Living » 'School in a box' How one plan aims to educate third-world kids ... http://www.dailyhampshiregazette.com/storytmp.cfm?id_no=80949&CS...

BY KRISTINA TEDESCHI STAFF WRITER

Sitting at the dining room table on a recent afternoon with his 3-year-old son, Rowan, Kevin Hodgson of Northampton describes what his new XO laptop can do. The textbook-sized computer is connected by a kind of internal wireless network called a "mesh" network, allowing users to interact online. The screen's display can be read both in the dark and in full sunlight. Bright green and white and designed to look like a toy, the computer is loaded with games designed to teach kids about subjects ranging from reading and writing to engineering and music composition.

The XO can even talk - sometimes.

Hodgson types "Hi Rowan" into a program called "Speak," in which a smiling face is supposed to say what you type. He presses enter. Nothing happens.

"You can see it's a little quirky sometimes," Hodgson said.

The XO is a small, sturdy laptop from the One Laptop Per Child Foundation, a Cambridge-based nonprofit launched three years ago by Nicholas Negroponte, a professor and former director of the Media Lab at the Massachusetts Institute of Technology. He envisioned a program that would change, through the access to technology, the meager educational opportunities available to the nearly 2 billion children living in poor countries. Negroponte imagined a low-cost, rugged computer designed for children that could be sold to governments of developing nations and given to school-aged children. With its catchphrase one laptop per child, the program's goal is to eventually end poverty by educating the world's poorest children.

Slow start

Since mass production began last November in China, 500,000 laptops have been purchased by or donated to countries including Uruguay, Peru, Mexico and Rwanda. Corporate sponsors including eBay and Google have provided start-up money and other support. But for a number of reasons, the program, often referred to as OLPC, hasn't exactly gone as Negroponte had hoped.

That's where Hodgson and others like him come in. To give the program a boost, organizers decided last fall to appeal to citizens with a six-week initiative called "Give 1, Get 1."

For $380, a participant would get one XO to keep and OLPC would donate a second one to a child in a developing country. Hodgson, a sixth-grade teacher at the William E. Norris School in Southampton, liked the idea and decided to use part of a stipend he received for delivering a talk on behalf of the Western Massachusetts Writing Project, a professional development group for teachers at the University of Massachusetts at Amherst, to participate. His XO arrived just in time for Christmas.

His donation, along with others from people in the United States and Canada, allowed the delivery of 100,000 laptops to children living in countries including Haiti, Cambodia and Afghanistan who sometimes have no access to electricity, a classroom, or even a teacher, says Jackie Lustig, a spokesperson for OLPC. Although the "Give 1, Get 1" promotion ended Dec. 31, people can still get involved by donating money, or buying one or several laptops to be shipped overseas. More information is available at www.laptop.org.

Learning by doing

Kevin Hale, who lives across the street from Hodgson in Northampton, also signed on to "Give 1, Get 1," ordering his XO in November. He expected to receive it by mid-January, but is still waiting.
"The communication from OLPC has been really flaky, actually," said Hale, a rabbi and trained scribe who belongs to Congregation B'nai Israel in Northampton. When the laptop didn't arrive on schedule, Hale called the all-volunteer foundation and was put on hold for an hour, only to be directed to a customer service Web site, he says.

"If I were a retail customer, this would be outrageous," Hale said.

But, he noted, "Selling these computers to eager Americans isn't really what the project is about."

The concept behind one laptop per child is based on the constructionist teachings of Seymour Papert, an MIT educator, computer scientist and mathematician who studied under Swiss developmental psychologist Jean Piaget. Constructionist learning is based on the idea of drawing conclusions through experimenting and making things in the real world. According to Papert, a computer is a tool for children to do this and share their creations.

This premise was one of the things that prompted Hale to participate in "Give 1, Get 1," he says.

"Something that really appealed to me is that real learning happens by doing and collaborating with others," said Hale. "In theory, these kids can discover how [the XO] can be used just by using."

Self-teaching

Billed as "school in a box" by Negroponte in an interview appearing last summer on the CBS news program "60 Minutes," the XO is meant to be a tutor in its own right. In fact, it doesn't even come with instructions.

"It's been designed from the ground up for children and the way children learn," said Lustig. "You have to sort of change your mindset from a typical Dell or IBM computer. It's completely intuitive. Kids figure it out in a couple of minutes."

Many of the games and programs featured on the XO, like Turtle Art, in which a turtle icon makes basic shapes based on the user's commands, and TamTamJam, which allows children to compose music, don't use any words at all.

"A kid doesn't even have to read to get something out of the computer," said Lustig.

The XO is an open-source laptop, meaning that icons from Apple, Microsoft or other large technology corporations aren't found on it, says Hodgson. It's slow compared to his own personal computer, he says, but he notes that it's probably not fair to compare the two.

