In his book Changing Teachers, Changing Times: teachers’ work and culture in the postmodern age, Andy Hargreaves (1994) wrote: “The involvement of teachers in educational change is vital to its success, especially if the change is complex and is to affect many settings over long periods of time. And if this involvement is to be meaningful and productive, it means more than teachers acquiring new knowledge of curriculum or new techniques of teaching. Teachers are not just technical learners. They are social learners too” (p. 11). The incorporation of information and communication technologies (ICT) into the educational process is such a change. In the United Kingdom (UK), The Initial Teacher Training (ITT) National Curriculum for the Use of ICT in Subject Teaching, published as Annex B of Department for Education and Employment Circular 4/98 Teaching: high status, high standards, is one of the ‘levers of change’. Christ Church College at Canterbury has responded quickly by publishing Talking about Information and Communication Technology in Subject Teaching: secondary (i.e. 11-18 years). They have thus anticipated and addressed the gap in the market which the publication of the Curriculum would inevitably create.

The book acknowledges the demands of the technical learning which the new Curriculum requires, but also seeks to foster the social learning to which Hargreaves refers. The book sets out to “help mentors, student teachers and tutors to talk to each other about the issues involved in the use of information and communication technology (ICT) in schools” (p. 5). This is a laudable aim, particularly as the use of the new Curriculum in initial teacher education is to be paralleled by its use as the basis for the UK New Opportunities Fund programme of training for serving teachers.

Not only this; we stand on the threshold of the UK National Grid for Learning, which aims to link all schools to the Internet, and the recent Green Paper of proposals (Teachers: meeting the challenge of change) underlines the government’s commitment to realising what it sees as the potential of ICT, as yet largely untapped, to raise standards in education. Thus, there has probably never been a better time, or indeed a more urgent need, for the conversations that the book aims to support and stimulate. We are still very near the beginning of the process of learning about when and how to use new technologies to the benefit of teaching and learning in our schools. As the book itself acknowledges,
“firm evidence for the effectiveness of computers in teaching and learning is difficult to find in the educational research literature“ (p. 21).

Christ Church College is also setting up a web site (DISTRICT) as a distance learning resource to tie in with and supplement the publication of the book. This is an interesting, welcome and appropriate development, providing opportunities to add up-to-date information and ideas in an age when a book alone might soon become outdated. It will also be a source of on-line tutorials. Unfortunately I could not, at the time of writing this review, access DISTRICT, either via the URL given in the book or via the main Christ Church web site, so am unable to comment on it further.

The book itself is a series of thematic double-page spreads, arranged in three sections: planning the delivery; teaching with ICT; using ICT. Each double-page spread conforms to a standard format. The two main, central columns contain the main text exploring the issue in question. The left-hand column contains the relevant extracts from the ITT National Curriculum for ICT. The right-hand column contains bulleted lists of points relating to when and when not to use ICT, and other issues. The pages are illustrated with related photographs and screen-shots.

The first section sets a context in planning. The message is clear: the use of ICT in any lesson, if it is to be beneficial, must be fully thought through in advance, in the light of full knowledge about the availability of hardware and software, school plans for progression in IT capability, and other contextual factors. The pages contain some suggestions for gathering this information.

The second section, teaching with ICT, addresses the issues relating to Section A of the Curriculum (i.e., the pedagogical issues). At the beginning of this section, on pages 20 and 21, there is something of a semantic sleight of hand where the Curriculum’s four “functions of ICT” (speed and automatic functions; capacity and range; provisionality; interactivity) seem to become the de facto “benefits of ICT”. The four functions are, of course, a helpful basis for thinking about the use of ICT in a range of contexts, but they are essentially characteristics or attributes of the technology and thus do not automatically assume the status of benefits.

This section is also where the subject-specific double-page spreads are to be found, in addition to pages dealing separately with ICT and numeracy, literacy and special educational needs. Don’t approach these pages expecting an in-depth exploration of the use of ICT in a given subject, however! There is clearly a limit to what can be said about the use of ICT in any subject, in a double-page spread. There will also tend to be some rather broad-brush generalisations about teaching and learning in that subject, for it is not possible to go into debates about subject pedagogy. For those, the reader will have to look elsewhere. What the reader can expect to find are some ideas and starting points for planning, together with things to think about and watch out for.

The third section – using ICT – relates to Section B of the Curriculum. This is a sequence of generic pages covering hardware, common applications and skills, health and safety, and moral and ethical issues. Giving specific support in developing the skills is beyond the scope of the book, (though on-line tutorials are to be available at the DISTRICT web site). And as before, don’t expect an in-depth discussion of the topics, given the constraints of a single double-page spread for each one.

