

## REACHING TEACHERS WORLDWIDE

By ALVARO GALVIS

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Developed and developing countries alike struggle with improving the quality of teacher preparation and teacher professional development. One thing is certain in education worldwide: teacher impact on student learning makes a critical difference. However, many areas of the world face special challenges attracting and retaining good teachers and providing appropriate resources for students. For instance, in rural areas and in low-income communities, it is difficult to recruit certified teachers and to provide students with multiple resources for learning. This twin set of problems is most severe in areas where there is armed conflict or a major health concern. The AIDS epidemic in rural Africa, for example, has virtually destroyed education; many untrained teachers head up classrooms. Worse still, these teachers face barriers that hinder their continuing professional development.

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But there is good news. Information and communication technologies (ICT) have opened new avenues for teaching and learning. The Internet provides opportunities for students in developing countries to interact both with a wide variety of educational resources and with distant students and teachers. The Concord Consortium has pioneered the educational uses of ICT. For a decade we have researched the essential elements to ensure success when technology is introduced in classrooms. Hardware and software alone are not enough. More important are good teaching and quality learning resources. Our efforts have, therefore, focused on developing research-based materials and high-quality teacher professional development.

### CAPTIC project in Peru

The Concord Consortium is part of dot-EDU, an alliance for education funded by the U.S. Agency for International Development (USAID). The dot-EDU strategic alliance is a worldwide effort to enhance education in friendly countries through the use of ICT. USAID-Peru and the Peruvian Ministry of Education invited dot-EDU to create and pilot a model for professional development of rural elementary teachers that would enhance their students' learning. In response, the Concord Consortium partnered with EDC and Programa Huascarán-a national program in Peru that provides ICT infrastructure and advice for



*Local and distributed collaborative, inquiry-based projects helped students to develop basic competencies. Teacher professional development provided by CAPTIC used both online and onsite discussions among teachers.*

educational institutions-to create CAPTIC (a Spanish acronym for ICT-based learning communities).

During the pilot, we faced huge organizational and technological issues that are common in many developing countries. For instance, while the Peruvian

Ministry of Education determines which competencies must be achieved at each grade level and outlines ways of achieving these competencies, it does not prescribe national curricula. Educational regions in Peru are thus autonomous from an administrative perspective. Each region has its own funds to provide free basic educational services at public schools and regional educational authorities appoint teachers at public schools. However, teacher preparation is not part of this regional administration; rather, teacher colleges are ruled and sponsored by the Ministry of Education. The creation of a network of ICT-based learning communities was, therefore, not an easy task, requiring careful coordination with different groups and authorities. Technology readiness was also a major issue. While all of the institutions participating in the Programa Huascarán theoretically had working computers and Internet access, this was not the reality. At the beginning of the pilot, only four of the fifteen computer labs were fully operational; at the end, twelve were prepared. The original design of the project assumed that online interaction was possible between all institutions, but while computers were available everywhere, connection to the Internet was not. The project thus reimbursed participants for fees they spent for Internet connections at local cyber-cafés.

## Networked communities of practice

The CAPTIC project tested an ICT-based network of communities of practice in Peru. The center of this network was at Programa Huascarán, which hosted the virtual space for interaction between project participants. A full-time national coordinator of the network was in charge of ensuring technological support from Huascarán and of leading the implementation of CAPTIC. Four regional bases, one at each of the participating rural teacher colleges, co-facilitated the in-service training of elementary teachers. Each local group was focused on

creating and nurturing communities of learners composed of students and teachers who co-construct knowledge around inter-curricular and locally relevant educational problems. Twelve rural elementary schools in four regions, each with four or five participating teachers, took part in the project.

The teachers focused on two key educational ideas, both of them implemented in face-to-face and online learning environments: genuine dialogues between teachers and students, and CLIC-based projects. (CLIC is a Spanish acronym for Creative, Ludic (playful), Interactive, and Collaborative.)

Regional facilitators videotaped sessions of participating teachers' classes at the beginning, middle, and end of the school year. Teachers reviewed their own videos, selected episodes to study with colleagues, and participated in a local community of practice. The facilitator helped teachers build trust and develop expertise in reflecting and commenting on their classroom experiences. Videotapes revealed that at the beginning of the project, interactions between teachers and students were mostly didactic (focused on getting the expected answers from students); at the end, many teachers sustained genuine conversations with their students. When teachers took part in an online seminar about building online learning communities, they reported learning additional strategies for fostering pragmatic dialogue in their classrooms.

Teachers also participated in two workshops where they discovered CLIC pedagogy. Teachers were immersed in playful problem-based experiences. Problems were designed to require interdependency between groups as well as a variety of educational resources. After the first workshop, teachers created local collaborative projects that focused on school-based educational needs. Following the second CLIC workshop, teachers created global collaborative projects, focusing on a grade-

specific educational need. The global projects were implemented across sites using information and computer technologies to manage the interaction between distant groups.

Through their involvement in ICT-supported reflective practice, teachers reported professional growth. The integration of educational media around problem-centered activities gave ICT another important role. Teachers and students participating in local and global collaborative projects found that this learning expands the borders of the classroom and allows them to go beyond the traditional role of transmitting or receiving knowledge.

Because teachers discussed local practices, face-to-face interaction was necessary. The Internet was essential for managing the interaction among teachers at different schools and among their students. Facilitation of the process was blended, with both face-to-face and online seminars and workshops. In the future, the hope is to move more quickly towards Internet interactions.

## A look into the future

Is the Peru experience expandable and sustainable? Could it be used in different settings with similar problems and opportunities? We think so. The Ministry of Education in Peru is preparing for a second round, with only minimum intervention on our part. A similar initiative is being launched in Colombia, in partnership with the Colombian Ministry of Education and the dot-EDU program.

We hope to refine the process, methods, and tools in order to share this experience with many other countries that need to reach teachers and students in underprivileged areas. Online activities will increasingly become the dominant mode of interaction among teachers and students who participate in problem-based collaborative projects. But video case-based teacher professional development may still require some face-to-face interaction, at least initially, in order to create the local conditions in which educational innovations can prosper.

### ABOUT THE AUTHOR

Alvaro H. Galvis is a Senior Researcher at The Concord Consortium. He creates and leads research and development projects that involve applications of information and communication technology to pressing educational problems. He is also interested in international cooperation as a way of helping developing countries overcome some of their educational problems with support of computers and information technologies. Research director for the Seeing Math Telecommunications Project. Pedagogic director and principal investigator of CONGENIA (Genuine Conversations about topics important to learn). Areas of interest: On\_line / Virtual Learning environments, Highly interactive playful learning environments, Teacher Professional Development, Strategic uses of Informatics in developing countries. Through Metacursos, the Spanish division of Metacourse Inc., Alvaro offers eLearning Seminars to Spanish speaking educators.



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