

## **Teacher education and ICT: some points for consideration from the UK**

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For the past decade or so I have had an interest in the ways in which teachers and student teachers learn to use ICT in their teaching. Having read through the project details, the following sections are some of my thoughts on aspects of recent policy and practice in the UK which may have some relevance to the project.

### **1. Government commitment to the use of ICT in schools in the UK**

One of my sad little hobbies is collecting quotations by politicians and policymakers about the use of new technology in education. In over ten years, I have not come across any policy statement about ICT and education that is not unequivocally positive about the potential of ICT to improve educational outcomes. Moreover, this commitment has been matched by substantial financial investment in ICT in schools. The UK now has one of the lowest pupil to computers ratio in the world (estimated by BECTa recently at between one computer for every 3-4 pupils in secondary schools). However, politicians in the UK have tended to see computers as unproblematic educational miracles, and their inchoate enthusiasm for ICT has not always meshed with teachers' ideas about the ways in which new technology might be used to improve teaching and learning in schools. Until recently, much investment focused on the provision of dedicated ICT rooms where pupils would gain 'hands on' experience of using Excel, Word, PowerPoint, Access etc. There is evidence to suggest that teachers wanted ICT to help them to teach their subject in more powerful, effective and engaging ways, in their 'ordinary' classrooms, as and when the opportunity arose. More recently, there has been a shift to investment in data projectors, interactive whiteboards and internet access in ordinary classrooms.

Although the government has been unequivocally committed to promoting the use of ICT in education, and have committed substantial funding to encourage teachers to use ICT, mistakes have been made; it is important to learn from some of these mistakes. There is a place in the research for allowing those directly involved in the recent experiences of trying to get student teachers to incorporate the use of ICT in their teaching to talk about which policy levers were helpful and which less so.

### **2. The problematic nature of getting teachers to use ICT**

A central and high profile strand of education policy in the UK over the past decade has been the development of a technologically empowered teaching force so that ICT is 'embedded in teaching and learning' (Clarke, 2003: 3). This has proved to be more difficult than envisaged. Department for Education and Ofsted (Office for Standards in Education) reports have generally showed a disappointingly sluggish increase in the number of teachers making regular use of computers in their teaching. The ImpaCT 2 Report (Harrison *et al.*, 2002) suggested that roughly 60% of teachers were making little or no use of computers in their teaching and Teacher Development Agency (TDA) feedback from NQTs regularly reported that many trainees did not feel well equipped to make effective use of ICT in their teaching (TDA, 2006, 2007). In spite of political commitment and financial investment, there still appears to be a 'rhetoric-reality gap' between the claims made for the use of ICT in education, and what is current practice. Perhaps even more exasperatingly, some UK research suggests a degree of polarisation in ICT use, with some schools and teachers making effective and inspirational use of ICT, but others lagging behind (see, for instance, Harrison, 2003). It has proved more difficult than envisaged to disseminate good practice in the use of ICT. In particular, the belief that expertise and ideas could be simply disseminated via electronic networks has proved to be misplaced.

It would be helpful if the research could be designed in a way which would develop our understanding of the factors which explain why ICT is making a big difference to teaching in some schools (and teacher training institutions) but not in others.

### **3. Difficulties in getting 'honest' responses and accurate information about the use of ICT in schools**

It might be helpful to keep in mind some of the mistakes which have been made in the UK in recent years in this field. The roughly biennial large scale surveys conducted by the Department for Education from 1985 onwards have been largely discredited, and it is now generally acknowledged that simply asking headteachers and heads of department how much computers are used, and what difference they make to learning outcomes is not a reliable way of assessing the impact of ICT, given teachers' awareness of the 'politically correct' response. The ImpaCT 2 Report (Harrison *et al.*, 2002), which attempted to elucidate the extent to which ICT could be proved to have improved learning outcomes was also subject to varying interpretation, and illustrated the difficulties in isolating the use of ICT as a variable in educational outcomes. The research design needs to keep in mind the importance of respondents feeling able to talk freely and honestly about their experiences of learning to use ICT.

