

Annex B Anxiety? Finding Ways out of the ICT Labyrinth for ITT Courses

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Abstract

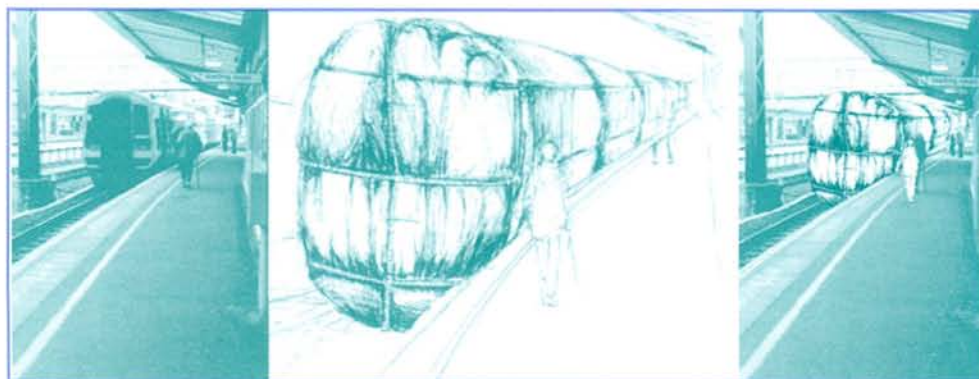
This article deals with the issue of the delivery of ICT for trainees on initial teacher training (ITT) courses in response to the compulsory information and communications technology (ICT) curriculum that is part of the DfEE 4/98 *Standards in ITT, annex B*. It describes the courses developed in one institution, Liverpool John Moores University, to achieve this provision. The course described is PGCE art and design rather than design and technology, yet many of the features that form the successful elements of the course are applicable to ICT provision generally. This is also true of the difficulties encountered, which extend well beyond the boundaries of art and design. The projects described include utilising online galleries, making digital presentations and the organising of visual material for digital, interactive resources in the classroom. There are recommendations for an approach that is commensurate with existing classroom practice, encouraging an integrated approach to ICT development. The article includes examples of successful projects carried out in schools.

Since the advent of the requirement by the Government last year for all ITT trainees to follow an ICT curriculum, *annex B* (DfEE 1998), a great deal of anxiety has developed in schools and colleges of education. As lecturers in art and design education at Liverpool John Moores University, my colleagues and I found the additional demands of the ICT standards rather daunting, having to deliver a great deal of expertise on slim resources. This paper describes our experience of developing *annex B* courses for PGCE secondary trainees. It offers some of the solutions – and describes some of the traumas – that the trainees and staff have discovered on the way to constructing successful projects. From the outset our aims were to develop projects that were manageable within a tight schedule and yet remain compliant with the *annex B* standards.

Art had been fortunate in having one of the first ICT guidance booklets produced by the TTA (1999) that contained a wealth of useful examples and guidance (despite the inexplicable absence of illustrations). Experience of running GNVQ courses was useful at this stage, where a similar kind of project development had been employed. As with GNVQ, ICT courses have to be built imaginatively around generic structures that, unmediated, may seem amorphous and uninspiring to many subject-orientated trainees.

When Paul developed the 'wrapped' project (Figure 1) he was planning to use a computer at several stages. It was a measure of his growing confidence and experience with digital technology that he was able to perceive the place of the computer as one process amongst several in achieving the learning objectives of the unit of work, without giving it undue privilege. It also exemplified an ambition of our PGCE course to create projects that were in touch with contemporary practices – in this case with that of the artist Christo and his technique of wrapping large structures. The project demanded the use of photographic, drawing and collage skills in addition to computer skills. Paul's pupils were encouraged to take their imagery into digital form as the work demanded – to scale, overlay and mask aspects of the image. Repeated scans and printouts were combined with the more traditional media and the pupils (and the trainee) seamlessly integrated digital technology into their work without compromising on their understanding of contemporary art and design. The success of this project had its origins in a combination of gallery workshops run at the Liverpool Tate and the ICT classes at the college which emphasised using digital display methods, such as presentation software, data projections and organising information into manageable visual resources.

Figure 1: 'Wrapped train', developed by Paul Wilkinson, a secondary PGCE art and design student on teaching placement at New Heys School in Liverpool. The project used ICT intensively to construct the images and made reference to the artist Christo's practices.



