## University students train children in programming



Last Monday the students of a school received their training in programming at 09:00. Foto: Vicente Costales / LÍDERES

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In the **computer labs** of the **Jose Maria Velaz and Emaus** schools, in charge of the **Fe y Alegria** International Federation, 183 children between 10 and 11 years old learn **programming** thanks to the teaching of students of the **Catholic University** of Ecuador (PUCE).

This was achieved after the agreement signed by the higher education institution with **Progracademy** foundation, based in **Spain**. The idea is to offer to the students the skills to develop in the 21st century: **computing, critical thinking, creativity, communication, collaboration and character.**

**Francisco Rodriguez**, the coordinator of pre-professional practices in the Systems Engineering career at PUCE, explains that the planning and development of the project started at the beginning of the year. While the operational part in September, at the start of the **Sierra-Amazonia** school year.

During the summer 4 teachers and 15 students (between the fourth and sixth semester), were trained with **Progracademy** for teaching. The teachers, cataloged as **Master Coaches**, are a guide for the university students; and the university students, teach virtually the school students.

This project was developed in **Venezuela** two years ago in a school of **Fe y Alegria** in Caracas. The **Andres Bello** University, of Jesuit parents as well as PUCE, is one of the two universities that collaborate in that country.
The successful experience allowed the **Progracademy** initiative to be repeated in Ecuador. **Valeria León** manages the project, while **Germán Gil** coordinates the learning operations.

Both teachers and university students highlight the results achieved in the two local schools. There are children who, even, prefer not to go out to recess until they finish with the assigned program because they learn by playing.

"They are taught through a platform called Code. It was developed by the **Massachusetts Institute of Technology** (MIT). It is graphic, and oriented to children", says Rodríguez.

Classes are held on Mondays and Thursdays. They are four hours per week, two are theoretical and two in the computer lab.

The training works in such a way that one of the university students sends the **instructions** through a **computer**. In the classroom, the children, using **commands**, start what they requested.

If during the class the students present any doubt, the university students help the children themselves to find the solution. In addition, a teacher from the school itself is in the classroom.

For mother **Maribel Vasquez**, rector of the **Jose Maria Velaz School**, through the learning of programming, the children will obtain competencies that will allow them to grow **academically**. Some will be able to put them into practice in the computer science specialty if they adopt it in secondary school, or in the working world.

Currently, the project trains children who are in the last levels of school, but the idea is to teach students from other courses.

For student tutors of the PUCE like **Sofia Cruz**, sixth semester university student, the experience has been enriching.

"To move along in computing is vital. We seek to be at the forefront of other countries at the computer level."

While **Gonzalo Navarrete**, fourth semester university student, is surprised by the skills he has developed in terms of teaching children. He assures that the process is a win-win since students and tutors learn and solve difficulties together.

"Programming is important for the students of initial education because it helps them to solve problems and cognitive development (...) I can follow their progress. It is not a master class. I am more of a coach than a teacher. I am in charge of approximately 16 students".

The idea of the PUCE is in the future to apply this project in 50 schools. **Progracademy**, during the training of university tutors, gives them tips to teach.

**Progracademy** explains that its online volunteer work model is aimed at pre-professional students, university professors and employees of companies that have social responsibility programs. These last, contributing with 10 hours a year in online teaching.

### Data
In Venezuela: The students of Computer Science and Education of the Andres Bello University, gave virtual classes to teach the basic elements of programming and the creation of software, to the sixth-grade students of the Ciudad de los Muchachos School (Guarenas, Miranda state).
Goal. Progracademy aims to spread computer science in Ecuador. The idea is to close the digital divide the country has.