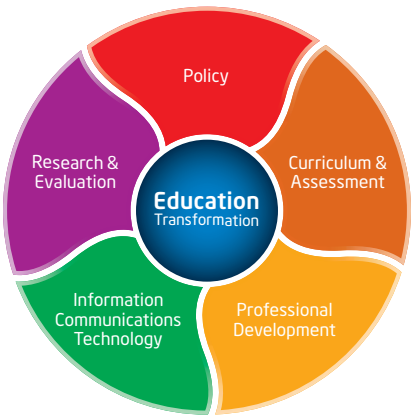
CASE STUDY
Intel Education
Argentina

Pioneering Program Expands Education Opportunities Across Argentina

1:1 technology integration program integrates three million netbooks in three years.

Based on original research by Jason Beech, Alejandro Artopoulos, and Ignacio Barrenechea, University of San Andrés, Buenos Aires, and SRI International

Intel Education Transformation Research is conducted in regions around the world to understand the successes, challenges, and policy implications of a variety of eLearning programs, and compare them to other programs worldwide. The information in this report is based on original data collection and analysis by researchers at the University of San Andrés in Buenos Aires, Argentina, in collaboration with SRI International and Intel.



Intel® Learning Series
Advancing Education Worldwide

Introduction

In Argentina a pioneering 1:1 technology integration program called Conectar Igualdad is rapidly transforming the educational system. The program will distribute three million netbooks into the nation's schools in just three years.

Conectar Igualdad is a key initiative of Argentina President Cristina Fernández de Kirchner and is specifically designed to improve educational equality and reduce Argentina's digital literacy gap. In addition to delivering Intel-powered classmate PCs and other netbooks to secondary and vocational schools, teacher training institutes, and special education institutions across the country, the program provides much-needed infrastructure improvements, professional development for teachers, and new opportunities for economic growth.

Through key elements including strong leadership supported by long-term funding, independent oversight, and early consideration of all the components necessary to transform education, Conectar Igualdad demonstrates how countries around the world can develop successful and sustainable eLearning programs.

The Vision: Economic Development through Education Transformation

Conectar Igualdad is a presidential initiative, backed by public support, that builds on previous eLearning efforts in the region. These efforts include Uruguay's Plan Ceibal and Argentina's own, smaller-scale Educational Digital Inclusion program, which has been incorporated into Conectar Igualdad.

On a broad level, Conectar Igualdad is intended to improve education and promote economic development by closing Argentina's digital literacy gap. More specifically, the program is designed to increase educational equality and social inclusion by giving all students the opportunity to extend the school day by bringing their netbooks into the home and other non-classroom learning areas.

The program benefits from a clearly defined funding stream. ANSES, the national retirement and pension fund, is financing the program in exchange for government bonds. Conectar Igualdad required a USD 300 million investment in 2010 and will cost an estimated USD 1 billion annually for 2011 and 2012.

CHALLENGES

- Improve the overall quality of teaching and education
- Reduce educational inequality and the country's digital literacy gap
- Spur economic development through educational reform

SOLUTIONS

- Secure funding through the national retirement and pension fund (ANSES), in exchange for government bonds
- Conduct large-scale, country-wide rollout of three million netbooks to secondary and vocational schools, technical schools, special education institutions, and teacher training institutes
- Develop multi-stakeholder initiative that brings together federal and provincial governments and public and private organizations around a common cause

Planning: Extensive Stakeholder Engagement

Conectar Igualdad is currently in the planning stages, with initial distribution of the netbooks already taking place. Multiple federal agencies share planning responsibilities—for example, the Ministry of Education heads teacher training and ANSES is responsible for funding—but no single federal body can claim ownership of the entire initiative.

Planning is led by an executive committee, which is presided over by the director of ANSES and includes stakeholders from other key organizations. The executive committee has created several commissions, such as the Technical Advisory Commission, to assist with program implementation and monitoring.

Communication and coordination is essential among the federal stakeholders, as well as between the federal government and provincial governments. Current efforts are focused on integrating provinces into the planning process to ensure local involvement in infrastructure development and teacher training, and availability of local resources and human capital.

Led by the Ministry of Planning, the preparation efforts also include assessing electrical needs and ensuring country wide Internet connectivity to reach the schools. Educar, in turn, oversaw school infrastructure readiness, including constructing secure storage units for the netbooks in schools.

Implementation: Integrating ICT Into the Classroom

The planned nationwide rollout comprises three distribution phases involving a total of three million netbooks:

- Phase 1: 2010-2011 rollout of 600,000 Intel-powered classmate PCs
- Phase 2: 2011 rollout of 1.6 million Intel-powered classmate PCs and netbooks
- Phase 3: 2012 rollout of remaining netbooks

Already, more than 600,000 classmate PCs have been distributed to nearly complete Phase 1. The classmate PCs are being distributed to secondary and vocational schools, teacher training institutes, and special education institutions across the country. Netbooks distributed to special education institutions will include additional peripherals and software.

In addition to the technology rollout, the program includes teacher professional development that is helping teachers develop the skills needed to incorporate technology into their classrooms. Already, 19,000 teachers have participated in virtual training courses that have been developed and disseminated with the help of 150 master trainers.

Ultimately, the success of the program implementation depends on a well-coordinated sequence of events. For example, the electrical infrastructure for Internet connectivity should precede the distribution of netbooks to students. By the time classmate PCs are delivered, each school needs to have a network administrator available to offer on-site technical and pedagogical support to teachers. And once teachers and students have begun using the technology, the development and distribution of digital content should keep pace with their needs.

