



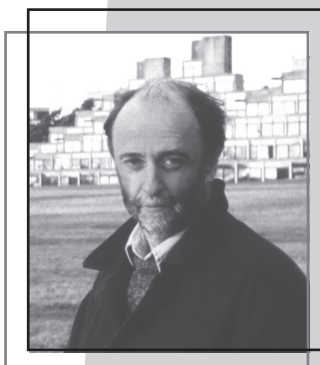
# Lessons learned? Teaching student teachers to use ICT in their subject teaching: a view from the UK

## ABSTRACT

*The paper looks at the ways in which policymakers in the UK have attempted to get student teachers to use new technology effectively in their subject teaching over the past decade. During this period, there have been changes in the competence frameworks for validating student teachers' ability to use ICT in their subject teaching, and the UK government has invested billions of pounds in equipment, websites and training materials in order to secure the development of a technologically empowered teaching force.*

*In spite of these evolving policy and competence frameworks and the investment of considerable sums of money, recent research and inspection reports suggest that the outcomes of these investments have been at best 'patchy', with the Office for Standards in Education (the government agency charged with inspecting the quality of schools and initial teacher education institutions) suggesting that many teachers still do not make effective use of ICT in their teaching (Ofsted, 2007), and the British Educational Communications and Technology Agency (BECTa, 2007) suggesting that only three out of ten schools in England and Wales are making effective use of ICT to improve teaching and learning.*

*The paper looks at the recent history of ICT policy for initial teacher education in the context of student teachers' views on various components of their 'education' in the use of new technology to teach their subject. In spite of the importance attached to this facet of initial training, and significant investment in training materials and resources, there is evidence to suggest that much of this investment is not found to be helpful by students. The research was undertaken in two phases; the first phase, in 2002-3 examined student teachers' views of the competence framework put in place by the Department of Education and Employment in 1998 (DfEE, 1998), and the second, in 2009, explored university tutors' and student teachers' views of the arrangements for developing and assessing competence in ICT under the revised competence framework which was introduced in 2007. The study attempts to elicit student teachers' views on what aspects of the arrangements for the development of competence in ICT have been or are helpful, and which facets of ICT training and assessment have been or are less helpful. The concluding section considers the extent to which lessons have been learned from past mistakes and misjudgements in this area, and (from a student teacher perspective) what are the most propitious ways forward for helping new teachers to make best use of the potential of ICT for improving teaching and learning. There is a degree of consistency in the feedback provided by the two cohorts of students which suggests that there may be lessons to be learned for education systems outside the UK.*



Terry Haydn

University of East Anglia,  
UK

t.haydn@uea.ac.uk

## CONTEXT

Over the past two decades, it has been deemed increasingly important that those entering the teaching profession should be competent in the use of information and communications technology (ICT) in their teaching.

As early as 1995 Cochrane was to claim that 'in future, there will be two sorts of teacher; the IT literate and the retired', and the past few years have seen high profile political commitment to the development of a technologically empowered teaching force (DfEE, 1997, Blair, 1998, Clarke, 2003), and increasingly stringent requirements in the regulations for student competence in ICT. The standards laid down by DfEE Circular 4/98 for the award of qualified teacher status (QTS) identified over a hundred ICT 'competences' (stretching out to 15 pages of the document) which students were obliged to acquire, and failure to develop competence in even one of these strands of ICT proficiency would mean that QTS

(the qualification which licenses people to teach in state schools in the UK) could not be awarded. Chief Executive of the Teacher Training Agency (the government agency overseeing initial teacher education), Anthea Millett (1998) argued that by spelling out more comprehensively than ever before the competences which students would be obliged to possess before being licensed to teach, the new 'improved' Standards for the Award of Qualified Teacher Status (DfES, 1998) would ensure that the breadth of newly qualified teachers' competence- in ICT and all other facets of teaching- would be higher than ever before. In 1999, to add further rigour to the process, and to further 'ratchet-up' standards, the Teacher Training Agency announced the introduction of online 'Basic Skills' tests in literacy, numeracy and ICT, which all students would have to pass before the award of QTS could be granted.





