



Buenos Aires City, Argentina

Escuela Técnica N°8 Paula Albarracín de Sarmiento

**Empowering students to build upon
the past into a greener future**



**WORLD'S
BEST SCHOOL**
Environmental
Action


accenture



**WORLD'S
BEST SCHOOL
PRIZES**



Table of Contents

02	—	Introduction
03	—	School Profile
04	—	Context and Challenge
08	—	Expertise and Approach
11	—	Outcomes and Results
12	—	Key Steps
16	—	Advice and Guidance



Introduction

Escuela Técnica N°8 Paula Albarracín de Sarmiento is a public school located on the outskirts of the City of Buenos Aires, Argentina. The school's technical and social humanities orientation is embedded with sustainability and community, creating a unique, progressive environment for students coming mainly from very vulnerable homes. Since the creation of the Green Schools Programme within the Ministry of Education of Buenos Aires City Government in 2015, the school has revolutionised its and other schools' food systems, setting up an organic community garden which eventually began spreading all over the city. The initiative has shown wide success and acts as an important step towards achieving healthy, accessible and self-sustainable food production for those who most need it.



School Profile



Country:

Argentina



Region:

Buenos Aires City



School type:

Public school



Location area:

Urban



Student population:

1001 to 1500



Prize Category:

Environmental Action

“What we try to do with this project is to reconnect the historic place with the community. From the social sciences and the science department we wanted to bring that place its life back.”

– Federico Colombo,
Teacher & Mentor at
Escuela Técnica No 8



In-depth look

CONTEXT AND CHALLENGE

Escuela Técnica N°8 Paula Albarracín de Sarmiento is in the school district 13, in Parque Avellaneda, in Buenos Aires City, the capital city of Argentina. The public school focuses on technical and chemical education as well as social sciences and began shifting towards sustainability through the introduction of the local Ministry of Education's Green Schools programme ("Escuelas Verdes") back in 2015. While the students are from an array of different socio-economic groups, they often come from contexts of high vulnerability, living in informal housing. These eager learners at times do not have access to healthy food, good housing conditions, heating, drinking water and/or healthcare.

In response to such spaces in need of both social and ecological support, the Green Schools programme was formulated in part by the technical school and Ministry of Education of Buenos Aires City – pushed by a group of passionate teachers who had a deep understanding of the surrounding ecology and community. They proposed a shift in the way the school thought about socio-ecological problems like lack of access to basic resources (drinking water, heating, food), rapid informal urbanisation and ecological degradation the community and learners are faced with.



Nowadays, the school has become a space of innovation and transformation, where students have integrated learning through the community projects they are involved in. For the school, the primary way of achieving this is by making the students the protagonists of the teaching-learning process.

The school sought to find ways to create bonds between their social and chemical/technical wings, so students could understand the complexity of how environmental and social problems exist in the outside world. One way of doing this was by turning towards transforming unused spaces of cultural significance into community gardens. One such place is what is known as "Ex Olimpo" - a place where people were taken to, tortured and murdered during the militar government which dominated Argentina from 1976-1983.

Turning this space into one which could bring so much to the community, is not only efficient but it is also culturally healing. A space that was once fraught with violence, then abandoned, now is one of learning, feeding, growing and playing.


This was one of many spots the school selected to impulse their project for healthy, self-sustaining food sovereignty. It is evident that this shift has been very symbolic, reminding people of what happened, from a historic and social viewpoint, whilst also showing that we can achieve moving forward.



The school seeks to create models which are easy to communicate and replicate. They seek to incentivise systemic changes, promoting alternative teaching practices. This is what they learned in their last four years collaborating with the Ministry of Education of Buenos Aires City to create the Green Schools Programme. They have created an extensive network of interested institutions with similar environmental and social backgrounds, which they now call the "Synergic Network for Sustainability".

This network brings together institutions from different educational levels and modalities in the City, including the Secondary Education Centre No. 24 for students under legal confinement and the Integrative Interdisciplinary School No. 12 D.E which is a Special Education primary public school.





“Besides the technical education that we give our students, we want to teach our students the values that are related to the care of the environment, to work with the community and to work the relationship with the other schools in the neighbourhood, because in that interaction is where the students learn the most.”

