Casting CurriculumNet Wider

Schoolchildren from Buganda Road Primary School at the launch of a project to improve education in Uganda. (IDRC Photo: V. Kisaakye Kanobe)

2004-09-20

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An Internet-based learning project in Uganda is bearing fruit — and may soon send new shoots south, to Rwanda.

In March 2004, Kiddhu Makubuya, Uganda's Minister for Education and Sports, and Professor Romain Murenzi, Rwanda's Minister for Education, Science, Technology, and Scientific Research, headed a delegation to see the launch and demonstration of CurriculumNet's content and materials at Uganda's National Curriculum Development Centre (NCDC) in Kampala. CurriculumNet is using information and communication technologies (ICTs) to provide instructors with multi-media materials they can use to teach their classes.

Ugandan educators say CurriculumNet will help them cope with larger numbers of students, while at the same time improving the quality of education in the country's schools. With Internet skills, teachers can improve their instruction abilities, gain access to a vast array of reference materials, and collaborate with colleagues around the world. For their part, learners will develop knowledge and hone skills in problem-solving, information gathering, and interpretation.

A tool for independent learning

"ICTs by their very nature are tools that encourage and support independent learning," Makubaya said at the launch. "Students using ICTs for learning purposes become immersed in the process of learning. As more and more students use computers as information sources, the importance of the technology for supporting how students learn will continue to increase."

Murenzi said the Rwandan government sees ICTs as essential to the success of Rwanda's education system. He added that because developments in world science and technology are moving so quickly, it's important to make sure his country's schools aren't left behind — particularly if Rwandans want to have an impact on the world.

Rwandan delegates said they hope to mirror CurriculumNet in their own country, so their schools can also use ICTs more effectively. They also hope to apply the resulting technological know-how to producing domestic e-books for Rwandan schools.

Using a multi-media format

CurriculumNet originally began as an effort to create electronic learning materials using CD-ROMs. The project expanded through a pilot computer network to six rural schools in districts surrounding the hub at NCDC in Kampala. Eventually CurriculumNet will achieve wider use throughout Uganda.

As part of the project, representatives from Ugandan educational bodies did participatory assessments to decide which core subjects would benefit from ICTs; to ascertain the existing state of computer connectivity in sample urban and rural schools; and to find out what new equipment they needed to support the project. They then established a resource hub at NCDC; trained teachers, administrators, and other researchers in developing electronic teaching materials; and pilot tested the system.

Administrators at NCDC say computer-based learning engages children in the pilot schools — and the expectation is that this will lead to improved comprehension and retention of content. Students also contribute to the multi-media format of learning materials by collecting locally available content. For example, for their geography classes students take digital pictures of geographic features of note in their area.

Teachers find the materials' interactivity and multi-media format reduces their teaching load. However, juxtaposed against these positive outcomes are several obstacles to be overcome. There is a need for ongoing funding, as well as new training in computer-troubleshooting for teachers to help keep equipment and lessons running smoothly.

Accommodating growing numbers of students

The International Development Research Centre (IDRC) began supporting CurriculumNet in Uganda in the early 2000s as one way to support efforts to repair and upgrade the country's primary education system. In 1996, Uganda's government promised free state education for all primary students, and primary and secondary school enrolments burgeoned. In answer to the system's growing need for help in accommodating these large numbers of students, NCDC suggested the pilot project to design and set up computer- and Internet-based teaching materials.

Early research found only slight Internet expertise in the country's schools, and dated equipment, but eagerness to learn.

IDRC supported research and training for about 40 pioneering teachers and curriculum specialists. The World Bank's World Links for Development (WorLD) Program provided refurbished Windows-based computers. A new Web site was also developed, complete with scanners and servers to support it. The pilot content included material for primary-level classes in math and social studies, and secondary-level classes in math and geography. In addition to the subjects at hand, teachers and students will also gain valuable experience in Internet communications technologies.

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