

# Millennium Cities Initiative

EARTH INSTITUTE | COLUMBIA UNIVERSITY

## MILLENNIUM CITY STORY: SUCCESS IN EDUCATION

### Students Gain 21<sup>st</sup>-Century Skills and Teachers Receive Specialized Training

#### OVERVIEW

For the majority of school-age students in sub-Saharan Africa, obtaining a 21<sup>st</sup>-century education is merely a dream. Yet 21<sup>st</sup>-century learning is exactly what students in Louga, Senegal, and the nearby Millennium Village of Leona, are getting, thanks to an exciting new partnership between CyberSmart Africa, the Millennium Cities Initiative (MCI) and the Millennium Villages Project (MVP). CyberSmart Africa, an education NGO, provides teacher training coupled with innovative technology solutions designed to narrow the learning divide between Africa and the developed world.

#### SITUATION ANALYSIS

Senegal, like many sub-Saharan countries, suffers from extreme poverty, a challenge directly affecting education. Limited resources prevent many students from gaining the skills they need to continue on with higher education and to make significant economic and social contributions to their communities. CyberSmart Africa has partnered with MCI and the MVP to help Senegal further its attainment of Millennium Development Goal (MDG) 2, universal primary education, and MDG 3, promoting gender equality. This pilot project trains teachers to adopt student-centered and active whole-class learning, which is expected to result in improved teaching quality, and increased student engagement and attendance. Teachers are trained in the practical use of exciting tools – the LiveScribe Pulse Smartpen and specially adapted interactive whiteboards – both unique, low-cost educational ICT interventions requiring no infrastructure investment.

#### ACTIONS TAKEN

Last fall, CyberSmart Africa provided students at Longhor Elementary School in Louga with digital readers, which focus on strengthening literacy, numeracy and reading fluency. Then, in early 2010, CyberSmart Africa introduced the Livescribe Pulse Smartpen to middle school students in Louga and Leona. The Smartpen combines four different kinds of learning – reading, writing, speaking and listening. It is being used to support English, math and geography instruction while also developing students' note-taking skills. At the Grand Louga Middle School, students recently used Smartpens to take notes while recording the multiple steps needed to solve complex geometry problems. With personalized instruction impossible in a class of 50 students, the Smartpen acts like a "teacher in the pocket," allowing students to replay the solution over and over as needed. In an English class, students used Smartpens to draw a picture of a car and then wrote and recorded their teacher's correct pronunciation of each part to further their language skills.

The interactive whiteboard introduced by CyberSmart Africa is a clever adaptation and reconfiguration of a standard interactive whiteboard, made at a significantly lower cost. Plus, its lighter weight and extreme portability means it can be easily shared among classrooms, impacting hundreds of students as part of everyday classroom instruction. Teachers excitedly report how they are supporting the Senegalese curriculum with access to more timely information and with the addition of interactive activities designed to engage the whole class.

#### RESULTS ACHIEVED

These practical technology tools are proving to be highly effective in both primary and secondary schools – successfully and quickly creating a more student-centered and motivational learning environment. At our urban and rural Senegalese sites, teachers can easily enhance their existing curriculum, and then replicate their efforts with greater numbers of students in more classrooms. Our training-centered approach ensures that teachers get the support they need. Senegalese teachers participate in supportive professional learning communities to collaborate, create, adapt and improve lessons using the Smartpens and interactive whiteboards. MCI, MVP and CyberSmart! Africa hope to expand this successful pilot project well beyond Louga and Leona, eventually to other countries in Africa – bringing 21<sup>st</sup>-century skills to students across the Millennium Cities and Villages.



A young student uses a specially adapted interactive whiteboard



A young Senegalese girl uses the Smartpen to complete an exercise



Louga and Leona teachers receive certificates for workshop participation



Students in Louga are engaged and excited to learn



Students from Longhor Elementary School pose with digital readers and books