### **4. Pupil and teacher use of Web 2.0 technology**

Recent research in the UK (BECTa, 2008) suggests that there may be some validity to the proposition that many pupils are more familiar with Web 2.0 applications than many of their teachers. Of the 2,600 learners surveyed, 74% had social networking accounts and 78% had uploaded artefacts using Web 2.0 applications. However, nearly all pupil use of Web 2.0 is currently outside school, for social purposes. Few pupils had an understanding of the ways in which Web 2.0 might be used for educational purposes, and few had well developed digital literacy and critical skills to

navigate Web 2.0 territory in a mature way. A small number of teachers are using Web 2.0 applications in their teaching, 59% believed that Web 2.0 applications did have the potential to improve teaching and learning outcomes, but many expressed concern about the time needed for familiarisation and development. The executive summary concluded that ‘despite the anecdotal evidence and hype surrounding the concept of Web 2.0 technologies in education, there is a lack of studies providing empirical evidence on the role of Web 2.0 technologies to support learning.’

This disjunction between the number of pupils and teachers using Web 2.0 applications and the different ways in which they use Web 2.0 could be a particularly interesting strand of the enquiry.

### **5. Teacher attitudes/disposition to the use of ICT**

There is evidence to suggest that teacher’s attitude to the use of ICT in the UK has changed over the past decade. Whereas surveys several years ago suggested that there were various forms of teacher resistance to ICT, more recently, research has suggested that the majority of teachers have positive views about the potential of ICT to improve teaching and learning outcomes; one of their main concerns was finding time to fully explore this potential (See, for instance, Haydn and Barton, 2006). This is not to suggest that all teachers are equally proactive in developing the use of ICT in their teaching, and teacher *disposition* towards demonstrating initiative in progressing their practice with ICT remains an interesting and under researched agenda. As was pointed out at the seminar, how teachers *feel* about the potential of ICT, and their views about incentives and discouragements is a relevant issue.

### **6. ‘First do no harm’**

There is some evidence to suggest that some of the policy levers which have been used to promote the use of ICT in schools have been ineffective, or even counterproductive. Mistakes in the UK include the overloading of the list of ICT competences required to gain Qualified Teacher Status (DfEE, 1998), ‘curriculum mapping’ approaches to ICT (different subjects to develop different aspects of ICT), a punitive mentality relating to teacher development in ICT, generic ‘industrial training’ models of in-service training, a ‘coverage’ (breadth rather than depth) approach to ICT competence, and an over-reliance on distance based ‘over the wires’ learning approaches (see Haydn and Barton, 2007 for further development of these points).

### **7. Conclusions/some things to think about**

- There are still different views about what it means ‘to be good at ICT’ as a teacher. Exploring teachers’ views on this (and comparing them with policy levers and curriculum specifications) might be an interesting way forward.
- Given the same ‘input’ in Initial Teacher Education courses, why do some students make much more progress than others in their use of ICT? Is it about teacher dispositions towards technology or learning styles and approaches?
- It is clearly not primarily a question of ‘providing more stuff’ about ICT for teachers and student teachers; there is already more ‘stuff’ than they can possibly cope with. It is more important to try and find out what strategies,

interventions, experiences and resources have the most impact in persuading teachers to develop their use of ICT.

- It is self-evident to most teachers that their use of ICT will depend on what subject they teach. Data logging, for example, is a key facet of science education, but is of no interest to history teachers. There is a need to gain a greater understanding of which ICT applications are considered most valuable by teachers of different subjects; teachers often have to make difficult choices about which ICT agendas to pursue in order to profit from 'investment' in ICT.
- Giving teachers more time to explore the potential use of ICT has emerged as an important issue in some recent research, 'Barriers' to ICT use have changed over the past decade and there is a need to understand these changes.

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