



Digital Literacy Project



Visual Communication and 1-to-1 Computing: Piloting the XO Laptop at the Nicaraguan Deaf Association

A team of seven from the Digital Literacy Project went to Managua, Nicaragua for two weeks in January to set up a computer lab with 10 XO laptops and teach computer classes for deaf students at the Nicaraguan Deaf Association (Asociación Nacional de Sordos de Nicaragua, known as ANSNIC).

Although we had suggested that a younger age group might be a good fit for the XO, ANSNIC felt that teenagers and young adults would benefit most from computer classes as they finished their final years of school.

On the first day of class, we learned that the majority of the students had never before used a computer. From the start of the pilot, it was clear that the highly motivated group wanted to master the XO and share their new computer skills with other members of the deaf community in Managua. Although we communicated through interpreters who interpreted Spanish into Nicaraguan Sign Language, the conversation was never one-sided. The students asked a number of challenging questions, including why we thought that XO laptops could be a good fit for deaf users.

But when everyone turned on their XOs and opened Record, the answer became more apparent. As students taped and shared video conversations in sign language, the environment in the room completely changed. We later realized that many of the students did not have strong written skills due to biases in the education system in Nicaragua. The opportunity to create video messages and record thoughts and ideas opened a new mode of communication that supported sign language.

At first, we struggled to create lesson plans that balanced the introductory nature of the class and the age group. *Wallpaper Magazine* may assert that the XO's design makes other laptops look "lazy, cumbersome and stupid", but for those unfamiliar with the XO's design motivations, the colorful, durable style resembles a toy. It was challenging to convey that a cartoon mascot does not mean that MIT's Scratch programming language is made only for kids. However, students quickly found that the XO's simple, intuitive interface allowed them to access a powerful machine with video, internet, and P2P capabilities.



Digital Literacy Project is a non-profit and student organization at Harvard College that promotes 1-to-1 computing around the globe. The organization aims to integrate the XO laptop, a low-cost laptop designed for children by One Laptop per Child, into the classroom by developing training materials and lesson plans that support sustainable technology practices.



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After setting up wireless internet, we explored everything from news articles on La Prensa to profiles on hi5, a popular social networking site. It must be mind-blowing to see your neighborhood from the eye of a satellite using Google Maps for the first time. Although it was hard not to focus on the XO's more glamorous features, we moved beyond Record and Chat to concentrate on email, budgeting, and research skills during the second half of the pilot. Each day, the students logged into their newly formed email accounts and sent emails to each other. Since our time in Managua, we have continued to stay in touch with several of the students over email.

In order to support the long-term sustainability of the project, we asked our students to become teachers. From the outset, the class unanimously agreed that they would like to help other deaf people gain access to new technologies. With the help of the dedicated staff of interpreters, the students brought an XO tutorial to life in sign language. These videos will be offered on our website with subtitles, along with corresponding images of the XO screen that guide new users through keyboard navigation and core programs in the Sugar environment.

Technology is ultimately a multisensory language. In this case, we focused on its visual aspects. By the end of our time at ANSNIC, the language barrier was hardly an issue at all. One of our more linguistically inclined team members led the final classes in sign language with only minimal help from an interpreter.

Now that break is over and classes have resumed, younger children will be at ANSNIC when they are not attending school. Two of the students from our class have volunteered to teach computer classes this spring. As these students transition into roles as teachers, we will continue to support the pilot with online tutorials in sign language, as well as lesson plans that focus on visual learning. Instead of viewing this as a pilot for deaf students or young adults, we look at our experience as a call to remain open to different learning styles and uses for technology.



www.DigiLiteracy.org

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