New alliances in teacher education in IT

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Information technology in education is on the electoral agenda. Gillian Shephard, announced the need for 'network literacy for all' last January. In the summer the Labour Party proposed that all school pupils should be given a computer and schools should be connected to the Net. In December, plans to give computers to teachers were publicised by the Tories. The DFEE have already put £4 million into computer portables for teachers – a forward looking gesture since it is the teachers who are expected, by implication, not only to be confident and competent in IT, but to lead the lifelong learning of the nation.

But hardware and software provision alone does not create a learning and teaching revolution. Since 1987 the Department for Education and Employment has spent more than £200 million on hardware and software. In 1993/94, after the introduction of local management of schools, primary schools spent £105.6 million: secondary schools spent £86.9 million. British children have more access to computers than any other G7 nation, the richest countries in the world. Britain is also the only G7 country with statutory provision for IT as a core skill in the national curriculum alongside literacy, numeracy.

Nevertheless, there has been so little discernible effect on learning. The Office for Standards in Education, reporting for school inspection teams, is critical of the teaching and use of IT in the great majority of schools. The full features of powerful industrial standard applications are not being explored. The Department for Education and Employment's longitudinal study on learning with computers, the Impact Report finds few measurable results concluding that, 'the majority of school pupils are not yet provided with opportunities to take advantage of the potential of the full range of software, a substantial amount of which is currently available in schools.'

Despite global advantages in resourcing, fewer than one third of primary school teachers and half the secondary teachers use IT regularly in the classroom in Britain. Margaret Bell, the Chief Executive of the National Council for Education Technology warns, 'It is important to stop and consider why this is the case and what we should be doing differently.'

Turbulence in teacher education in Britain

Some of the reasons for the reluctance of teachers in implementing IT emerge in the strategies for IT teacher education in USA and the UK where classrooms are already well resourced. In the latest double issue of The Journal of Information Technology for Teacher Education, Terry Willis, the current editor from the University of Houston, comments that integrating advanced technologies into classrooms is a complex process

that involves personal, group, organisational, institutional, and even cultural change. Significant change is rare. Mostly educators settle for less, and call it success.

The only British case study from the University of Oxford, highlights the disparity of attitudes and understanding of IT between history and geography interns in their initial training year. A high level of anxiety was expressed in emotive terms by the historians.

Robert Muffoletto, University of Northern Iowa takes teacher anxieties seriously. His essentially pessimistic paper challenges the view that the use of technology is creative, innovative and humanistic – 'an illusionary discourse used to camouflage the real power relationships in the current debate over educational reform.'

Muffoletto's warning that the computer is not a politically neutral device has resonances for British teachers emerging from a period of intense educational reform. Bridget Somekh, Scottish Council for Research in Education, is a leader in action research methodology in which the teacher becomes the researcher, as well as controlling change processes. Her perspective on change in teacher education in five universities, includes consideration of factors such as national and institutional culture, and the interaction, both positive and negative, between these levels. She describes with engaging honesty, her attempts to make the process of change visible to the participants, sometimes by her admitting her own motives in coercing colleagues to comply with government and with institutional IT policy.

Somekh's masterly analysis of the recent history of teacher education describes how turbulent changes in 1992 and 1993 undermined the morale of teacher educators, both through criticism of their professional role and in real threats to their job security as funds for teacher training were transferred to the schools.

New alliances

If Britain lags behind America in IT teacher education, this can be directly related to the effects of these sweeping budgetary reforms. But new alliances are appearing between traditional teacher education institutions and schools.

Some senior management teams are being triggered to consider their IT policy and development plan as a result of government inspection. For example, at Sir James Barrie, a state primary school in Wandsworth, the OFSTED inspection report identified IT as a weak link in a strong school culture. A solution was available since Wandsworth LEA were offering a realistic budget of £8,000 to any school which could justify an effective programme of whole staff IT training.