Recent years have also seen an explosion in the volume of research literature on the ways in which student teachers develop competence in the use of ICT. In addition to the papers published in this journal, there are the 13 evaluation studies on ICT commissioned by BECTa, the main advisory body on ICT and the Department for Education, now termed the Department for Education and Skills (BECTa/DfES, 2003), and other ICT related research documents on the TTA, BECTa and DfES websites. There is also a wide range of documents, CD-roms and websites designed to support student teachers in developing competence in ICT. There are now thousands of pages and webpages devoted to the development of student teachers' competence in the use of new technology.

In 1993, a survey of student teachers found that almost half of them did not use ICT at all in their school experience because 'the thought did not occur' (Downes, 1993). It is almost inconceivable that this reason could be given today. ICT is now a high profile component of ITE (initial teacher education), and all students are aware that if they do not fulfil the ICT requirements in the standards, and pass the online ICT skills test, they cannot be granted QTS.

#### The problematic nature of progression in teacher competence in ICT

The then Secretary of State for Education Kenneth Baker (1988) saw the development of a technologically enabled teaching force as a fairly straightforward matter, explaining to a conference of Education Officers that 'the problem of getting teachers aware of IT will soon be phased out', as such skills would now be built into initial training courses, and 'all new entrants will soon have IT expertise.'

In practice, the issue of teacher competence and confidence in the use of ICT has proved to be more problematic, with subsequent surveys showing that many teachers still did not feel confident about ICT and did not make regular use of ICT in their teaching (see, for example DfES, 2002, Harrison *et al.*, 2002, Selwyn, 2003).

There may of course be several factors other than teacher competence in ICT to explain such findings, such as limited access to computers and pressure to 'cover' the curriculum, but one of the propositions advanced in this paper is that there has been a tendency to underestimate the complexity of 'training' teachers in the use of ICT, and the complexity of learning processes in general. The paper argues that there has been a tendency to 'throw information' at the problem, and give insufficient attention to the very variable 'impact' which particular interventions have on learners in this field.

There has been a tendency in the UK for politicians and policymakers to regard teaching and learning as relatively unproblematic processes, primarily a matter of transmission from teacher to learner, with the assumption that if the teacher explains things competently, and the learners are reasonably intelligent, learning will occur (see, for example, Cooper and McIntyre, 1990, Simon, 1994). One consequence of this is the enormous political

faith invested in the educational potential of new technology for enhancing teaching and learning outcomes. If learning is seen principally in terms of 'transference', new technology, with the facility to transmit massive amounts of information very quickly, would appear to have much to offer. As John Naughton (1999) has pointed out,

*It's not every day that you encounter a member of the government who appears to understand the Net. Most politicians (Clinton, Blair, Blunkett, to name just three) see it as a kind of pipe for pumping things into schools and school-children.*

Policy makers were attracted by the potential of communications technology for transmitting information across the educational system. High hopes were pinned on *The National Grid for Learning* (DfEE, 1997), which was to be an electronic equivalent of the *encyclopaedia* of the Enlightenment philosophers of the eighteenth century. It was felt that this would revolutionise the degree of 'transference' possible in terms of educational ideas, best practice and the dissemination of 'strategies' from the centre. As Noss and Pachler (1999: 197-8) pointed out, the vision of learning outlined in *Connecting the learning society* (DfEE, 1997) was clear:

*Teachers will be linked to the centres of power; the DfEE (Department for Education and Employment) will be able to communicate directly with schools and issue its latest instructions: schools will be able to send performance data directly to each other and to the DfEE; and an aspect with increasingly high profile in the media recently, teachers will be able to download worksheets directly into their classroom.*

This model of the teaching and learning process was reflected in the manner in which the 1998 framework for ITE was constructed, dominated by ideas about 'what all students should know and be able to do', defined primarily in terms of substantive content and 'competences.' The corrosive influence of 'coverage' meant that the curriculum was presented to students as primarily a mass of content and competences, with (in Wragg's estimation), 851 competences overall to be covered by primary students (Wragg, 2000).