**- Monica Arbiter, Principal of
Escuela Tecnica No8**



EXPERTISE AND APPROACH

The implementation of environmental education projects began with the creation of the Green Schools Programme of the Ministry of Education of Buenos Aires City. In 2015 they started developing alternative methods and devices for growing and cooking healthy food. This was followed by research and further collaboration with other schools. The school challenges knowledge-based learning, explaining how teaching theory is not enough. In fact, project-based learning as a practice is still disruptive to traditional education systems in Argentina. The team of teachers at the school have not only demonstrated that these learning activities contribute to the development of cognitive skills in students, but learners are also given the opportunity to be autonomous, explore their capabilities, and learn how to strategise and think towards long-term changes and results.

The school began working around the jurisdictional curriculum so that they could integrate the realisation of projects as much as possible into their daily activities with students. More research and exposure created a strong theme of environmental education in the projects. The school staff felt as though they were raising real problems surrounding communities. Students and teachers took charge of the projects proposed. Initially, they focused on cooking and healthy eating, looking at what students were consuming. Later, they began pivoting towards the cultivation of organic crops. Finally, they went on to develop models of urban vegetable gardens, creating much-needed green spaces around the highly urbanised metropolis of Buenos Aires. The school proposed that their programme also helped tackle issues around water, pollution in the area, and the use of agrochemicals in the crops we eat every day.





Following their first prize, first place in the INNOVATEC local contest for innovative classroom practices in technical schools, the school began to enter the limelight for its outstanding work.

The school's primary focus has been on expanding the community gardens, and trying to find ways of becoming more efficient while consuming less. Students propelled the new projects, firstly working with hydroponic plant systems, under the premise that this would allow gardens to run with little if any human engagement. While the system was great, students and teachers were concerned about the water use of such a system, as well as the need to implement more refined tools if they wished to keep expanding. So, they began learning how to construct aquaponic water systems during lessons and with the support and guidance of their teachers. "It was a learning experience for all", mentions the school's Science Teacher, Federico Colombo. The school staff also had to pick up resources and begin finding tools and methods for implementing aquaponics into their school and community gardens.



The aforementioned “Synergic Network for Sustainability” allowed the school to receive materials, develop research and disseminate the scientific activities they have carried out. The school thus became an important supplier of nutrients for hydroponic crops for more than 139 institutions under Buenos Aires’ jurisdiction. The school went on to become deeply involved in the construction of hydroponics system learning with the local Ministry of Education, integrating the same into professional practices for advanced students as a part of their chemistry diploma. Finally, this gave way to expand on the “Ex Olimpo”, communicating its high historical value, further contributing to the continued search and uncovering of dictatorship victims’ life stories, piecing together the missing lives and voices which have not yet been found.



OUTCOMES AND RESULTS

The school's projects have received an impressive number of prizes and awards in the last couple of years. Their first advancements in 2016 enabled their first win; first place in the INNOVA TEC, a local contest for innovative classroom practices in technical schools. From there a cascade of projects began to gain regional and national recognition. Successful and merited projects included Eco-Cheff in Action (2016), Green Chemistry, and Biofuels. Obtaining bioethanol from Acrocomia Total (2017), Agroponia as a model for sustainable urban cultivation (2018) and Maintaining Memory – Community-based Aquaponics (2019-2021).

The school currently collaborates with over 139 different schools, populating urban spaces with community gardens. The integration of their aquaponic system has meant that their gardens are able to run with far less need for human management and water consumption.

The school staff mention how each year more and more teachers have begun joining and working on these community projects. Beyond this, they have successfully published numerous scientific research papers, written by students and edited by teachers. These have reached respected journals such as the paper featured in the Scientific Youth Congress of 2019, and INNOVA's annual Education, Arts, Sciences and Technologies Fairs locally.

On the other hand, the actions of the social sciences included multiple visits to "Ex. Olimpo" for our students to elaborate an ethnographic record (field note diary, photographic and filmed record, etc.) that served as input to undertake the elaboration of Histories of Life.