Tracey's digital image catalogue

Image Location	Image Type	Information	Evaluation
Teacher's portfolio	jpg	Teacher's own example of a reflective pattern from GCSE. The design is an A3 square repeat, coloured in pencil crayon tones.	There is less loss of detail as this is a smaller original. However, there is still a lack of detail in terms of technique and the intricacy of the design.
Teacher's portfolio	jpg	Teacher's own example of a reflective pattern from Foundation. The piece is a reverse appliqué example made from layers of cut out fabric and stitching.	Due to the square cropping of this design there has been a loss of the circular shape of this piece. The textures created by the fabric and the details of the stitching are also lost in the loss of scale.
Word file	jpg	Teacher's example of a drawing created solely in Word and reflected around.	This form of drawing was easy as I only used basic shapes and then used copy, paste and flip. Other forms of freehand drawing are very difficult with a mouse and harder with a pressure pen. In this case it was easier to use shapes to create a pattern.
Teacher's portfolio	jpg	Photograph of wall display of Year 8 student's reflective patterns.	The original photograph scale made it hard to depict pattern details. At this smaller scale the loss is even greater. Only the basic outlines of each design and the basic colour scheme can be depicted.

The basic course: the digital gallery

There were four basic stages to the course:

- competence of the trainees as art and design ICT operators
- evaluation of ICT media by comparison with traditional art and design materials and techniques
- research into contemporary artists and designers through ICT
- competence in teaching art and design ICT in the classroom.

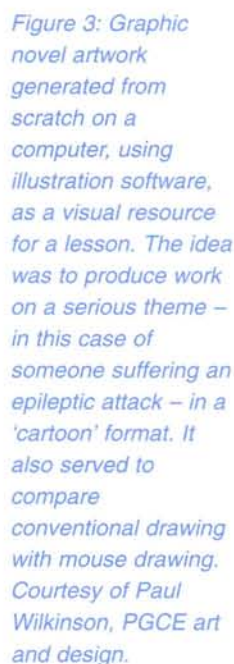
Within this framework a trainee ICT 'skills audit' was put to good use. The trainees routinely added to their list of achievements as their confidence and familiarity grew, until they felt capable of making the significant conceptual leap from operator to teacher. One of the successes of our *annex B* strategy was the way in which we managed to focus on classroom delivery without relinquishing the idea of researching contemporary artists and designers, which seemed to me to be fundamental for any up-to-date curriculum. The way we achieved this has been through encouraging confidence with the display and presentational characteristics of the resources for the trainees' units of work. Our *digital gallery* was fundamentally a visual resource project. This meant that the trainees had, from the beginning, to determine the pedagogical value of the material and, moreover, establish the specific nature of the display of their digital production. This required the development of a thematic display using

presentational software, for which the trainees determined a relevant theme that bound the project together and formed a database from a deliberately wide range of sources. This 'archive' of images and information was transformed into an interactive and animated presentation that was used to enhance their teaching in their placement schools.

We tried not to underestimate the difficulties trainees have with adapting to ICT systems, where making assumptions about apparently 'obvious' steps leads to complications later. Distinguishing between *new* and *open* under the 'file' menu is an example of this, where otherwise capable trainees have slipped up. Once familiar with the university systems, an illustrated table or database of information was prepared by the trainees, beginning with a sweep of relevant contemporary art and design sites on the Internet, and analysing available images and forming the database. Online galleries such as the Liverpool Biennial web site (www.biennial.org.uk) proved to be particularly useful – it was physically local to our trainees which meant that it would be an ongoing resource for them if they chose to remain on Merseyside.

Crucial to our reading of the *annex B* requirements was that the trainees must be able to assess the usefulness and the deficiencies of any given sample of digital information. This is made distinctive in art and design by the primarily visual nature of the digital information. The first level of evaluation was, therefore, a straightforward analysis of the differences of reproduced

Figure 2: Part of a PGCE art database including evaluations (without thumbnail images). Courtesy of Tracey Smith and Ormskirk Grammar School, Lancashire.