This coverage mentality, and the 'quantitative' approach to teacher quality (the more competences stipulated, the better the teachers that will emerge) flies in the face of much recent research about effective teaching and learning (see, for example, Bennett *et al.*, 1984, Lightman and Sadler, 1993). In the words of Dickinson *et al.*: 2001: viii):

*In training, beginning teachers are monitored on their achievement of 'standards'. These are discrete 'outcomes' statements that closely resemble a long-discredited behavioural objectives model, and are so numerous as to be unworkable. The danger is that a system of this kind produces mechanical, rule bound assessment, in which monitoring against discrete statements supplants teaching towards understanding. A merely 'accounting' assessment against such standards can mean that real understanding of complex practices essential for effective teaching in the long term is discounted in favour of simplistic and low-level short-term procedures.*

### Students' views on the effectiveness of various aspects of their training in the use of ICT

The following analysis is based on a questionnaire survey of approximately 200 primary and secondary PGCE students at one institution, and a smaller survey of 26 secondary students at the same institution which combined the use of questionnaire and interview survey. The questionnaire was conducted in June 2002, and the interviews between June 2002 and July 2003.

The questionnaire simply asked students how helpful they had found Annex B of the 4/98 standards (the 15 page section of the competence framework for student teachers focusing on the development of ICT capability), and how helpful they had found the online 'basic skills' test on ICT. The interviews provided the opportunity to ask a broader range of questions about their experiences of trying to develop proficiency in ICT over the course of the PGCE year.

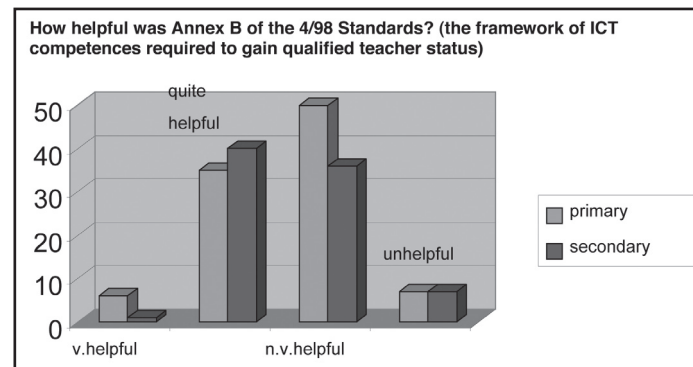
A second phase of the research was carried out in May-June 2009, with a questionnaire survey of 107 student teachers across four ITE providers, and interviews with 32 student teachers across three ITE providers.

#### Phase 1: 2002-3

Student teachers did not find Annex B of the 4/98 standards (the section related to competence in ICT) helpful or easy to work with. There was a general feeling that the stipulations for competence in ICT were unwieldy and unrealistic; particularly section 10 of Annex B (DfEE, 1998: 23), which required that students 'be given opportunities to practise, in taught sessions and in the classroom, those methods and skills described above' (amounting to 51 separate ICT competencies). The other major reservation about the standards was the stipulation that students achieve 'all these standards', and that 'all courses must involve the assessment of all students to ensure that they meet all of the standards specified' (DfEE, 1998: 7). The 'official line' was that failure to achieve even one of the strands of the standards rendered students ineligible for QTS. This meant that if a student was performing to high standards in all but one of the hundreds of micro-competencies specified, but was failing in respect of one of them, they could not pass the course and could not be awarded QTS. This struck most students (and tutors) as unrealistic and unhelpful.

The students' response to Annex B of the 4/98 standards (the framework of competences relating to ICT capability) is shown in Figure 1. Only 7 students (out of 182) found the detailed specification of ICT competences to be 'very helpful', with over half the students regarding the framework as either 'not very helpful', or 'unhelpful'. In the follow up interviews, some students remarked that Annex B gave them some idea of the breadth of things that there were to think about in the area of ICT, others (a few) said that the extensive detail provided had helped them to avoid 'plateauing' in ICT in the later stages of the PGCE year.

Figure 1:



An even more negative picture emerged when students were asked about the helpfulness of the online 'basic skills' test in ICT (see Figure 2). Although the questionnaire only asked them to indicate their view of the test on a continuum between 'very helpful' and 'very unhelpful', and did not invite further comment, many respondents nonetheless found space to write in more detail about their feelings about the test, and it was clear that many of them felt very angry about it. A representative sample of comments is given in Figure 3. None of the students found the online test in ICT 'very helpful'; only one student found the test 'quite helpful', and 167 found it 'very unhelpful'.

