

The Future of ICT in Schools

The future of IT in UK schools is a subject which pre-occupies me, as any reader of this blog will know already. The reason is quite simple; on one hand we see fundamental changes in the way in which new technology is being used, 'on the streets' as it were and on the other we see an institutionalized attempt to fossilise students' IT into a particular way of doing things (circa 2001) and to peddle this, ad infinitum, to the next generation.

The result has been a near complete disillusionment with school IT by students and teachers accompanied by a near total loss of the desire to upgrade all but the oldest facilities.

This situation is bad for education and near disastrous for UK ICT business.

To illustrate how times have changed, I manned (arm having been seriously twisted) an ICT suite for an Open Afternoon this weekend at an extremely successful Secondary School. Each computer in the suite had a 'test your typing speed' application up and running for visitors to try. For the 3 hours I was there, NO ONE visited the ICT department. Five years ago this would not have been remotely the case. Why suddenly is ICT boring.

Schools control their own budgets but their spend on ICT divides into what they have to do and what they elect to do.

In the former category, directly as a result of the Government's obsession with collecting data on its citizens, schools, in effect, have to buy into Local Authority compatible databases systems which include the Management Information Systems (MIS) and the new Learning Platforms (LP or VLEs) and a host of other assessment and recording initiatives.

Not surprisingly the big companies (RM, Capita and Serco) fight for these lucrative contracts and the schools pay up reluctantly and sullenly.

Meanwhile, the schools discretionary ICT spending on teaching and learning in the classroom has stalled, actually it's stopped.

Becta officially advises them not to upgrade to Widows Vista and Office 2007 as even if the MOU allowed Microsoft to give it away it would mean upgrading most of the hardware stock to run it.

Becta are also actively encouraging schools to switch to Open Source software through the School's Open Source Software Project (SOSP) in order to save money.

Finally, schools are dissatisfied with the costs and services and responsiveness of their suppliers.

What the above means is the following:

- Schools' spending on ICT is driven by administrative needs, is largely infrastructural and somewhat resented.
- The pedagogical promise of ICT has withered under the oppression of 'Office' key skills; no one is interested.
- Classroom focussed ICT spending has all but stopped with severe consequences for UK computer business.

It may appear to the hapless users stuck with unimaginative products serving deathly boring syllabuses that they are now so firmly under centralised control and that school ICT is in terminal (sorry) decline. However, change can happen from below and I would like to explore this further in the coming paragraphs.

Where change is going to come from. The Brief (and highly selective) History of Personal Computing

Before the 1980's computing was a terminal-server model controlled rigidly by managers through all powerful Systems Administrators.

Then along comes a period of anarchy.

ZX81, Atari, Amiga Acorn. We went wild, for the first time an individual could afford a computer of their own.

By the time the Apple Mac and IBM-PC had appeared, seriously useful applications as well as seriously great games were common place.

Back in the office, computing plodded on. Soon though, ambitious (and frustrated) workers were bringing in their own machines from home to do a bit of SuperCalc and goodness knows what else, writing their own programs when it suited, and were busy transforming business, engineering, science and maths.

This was a very creative period indeed, but also it was 'Admin-Hell'. It soon became obvious the 'PCs' were not going away. How do you control all this freedom? Simple, network them.

Networked PCs soon dominated the work place and schools with their spreadsheets and word processors and messaging systems and of course servers and logons and 'permissions' and other security restrictions. Control of IT had been restored to administrators.

Schools, ever the control freaks, fully embraced the computer revolution and soon had their own networks. So what happened to kill interest in IT? Real School ICT?

Today technology has moved on at a pace and personal devices are once again all the rage. We have seen the mobile phone morph into the 'Blackberry' and the MP3 player into the I-Touch, all of course Web-facing and increasingly relevant to our lives, all unsurprisingly, are deprecated in schools.

To defend this rather harsh assertion, below are a few snippets to show how a student gains marks in ICT examination in the current UK school assessment system and why personal devices are regarded as a pain.

