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Calling time on the digital divide

An interview with Valerie Thompson, Chief Executive, e-Learning Foundation

Kim Thomas

Valerie Thompson, Chief Executive of the e-Learning Foundation, says that her organisation's long-term goal is to "shut up shop because we've achieved our aim". That aim is no less than making sure that every schoolchild in the country has access, while out of school, to a computer.

The e-Learning Foundation was set up in 2001 to tackle the problem known as the 'digital divide', where some children have access to ICT out of school hours, and some children don't. Valerie's argument is simple: "While 75% of middle-class children get to university, only about 15% of lower income children do. We know that the difference isn't genetic and we know that they go to the same schools and follow the same curriculum and are taught by teachers who are trained in the same way, so the only thing that could be causing that massive differentiation in their educational future is home environment."

Historically, she goes on, schools have been unable to influence what happens in the home environment. The difference now is that ICT gives schools the ability to do just that - to reach into the lives of all their pupils and help them learn at home, just as middle-class children have always done. The mission to give all children ICT access at home is not, says Valerie, based so much on social justice as on "educational consistency": "This is a pedagogical issue. How can you embed ICT into teaching and learning in school when only half of the children can go home and carry on doing it? It makes no sense whatsoever."

For this reason, Valerie is unimpressed by schools that continue to invest in ICT suites which, she points out, are usually unavailable after school hours, or at weekends, or during the holidays, and which are often used by each class for only one or two hours a week for specialist ICT teaching. Portable devices, on the other hand, can be used in conjunction with interactive whiteboards and wireless networks to embed ICT right across the curriculum. And, of course, they can be taken home: "The important thing is that whatever has been taught during the day during ICT can continue to be used for the rest of the time that children are learning. All the statistics suggest that the difference in learning outcomes between poor and rich kids is the learning that happens outside the school, not what goes on inside school."

Valerie describes the e-Learning Foundation as a "learner-centric" charity. It works mainly through local e-learning foundations, which raise money to buy mobile devices, such as laptops, PDAs or tablet PCs. Usually, the local foundations are formed by a school or schools acting together and raising money from parents, local businesses or other sources in the local community. The national foundation also gives grants to local foundations in deprived areas, with the proviso that these grants must be spent on increasing individual home access to ICT for pupils; they cannot be spent on purchasing laptops for classroom use. The foundation also

stipulates that access must be equitable - the equipment must go to all children, regardless of whether their parents have made a financial contribution.

Some contribution from parents, however, is essential to the scheme, as most schools cannot afford to spend huge amounts of money on ICT: "This isn't schools asking parents for more money to build a new building, or to pay for an extra teacher. We're asking parents to contribute to a scheme which allows the school to let the computers go home and be used not just by the child but by the family." In return, the schools generally offer free ICT courses, leading to qualifications such as the European Computer Driving Licence, to parents who are interested in learning basic computing skills.

To sceptics who argue that children cannot be trusted to take ICT equipment home, Valerie has a fairly robust response: "There are 99 reasons why schools can't help students have access at home. We're not interested in working with schools which are full of excuses." In practice, she points out, there have been few problems, and where parents are involved, the families want to take good care of equipment.

But do such schemes make a difference? Valerie points to research from Becta, the LSE and Lancaster University, all suggesting that home access makes a "significant" difference to educational outcomes. Those schools prepared to give children home access to ICT have found that it opens up new opportunities, she argues. Children are able to save lessons from an interactive whiteboard onto a laptop and review them at home before doing their homework, for example. Or they can dial into selected websites for research (if a family doesn't have internet access, they can obtain it through a free scheme run by AOL). In some schools, children do their written homework on the laptop and e-mail it to their teacher.

The schemes have been extremely successful, says Valerie, in engaging children who were previously uninterested in school: "Children who can't wait to get out of school at the end of the day are staying for another hour because they can use the internet and do curriculum-based work - they're not just fiddling about. No-one would have believed that of these children."

And as hoped, schools have seen parental involvement increase: "Schools are finding that when children take their computers home, parents are engaging with their children's learning in a way that they're not doing when they bring a textbook and exercise book home. Schools are seeing parents who they've never seen before. It's actually pulling parents out of the woodwork."

Valerie regards the introduction of home access to ICT as an issue of educational urgency, not something that can wait 10 or 20 years: "If the heads of this country have it in them, they can play an enormously powerful role in making sure this generation of children aren't disadvantaged because of the discrepancies in access to technology outside school. They can do something about it but only if they care enough and only if they take action. We will do everything we can to help them do that."

