The $100 Laptop: Informal Learning in the Developing World?

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The $100 Laptop: Informal Learning in the Developing World?

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By Mike Charles

Thoughtful conversations about the Internet, education, community, and values often center on questions of social justice. The Internet may offer many significant benefits to those who use it, it is argued, but very few people in the world actually have access to this “World-wide” Web. In a world with great disparities between the rich and poor, technology in effect amplifies or aggravates those differences. The term “digital divide” is often used as to refer to this problem of unequal access. Globally, this divide is more like a chasm. According to one source, Internet users in Africa make up less than 1% of the total number of Internet users worldwide; Internet users in Latin America make up about 4% of the worldwide total. In the same survey Internet users in the United States and Canada make up more than 41% of worldwide Internet users. [1] See figure 1 for a graphic look at the variation in the percentage of population using the Internet, along with some sample countries that represent the different ends of the digital divide.
One significant obstacle to broader Internet use worldwide is the lack of an affordable and portable computing device. One Laptop Per Child (OLPC) is a non-profit association [2] launched by Nicholas Negroponte of the Massachusetts Institute for Technology (MIT). OLPC hopes to remove this obstacle for millions around the world. It features the $100 laptop, a design for an inexpensive laptop computer intended to provide every child in the world access to the Internet. This article looks first at the hardware, then the tools of informal education that are an important but overlooked part of this initiative, then concludes with a look at the response to the OLPC initiative.

So, just what would these “$100 laptops” be like? According to the OLPC website, they will be designed to be very durable computers, running on Linux and using open source code software. The computers will have a display about half the size of a typical laptop computer. This unique display will work in two modes: 1) color, typical of most laptops today and 2) high resolution black and white that is readable outdoors in sunlight. The computer has no hard drive, but instead will be designed to store content in flash memory. Typical computer applications would include Internet browser access, email, and word processing. It may also include an extended length touchpad (like a small tablet) to allow users to write with a stylus or their finger. This computer will be very efficient in its use of electricity. It can be plugged in to electricity or “human powered” with a hand crank at a ratio of one to ten; i.e. one minute of cranking allows ten minutes of use. Wireless mesh networking will be used to allow many machines to connect to each other locally and to secure Internet access from one connection. The initial pricing goal of the first generation
machines is to start at $100 and then steadily decrease as production scales up. The laptops will marketed by selling them to governments and then issued to children by schools on the basis of one laptop per child. Plans are to have laptops ready to ship by the end of 2006 or early 2007. Currently the list of countries interested in participating includes China, India, Brazil, Argentina, Egypt, Nigeria, and Thailand. [3]

Just as important as the laptop itself to the OLPC initiative are the tools of informal education. In this project the laptop is seen as a means to a greater end: “to provide children around the world with new opportunities to explore, experiment, and express themselves” [4]. The bold assertion of the OLPC initiative is that learning is a natural act, and that formal schooling reduces learning to a series of merely technical acts (and the teacher to the role of a technician). The computer can be part of an educational revolution that bypasses formal schooling, whose thinking is rooted in the 19th century assembly line [5]. Seymour Papert calls this educational revolution “Kid Power” [6], and the OLPC initiative holds the promise of taking this kid power to a global audience. When asked why students around the world need laptops, Negroponte replies that, “laptops are both a window and a tool: a window into the world and a tool with which to think. They are a wonderful way for all children to learn learning through independent (emphasis mine) interaction and exploration.” [7]. The idea is not that laptops will help children around the world do their schoolwork, but that instead laptops will connect students with a larger community from which they will learn through exploration and meaning building—something that humans do naturally through things like language. It is this idea of the value of independent interaction and exploration that is the heart of Papert’s recent remark about the educational value of the OLPC laptops:

*I get upset when people say that the point of the laptops is that children can learn “all the time, everywhere.” Of course it’s true. But insulting to children. They are learning all the time wherever they are. Maybe not what you want them to learn — but that’s a very different story.*

*It is not only insulting, but counter-productive, to count only our kind — or school’s kind — of learning and thinking as real learning and thinking. The central problem of education is not teaching children to think differently, but connecting what we think they should learn with the kind of thinking they can do very well.* [8]

For the principals of OLPC, the laptop is a tool that can empower informal learning around the world. Papert, Negroponte and the OLPC are not the only ones intrigued by the power of informal learning. The National Science Foundation (NSF) has recently funded Science of Learning Centers, including the Learning in Informal and Formal Environments (LIFE) Center. The Life Center’s purpose is “to unlock the mysteries and powers of human learning as it occurs in informal and formal settings from infancy to adulthood” [9]. Their depiction of lifelong and lifewide learning shows clearly that informal learning is the dominant way in which people learn.

The OLPC initiative was announced at the World Economic Forum in January 2005. Since then there have been a number of responses to the idea. Google and others within the business
community have enthusiastically supported the idea with some start up funding [10]. Kofi Annan presented the prototype of the $100 laptop at the World Summit on Information Society [11]. But increasingly there have been three major criticisms of the plan: concerns about the appropriateness of the device itself, concerns that the distribution model is not sufficiently market-based, and concerns about cultural imperialism. Some prominent IT moguls such as Craig Barrett of Intel have criticized the $100 laptop as “just a gadget” [12]. Bill Gates shares similar concerns, and has proposed an alternative: a cell phone with PC capabilities that runs Microsoft’s Windows operating system versus the open source Linux operating system of the $100 laptop [13 and 14]. Others have been critical of OLPC’s distribution model. Instead of creating a consumer product, OLPC relies on selling large quantities of the laptops to governments to be distributed to students in schools. Some criticize this as a top down, big government solution. Finally, some voices from the developing world have suggested that the distribution of a computer in countries that first need safe water and reliable supplies of food indicates misplaced priorities. At a UN conference in Tunisia Mohamed Diop stated:

*[The $100 laptop] is a very clever marketing tool. Under the guise of non-profitability hundreds of millions of these laptops will be flogged off to our governments. That’s the only way of achieving the necessary economies of scale to get the price low. They’ve finally found a way of selling to a huge number of poor people.*

For these critics an affordable laptop for the developing world is the product of an “American mindset that presented solutions not applicable to specifically African problems”[15].

The primary question beneath this debate is whether or not the $100 laptop as promoted by the OLPC initiative will be a tool to bring better educational opportunities to the developing world. Within that question is the assumption not only that such a device can be successfully manufactured and distributed, but also that informal learning is the dominant way that people in the world learn, and that these devices can empower richer kinds of informal learning. One can imagine many obstacles ahead for this initiative, but it will be interesting to see if both the device and its operating educational philosophy can make a significant change in something so fundamental as world literacy. If it can, then it will have proven to be a very powerful idea dressed in a rather small package.

**References**


[3] http://wiki.laptop.org/index.php/One_Laptop_per_Child. More information about the $100 laptop can be found at the OLPC wiki, an ongoing online collaborative writing tool that tracks the progress of the project.


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2 THOUGHTS ON “THE $100 LAPTOP: INFORMAL LEARNING IN THE DEVELOPING WORLD?”

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Dannette Maslakowski

on February 3, 2014 at 4:25 PM said:

Most definately time (if not a little late) to rock and roll this years resolution plans!!

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Stephenie Somani

on February 5, 2014 at 6:50 PM said:

Goed gedaan verklaring. Ik kon niet beter gedaan mezelf!