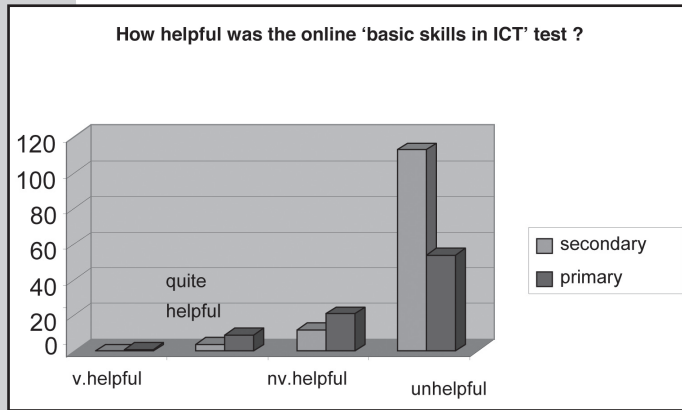
Figure 2:

#### Comments on the online test in ICT:

- 'Very, very, very unhelpful.'
- 'Insulting.'
- 'Pointless, pathetic and utterly ridiculous.'
- 'Futile.'
- 'A waste of time; another hoop to jump through.'
- 'unrelated to subject or to common sense.'
- 'Unhelpful and patronising.'
- 'A farce; location, timing, availability-everything-stressful.'
- 'Jumping through hoops for government statistics.'
- 'An insulting waste of time and resources.'
- 'Extremely unhelpful. They have got in the way of my teaching and have been an unnecessary distraction. The government should immediately test these irrelevant tests.'
- 'Downright irritating... the buttons aren't where they should be.. their version of everything is different, doesn't bear any resemblance to how to do ICT in the real world.'
- 'Pointless to be honest.... Infantile.... Read the words and click on the button, not even a proper system, not real life... A very fake way of doing things. It's not going to do anything for standards at all. "Change font colour", "Send an e mail- you have to have done that to register for the test.'
- 'You've got to learn how to pass the test. What was on it didn't relate to anything that I had done before. You passed but you couldn't really relate it to anything you might do in the future... bit strange really.'



Figure 3:



A smaller sample of students (21) was asked about their use of two high profile government sponsored websites which were designed to support the development of teachers' and student teachers' ICT capabilities, the National Grid for Learning, and the Virtual Teachers' Centre. These websites were seen as a key platform for the delivery of ICT capability (DfEE, 1997), but most student teachers had either not looked at them, or had looked at them but not made use of them (see Figure 4). A similar pattern emerged in terms of their use of the Teacher Training Agency's information booklet and CD-rom designed to identify their training needs (TTA, 1998, 1999). Over half the sample was not aware of the materials. When asked why they had not made use of these resources, 'lack of time' emerged as the most commonly cited factor, rather than reflection on the quality and utility of the resources, in 14 out of 17 responses in the case of the NGfL and VTC.

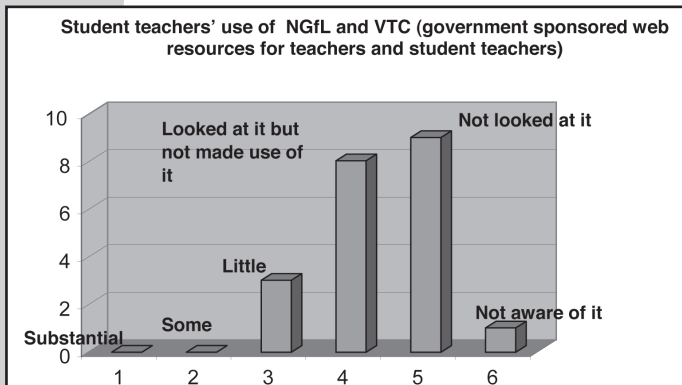


Figure 4:

These findings led us to ask students about their use of our own course materials which related to the use of ICT. A substantial section of the course handbook and subject specific handbooks was devoted to ICT issues, and it became apparent that many students had found these no more enticing or helpful than the many other detailed sources of support and guidance which were available. The following responses were not untypical:

Interviewer: How helpful did you find Annex B, and the section in the Blue Book, and the ICT section of the History Course handbook?

