Research Shows Successes, Challenges of Argentina’s Nationwide 1:1 eLearning Program

**KEY OUTCOMES**

- Millions of netbooks were distributed to increase digital inclusion and educational equality, but a lack of connectivity limited the program’s effectiveness in many schools.
- Teachers received virtual trainings on technology skills and how to integrate technology in their classrooms, however many reported that they would prefer in-person training rather than online training.
- 71.7 percent of students used office programs, 43.4 percent used the computers to do homework, 32.1 percent used netbooks for research, and 11.3 percent used Twitter or Facebook at school.

**OVERVIEW**

Conectar Igualdad is a national initiative that is using Intel® Learning Series to improve public education and reduce Argentina’s digital literacy gap. The program is viewed as a means to increase digital inclusion and educational equality.

Argentina’s president, Cristina Fernandez de Kirchner, made Conectar Igualdad a key initiative in her administration. As part of the program, 2 million computers have been distributed to schools, with another million planned for distribution, making this one of the world’s largest 1:1 eLearning deployments.

Intel commissioned a study with local researchers to understand the initiative’s vision, successes, and challenges. This research summary shares key learnings. (For additional detail, see the Intel Guide to Monitoring eLearning Programs.)

**CHALLENGES**

- Increase social inclusion, educational opportunity, and digital access
- Create learning spaces to meet the needs and interests of students at multiple levels

**SOLUTIONS**

- Provided 2 million 1:1 Intel Learning Series solutions for students in grades 7-12 including students with special needs, for use at school and at home
- Provided online teacher training to help teachers integrate technology in their classrooms
- Created and adapted digital content through multiple agencies, catalyzed by educ.ar, which is the national education portal
- Developed an ongoing, formative evaluation to monitor distribution, and program impact
The Vision: Economic Development through 1:1 eLearning

Conectar Igualdad is a federal initiative intended to improve public education and reduce digital inequality. With presidential leadership and a strong, sustainable source of funding, the initiative has strong public support.

President Fernandez de Kirchner proposed Conectar Igualdad, and the initiative played a significant role in the campaign that led to her re-election in October 2011. To maintain public support for the program and the administration, the Kirchner government felt pressure to meet promised technology distribution targets. The program therefore moved forward quickly, without thorough implementation planning.

In allowing students to take computers home and extend learning beyond the classroom, Conectar Igualdad is consistent with other Argentinian social inclusion policies that bring educational and economic opportunities to rural and low-income families. The program builds on previous eLearning efforts in the region, including Chile’s Enlaces, Uruguay’s Plan Ceibal, and Argentina’s smaller-scale Educational Digital Inclusion program.

Conectar Igualdad cost USD 300 million in 2010 and about USD 1 billion annually in 2011 and 2012. The National Administration of Pensions and Retirements (ANSES) pays for the program in exchange for government bonds. ANSES’ cash flow is healthy, as pensions were renationalized in 2008, and most interviewees anticipate sustainable domestic funding sufficient to cover program costs.

The program was prominent in the president’s 2011 re-election campaign, focusing first on computer distribution. In many cases, the government distributed computers to schools and regions without ensuring the presence of Internet connectivity. The different provinces in Argentina have very different contextual realities, and stakeholders reported that the government did not adequately take these differences into account in the implementation of Conectar Igualdad. Many stakeholders, particularly teachers, also reported that insufficient attention was paid to teacher preparedness and training.

Planning: Federal Plan Distributed at Provincial Levels

Conectar Igualdad is a multi-sector initiative with distributed ownership and clearly defined organizational responsibilities. The Ministry of Education is responsible for teacher training; ANSES provides funding; the Ministry of Federal Planning, Public Investment and Services (MFP) handles connectivity; and the Chief of Staff of National Ministers provides safety and security. An Executive Committee, led by the director of ANSES with stakeholders from key organizations, coordinates the program.

Much of Conectar Igualdad’s initial coordination and decision-making was concentrated at the national level. Most interviewees indicated that program coordination at the federal level has been highly effective. Some were concerned, however, about initial lack of communication between the federal and provincial levels.

Teachers and school leaders were not included in early planning, and responsibilities for local implementation were sometimes unclear. As a result, provincial participation and support for the program has been varied. Provinces are beginning to adapt federal plans to local contexts, and appropriation of the program at the provincial level continues to evolve.

To prepare for Conectar Igualdad, the MFP planned to install baseline technology infrastructure and connectivity at each school, including electrical, Wi-Fi, LAN, and Internet networks. To track the distribution and movement of computers, the government created Argentina’s first digital registry of students—a resource that could be used for other education and research purposes in the future.

Implementation: Distributing 2 Million Netbooks Nationwide

The government distributed 2 million Intel Learning Series solutions, and plans to distribute an additional 1 million, to students in secondary and vocational schools, teacher training institutes, and special education institutions.

To encourage students to complete their schooling, the netbooks are first loaned to students who maintain regular school attendance. Only students who successfully complete their studies earn full ownership of their netbooks.

