

BUILDING THE NEXT GENERATION OF LEARNING IN COSTA RICA

THE C3 MICRO-CLOUDS ARE PROVIDING QUALITY E-LEARNING IN CHALLENGING ENVIRONMENTS



C3 MICRO-CLOUD:

Millions of students can't reach the global knowledge and resources that e-Learning can provide.

The C3 Micro-Cloud changes all that – anytime, anywhere.

The Critical Links C3 Micro-Cloud is a self-contained, cloud-enabled e-Learning platform that can dramatically simplify the delivery of digitized content to schools.

Everywhere.

Irrespective of the constraints on internet connectivity and power, availability of technically skilled personnel, school location (urban or rural), or the specific student devices.

C3 AROUND THE WORLD - COSTA RICA

Costa Rica has most of its population centered in San Jose, its capital. It's a beautiful, tropical country, but approximately one-fourth of the total population lives in poverty. For rural populations, connectivity can be scarce or non-existent. Internet penetration is 41 percent lower in rural regions when compared to urban areas and there is a widening gap between the wealthiest and poorest citizens. Even when connectivity is available, speeds can be painfully slow, and no area of Costa Rica has more than 5 percent of its connections with speeds over 15 megabits per second (Mbps).

The country has always struggled searching for a well-developed education system, having benefitted, in 2017, from an educational reform, integrating the use of technology to ensure that all students have the opportunity to maximize their potential.

The National Telecommunications Fund (FONATEL) is part of Telecommunications Superintendence (SUTEL), the Costa Rican telecommunications regulator. FONATEL is mainly financed by mandated contributions from telecommunications operators and develops and executes a variety of programs to reduce the digital divide and universalize access to internet connectivity in Costa Rica.

To improve education quality, an initiative called Tecno@prender was launched, aimed at the development of Costa Rican education, through the inclusion of digital technologies in teaching and learning processes. This educational reform favors the access and the use of digital technologies in the classroom to ensure students can exercise their right to quality education and provide them the opportunity to develop the skills, knowledge, and confidence they will need in the future.

The project was developed with the aim of funding several types of technology (including **C3 Micro-Clouds**) for Ministerio de Educación Pública (MEP), Ministerio de Ciencia Tecnología y Telecomunicaciones (MICITT), Centros de Educación y Nutrición y de Centros Infantiles de Atención Integral (CEN-CINAI) and Caja Costarricense de Seguro Social (CCSS).



In 2017, 600+ **C3 Micro-Clouds** were sent to Costa Rica. Approximately 520 schools (mostly in rural environments) were provided with

internet connectivity and with the **C3 Micro-Cloud**. Schools report that the internet-delivered resources have not only simplified and organized their administrative capabilities but have also provided additional materials and methods that have improved the way knowledge is transmitted in the classroom and consequent motivation of the students.

CONNECTING (ALL AGE) STUDENTS TO KNOWLEDGE

Four years after the beginning of the educational reform - and **C3 Micro-Clouds'** implementation - we had the opportunity to talk with Karla Álvarez, a Spanish Teacher in Llano Grande de Río Cuarto School, who gave us an overview of how the project is changing the learning habits from the earlier years of education, for the better.

"The **C3 Micro-Cloud** encourages the development of skills and learning in all areas. It brings the students closer to technology and the search for new knowledge, increasing the level of interest and the development of critical thinking. With the **C3 Micro-Cloud**, it is possible to create and make available content to develop in class, reinforcing the learning of any subject studied, without worrying about internet connectivity problems", said Lic. Karla Álvarez.

The Spanish teacher created a rich virtual library that enabled first-year students to learn to read and reinforce reading skills at more advanced levels. "The **C3 Micro-Cloud** enabled the development of Spanish classes. To increase the students' motivation, I explained to them the importance of reading and how it allows us to travel to other worlds through imagination", she stated.