Student A: (laughs and shakes head) 'did anyone read right through them? No just too much to take in... not much use really.'

Student B: 'No, there's just too much to read... It needs condensing or summarising more.'

Student C: 'Not really... I did glance through it but there was too much to take in- perhaps if it had just been 2 pages but it was quite off-putting.'

Student D: 'Not very... a bit dense really.. off-putting, too much to take in.'

Student E: 'I don't think I even looked at it.'

It seems possible that in the zeal to provide guidance and support for students in developing their capability in ICT, students have simply been overwhelmed with information, with the result that they do not seriously engage with any of the wide range of (fairly substantial) information sources available to them.

As Bonnett (1997) and Counsell (1998) have suggested, there is no necessary correlation between the amount of information made available to learners and the extent to which learning takes place. Bonnet goes as far as to suggest that the 'clutter' of information which is now available to learners because of recent advances in communications technology may actually inhibit gains in understanding.

Students were asked about what they felt had helped them to make progress in ICT in the course of the PGCE year. The responses showed that there were several particular 'inputs' which seemed to have had a positive impact, and were remembered as having 'made a difference'. Many of these instances related to seeing someone doing something with ICT that students wanted to be able to do themselves.

The question of working in groups was not straightforward. For several students, the collaborative element was an important factor, but it depended on the nature of the group, and there would appear to be a case for changing the composition of working groups over the course of the PGCE year, so that students develop an understanding that some group situations are more fruitful than others:

'You felt you were all learning together.. gradually getting to grips with things.. things like the session on making web pages... how to write code, step by step. I was with J.; he knew how to paste clip art into slides... it was just an easy and relaxing, non-threatening way of quickly picking things up, sharing expertise. You could make mistakes or not know things together and it didn't matter.'

'Working as part of a group? It helped for me working in groups, I learned loads from R.; prefer that to struggling on your own.'

'One of the problems was that the group I was in had someone who was really good at ICT, but they went too quickly... you just got lost.'

'Working as part of a group? Depended on the composition of the group, if you were all about the same it worked well, if you were with one of the stronger ones, they tended to do most of it...'

'I found it useful to be in a group; I was with M., and he

was... Is, quite a lot better than me so I just watched him doing things and asked him questions.'

'Seeing things done, getting ideas about what to do with it, quite liked it, easier to have someone to take you through it... I was the dim one, but you could ask people to go through it with you, not big deal.'

'Definitely a social thing, telling someone about it and showing someone are 2 different things.'

'Working as part of a group? It depended; sometimes you were working with someone who was really good, and they'd sort of take over... I'm poor to average.. if I can't do it I tend to give up easily.'

In terms of progression in ICT during students' school experience, the 'social' and personal contact models of learning again were mentioned by several students; 'One of the department was quite good with computers and showed me some things'; 'depends on your mentor', reinforcing the earlier findings of Easdown (1994), Husbands (1995) and others that the quality and regularity of professional dialogue about the use of ICT between mentor and student was an important factor in student progression. Other factors which were mentioned as being helpful were the availability of whole class projection facilities such as data projectors, so that computers could be used as contributory components to lessons, and the availability of computers in classrooms rather than them being confined to ICT suites.

One further aspect of working in groups which emerged from the interviews was the degree to which it appeared, in some cases, to enhance the students' enjoyment of the sessions, and to reduce anxiety induced by possible feelings of technological inadequacy. There was clearly a difference in 'climate' in such situations, compared to the environment of the online basic skills test in ICT.

Several students also mentioned the importance of being able to practise, repeat and reinforce the things which they had encountered either in school or in teaching sessions at the university, lending support to Norman's complex theory of learning (see Bennett *et al.*, 1984):

*("Does it help having a computer at home?")*

*'I learned a lot of things on my own after doing things in curriculum sessions. There were things that you saw but didn't quite grasp, and you needed to go home and work through it, and when you could do it on your own, it stuck with you.'*

*'Yes, you can do things at your own speed, you can practise soon after you've done things at the university so that you remember how to do it.'*

*'Definitely- couldn't live without it. You can practise some of the things that you've just picked up so that you don't forget how to do them.'*

## Phase 2: May-June 2009

As part of an OECD comparative survey of the use of ICT in initial teacher education (OECD, 2009), 107 student teachers completed an online questionnaire about their views on how well they had been prepared to use ICT in subject teaching, and this data was complemented by interviews with 32 student teachers and 19 teacher educators across three teacher education providers.