The three-phase nationwide distribution consists of 419,000 laptops in Phase 1 (2010), 1,371,739 laptops in Phase 2 (March to November 2011), and the remaining laptops in Phase 3 (2012). Phase 1 gave priority to schools in provincial capitals and major cities (48 cities in 2010) that account for 80 percent of the target population for the program.

The Ministry of Education has developed digital materials for supervisors, school principals, teachers, and students and their families. These materials are available through the national education portal, www.educ.ar. Other government sources (e.g., the official news agency, Telam) will provide additional content for the netbooks.

Program implementation encountered widespread challenges. Only 17 percent of schools were connected to the Internet during early implementations. Teachers reported that without connectivity they found little instructional use for the netbooks.
KEY LEARNINGS

The experience in Argentina provides several lessons and strategies for stakeholders considering 1:1 eLearning initiatives:

- The success of a major 1:1 initiative relies on a well-coordinated plan that delivers multiple interlocking supports, including infrastructure, pedagogical vision, and professional development, as well as the computers themselves. All these supports are important to ensure that the technology will have a meaningful impact for teachers, students, and families.
- Regional and local stakeholders must participate in program planning and implementation to ensure that solutions are relevant for local contexts. An explicit evaluation program, with specific indicators for success, is important to gather insights about program implementation and effectiveness, which can then be used to inform program improvements.

In addition, responsibility for registering and maintaining the technology was not clearly defined, and registration processes were cumbersome.

Teachers had access to numerous online and face-to-face training courses offered through federal and provincial government agencies, but many stakeholders viewed teacher professional development as a major flaw in Conectar Igualdad. Specific challenges included:

- Although some provincial trainings provided concrete classroom strategies, most were viewed as impractical, and teachers overall felt insufficient support for pedagogical use of the new tools.
- A federal program for teacher support and mentoring, leveraging master teachers as trainers, was designed but not fully implemented because of the heavy workloads of the master teachers.
- Teachers typically viewed the netbooks as content transmission devices like a book or blackboard rather than as instrumental in transforming teaching and learning. Many teachers defended their traditional role as the arbiter of knowledge in the classroom.
- To circumvent the connectivity problems, some teachers downloaded content at home and brought it to school on pen drives, but that practice introduced viruses and other challenges.

Limited use of technology in the classrooms has been attributed to focusing on the distribution of computers and not focusing enough on instructional design, curriculum, and assessment strategies.

However, Conectar Igualdad has provided important value to students and families. The laptops provided by the program were the first computers that many students and families had ever owned. The computers provided new ways for parents and children to interact with each other and conduct various everyday activities. Attendance at school meetings associated with the program was high, and one teacher noted that it was the first time she saw families appreciate the school as a place that offered opportunities for a better future. Consistent with this strong support from parents and students, and waning support from principals and teachers, public positioning of Conectar Igualdad is shifting from an emphasis on pedagogical reform to an emphasis on social inclusion.

Re-informing the Vision: Identifying Areas for Improvement

Most stakeholders concluded that students’ and teachers’ increased use of ICT and an eLearning-mediated improvement of parent-school interaction would be powerful indicators of success. Additional factors to be addressed are: eLearning infrastructure in schools, improved ICT-oriented teacher professional development, and positive teacher attitudes toward the use of ICT for teaching and learning.

The evaluation and monitoring of Conectar Igualdad involve four lines of activity, coordinated by educ.ar and the Organization of Ibero-American States (OEI):

- Follow-up and monitoring of schools to assess the use of laptops and ICT and evaluate the impact of computers on teaching and learning
- Analysis by education experts on the Conectar Igualdad implementation
- Promotion of research on Conectar Igualdad by university-based researchers
- Installation of “model classrooms” equipped with 2.0 devices (smartboards, netbooks, servers, access to digital content) to assess the concrete elements that could facilitate teacher professional development

OEI and educ.ar interviewees acknowledged that plans for monitoring and evaluating Conectar Igualdad and using the findings to make course corrections must be made more formal as the program matures. Evaluators need to measure not only the quantity, but also the quality of students’ computer usage to determine how the 1:1 eLearning program is affecting teaching, learning, and students’ attitudes about school.

Currently, the first priority of the stakeholders is seamless implementation of the solution. The evaluation process is already underway and will continue as the program matures.

Conclusion

Conectar Igualdad shows the potential for national-level 1:1 eLearning programs to reduce the digital literacy gap, and ultimately promote economic development. Now in its third year, the program has distributed 2 million netbooks and is training teachers across the country to incorporate technology in their classrooms.

Other countries can develop successful 1:1 eLearning programs that build on the challenges and successes identified in Conectar Igualdad. By working with Intel and other public and private partners, governments can create sustainable, cost-effective 1:1 eLearning programs that will provide social and economic opportunities for years to come.

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1 Original research conducted by Jason Beech, Alejandro Antsopoulos, and Ignacio Barrenechea.
3 http://www.enlaces.cl/
4 http://www.ceibal.edu.uy/
5 This finding comes from research conducted by 11 national universities and financed by Conectar Igualdad.

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