Lic. Karla Álvarez also refers to how the **C3 Micro-Cloud** helps the students to "stimulate their interest in reading in a more innovative way". "Students were encouraged to share their opinions about the readings they would like to have available in the virtual library and, in this way, make them feel part of the process as we grow the library".

When asked about the progress she has seen in the students after the implementation of the **C3 Micro-Cloud** in the school, the teacher mentions that it was noticeable that "the first graders were able to learn more and increase recognition after a period of six months. They were also able to develop their technological skills and interest in reading".



The positive impact of the **C3 Micro-Clouds** implementation has been felt in hundreds of schools in Costa Rica, impacting different levels of schooling.

The CINDEA (Centro Integrado de Educación de Adultos) is a group of schools aimed at young people and adults, who have not finished primary or secondary education or who want some technical training to enter the workforce. They were one of the schools that received technological endowment, in 2017, thanks to FONATEL funds and through the Tecno@prender program. It included computers, interactive document viewers, and the **C3 Micro-Cloud**.

The Lic. Edwin Ramírez Zúñiga, CINDEA's IT teacher, was given the task of exploring the device donated by the Directorate of Technological Resources because it was a totally new device in their educational environment.

We had the opportunity to speak with him, and he gave us an overview of the **C3 Micro-Cloud** implementation and how it is changing the next generation of learning in Costa Rica.

"The **C3 Micro-Cloud** has made it possible for teachers to leave old textbooks behind and implement the use of a virtual textbook platform", said Lic. Edwin Ramírez Zúñiga.

He also commented that the platform offers the possibility for teachers to have new content develop from classroom interaction, and if the students miss a class they can access it later without missing out on what was done in class.



With Critical Links' support, the IT teacher was able to get more out of the **C3 Micro-Cloud** and customize it: Teachers and students can now keep the attendance record digitally, initiate discussion topics, and interact between groups.

Teachers can also place their exercises in the common GeoGebra program and upload it to the platform: activities can be executed by the students without having to download files. They can now assign a static IP address so that it could be accessed from home without requiring the students to physically be in the school.

“This has been possible thanks to the unconditional help of Critical Links' support team”, said Lic. Edwin Ramírez Zúñiga.

Teachers in Costa Rica conclude that, with the **C3 Micro-Cloud**, their students are more motivated in class and their results improved measurably. All thanks to this new way of learning!

In many schools, students learn now with micro-cloud enabled classrooms and they can use rich learning resources such as Khan Academy, Wikipedia, YouTube Videos, quizzes, Pdf files, and e-books, even if the school's internet is down. They get the chance to experience the world without leaving the classrooms.

The C3 Micro-Cloud solution is now in use in over 55 countries, reaching more than 7 million students. We are benefiting more than sixteen thousand schools worldwide!

THE C3 MICRO-CLOUD IMPROVES EDUCATION FOR:

STUDENTS: Students can access global education resources and rich learning content, such as podcasts, videos, e-books, quizzes, applications, even if the school does not always have an upstream connection to the internet. They can also have access—by any student device, such as notebook, tablet or smartphone – to real-time feedback to track their performance. Learning with the **C3 Micro-Cloud** improves students' engagement in the learning process and better prepares them for the future.

TEACHERS: With the **C3 Micro-Cloud** teachers are able to follow state-of-the-art teaching methods and leverage leading curriculum, by providing a wide range of learning materials and promoting flexibility and differentiation in the learning methods. They can easily plan lessons, saving time to deliver an education that works with each student's unique needs. The progress of the students can be tested real-time, and analysed to help them learn better.

SCHOOL ADMINISTRATORS AND GOVERNMENTS: Allows administrators to curate and distribute approved content for the entire country or region from a single point, to be updated whenever a connection is possible. Improve internet speed by caching HTTP and HTTPS pages and prioritizing access by user profile. It also ensures that students only navigate internet sites allowed by the school's safety policy.

What is the price to give your students the opportunity for a better future?

For only a penny per day per student, classroom walls will no longer be a barrier to a technology-based future!