



Educational Collaboration:

An Experience Involving the Colombian Ministry of Education and Intel®

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Introduction

In 2002, the Ministry of Education (MEN) initiated the Colombian Education Revolution. In doing so, the MEN sought to enhance the quality of the country's education system, to widen its coverage, and to improve its efficiency.¹ As part of the National Development Plan for the period 2002–2006,² policy-makers viewed the initiative as a key strategy to advance and sustain the national objectives of growth, competitiveness, and social peace.

The Education Revolution drove a series of policy reforms designed to address two challenges: (1) problems with the quality of educational services; and (2) limited access to educational services and systemic inefficiencies. Efforts made in the 1990s were not able to make appreciable progress in overcoming these challenges.³ Thus, in designing the Education Revolution, the MEN chose a new tactic—to produce and adopt an educational paradigm that supported citizens' integration into a globalized environment.⁴

An important first step was to change the practices and attitudes of teachers. According to Sub-Director for Educational Improvement Monica López, the goal was for teachers to “leave behind traditional, encyclopedic education.” To this end, the MEN decided to support teachers in incorporating information and communication technology (ICT) into teaching and learning. The MEN also recognized the need to advance the development of quality criteria (competency standards) to enable teaching institutions to find their own ways of improving (Monica López, personal communication, August 3, 2006).

The Intel Educar program was an important component of the MEN's efforts. The MEN adopted the program as part of its quality policy—specifically as part of the National New Technology Programme's guidelines regarding the Use and Appropriation of Resources in ICT.⁵ By integrating Intel Educar into the Education Revolution, the MEN aimed to create an environment that would support and inspire teachers to improve their strategies and to increase students' motivation to acquire knowledge.

This document describes lessons learned in three core areas of the process of adaptation and localization of Intel Educar to meet Colombia's policy goals:

- **Collaboration:** The start of the MEN-Intel collaboration, including the conditions that supported the establishment of this successful public-private alliance
- **Pilot Testing:** The launch of the pilot and testing of the viability of the Intel model
- **Integration:** Intel Educar's integration into the MEN's professional training program

¹See Light, D., Manso, M., & Noguera, M. T. (2007). *An Educational Revolution to support change in the classroom: Colombia and the educational challenges of the 21st Century*. New York: EDC/Center for Children and Technology, Fundación Evolución.

²Departamento Nacional Planeación. (2003). *Plan Nacional de Desarrollo 2002–2006, Hacia un Estado Comunitario* (No. 8025-43-5). Bogotá D.C., Colombia.

³Borjas, G. J., & Acosta, O. L. (2000). *Education Reform in Colombia*. Fedesarrollo, Bogotá.

⁴Ministerio de Educación Nacional. (2002). *Plan Sectorial 2002–2006*. Bogotá: Author.

⁵Colombia Aprende. *Programa Nacional de Nuevas Tecnologías*. Retrieved September 8, 2007, from <http://www.colombiaprende.edu.co/html/home/1592/article-102549.html>

Getting To Know You – The Start of the MEN-Intel Collaboration

The Intel Education Initiative seeks to be a global ally for governments. Intel designed the initiative to support the development of modern, high-quality education systems to prepare young people for the twenty-first century. Teachers who participate in the Intel Educar Basic Course master the skills and knowledge they need to use ICT as a tool to engage students in active learning.⁶ The Basic Course is divided into 10, four-hour modules. Each module guides teachers in developing a unified plan based on a model of student-focused learning and incorporation of ICT. This structure allows teachers to develop their technical abilities in the context of a program of curricular development. Teachers are also taught strategies of holistic evaluation and how to align their units with national standards.

In 2005, Intel Mexico contacted Claudia Zea, advisor to Minister of Education Cecilia Vélez White, to explore the possibility of implementing Intel Educar in Colombia. The MEN responded by asking for more information about the program and its theoretical basis. From these beginnings, an extensive relationship-building process unfolded, and the MEN took the crucial first step identified by the literature as essential in integrating ICT into education systems—verifying the compatibility of the pedagogic vision of the new ICT initiative with that of the existing system.⁷

The process began with Intel inviting officials from the MEN to get to know the work that was being done in the region with the Intel Educar Basic Course. As well as offering officials from the MEN the opportunity to examine the reports of program evaluations,⁸ Intel took officials on site visits to Argentina and Chile to observe the implementation first-hand.⁹ This allowed the MEN to evaluate the aspects of the program that coincided with its quality policy, as well as to identify areas that needed to be changed.