The 15 page list of prescribed competences in ICT had by this stage been replaced by four statements of competence, but the (highly unpopular) online basic skills test for ICT remained a compulsory

part of assessment in ICT capability. In order to gain qualified teacher status, student teachers:

- must have passed the online professional skills test in ICT.
- must know how to use skills in ICT to support their teaching and wider professional activities.
- must be able to design opportunities for learners to develop their ICT skills.
- must be able to teach lessons and sequences of lessons across the age and ability range for which they are trained and in which they use a range of teaching strategies and resources, including e-learning (TDA, 2007).

The outcomes revealed that both student teachers and teacher educators welcomed the 'slimming down' of the requirements, but the antipathy towards the online ICT test remained as strong as with earlier cohorts of student teachers. There was a substantial element of continuity and congruence in terms of students' views on what aspects of ICT were thought to be helpful, and which elements and interventions less so. A brief summary of the students' views is given below.

## Students' views of what didn't help

Almost all forms of 'official' documentation, whether from the Department for Education (now termed the Department for Children, Schools and Families), The Training and Development Agency (formerly called the Teacher Training Agency) or course materials from student teachers' institutions, seemed to have very limited impact. Even some of the most conscientious of students suggested that there was just too much to read to take in and act on effectively. There also seemed to be real limits to the effectiveness of many of the websites, distance learning and electronic conferencing resources which had been designed to support student teachers, sponsored by the DfES, BECTa etc. Some students had reservations about the appropriateness of the materials, but lack of time to navigate through the sites to fully explore their potential was a more commonly cited reason.

Centrally run university courses on ICT applications also failed to elicit the enthusiasm of students. They were thought of by many students as dull, laborious and not sufficiently geared to the realm of classroom application. Generic tasks divorced from subject relevance were also seen as unhelpful. Given the limited amount of time available to cover the wide range of competences required to be an effective teacher, the students seemed to prefer to 'short-cut' to ICT activities that would have a direct 'pay-off' in their teaching.

'Tick list' type audits and tasks which had to be 'ticked off' as having been done seemed to be resented. One respondent compared the latter process as rather like 'dipping sheep'.

Real anger and resentment was limited to the online basic skills tests. There was almost universal rejection of the idea that the tests were in any way helpful, and many students felt that they were worse than useless, in that they were felt to be a nuisance, they caused stress and anxiety, took time away from worthwhile activities and engendered negative attitudes to ICT.

It is interesting to note that in spite of the well publicised antipathy of the overwhelming majority of (generally intelligent and highly committed) graduates to these tests, the test remains in place. The idea that cramming for an online test will engender a lifelong facility for technological competence, mental arithmetic, syntax and grammar or whatever, goes against much of current learning and assessment theory. The retention of such tests, in the face of

overwhelming evidence that they are found to be unhelpful by both providers and students raises the question of just how hopeless a new initiative has to be before its retention is called into question.

### What students did find helpful

Students frequently mentioned a preference for working in groups, and mentioned the experience of learning about something by being 'taken through it' by a peer as being a relaxing, enjoyable and effective way of learning particular technical competences in ICT. The experience of working in 'mixed ability' groups where the more able students 'ran things' may however have some collateral benefits, in terms of developing students' understanding of the variable 'chemistry' of working as part of a group. The opportunity to repeat 'wobbly' gains in technological competence, by working through the procedures with more confident colleagues was seen as very helpful. Many students required several attempts at, for instance, saving things to their web space, before the procedures became 'embedded', and they were able to do them fluently and autonomously.

