

The use of ICT for teaching in the primary sector - Beyond Chalk and Talk - Oxford Union Debating Chamber - April 12th 2002 - Bridget Cooper - Leeds University

Your view of ICT in the primary sector depends on which snapshot you take and which realities you understand and some of those realities are hidden. I hope this talk will expose some of them.

Here is one scenario:

ICT is moving rapidly into the primary sector. The infrastructure for the National Grid for Learning and access to the web is in place. Most schools have access to resources and advice and these are building up. Some LEA's provide a lot of electronic support and technical support.

Most classrooms have computers, between one and three usually and primary schools with money are beginning to buy interactive whiteboards. A number of primary schools have computer suites. Some schools have sets of lap-tops. Teachers are being trained. Many have their own computers at home - some funded by the government.

One example of this current progress: I am working on a project funded by the Nuffield Foundation called ICT and the Whole Child. The teacher in the classroom we have just set up is soon to retire. However she uses a new lap-top at home and to my utter surprise is delighted with the five new machines and interactive board I have installed in her room for a research project. She is a newcomer to IT and until recently was quite phobic.

This however is just one snapshot. I will now tell you two stories about real children to show some other contrasting aspects.

Hannah's Story

Hannah is an eleven-year old girl with a broad smile. She goes to a happy primary school on the outskirts of a large city. She was born into a comfortable home with two professional parents, both in education, both using ICT on a daily basis.

Hannah has been nurtured in a varied and stimulating environment since birth. She has experienced constant positive interaction. She has played on computers since she was two. As she developed, her parents, along with all the usual stimuli, provided her with programs to support her literacy and numeracy. When she started nursery she could type her name and a few words. At home her parents typed her stories for her and read them out to her. When she starts school she can already read, write and count.

One day when she was seven, in town with her dad, he points out a shop sign, 'Book Cellar', 'That's interesting', said her Dad. 'Yes,' said Hannah, 'It's a homonym'. 'Is it?' said her dad, amazed. She had learned the concept on a computer game at home. Hannah uses IT at home for a range of activities. Also when she was seven Hannah learned to do some simple programming with her mum who had just finished a course herself. By eleven she is a skilled touch typist and a computer, to her, is like a third arm. She can manipulate programs with great ease.

Hannah's school is relatively wealthy. The PTA earns an extra £15,000 a year, a large proportion of which is spent on computing equipment and software. Parents are very supportive and many help in school. In her primary career Hannah spends around 233 hours on computers across the

curriculum. At home in the same period she spends over 3, 600 hours, a total approaching 4000 hours in all.

Dean's Story

Dean is an eleven-year old boy. He has a small, thin, pale, elfin face with dark shadows below his eyes. His face is permanently sad. He has roamed the streets of his home town with his older and younger brother since he was four years old, knocking on doors for food and some security.

He spends little time at home. He sleeps on the floor. He has no bed. He has few toys and no computer. He is mentally abused and beaten regularly by his mum's boyfriend, who prefers the company of his two alsatians to Dean. Dean has been neglected and rejected since birth. His drawings in school are black scribbles of despair.

Dean's school is in poor part of the town centre. The PTA is small and can only raise £350 a year. Each classroom has two computers but they are old. They often freeze, won't print and break down. There are a number of needy children in the class.

Deans' teacher wants to spend time practising her IT skills but has to spend a lot of time with parents, children and outside agencies such as educational psychologists, social workers, special needs advisors and the school Special needs co-ordinator. When she goes home at night she is exhausted.

When Dean had his first opportunity to use a computer at school he came to it with few skills apart from those of survival. He had no literary skills, numeracy skills and above all no sense of self. When he listened to multi-media stories and nursery rhymes on the computer and interacted with the animations he was delighted. He experienced intense positive, multi-media feedback in a secure environment, perhaps for the first time in his life.

Dean is often absent from primary school and coupled with the less reliable computers, he perhaps manages 200 hours on the computer by the time he is eleven years old.

So what have such children achieved in ICT by eleven when they move on to secondary school? Clearly it can vary tremendously.

Hannah is highly competent. She has had lots of opportunities to maximise all the skills required by the National Curriculum for ICT. She can search the web, find, classify and manipulate information with ease on a range of software. She can use databases, spreadsheets and word processors for a wide range of meaningful tasks across the curriculum. She has used software for monitoring and control, for mathematical modelling and for composing music. She uses e-mail in and out of school and chats with her friends on an instant messaging service. She has been involved in creating the school web-site.

Dean will have had opportunities to use some programs but his achievement is profoundly limited by his very low general skill level and his lack of self-worth and multiple problems. His raw survival skills however are sharply honed.

We see contrasts here which are hidden by the national snapshots and the positive spin we can give to general figures. Here are new personalised statistics, 4000 hours compared with 200. These contrasts apply to literacy and numeracy too.

So what problems do schools face?

Firstly inequality of provision - often hidden inequalities. In each school classroom we may see two PC's but every other aspect is different. Inequality and disadvantage are compounding -as are privileges.

There are insufficient PC's in classrooms to meet the needs of the numbers of pupils. There are not enough to plan for group work. The quality of hardware and software varies tremendously.

There is insufficient time for learning and practising with the software. There is a discrepancy between training and having time to practice what has been learned initially.

Teachers face inequality of working conditions and many have greater demands from more needy pupils.

Some head teachers want and need more advice on ICT.

Suites are hand-me-down solutions from secondary schools and universities they are not particularly suited to the primary curriculum and primary ways of working. They imply individualised isolated learning and do not encourage human interaction or teacher confidence.

Some solutions

Solutions will need to involve the wider context and consider the whole child in their implementation. Useful strategies to give teachers and children more time and opportunity to practice the use of ICT across the curriculum would be.

A lap-top for every teacher with all the classroom software installed on it.

An interactive board for each classroom designed for both staff and children to use.

A cluster of at least four computers around a table in each classroom so that teachers can plan for and facilitate group work and children have more opportunity to use them.

Each teacher allowed an afternoon per week for software/hardware training and practice.

We want classrooms designed for intensive, positive human and computer interaction in a flexible and collaborative arrangement.

We need more software designed with teachers and children to more closely meet needs.

Heads need support from **primary** ICT specialists.

When we get it right even novice teachers can be thrilled with the results:

A classroom we designed was called; *spontaneous, versatile and - a perfect world* by a teacher new to ICT. For more details of our projects see: <http://www.cbl.leeds.ac.uk/~bridget/index.html>