Research and Evaluation: Identifying Areas for Improvement

Conectar Igualdad is in its early stages but stakeholders are already developing the eventual program evaluation and monitoring practices, which will involve four areas of activity:

1. Pedagogic and technical assessment of device distribution and usage
2. Education experts' technical analysis of program implementation in schools
3. Academic evaluation of the program
4. Installation of "model classrooms" to prototype new teaching and learning technologies and incentivize teacher adoption and professional development

Conclusion

The success of a 1:1 technology integration program such as Conectar Igualdad requires all of the steps shown here, including establishment of a strong vision, extensive planning, a systematic implementation process, and ongoing evaluation and monitoring.

Other countries can follow a similar process to improve their education systems and develop successful eLearning programs similar to those now being deployed across Argentina. By working with Intel and other public and private partners, countries can create sustainable, cost-effective technology integration programs that will provide social and economic opportunities for years to come.

EDUCATION TRANSFORMATION PROGRESS

Argentina's Conectar Igualdad initiative shows substantial progress along all five elements proven to be essential to education transformation efforts in more than 70 other countries.

1. POLICY[1]:

- Continued policy focus on education equality and digital social inclusion
- Federal initiative proposed by the current President, Cristina Fernandez de Kirchner, that extends Educational Digital Inclusion program for technical schools (IDE), to all public secondary schools
- Funding secured through 2012 (estimated at USD 1.3 billion), provided by ANSES (the national retirement and pension fund)

2. CURRICULUM AND ASSESSMENT:

Educar oversees creation and online distribution of digital curriculum as well as its integration into 1:1 teaching and learning practices. Early progress includes:

- Ongoing adaption of 50,000 existing, online educational resources for the 1:1 deployment
- Creation of teacher, secondary student and special education desktop interfaces, each with offline access to over 550 educational resources
- 1,200 lecture scripts and didactic sequences to accompany the online education resources

3. PROFESSIONAL DEVELOPMENT:

- Organization of Ibero-American States (OEI) partnered with the National Institute of Teacher Training to create and disseminate virtual training courses that used 150 master trainers and reached 19,000 teachers
- Ministry of Education deliverd two Intel-developed 1:1 teacher trainings to train teams in 24 provinces, which will be replicated in each province
- Provincial Ministries of Education oversees technical and pedagogic coordinators in all schools, in coordination with National Ministry of Education
- An Intel partner in Argentina provided technical training for school IT administrators

4. INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT):

- 600,000 students in grades 10-12, including students with disabilities, have received access to Intel-powered classmate PCs at school and at home
- 1.6 million more students, including students with disabilities, will gain access to Intel-powered classmate PCs and netbooks in 2011
- Special education schools will receive netbooks with additional peripherals and software

5. RESEARCH AND EVALUATION:

Educar along side the Organization of Ibero-American States (OEI) coordinate planning the following four evaluation and monitoring efforts:

- Follow-up and monitoring of schools to assess the use of netbooks and ICT and to evaluate the impact of computers on teaching and learning
- Analysis of education experts' Conectar Igualdad implementation
- Promotion of research on Conectar Igualdad by university-based researchers
- Installation of "model classrooms" to assess the concrete elements that could facilitate teacher professional development

THREE BEST PRACTICES

The ongoing success of Argentina's education transformation depends on several best practices that other countries can follow to achieve similar success.

BEST PRACTICE 1: Strong leadership supported by long-term funding

Conectar Igualdad is a federal initiative that has the full support of the president, and is being planned and implemented by several federal agencies. Such strong central leadership is essential, along with active engagement by local governments and school districts. The stable funding of the program through the national retirement and pension fund—which is providing USD 1.3 billion over three years—has also been essential to drive support for the program and alleviate concerns over sustainability.

BEST PRACTICE 2: Independent oversight

The Organization of Ibero-American States (OEI) provided oversight and transparency for Argentina's netbook purchase. To oversee the Conectar Igualdad program, an independent executive committee was established. The executive committee steers program strategy and execution as well as arbitrates among the multiple federal agencies and other stakeholders.

BEST PRACTICE 3: Early consideration of all components to transform education

Successful education transformations depend on five key components (see page 3). By focusing on each of these elements early in the planning process, Conectar Igualdad has been able to create a coordinated, holistic plan for program success. For instance, while netbooks are being distributed as part of the ICT component, 19,000 teachers have completed professional development courses to learn how to incorporate the new technology into their classrooms. At the same time, Educar is distributing optimized digital curriculum through its network of web portals, finalizing plans for the research and evaluation process.

Achieve Your Vision

What's your vision of the world ahead? Intel's model of education transformation can help governments improve the quality of the education system, leading to greater economic and social opportunities. Contact your local Intel representative to discuss how you can implement a sustainable, technology-based education program in your country.

Intel has helped to implement more than 200 education programs in over 70 countries, and has invested more than USD 1 billion in the last decade to improve teaching and learning environments.

Working with governments, policy makers and local vendors, Intel helps to implement eLearning solutions that provide professional development to teachers; support student achievement and development of 21st-century skills; and enable access to relevant, localized digital content.

Intel Learning Series, based on years of ethnographic research, is designed specifically to support 21st century student learning. It is a package of hardware, software, services, and support—delivered by local vendors to meet local needs—designed to work reliably together. At the heart of the Learning Series is the Intel-powered classmate PC—a purpose-built netbook with full PC functionality. Built to advance education, the Learning Series enables more personalized and comprehensive eLearning solutions for students K-8.

Learn more about:

- Intel Education programs, including the Intel Guide to Monitoring eLearning Programs and Education Transformation Research Reports at: **www.intel.com/education**
- The Intel Learning Series at: **www.intellearningseries.com**

Or contact: **educationresearch@intel.com**

[1] For more information, see the Policy for Education Transformation: An Educational Policy Brief.

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