climate in coastal ecosystems. Another field trip took them to the Marjory Stoneman Douglas Biscayne Nature Center, where they explored a fossilized coral reef as well as mangrove ecosystems and learned about the native fauna and flora of the Bear Cut Preserve. A third field trip embarked the students on a boat ride through the Biscayne Bay, where they saw numerous dolphins and other marine life. Many students had never experienced these ecosystems, so the field trips were fun outdoor activities filled with curiosity, inquiry, and sweat.

Overall, this project was a great success. In the final surveys, all students provided very positive feedback. One of them wrote: “I enjoyed this program so much and I’m very happy I was able to take part. I hope the program will continue next year so more students could experience it.” Another one added: “This was the best way to spend my summer. I learned a lot.” There was definitely a need for this project, and I hope that to continue working on this in the years that follow. I will personally keep in touch with the
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director of the Abess Center, Andee Holzman, in hopes of repeating and improving the program for future students.

**Reflection**

Global climate change and environmental destruction are causing stress in the planet’s ecosystems as well as the human communities within them. Environmental health is at the heart of any functioning society, yet the very systems we instill perpetuate the planet’s degradation. Already, climate change and environmental degradation have led to wars and serious resource conflicts which are expected to intensify. The fight for a healthy planet – and its resources – is the fight for our lives.

In the face of a truly global crisis, peace is difficult and requires the participation and effort of all peoples. In immigrant and mixed communities, this collaboration is crucial. Peace is the co-production of solutions that satisfy opposing interests and protect nature; peace is resource management and prevention of future conflicts; peace is mitigation, adaptation, and collaboration towards resilience; peace is planetary balance.

This project contributed to peace by empowering a group of high school students to pursue careers in environmental fields. Prior to this program, these students were interested in environmental sustainability but had had no formal education in these topics. At the end of the program, they were all better versed in the state of planetary health, the human actions that impact it, and how to mobilize to create change. In the short-term, these students gained a feeling of purpose and the motivation to do something about the problems they perceive in the world. In the long-term, they became advocates capable of disseminating knowledge and leading efforts in social and environmental peacekeeping.

During the planning of this project, one conflict that became evident was how much I had to rely on others, and how difficult that could be. In trying to find a classroom we could use, I contacted scores of schools, libraries, organizations, companies, and universities, many of which I had personal connections with, and many of which exist and are funded for the benefit of the community. My efforts fell on deaf ears. Of the few that replied, most were quick to decline our request. As someone from a different cultural background, where strong community ties prevail, I was surprised to be met with so many rejections. Of course, our request was a big organizational commitment, but I never expected it to be that difficult.

While speaking with local environmental leaders, I realized most of them had encountered these same barriers. One person talked about how they had drafted an initiative with the support of high school students to commission a fleet of electric buses for Miami-Dade schools. There were dozens of great reasons to implement this idea, including improving air quality, reducing greenhouse gas emissions, discouraging bullying, and promoting better physical and mental health in students and drivers alike. Yet they needed to convince the official in charge of school transport, who stuck to a cross-armed “no.”

People are afraid of change. Organizations are unwilling to take steps to help others if they do not benefit as well. Institutions are quick to say “no” without ever thinking about what life could be like if they just said “yes.” It really opened my eyes to the ways in which opportunities get cut short too soon. But I am happy to say that I was able to secure a classroom for my students and that a few days ago, the same official who had said “no” to the electric buses cut the ribbon in their inauguration. Organizations are capable of saying “yes.” Institutions are capable of changing. People are capable of collaboration. To build opportunities, we need stronger community ties, more education about local issues, and more value placed on community-led initiatives. This starts with the drive and persistence to do something and to find others who care, too.

Being a part of this project has greatly impacted me as a person. I have always wanted to be an educator, but my experience running this program in Miami opened my eyes as to exactly why. As a result of this program, I understand how important it is to be a person who opens opportunities for others. I want to be able to expand my students’ horizons. I want to build them up to be successful in their endeavors. At the end of the program, each of the kids received a small fund of $150 to kick off the community sustainability initiatives they had designed throughout July – almost like a “Projects for Peace” within “Projects for Peace.” One of them is building a compost in her house, another one is starting a community garden, a third student is campaigning against trawling fisheries. There are so many great ideas in the world, but they will never see the light of day without support and guidance.

**Personal statement**
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“This summer was unlike any other. Projects for Peace gave me the opportunity to bring my own vision to life. Being a project manager in charge of a group of high school students was a towering feat in my career thus far, and I was able to accomplish it successfully. This project deepened my conviction in the life choices I have made: being an educator is in my future. Because of this project, I was able to meet eight wonderful kids and become a mentor for them, now and always. The most reaffirming moment was to read my students’ end-of-program surveys. All of them spoke about how much they had learned, how much they had been impacted and inspired, and how glad they were to meet the many lovely people who work in the field in our local Miami. The way these students interacted with one another, listened respectfully and attentively to everyone, questioned all that is taken for granted, voluntarily mobilized themselves for sustainability, and took charge of their education gave me hope for our next generation of professionals. Even though our planet faces significant challenges, it could not be in better hands.” – Sol Giesso