Additionally the trainees had to deal with the paradoxical nature of digital/video image representation, where the artwork itself is already a replication or reproduction. This is increasingly an issue in art and design teaching, and needs to be addressed by trainee teachers early on. Electronic works of art, like those from Liverpool's *Video Positive* exhibition, demonstrate this ambiguity and require a significant level of explanation and contextualisation, a far cry from the antiquated notion of the work of art 'speaking for itself'. This also greatly assisted in

As part of our teaching we used the metaphor of a museum's store with that of the temporary exhibition to explain the idea of the cataloguing of the database (the archive), and then the selection from this of images for their thematic presentation (the exhibition). Some of the work in the database was never used and yet still served the *annex B* requirement of the collation and analysis of electronic information. Similarly, the idea of the exhibition that is temporarily organised from a wider collection was a useful parallel to the physical gallery system with which all of our trainees were familiar. The issue of copyright emerged early on, and the trainees were cautioned about the improper reproduction of web material. It was important that the database was extended to include items gathered from a wide variety of sources. The trainees were encouraged to scan their pupils' work, once they were sufficiently far into their placements to have acquired artwork produced in schools. Scanning their own design work as stimulating visual resource material proved to be a good idea since it encouraged a very direct awareness of the differences between 'handmade' and electronically reproduced work. Using simple 'painting' applications it was possible to make direct comparisons between drawing with a mouse – usually a difficult and clumsy operation – and drawing directly onto paper.

Several applications now have the facility to save work step-by-step as it progresses, creating a 'history' of the working process. This has great potential for art educators and the trainees were alerted to this. As Tony Booth and Louise Davies (1999) have pointed out, pupils work in different ways through ICT projects, and this presents opportunities for teachers to review and assess work with correspondingly variable methods. They advocate saving work in its various stages as the ideas progress and keeping an annotated activity log. Thinking of this as a history which, like any other, may be documented and analysed, was a helpful way for both pupils and trainee teachers to conceptualise and assess the digitised image. The pupils were then able to analyse their progress and predict future developments.



Figure 4: Portrait work using semi-transparent layers from a computer mixed with scanned conventional painting techniques; courtesy of Steve Brown (PGCE art) and the Year 7 pupils at St Hilda's School in Liverpool.

Research that colleagues carried out on pupils' art and design and ICT projects at Key Stage 2 and 3 (Adams, 2000) revealed that where computers were used, pupils' artwork was often digitised and re-digitised over a number of occasions in the development of the work as a whole. This was borne out by our trainees' experience, as witnessed by the examples in Figure 4. The complexity of this process technically tended to be masked by the simplicity of the 'final' image, and indicated the need for staged interim records to be kept. This is especially important for the assessment stage, to glean an understanding of the thinking and processes that underpin the work. This thinking necessarily included its content and contextual background. The insistence of our course on maintaining contact with the gallery and current developments in art and design ensured that the trainees and their pupils always considered content as well as process. As Pam Meecham warned:

'art curricula in schools have traditionally (to the point of parody) concentrated on the formal aspects of a medium led practice where issues of texture, colour, line and technique expunged any requirement to look at the content of artwork beyond a 'pretext for painting' agenda.' (Meecham, 1999: 78)

The problem of ICT for trainees on school experience placements

The level of practical competence required for the *annex B* curriculum is surprisingly high, and even those trainees who arrived with experience of computer graphics and animation did not always readily adapt their knowledge to the art classroom. This can only partly be explained by the dearth of equipment and support available to trainees on school placements – although this might be reason enough. Obstacles seemed to arise as from the set-up in school computer suites that often suited word processing and spreadsheet generation, rather than art or graphic

production. An absence of art software and peripherals such as scanners, colour printers and storage drives made for difficulties for the most capable trainees. The difficulties the trainees encountered with large groups with very limited equipment were compounded by the ever-present menace of technical failure. This was a potentially disabling configuration for experienced art teachers as well as our trainees, and rapidly undermined teacher confidence.

Given that many practical art lessons involved similar traumas for the trainee teacher, there was the added dimension of unpredictable levels of prior learning (in terms of computer graphics) on the part of the pupils. This created quite extreme variations, with some of the pupils having access to (and considerable experience of) graphic computer applications at home, whilst others had none. The trainee teacher was often confronted with a situation requiring extensive differentiation, with some pupils exhibiting an overbearing insistence on control to the other extreme of 'technophobia' – a pattern that was sometimes gender related. Nor were these characteristics reliable indicators of potential art abilities, since the most technically competent operator often still required visual training and vice versa. Against this background it did not come as any surprise to find that trainee teachers were sometimes reluctant to venture into the new world of cyber-learning. Our course, including the vital support of our school mentors, went somewhat towards addressing these difficulties by supporting the trainees' skill development through their existing subject knowledge and the projects described here. Nevertheless, the difficulties persist and it remains to be seen whether current Government initiatives and training can successfully bring about the necessary changes.



