Inside the digital society: lessons from little laptops

Once again, children are trying to learn from home, often on an inadequate device and with hard-pressed and under-supporting parents struggling to cope. Even for families lucky enough to get a government laptop, is this enough? What can we learn from previous efforts to drop tech into homes and expect children to keep up with their education? In this blog, David Souter discusses evidence from a much-publicised initiative in developing countries to explore the value of technologies for education and how pitfalls such as technological determinism and lack of sustainability might limit their real-life development potential.

Some readers may remember One Laptop Per Child (OLPC). It was launched with fanfare by the MIT (Massachusetts Institute of Technology) Media Lab's director Nicholas Negroponte in 2005. The idea: a basic laptop for every child in the developing world. For a time, it became the darling of ICT4D, a symbol of what technology could do to 'solve' apparently intractable problems that humanity was failing to resolve.

Negroponte wasn't shy about his project:

> I don't want to place too much on OLPC, but if I really had to look at how to eliminate poverty, create peace, and work on the environment, I can't think of a better way to do it.

It was enthusiastically endorsed by big names in the techno-world, but from the start it also had its critics and its sceptics.

What was intended?

The XO laptops, as they came to be called, were originally meant to cost $100 each, though that price soon rose to near $200. They were originally meant to be hand cranked (like the famous clockwork radio), but in practice needed electricity, and so high costs in infrastructure for both electricity and connectivity. They were meant to be available for all, so MIT said (at first) they could only be bought in million unit lots. Software was open source but in a sense proprietary as other software couldn't easily be used on them. Internet access was available but obviously limited by connectivity.

And they were meant to be about self-learning. Underpinning OLPC, as its proponents often said, was a view that schools weren't working and weren't even really necessary: that if you gave children laptops, they would teach themselves to do all kinds of things, leapfrog the adult world, become vectors of change for older generations and for whole societies. Teachers in this model were unnecessary, and OLPC did not provide a teacher interface or backup. The children got their laptops, were expected to learn with them, fix them when they went wrong, and change the world with them.

So what happened in practice?

Date originally posted: 2021-01-13

Permalink: https://blogs.lse.ac.uk/parenting4digitalfuture/2021/01/13/one-laptop-per-child/

Blog homepage: https://blogs.lse.ac.uk/parenting4digitalfuture/

Those figures about costs ought to have spelt a warning. Cash-strapped governments in developing countries, particularly least developed countries (LDCs), don't have that kind of budget to spend on unproven technologies. Governments in sub-Saharan Africa at the time OLPC was launched were spending on average about $100 a head on the education of each primary school child each year, much less in many LDCs. The opportunity cost for governments, therefore, was high – for education budgets and for budgets generally. What looked cheap was actually expensive.

In practice not much more than three million have been sold, in total, everywhere, since they were launched, the majority in South America. Rwanda was the only African country that bought many.

Consider Paraguay

OLPC receives a powerful critique from Morgan Ames in her book, *The Charisma Machine* (watch her lecture on YouTube). She researched experience of XO users in Paraguay, with a local education project, Paraguay Educa, that had done its best to maximise their value.

She found that Paraguay Educa had needed to install infrastructure to make the XO laptops chargeable and connectable, and to train teachers to help children make use of what they had been given. None of this were factored in at the Media Lab; both proved to be essential in the real world. The teachers in these children's classrooms were already working double shifts, cramming two sets of students into every day, in schools without sufficient funding to buy chalk or notebooks. The environment for learning of any kind was difficult, let alone self-learning.

Also problematic, the laptops were supposed to be unbreakable, but broke quite easily (Kofi Annan famously broke one that was being demonstrated to him during WSIS). Most had become unusable within five years.

Two thirds of children given laptops hardly used them, frustrated by their technical limits and uninspired by content. The remaining third used them primarily for games, rather than for education, including games designed for the XO that were sponsored by commercial businesses keen on their custom (more sweets/candy, anyone?). Only about 1% of children given laptops used them to learn computing skills. These tended to come from wealthier households that already had computers.

Technology and education

Date originally posted: 2021-01-13

Permalink: https://blogs.lse.ac.uk/parenting4digitalfuture/2021/01/13/one-laptop-per-child/

Blog homepage: https://blogs.lse.ac.uk/parenting4digitalfuture/

Don't get me wrong here. I am not challenging the value of technology in education. Technology has great potential for education, but that lies as a partner not a substitute. It needs to be deployed in local contexts in partnership with educational professionals.

Ames' critique goes beyond its failure to deliver; it's rooted in criticism of its philosophy. I share her views, and highlight six key flaws:

1. *Techno-determinism*: the idea that what technology can do, it will do; that what it can do will be for the best; and that its transformation of society represents inevitable progress.
2. *'Charismatic technologies'*, as Ames describes them: those that seem to offer magical solutions to intractable problems – 'moonshots', as they are sometimes called, that prioritise innovation over experience, require high levels of investment for untried and uncertain returns, and tend to fail where cheaper, simpler, less glamorous technologies could have delivered more.
3. *The hype of overvaluation*: the idea, set out by Negroponte up above, that one small device can change the world. Few single devices or innovations have ever done that: the printing press, maybe, gunpowder, the steam and internal combustion engines, the computer, the mobile phone. Their impact has derived from how people have appropriated them, much more than their inventors' aspirations.
4. *The notion that old ways of doing things should be uprooted*: schools are not bad things; they're tried and tested ways of bringing children into adulthood, imparting skills, enabling empowerment. Poor schools need improving, not displacing. Moving fast by building on experience is far better than moving fast and breaking things. Few people turn out to be autodidacts, learning entirely by themselves; most will be left behind if that is made the norm, as Negroponte's allies were suggesting, making society more not less unequal.
5. *The failure to locate technological opportunity within real contexts*: real schools, real children, real families, real communities; real people with real hopes, real problems and real behaviours; real countries with real challenges of funding and of governance.
6. *The idea that sustainability is unimportant*: capital investment without operational investment to make it lasting is a waste of money. Leaving schools and families without the resources to make use of technologies that they've been gifted is counterproductive.

Implicit in these criticisms is one further point: the false belief, still far too common in some circles, that real world problems in the global South are best addressed by high-tech answers from the global North. Meaningful transformation comes from within societies, not without. Imported 'transformation' does not empower developing countries; it risks increasing their dependency.

Learning lessons

My point in relating the story of OLPC, and Ames' analysis, is not to criticise technology. Far from it. Technologies that are being developed today have enormous potential to contribute towards improving our economies and ways of living, not least in education. Development needs them. They provide opportunities that need to be embraced.

But embracing new technologies will only enhance development if it's located them in the real world, mediated by local communities, providing resources for use by those communities rather than imposing 'solutions' built on assumptions about what is 'best' for them.

Notes

This text was originally published on the Association for Progressive Communications blog and has been re-posted with permission and small amendments.

Header image: One Laptop per Child at Kagugu Primary School, Kigali, Rwanda, via Wikimedia Commons.

In-text image: Kofi Annan visiting an OLPC project in Ghana, via Wikimedia Commons.

Date originally posted: 2021-01-13

Permalink: https://blogs.lse.ac.uk/parenting4digitalfuture/2021/01/13/one-laptop-per-child/

Blog homepage: https://blogs.lse.ac.uk/parenting4digitalfuture/