Putting computers in school is a really dumb move
An interview with Peter Cochrane, founder of ConceptLabs
Kim Thomas

Peter Cochrane isn't terribly impressed by much of what he sees in today's education system. Schools, he says, are a "sausage machine" with a "one size fits all" mentality: "Children come to school energetic, lively, full of enquiry - they're innovators, all ready to go. And when the education system's finished with them, it's all been beaten out."

In particular, he argues, the current obsession with testing and measuring has had very detrimental effects: "If you set targets, people will achieve them - so the kids start fiddling, the teachers start fiddling, the heads of departments start fiddling, the school starts fiddling and the government starts fiddling."

Peter has particular concerns about science education which, he argues, has lost much of its ability to communicate the thrill of discovery that he felt when he was at school. One of the reasons for this is what he calls the "blight" of health and safety regulations: "To reduce science teaching to a Blue Peter level is quite criminal. You would have thought that a small blob of mercury was plutonium. If you go back to the basics of science, when you encounter anything, you try to describe what it looks like, what it feels like, what it smells like and - in the old days - what it tastes like."

These days, Peter points out, school pupils no longer learn even to use a forge or a lathe, which has the counter-productive effect of making children less able to handle dangerous equipment safely when they reach adulthood.

Things are changing, however, and Peter welcomes some of the recent developments in education, particularly towards a more personalised approach to learning. It's what he calls "the transition from a sage on the stage to a guide at the side." Children, he argues, have different abilities and develop mentally at different rates. In the modern world, there are plenty of opportunities for children to learn independently, with guidance, rather than instruction, from a teacher. In languages, he says, there are good learning packages that enable students to learn at their own pace while the teacher helps out with any difficulties.

Computers, if used correctly, can also help children work at their own pace. Peter is scathing, however, about the idea of putting computers into schools, which he describes as "a really dumb move." The problem, he argues, is that computers are then under the control of the school, expensive to purchase and maintain and, more importantly, out of the control of the pupils: "It would make far more sense to have an environment where kids own their own laptops. Laptops are now very cheap. IT is a personal thing - it's very difficult to work in a corporate environment where the machine isn't yours, so every time you want to do something it's a different machine."

Many children, he says, already use computers at home, and computers are relatively inexpensive. Those parents who couldn't afford them could have state help. The advantage is that students would not only take better care of them than they would a school laptop, they would be able to treat the computer as their own personal workspace, storing their files and projects, without any possibility that the teacher might delete them. "Technology for

technology's sake is just silly," he says. "If students need computing power, there comes a transition when they need their computing power all the time."

One of the huge problems currently facing schools is the shortage of science teachers, particularly those with expertise in physics. Peter's vision of "the guide at the side" will, he says, be supported by developments in video-conferencing, which allow students to have direct access to the expert view: "In the UK on a Monday morning you will get 100 mediocre teachers talking on a topic they know nothing about. It could be easy to videocast a lecture and then engage in discussion with the students afterwards."

Peter believes that podcasting (in which audio recordings of lectures are made available as downloadable MP3 files) also has the potential to change the nature of teaching and learning dramatically, because it allows students to refresh their memories and test their understanding: "One of the interesting things about going to a good lecture is you think, 'That was brilliant', and then an hour later, you think, 'What did he say?'"

You don't necessarily have to use technology to give children access to an expert point of view, however. Many industry experts and academics, argues Peter, are keen to put something back into the education system when they reach the end of their careers. Many scientists, he says, have had plenty of experience, not only of giving lectures and presentations, but also of bringing up their own children. Unfortunately, he points out, it is currently very difficult for a scientist who has been working in industry for 30 years to qualify as a teacher, because they are expected to gain a PGCE qualification: "It would be really interesting to set up a fasttrack for mathematicians, scientists and engineers and technologists who would, especially towards the back end of their careers, like to move into teaching. It ought not to be a two-year trial by strength. It ought to be three or four months of training."

It works the other way round, too - students can be teachers, he says: "When you go to universities and schools, the staff habitually complain about being under-resourced, yet they're sitting on top of a massive workforce called the student body. As students get towards the last year of their courses, it's very easy to give them assignments that involve creating teaching materials for Year 1. You think you know something until you try and teach it, so if you can get students who think they understand it to create teaching materials, they derive a lot from it."

There are, he says, grounds for optimism. Somehow, he says, children manage to get through the education system, and universities and colleges are full of enthusiastic young people. Peter believes that the trend towards greater personalisation and devolution of teaching responsibility is going to be instrumental in changing the current system: "A school in the outback of rural Sussex is entirely different to an inner-city school in London with 16 different ethnic groups. A little customisation will go a long way."