As the MEN reviewed the data that Intel provided, it swiftly became clear that the two organizations' visions were highly complementary. The leaders of the Education Revolution view ICT integration as a key means of achieving desired pedagogic paradigm change. This vision is exemplified by the work developed by Claudia Zea and her colleagues in Red Conexiones—which is a schoolnet that grew from her work at the Universidad EAFIT.¹⁰ As Sub-Director for Educational Improvement Monica López observed, “One of the things we have been doing is incorporating the media as a necessity. This means that whatever training opportunities are offered to teachers [must] utilize the media as a different way of approaching teaching and that they are involved in the institutional improvement plan” (Monica López, personal communication, August, 3, 2006).

⁶Intel. (2007). *Intel® Teach Program*. Retrieved September 8, 2007, from <http://www97.intel.com/education/teach/>

⁷Kozma, R. B. (2005). *ICT, Education Reform, and Economic Growth*. Chandler, AZ: Intel Corporation.

⁸Light, D., McMillan Culp, K., Menon, R., & Shulman, S. (2006). *Preparing teachers for the 21st Century classroom: Current findings from evaluations of the Intel Teach to the Future Essentials Course*. New York: EDC/Center for Children and Technology; Schweizer, M. (2005). Evaluación de impacto pedagógico-didáctico de los cursos Intel @ Educar para el Futuro (Argentina). Córdoba, Argentina: Universidad de Córdoba.

⁹In Argentina, it has been carried out since 2001 with the support of provincial and national education ministries and has been nationally coordinated by Fundación Evolución. In Chile, it has been carried out since 2004 by way of an alliance with the National Ministry of Education and coordinated by Red Enlaces who included it in their training curriculum offered to teachers.

¹⁰Conexiones –Red Nacional. Retrieved September 13, 2007, from <http://www.conexiones.eafit.edu.co/redNacional/index.htm>.

The MEN officials used their conception of effective ICT professional development—training that emphasizes use of ICT to foster “a different way of approaching teaching”—to guide their analysis of the Intel data. In doing so, they found a main point of confluence between the precepts of the Education Revolution and Intel Educar’s constructivist methodological strategy of significant learning and collaborative work. Both organizations’ pedagogic visions focus on ICT as another tool that teachers can use to support students’ learning.

The officials also perceived that the program offered the possibility of reaching a large number of teachers in diverse regions with a structured methodology—responding to the MEN’s goal to improve access to education. And, they recognized that changes would need to be made in the Basic Course to address the issue of the institution, a key point in the quality policy of the MEN. In the words of Sub-Director of Educational Improvement Mónica López, “In Colombia, since the focus is on improving the institution, any training course has to be based around the role of the teacher in the institution and not just in the classroom” (Mónica López, personal communication, August 3, 2006).

Following this process, the MEN officials were certain that the Basic Course would help them advance the objectives of the Education Revolution. Officials took the next two steps identified by the literature as essential in integrating ICT into education systems. Building upon the alliance they had established with Intel, they began to work to make their ICT integration actions compatible with their policies and to evaluate the results of each phase of the effort.¹¹ Together, the MEN and Intel set about designing and implementing a pilot version of the Basic Course that was localized and adapted to fit the Colombian context.

Starting the Pilot Program – Testing the Viability of the Intel Model in Colombia

The next step in the collaboration began with the MEN and Intel signing a memorandum of understanding (MOU). The MOU set up the pilot program, the results of which would provide input for the development of the local model of the program and the subsequent expansion phase. Intel’s offer to finance a pilot study in Colombia provided the MEN with a second opportunity to evaluate the program. Under the supervision of the MEN and Intel, the Research and Development Laboratory for Information Technology in Education (LIDIE) of the University of the Andes conducted the study. Its objectives were to identify ways to ensure the quality of the program, to assure its conformity with policies, and to foresee future problems in the expansion phase.

The pilot study took place in three regions of the country: Bogotá, Chía, and Soacha. It had two variants to allow the MEN to determine which model would best fit the context of Columbia. Chía and Soacha used an intra-institutional model in which teachers served as trainers and trained teachers in their own schools. Bogotá piloted an inter-institutional model, in which trainers came from regional educational support centers and participants came from their various schools to participate in the workshop in the regional centers. Across all three sites, 14 Master Teachers (MTs) were trained, and they went on to train

¹¹Kozma, R. B. (2005). *ICT, Education Reform, and Economic Growth*. Chandler, AZ: Intel Corporation.

120 teachers. The evaluation followed the experiences of two schools or training centers per department.