Key Steps



THINK LOCAL, ACT BIG

The school staff observed the growing disconnection with nature the fast-growing community experienced. This provoked a deep interest in raising environmental awareness in learners and other teachers at the school. But their observations and subsequent research also showed them that only by expanding beyond the walls of their school could they hope to have the systemic impact they wished to have. As such, they began by instigating dialogue with the Ministry of Education of Buenos Aires City, eventually synthesising the Green Schools Programme in 2015. Once this was in place, the school began encouraging their students to create problem statements, developing skills in research and report writing. They would then be given the task of coming up with innovative ideas, making use of their technical and humanities skills. This led to a cascade of ideas that allowed to connect a historical site of the neighbourhood with the community.





GATHERING MATERIALS

Actions will focus on the assembly of an aquaponics system through a pond of fish and native plants that allow conserving the biodiversity of the region, connected to a community culture bench. At the same time, students in the area of social sciences will dedicate themselves to researching the lives of victims of enforced disappearance to put together their "life stories" in "Fragmented images" with the contribution of the relatives of these people. These life stories will be available so that other students from the neighbourhood and the rest of the country can meet those whose lives were cut short by state terrorism. Tell the true story so that the "Never Again" written by Ernesto Sábato remains in force. In this sense, the first step the school took to develop this experience was: to do awareness workshops with the students involved so they know the space and the history of ancient "Ex Olimpo". Focus on why "Memory preserve". Resulting in the construction of life stories.



SETTING UP

The next step was to set up the aquaponics system in the "Ex Olimpo". They begin by choosing and preparing the place where the system will be placed. Design both the pond and the cultivation benches.



Collect the materials for the implementation of the aquaponics system. Prepare the support structures for the benches in the carpentry workshop. Assemble the NFT (Nutrient Film Technique) system in the non-metal workshop. Prepare the seedlings. Add the fish to the pond. Let the pond mature. Finally transplant the seedlings to the NFT system and connect it to the pond. During the first few days, check that there are no water leaks in the system. The fish are protected with aquatic plants from predatory birds. Periodically, the pH and conductivity of the bench water must be measured. When the aquaponic system is stabilised, it will be possible to grow leafy vegetables such as lettuce, chard, strawberries, broad beans, marigolds, tomatoes and various other species. The native fish in the aquaponic system are bred to provide enough fertiliser for the plants.



FOMENTING COLLABORATION

The trajectory of the school is also based on collaboration activities and scientific dissemination, in this sense, meetings are held periodically with teachers and students from different institutions that promote teaching-learning processes linked to environmental education, promoting sustainable practices and management of environmental resources.



From this point of view, a possible path is thought within the framework of the interdisciplinary and multiplying perspective, creating and forming networks of learning, action and support, in particular the school together with the Integrative Interdisciplinary School No. 12 D.E 12 and the "La Candelaria" Institute, for example. Carrying out a schedule so that all 7th grade students of the Primary Level of School District 11 can learn about the project and the history of it, organising meetings with teachers for them to get to know, socialise and maybe replicate the proposal in institutions or neighbouring areas. Developing activities where students gather the registration documentation of the investigations from the social, ecological, environmental and technical point of view as well as the assembly processes of the aquaponics space. Students have the opportunity to participate in national and international conferences on education, science and the environment. The scientific dissemination activities that they carry out are a fundamental part of the project, many times they constitute instances of self-assessment.




Advice and Guidance

The school has constantly sought ways of getting other students involved in their activities, more so to mimic what they have done. The school principal mentions that working in collaboration with the Ministry of Education of Buenos Aires City was key to creating an established programme, making room for systematic change. She suggests this as a fundamental part of the process. Moreover, she mentions one more critical piece of advice: making the students the protagonists. All the projects were created by the students, their ability to innovate and imagine lies at the centre of the Green Schools programme's success. Making their voice heard is the most critical part to moving a programme as powerful as this one forward.



More information

 <http://paulaalbarracindesarmento.blogspot.com/>

 [Green Schools Programme, Buenos Aires City Government](#)

Learn more about their work
by watching their event at
2022's T4 World Education
Week: [watch here](#)