Seeing somebody modelling or demonstrating something that they wanted to be able to do was mentioned as a powerful motivating factor. Given that many hours of time were invested in developing ICT competence over the PGCE year, the transcripts suggest that a few key moments had a powerful impact on many students. These included a 30 second video extract showing 'losses' in learning after teaching (Sadler, 1994), the moment when HTML code turned into a web page with image, link and marquee, and the procedure where parts of a portrait were 'blown up' using PowerPoint. Given the apparent ineffectiveness of some of the very 'weighty' resources which have been designed to develop competence in ICT, some attention might be devoted to the sorts of learning experience which seem to provide the powerful 'impact learning' which students felt enabled them to make substantial steps forward in ICT. 'Ontology' audits (what is there to think about?) seemed to be less resented than audits which required students to 'tick off' to certify that activities had been undertaken, or tasks successfully completed. Several students mentioned access to data projectors as a powerful incentive to using ICT in teaching. Students also seemed to welcome debate, discussion and activities which went beyond the development of technological capability, and entailed consideration of pedagogical and 'learning' issues. Some responses showed an awareness that 'What it means "to be good" at ICT was not a straightforward issue, and that there were several different 'strands' to progression in ICT.

One further point emerging from the interview data was the degree to which students' had enjoyed many of their experiences and teaching sessions on ICT, both at the university and in schools (with the exception of the online basic skills test). When asked about the ways in which they might use ICT in their NQT year, many responded positively and enthusiastically; some indicated that they just 'felt better' about ICT: as one student remarked, 'At the end of the course, you're just prepared to experiment a bit more, to just have a go, and you don't worry as much about things not working. At first you're a bit scared of the technology.'

### CONCLUSIONS

The 'landscape' of ICT in initial teacher education (in terms of the range of new technology applications available to student teachers) has changed radically in the time between the two phases of data

collection. Since the first phase, in 2002-3, the development of Web 2.0 applications, the widespread use of interactive whiteboards, virtual learning environments (sometimes called learning management systems) and e-portfolio software has presented new challenges for student teachers in terms of how to integrate these new applications effectively into their subject teaching (Hadfield *et al.*, 2009, JISC, 2009).

Although forms of new technology have changed, there are consistent messages emerging from the responses of student teachers in both phases of the research, in terms of what strategies and interventions they find helpful and which are less helpful or even counter-productive.

It is difficult not to feel that lurking behind Millett's 'inventory' model of teacher competence, and the introduction of the basic skills tests is the belief that students are really rather like naughty children, and that if we do not make them take tests, their fecklessness will cause them to eschew the challenge of developing competence in the use of ICT. McCulloch *et al.* (2000: 105) point to the influential discourse of 'new public management' which tends to reject the notion of public sector workers as dedicated professionals, applying their specialist knowledge to further the well-being of their clients and depicts them as self-interested individuals motivated by extrinsic rewards and in need of management and regulation.' It is a regression to what McGregor (1960) termed 'Theory X' views of management where there is an assumption that employees do not want to do a good job, and are not interested in improving their performance and therefore need close supervision, direction and control.

One suggestion which arises out of this survey is that making people do low challenge/high stress tests in an inconvenient and unpleasant environment, compiling extensive lists of technological competence to be 'ticked off', and inundating students with hundreds of pages (and webpages) of 'support' information is not helpful to the development of a technologically empowered teaching force. An alternative audit of the effectiveness of ICT provision in ITE courses might add two pertinent questions. To what extent did students enjoy learning about the use of ICT in the course of the PGCE year, and to what extent are they committed to continuing to explore the use of ICT in their teaching?

Several recent UK studies have suggested that a much stronger model for the development of ICT capability in student teachers is ensuring that they have dedicated time to explore ICT agendas, role models who can demonstrate how ICT can be used effectively in subject teaching, a degree of autonomy in terms of which ICT avenues to explore and opportunities to work collaboratively (Hadfield *et al.*, 2009, Haydn and Barton, 2010).

In terms of 'lessons learned' from the past decade, in terms of policy and practice in the area of preparing student teachers to use ICT in their subject teaching, some progress has been in the UK. According to the most recent figures, approximately two thirds of newly qualified teachers report that they have been either 'well prepared' or 'very well prepared' to use ICT in their teaching (TDA, 2009). However, several expensive mistakes and misjudgements have been made along the way, and other countries which may be considering revising or updating their policies and systems for preparing student teachers to use ICT may benefit from heeding some of the mistakes which have been made in the UK.