The head contacted Project Miranda, based at the Institute of Education, London University for external IT consultancy. A collaborative programme was agreed, starting with an audit of staff skills and attitudes. The audit identified a shared staff conviction that new generation computers could resource learning opportunities in aural, visual, kinetic, graphical skills and literacy. Although the majority of staff have received less than two days IT training throughout their professional life, their convictions about the potential efficacy of computers in the inner city context, have proved sufficient motivation to commit time to their professional multimedia development.

A quarter of the staff own a computer or are considering computer purchase. Another third have home computers owned by husbands and sons. For the others, a fast multimedia computer with Net access, scanner, colour printer and digital camera has been installed in the staff room.

A programme of whole staff training is staffed by Sir James Barrie experts as well as a Project Miranda team. The development of administrative and curriculum projects includes existing good practice. Everyone on the staff is attached to an appropriate curriculum development group so that relevant information is passed on. Groups are covering multimedia authoring, Net communication, literacy and numeracy applications, control, measurement, modelling, administration, professional skills and curriculum resource development. Every staff member has agreed to develop appropriate expertise in one area that interests them. Some staff have elected to take accredited courses at the Institute: others are planning to publish their action research projects on the Web for other teachers. Senior management are looking at long term planning, budgeting, assessment and monitoring implications.

Although small classroom projects are taking place, there will be no official attempt to co-ordinate the staff activities until next year when learning gains will be analysed. But despite the lack of current implementation, a Wandsworth LEA mini-inspection in November was enthusiastic about the potential for long term improvements in the quality of teaching and learning in IT. Sir James Barrie staff are articulate about where they stand in the IT learning process and where they plan to be in the future.

Government pressures

Government grants for bilingual learners have created another teacher education development. Shammy Batra, a policy maker at Waltham Forest, has set up multimedia in service programmes that includes accredited courses at the Institute linked with action research projects in the classroom. Investigating the power of multimedia authorship and communication on the Net has had the greatest impact on these London teachers' enthusiasm who need strategies to interest gifted pupils with poor English. Action research techniques ensure that change happens in the teaching environment and that teachers can articulate the gains and the losses. The Waltham Forest project is being replicated in Southwark and in Tower Hamlets in collaboration with Project Miranda.

Government pressure on academic secondary schools to increase the use of IT is not strong – there is no national testing- university entrance does not depend on IT skills. Private schools like Haileybury in Hertfordshire do not even have to follow the national curriculum. But parental opinion is always an important factor in the decisions of good schools.

Haileybury is already well equipped for technology. But the new master and the governing body has recently authorised the leasing of fifty portable computers, invested in a new infrared network and Net connections. All the staff and one full class are involved in the first years' in-service programme designed in collaboration with a Project Miranda team.

In the first whole staff sessions, the multifaceted nature of the contemplated changes became clear. General issues of policy, curriculum delivery, assessment, monitoring,

cost-benefit issues, learning gains and inspection perspectives were fiercely debated. Good practice was shared concerns about quality and relevance were aired. Enthusiasts and technophobics expressed their views.

By Easter a new five year development plan will include a variety of in service paths and curriculum development projects in IT for Haileybury staff Partnership with other schools in Britain and abroad, with Institute staff, with specialist free lance consultants, with the computer suppliers and with internal Haileybury experts will be encouraged. The balance and the mix will be chosen by the staff. The agreed changes that result will be managed by the school's senior team. Failure and success will be judged by the staff and the students.

A tribute

These new alliances in state and private schools are grounded in the research practice described in The Journal of Information Technology for Teacher Education. Brent Robinson, the founder editor, prophetically expressed the complexity of the IT education context as a situation where ' students, teachers and teacher educators each have several roles to fill and valuable expertise and knowledge to share with each other.'

Brent, a leading personality in this young research community, died suddenly in September 1997. He is mourned, but celebrated too in the multifaceted projects that are giving practical acknowledgement to his vision.