- At GCSE and Key-Skills ICT for example, sending an e-mail with an attachment gains you many marks. In contrast, transferring a video of your teacher throughout the classroom by bluetooth over your phones and uploading it to YouTube with a suitable MP3 soundtrack, will get you suspended or arrested.

- Similarly, layout a document using MS Word, which incorporates set margins, paragraph indents, left and right justification (just like a typist would have done a hundred years ago) and you will be similarly rewarded with good e-skill marks. Spend your time group texting 'R U 4 Animal Rts?' and you'll risk being sent to the Head as an illiterate subversive.

- Searching for Information? School Internet is heavily filtered. You get the content appropriate for young minds. Searching for information within the filter is a little old fashioned. UK Exam boards have still to acknowledge that Alta Vista is not the prime search engine and that you do not have to use boolean operators to find what you want on Google, but if you do, that'll get you extra marks too. Search on your 3G (unfiltered) connection on your personal device and you can look up Ed Balls without it being blocked as obscene. Ok, bad example, but hopefully the point is made.

- Saving and backing up work is emphasised on all exam syllabuses (some still referring to floppies for the purpose) and a screen shot to prove it is essential you gain your CLAIT certificate. I haven't backed up all year I am ashamed to say. I use Google docs and mail. I just hope they back up stuff and don't read half of it.

So much for school syllabuses and what is and is not rewarded by them, the point is, school ICT is anachronistic, increasingly irrelevant to students and is controlled by 'grown ups' who barely grasp the whole concept.

But on the ground it's all changing and changing fast, all us 'hip dudes' want from our schools/employers in terms of ICT is web connectivity and that's only because the 3g wireless on our personal device is still too costly.

So we are back to the situation when the PC came first came out. Institutional ICT is highly centralised and stultifying.

For fun when I visit classrooms in schools where 'mobile phones are kept in the students' lockers (officially) and search for new Bluetooth devices I rarely find fewer than ten. The teachers are (so far) quite unaware of the fact. Amongst the young IT anarchy rules. The Second PC revolution

Koolu's W.E. phone shown here and the OLPC Mark 2. Although to general chagrin the latter is to be supplied with both Open Source and Windows XP operating systems the new OLPC has two exquisite touch screens, one of which can be a keyboard when required otherwise it can be a two-leaf e-book.

The former, the W.E. phone is powerful enough to be billed as personal computer but uses the familiar format of a 3G mobile phone. Shown here @ http://koolu.com/images/stories/WEphone_builtin_lg.jpg it has a projector and a laser keyboard built in. Development on this project is extremely rapid as the phone uses Google's Open Source operating system Android to control it and the developers have let rip with their imagination.

Combine these two futuristic personal computing devices with the already 'here and now' Open Source netbooks (which I thought were simply amazing 10 months ago) and it is easy to appreciate the coming explosion in personal computing devices.

Open Source software development methods combined with the emergence of powerful new technologies such as ultra-low wattage on chip computers and ultra-sensitive touch screens have unleashed a second personal computing revolution. The result of which is as unpredictable as the first PC revolution. The next steps in ICT education

Closed knowledge systems merely lead to rumours of 'death rays' and other secret weapons but usually deliver nither. Open knowledge systems where knowledge is shared produce better technologies and science.

It is no surprise that Open Source software arose from the very same academic model for sharing knowledge that empowered the 'free world' (as it was called then) to win the cold war.

Today's young have much higher IQ scores than previous generations. This trend is clear and has been attributed to increased symbol manipulations deriving from computer experiences.

The young are also characterised by an unprecedented addiction to information sharing, whether by social networks or humble text messages.

The outcomes of these changes are unknown. Whether they will merely lead white noise as information and IQ blur into insignificance or whether it heralds a cognitive jump is unclear.

We do know however that the Open Source knowledge model is driving change. YouTube application development is Open Source as are the new NetBooks, as is the Google's Android operating system on the W.E device above.

We can be sure that the next generation of PCs will change the way we handle information and work together and that the established administrators will view them one again with horror.

That is, of course, until 'they' can find some way to control them; at this point schools will adopt 'new' technologies, meanwhile expect a fight between 'traditional ICT' and real ICT.