



1 World Connected

Data-driven Research to Bring Billions Online

ESCUELA+

LEVERAGING SATELLITE CONNECTIVITY TO CLOSE THE RURAL EDUCATIONAL GAP IN LATIN AMERICA



Escuela+ School in Colombia. Photo courtesy Escuela+

EXECUTIVE SUMMARY

Escuela+ is a program that uses satellite technology and solar-powered infrastructure on the ground combined with innovative educational programming to connect rural schools in Latin America that do not have any Internet access to high quality educational content. The program, active since 2007, has reached over 1 million students, 65,000 teachers, and 6,800 schools in eight countries in Latin America including Colombia, Chile, Brazil and Argentina. It is supported by a broad coalition of organizations, including AT&T, DirecTV, National Geographic, Discovery and Fundacion Torneos.

Keywords: satellite-based broadband streaming, education, rural, Latin America

CONTEXT

In rural areas, the educational system in most countries in Latin America suffers from pockets of limited coverage with incomplete access to quality education. This led to high repetition and dropout rates. Moreover, because they were in areas with low population, rural schools tended to be low priority in terms of the allocation of resources. This is particularly true in countries like Colombia, Peru and Brazil, where millions of rural schools suffer from a lack of resources.

Colombia			
Population (UN, 2015)	49,529,208	Fixed broadband subscriptions (%) (ITU, 2016)	11.79
Population density (people per sq. km) (UN, 2015)	43.49	Mobile cellular subscriptions (%) (ITU, 2016)	117
Median household income (Gallup, 2006-2012)	US\$ 6,544	Individuals using the Internet (%) (ITU, 2016)	58.1
Education (Mean years of schooling) (UNDP, 2013)	Male: 7.1 Female: 7.0	Individuals using the Internet by gender (%) (ITU, 2016)	Male: 58.1 Female: 58.2

Peru			
Population (UN, 2015)	31,161,167	Fixed broadband subscriptions (%) (ITU, 2016)	6.72
Population density (people per sq. km) (UN, 2015)	24.25	Mobile cellular subscriptions (%) (ITU, 2016)	117.06
Median household income (Gallup, 2006-2012)	N/A	Individuals using the Internet (%) (ITU, 2016)	45.5
Education (Mean years of schooling) (UNDP, 2013)	Male: 9.6 Female: 8.5	Individuals using the Internet by gender (%) (ITU, 2016)	Male: 48.3 Female: 42.6

Brazil			
Population (UN, 2015)	203,657,210	Fixed broadband subscriptions (%) (ITU, 2016)	12.97

Population density (people per sq.km) (UN, 2015)	23.92	Mobile cellular subscriptions (%) (ITU, 2016)	118.92
Median household income (Gallup, 2006-2012)	US\$ 7,522	Individuals using the Internet (%) (ITU, 2016)	59.7
Education (Mean years of schooling) (UNDP, 2013)	Male: 7.2 Female: 7.3	Individuals using the Internet by Gender (%) (ITU, 2016)	Male: 59.2 Female: 57.6

PROJECT DESCRIPTION

ESCUELA+ uses last mile satellite connectivity to provide educational content from high quality sources such as the Discovery channel and National Geographic, as well as the National Television Council's educational content, to students in rural schools. The satellite connectivity provides access to this programming in any school with TV and electrical power. Where such electrical power was not easily accessible, solar-powered alternatives are being deployed to make streamed educational content easily available to school-going children in rural areas, as part of ESCUELA+ Solar initiative. DirecTV's DVR recording facility allows teachers to manage content and record over 100 hours of programming, and use this content as part of a pedagogy that integrates interactive and integrated learning supplemented by online information.

Teachers are trained in the use of ESCUELA+ audio/visual technology, as well as the *Discovery en la ESCUELA* pedagogy. Using media, technology and digital satellite television, learning processes are tailored to incorporate an innovative teaching methodology in these schools.

Project details			
Technology	Satellite broadband streaming	Training	Teacher training via separate channel
Year program started	2007	Cost to users	Free
Geography	Rural areas	Total cost of program	Undisclosed
User profile	1 million school children in 8 Latin American countries	Associated organizations	DirecTV, National Geographic, Discovery Channel

PROGRESS AND RESULTS

Since 2007, ESCUELA+ has reached over 16 million alum in Argentina, along with 2 million students, 65,000 teachers, and 8500 schools in eight countries. Over 80% of ESCUELA+ schools are in underserved areas. Independent evaluation studies conducted by the University

of Chile Department of Education and by the Faculty of Social Sciences in two waves concluded that students receiving education supplemented by ESCUELA+ methodology performed consistently better than a control group. ESCUELA+ students registered higher performance scores analyzed by year-on-year performance, grade level and subject matter. Further, in 2016, ESCUELA+ launched a channel to support teacher training content and collaborative content from ministries of partner countries.

CHALLENGES

Geographical barriers to connecting remote areas— In most rural areas in Latin America, it is geographically unviable to connect rural schools to adequate infrastructure via fiber. A lot of the schools also lack consistent access to power and other allied infrastructure.

Unavailability of local language educational content: Local language educational content is comparatively scarce and difficult to access for schools in rural areas. ESCUELA+ is scaling this challenge by collaborating with education ministries in partner countries to create tailor-made content that can be streamed to target schools

ESCUELA+'S SUGGESTIONS FOR FUTURE PROJECTS

Educational videos and streamed content through satellite links can address educational inclusion goals in rural areas, improving educational outcomes among the population— ESCUELA+ leverages the power of satellite connectivity and original content to provide access to highly relevant and educational materials to otherwise marginalized populations. Combining innovative technological deployment with adequate demand-side drivers such as local content, provides a viable model for improving take-up.

Collaboration with public and private partners can help create relevant educational content— ESCUELA+ collaborates with partners in participating ministries of education – Colombia, Ecuador and Chile, to create content not only for students but also for teacher training purposes. This partnership model is highly influential in creating the right content that is context-specific, and can aid in learning of target students.

SOURCES

Project website: <https://escuelaplus.com/>