Because of its mesh network, XO users within a small radius can interact and share their work online. So far, Hodgson says, he knows of three other people who have XOs in the Pioneer Valley, but all are too far away to show up on the computer in a field called "My Neighborhood."

Hodgson and Hale, who both live on Upland Road, should be able to interact with each other online once Hale's XO arrives, he says.

A major question looming over the OLPC program is access to the Internet. In Peru, which ordered more than 272,000 XO laptops, according to the Associated Press, 9,000 elementary schools from the Pacific Ocean to the Amazon River basin will receive them. However, only 4,000 schools will be connected to the Internet through rural satellite downlinks that provide access, reports the AP. Without Web access, Negroponte pointed out in the December article, the program is "incomplete." OLPC, says Lustig, has been working with countries like India and Rwanda to bring Internet access through satellite to more rural areas.

"The XO laptop without Internet access is just not the same thing," she said. "It is a crucial component."

One of the positives of the program touted in an OLPC statement provided by Lustig is that supplying computers is a cheaper way to educate children in developing countries than hiring and training teachers.

"Providing millions of laptops is faster - and substantially less expensive - than building and equipping large numbers of schools and training and hiring the teachers and administrators to staff them," the statement said.
That premise, however, has drawn criticism on some fronts.

**Skeptical voices**

Morton Sternheim, a retired physics professor at UMass Amherst and the director of its Science, Technology, Engineering and Mathematics Teacher Education Collaborative, an organization that works with new math and science teachers, says he's skeptical of the impact XOs can have unless teachers who have been trained to use them are available to the children.

"If they're not, I can't imagine what these computers will do for them," Sternheim said. "Then, it will just become a high-tech toy."

Sternheim did, however, acknowledge the laptop's potential.

"If they have Internet access, imagine the information they can get," he said.

Kevin Hodgson says that deciphering the laptop's inner workings wasn't easy, even for him, a teacher who specializes in using technology in the classroom.

"It's been like hit and miss trying to figure out the different applications," he said. For guidance, users are directed to a Web site that contains information on setting up the XO, Hodgson says, a feature that is useless if the children don't have Internet access.

**A whole new world**

According to the Associated Press article, children in the rural village of Arahuay, Peru, received laptops last summer and quickly took to them, powering them up to share photos and video made using the XO's built-in camera and searching the Internet morning, noon and night. The article went on to say that the elementary school population rose 10 percent after families living in the village learned the laptops were coming.

Many children who have gotten an XO have loved them, says Lustig.

"These kids have nothing, and they get a laptop, and they're the owner of the laptop - it opens up whole new worlds for them," she said. "That's what the program is all about - to create a passion and an interest in learning and communication."

The XO was designed to withstand harsh environments. Those shipped overseas come with solar panels to power them in places without electricity, and the durable plastic covering is tough enough to weather a fall. The keyboard is encased in soft rubber to keep out water and dirt, and the XO has a handle for easy carrying when closed.

The computer runs on the Linux operating system, which is available for free to anyone who wants to use it. Short books can also be downloaded from a Web site to the computer, which can serve as an e-book by swiveling and folding the screen over.

"They're not really novels that I've heard of, but every day they're adding more and more," said Hodgson.

**Starts and stops**

Despite the XO's affordability and features, governments haven't snapped up the computers at the rate first expected.

Part of the problem lies in the instability of developing countries, says Lustig. For example, President Luiz Inácio Lula da Silva of Brazil is a big supporter of the OLPC program, she says, but the initiative stalled there in a bureaucratic morass. In Thailan in 2006, the Royal Thai Army staged a coup against elected officials under Prime Minister Thaksin Shinawatra, who also supported OLPC, says Lustig.

"You have to start all over again," she said.

"Another major factor was Intel," Lustig said.

When Negroponte was developing OLPC, he asked Intel, an international technology company known for its microprocessors, to develop a chip for the XO. Intel declined, says Lustig, and Negroponte went to one of Intel's competitors, Advanced Micro Devices Inc., which
quickly jumped on board. Shortly after, Intel developed its own durable laptop for students in developing nations, the Classmate PC, which has become the XO's primary competitor. Negroponte held that Intel stole his idea and months of squabbling followed. Attempts at collaboration have so far been unsuccessful, says Lustig.

OLPC is currently in discussions with Pakistan, Bolivia, Palestine and Ghana, she says.

Kevin Hale says he's looking forward to the day when his XO arrives for his children Simon, 11, and Luna, 8, to enjoy.

"This is a really visionary and unsentimental view as to what it will take for poor kids to get a leg up," Hale said. "If technology is what it takes to advance economically, they should get it."

Hodgson, who has taken his XO to school to show to his sixth-graders, says he would like to see computers play a greater part in education in the United States. But, he said, "I'm more interested in putting technology in the hands of kids in other parts of the world."

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