The pilot project lasted almost a year. The results of this second phase of evaluation led to the officials' decision to expand the Intel Educar program, with certain modifications introduced by the MEN. The intermediate stages of analysis and redesign of the plan might seem to imply a clash between the very distinct customs and practices of the public and private sectors. Yet, it was important for the MEN to ensure the effectiveness and usefulness of the program before starting to integrate it into the Education Revolution. Intel's education manager for Colombia, Juan Manuel Cuellar, emphasized the importance of respecting the requirements of public bodies, "We have done our work conscientiously, respecting the Ministry, without applying pressure, letting them get on with it and with all our trust. We effectively became part of them" (Juan Manuel Cuellar, personal communication, July 6, 2006). By doing so, Intel gave greater impetus and support to the MEN's efforts than if they had prodded the Ministry to hastily adopt a program that did not fit its needs.

From the MEN official's viewpoint, the pilot process represented a huge investment in time and effort aimed at improving the plan and making it mesh with the goals and intended outcomes of the Education Revolution. The MEN's high degree of commitment to its policies, and thoughtful utilization of intermediate stages for program redesign and testing, led to rational, effective decision-making. For Intel, adjusting itself to the customs and practices of the MEN and public administration in general represented a deep commitment to meeting the MEN's needs and to ensuring the soundness of its Intel Educar program.

The Integration of Intel Educar into the MEN's Professional Training Programme

The evaluation of the pilot study, as well as the earlier work to determine the validity of the Intel Educar model for Colombia, provided valuable information that guided program design during the expansion phase. The MEN and Intel significantly modified the original model to make it suitable for the context of Colombia. The first important change was the addition of an extra module related to the School Improvement Plan to make it fit better with the quality policy. The Basic Course in Colombia includes an opportunity for teachers from the same institution to participate in deciding how to make use of ICT in their School Improvement Plan. A second major change concerned the development of activities for school directors. The MEN noticed that teachers in many schools encountered difficulties with accessing ICT rooms. Clearly, they needed more support from the directors of their institutions to implement what they were learning in the training. To address this challenge, the MEN introduced an awareness program for school directors during the expansion phase.

The evaluation of the pilot study also surfaced another challenge that the MEN would face in implementing the program at the national level. It would be essential to involve, and provide training for, the regional secretaries to prepare them to engage in collaborative work with the operating agencies. Appropriate selection of participating schools, as well as the involvement of their rectors, would depend on a close working relationship between the secretaries and the agencies.

To serve as a liaison, the MEN sought to involve the Technology Manager, a position that had been created and developed within the Regional Education Secretariats (Claudia Zea Restrepo, personal communication, August 2, 2006). The Technology Manager, created as part of the policy of strengthening regional entities, encourages schools to integrate ICT into their activities and coordinates efforts at the national and local level for activities related to the National New Technologies Programme. It is expected that this post will help keep school communities in contact and support and strengthen their collaborative work.

Conclusions

Currently, the MEN is fully implementing Intel Educar. The integration of the program has been carried out in a manner consistent with the findings of the latest research on economic and social development initiatives based on ICT. According to Kozma, successful ICT-based educational reforms have been based on a clear vision and founded on consensus between partners.¹² Both conditions existed in this educational collaboration.

In this collaboration, there was a high level of agreement between the MEN and Intel that ICT could promote educational innovation and affect a change in pedagogic paradigm. Prior to the effort, Colombia's commitment to using ICT as a strategic tool was evidenced by its Education Revolution and leaders' development of broad, integrated schemes for the inclusion of ICT in education, such as the National New Technology Programme.

This commitment to ICT was furthered by the MEN's collaboration with Intel and its integration of the Intel Educar program into the Colombian Education Revolution. Taking these actions allowed the MEN to advance its vision of educational change. In keeping with the MEN's primary focus on teachers, the program supports participants in enhancing their professional practice. The Basic Course guides them in conducting research, developing innovative, student-focused lessons that feature ICT, and collaborating with their peers.

From the very beginning of the collaboration between Intel and the MEN, both organizations were dedicated to bringing the Intel Educar program closer to the requirements of the quality policy of the Education Revolution. Their success in adapting a foreign program to the necessities of Colombia was made possible by: (1) the time they invested in research and in building a strong partnership; (2) their joint vision of ICT; (3) Intel's receptivity and flexibility to the MEN's customization of the program, as well as its willingness to adapt itself to the different rhythms, customs, and practices of the private sector; and (4) the thoughtful, comprehensive process used to modify the program.

Successive stages of evaluation and analysis (e.g., relationship-building and fact-finding, pilot phase, expansion phase) allowed both organizations to be faithful to their respective visions and to achieve their shared and individual goals. In the case of Intel, this meant that the quality of the Intel Educar program and its focus on ICT for promoting student-based learning were maintained. For the MEN, this meant the integration of a program tailored to the objectives and policies of the Education Revolution.

¹²Kozma, R. (2005). National policies that connect ICT-based education reform to economic and social development. *Human Technology*, 1(2), 117–156.

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