Figure 5: Slides from the PGCE trainees' interactive CD.

display, used during a workshop at Liverpool Tate. Each image was interactive and heavily animated, packaging the information in a manner that was commensurate with the pop art exhibition that it supported. The characteristics of the design improved awareness of the stylistic features of the exhibition for the pupils operating it. Presentation courtesy of Joanne Whiteman and Meeta Panchal, images courtesy of Tate Liverpool and Peter Blake's *Collage* exhibition.

The trainees at work with ICT in the classroom and workshop

Armed with their digital resources and expertise the trainees had the opportunity to create displays and presentations for teaching on placements. ICT played a significant part in a recent sculpture and collage gallery workshop that the trainees held for a large group of pupils, and revealed the extent to which their confidence had grown. The event was staged at the Liverpool Tate and based around current exhibitions in the gallery, particularly Peter Blake's *Collage* exhibition. The trainees created an interactive CD-ROM presentation with extensive animations and embellishments. The pupils were able to navigate their way through the art and design history material enlivened by the graphics displays that the trainees had created for the occasion. Since this occurred towards the end of the course the trainees were far more familiar with the software and had the confidence to apply a wide range of effects. The teaching context in which this was carried out provided a rich source of evidence for *annex B*, duly recorded in their Record of Professional Development (electronically produced, of course). In addition to this the workshop was recorded stage by stage through a digital camera and immediately processed into a presentation on a laptop in the workshop studio (Figure 5).

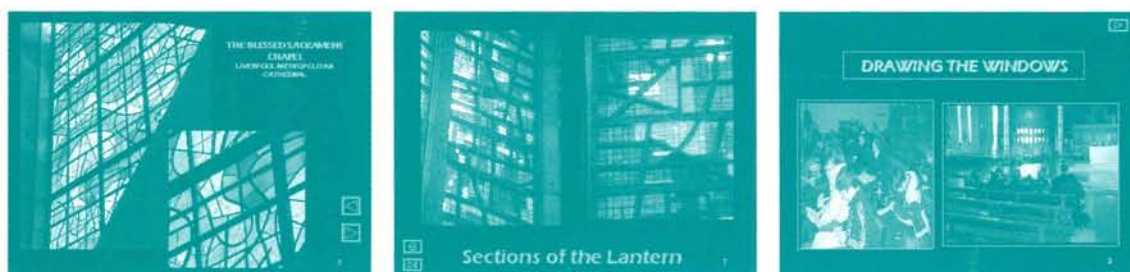
The presentation was constructed and replayed throughout the day, acting as a

mirror of the day's events as they unfolded. The pupils were able to see themselves working on their responses as well as supplementing their practical work with information gleaned from the Blake presentation via the interactive CD.

The presentations used in the classroom during the trainee's second and final school placements were often a combination of the scanned pupils' artwork with contextual material provided by the trainee. One PGCE student organised a show around her group's visit to Liverpool's Roman Catholic cathedral. She created the display from digital camera shots of the interior of the cathedral (particularly the stained glass in the lantern) and mixed this with images of the pupils at work, information about the building and images of work produced in response to the visit. All of this was then made interactive and saved in different forms, a key skill within *annex B*. These ranged from visual aids in class teaching, supplementary information for the pupils and lesson planning. This proved to be a key factor in many of the trainees' productions – resaving work into a variety of formats, each with modifications – to fulfil a range of functions as they encountered them on their placements. One of the impressive features of the cathedral presentation was the way in which the images were enhanced by the back-lit effect of the screen display, offering a parallel to the way in which the stained glass itself is normally viewed. This characteristic of screen or data projection display was also encountered in the

Figure 6: Slides from a presentation of PGCE trainees' gallery workshop for pupils in Liverpool Tate. This presentation was itself part of the workshop (digital photography courtesy of Intake School, Leeds).





presentation work of another trainee, Allison Williams. Her pupils made paintings after a visit to Chester zoo, where they made close-up colour painting samples based on animal fur patterns and textures. These positively glowed once scanned and displayed for the class to view on a large scale. This event gave a great deal of positive encouragement to the pupils, who felt as if they were seeing their paintings 'at the cinema'. This exuberance rubbed off on the trainee whose confidence with her ICT simultaneously improved. As Allison and her peers form the new generation of teachers, they will hopefully retain this confidence and bring to the classroom an enabling and balanced view of digital technology.

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Figure 7: Images from a presentation made from a visit with pupils to Liverpool's Roman Catholic cathedral (courtesy Abbie Barnard).