My comments here are based on the secondary edition of the book (which is also published in a primary edition). Given the strength of association with subject felt by many secondary teachers and student teachers, I wonder if there is
sufficient of ‘their subject’ in the book for them. This is not to deny the genuinely generic nature of much of what is covered in the book, and indeed of the Curriculum and the technology itself. But it may prove to be an issue for some of the potential readership when it comes to using the sections which do not appear to speak directly to them, yet which they would need to use in order to gain maximum benefit from the book.

Overall, the book aims for and achieves breadth rather than depth, and is best seen as providing a large number of starting points for investigation and discussion and, in a positive sense, more questions than answers. It can also be used “as a checklist for reviewing progress ...” (p. 7). It takes its lead very much from the new Curriculum and aims for full coverage without providing - how could it? - a complete course in ICT. It does not seek to provide a

neither does the Curriculum in any significant way. In this sense, it is very much a book of its time.

The Standards for Qualified Teacher Status and the ITT Curriculum for ICT are not value-free. They are rooted in a technical-rational ideology of education, and are closely implicated in the broader process of ‘proletarianisation’ of the work of teacher educators. It will be important for users of this book to recognise and resist these trends. We must ensure that critical reflection characterises the discussions the book seeks to stimulate. It would be easy to criticise Talking about Information and Communication Technology in Subject Teaching as being reductive, or a minimalist response to the new Curriculum. But if we take the book on its own terms, then it does what it sets out to do - or will do, if we take up the challenge and not talkin!

Talking about Information and Communication Technology in Subject Teaching: primary
CANTERBURY CHRIST CHURCH UNIVERSITY COLLEGE, 1998
Canterbury: Canterbury Christ Church University College.
ISBN 1 899 25340 8 £12.95 paperback

As the authors clearly state in its introduction this book is not a “How to ...” guide for using information technologies in your teaching nor is it likely to become academic background reading for student essays on ICT in education. However, it is a clear and helpful introduction to, and explanation of, the UK Government’s new standards for the use of information and communications technology (ICT) in subject teaching that must be implemented on all UK teacher training courses from September 1998.

It is intended for initial teacher training students, their tutors and their school based teacher mentors and is extremely closely linked to the ICT standards as published by the Department for Education and Employment (Circular 4/98). In fact the relevant standard being discussed appears as an inset on every page. The introduction also refers to the DISTRICT (Distance Information to Support Training in ICT) web site (http://www.cant.ac.uk/district) set up to provide further support materials and resources on the Internet. This is undoubtedly a good thing as ICT develops constantly and texts go quickly out of date, but too quickly it seems, the given URL brings up the message Object Not Found.

The book itself comprises three sections, the first on mentoring teacher training students and planning for teaching with ICT, the second teaching with ICT itself and the third the
Government's standards from Circular 4/98, singly or in related groups, in turn as their starting point.

The first section looks briefly at the role of the mentor and their expectations of the student, what is meant by IT and ICT, how they fit the requirements of the National Curriculum taught in UK schools and how the students can prepare themselves for using ICT in their lessons during teaching practice.

Unfortunately, not enough attention has been paid by the authors to planning for and managing ICT in the specific context of primary school teaching. Much of this section is extremely similar to the book's companion volume Talking about ICT in Subject Teaching: primary (i.e. ages 5-11 years). Whilst the UK Government's standards are the same for primary and secondary teacher training students, it is made clear that student teachers must focus on their own age phase and subject-specific ICT requirements and applications.

This problem with the book's approach to the topic largely continues in Section Two, on classroom teaching with ICT, which is organised by teaching subject area, though some of the subjects such as English and History do contain much useful primary-specific material and interesting and relevant examples. Good points are also made in the pages on literacy and numeracy, especially as they are not mentioned in the ICT standards for teacher training yet comprise much of the current developments in primary school teaching. A particularly useful part of this section is the double-page spread discussing the use of ICT for early years education, which is much more focused on young children's needs and consequently more helpful.

The authors are obviously very aware of student teachers' needs. The insets on each double-page spread such as "When to use IT" and in particular "Questions for teachers" when it occasionally appears contain excellent pointers for student teachers' advance planning, but the usefulness of the matching inset "When not to use IT" is in doubt.

Lastly, the third section on personal knowledge, understanding and competence with ICT forms an extremely helpful guide to the hardware and software that might be found in UK schools. Here the friendly tone of the text and the lack of assumptions of ICT awareness on the part of the reader make a useful introduction for novices though there are some assumptions about the level of ICT resourcing to be found in the average primary school.

Overall, while the material in the book is well informed, topical, well illustrated and well presented, it reads as if it was written for secondary specialists and has been adapted for, rather than originally written for, use by primary teacher training students, their tutors and mentors. The authors need to pay more attention to the realities and practicalities of teaching with ICT in the primary school context so that the book may become the extremely useful resource for novice IT users entering the teaching profession that it has the potential to become.

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