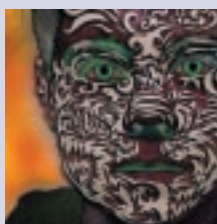


Becta ICT Research

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 Becta
ICT Research

A report on the use of
information and
communications
technology (ICT) in
art and design



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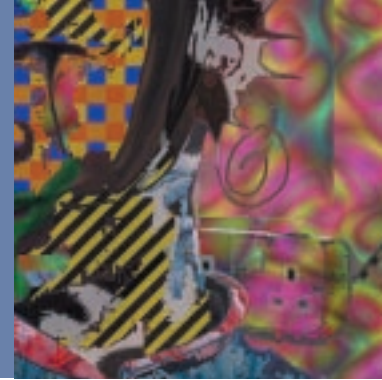
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By Joyce Wood

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Introduction

How does the use of technology
in art and design differ from its
use in other subjects?

What uses do art teachers make
of ICT that might be of interest to
colleagues in other subjects?

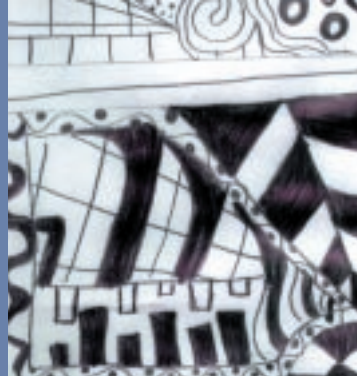
And are there any respects in
which ICT affects art teaching
uniquely?

The following report is drawn from two national, qualitative studies by the author, carried out over four years and involving over 200 skilled computer users in the UK teaching force.¹ The studies explored good practice in the use of ICT in 12 separate curriculum subjects. Research addressed the following questions:

- 1. How does ICT help teachers convey the central concepts of their subjects?*
- 2. What can be learned with the aid of ICT that might not be learned as readily in any other way?*

The studies found that each curriculum subject uses ICT distinctively, has singular hardware requirements, and is treated differently in terms of resourcing and access.

¹ The first study, in 1998-99, involved 120 teachers who used computers innovatively in mathematics, science or geography at Key Stage 3. It was funded initially by Becta and ultimately also by the DfES and several companies. A panel of subject-matter experts and government education officials chose the teachers from a larger group of nominees. The second study involved 100 teachers (including roughly a dozen teachers of art and design) who rated technology highly and whose pupils achieved better-than-expected results in national examinations. This study was an offshoot of research carried out during 2000-01 by the Fischer Family Trust, an educational charity. NSEAD (National Society for Education in Art and Design) helped to identify several of the more innovative teachers and provided useful background.



Art teachers approach technology with open minds and a sense of adventure

Principal findings

Art teachers approach technology with open minds and a sense of adventure. Of all the teachers interviewed, they seemed the most inventive in their use of technology and among the most insightful in discussing its significance. Nearly all had engaged with the medium, even if they didn't like it much. At the very least, they had tried it out, played with it, and explored a few avenues. They thought hard about what they were doing and why. Their curiosity and willingness to have a go contrasted sharply with the 'drawn-shutters' approach of their colleagues in some other subjects.

Their inventiveness was probably to be expected. By nature, art teachers are people who see possibilities and can make silk purses from sows' ears. This is just as well because, if our sample is indicative, art departments are school Cinderellas. They have to make do with resources not suited to their specific requirements but selected to meet the needs of the school as a whole or the demands of more prestigious departments.²

Virtually all art teachers complained about under-resourcing.³ Many noted that their needs are specialised and more expensive than those of academic subjects.⁴ Art and design software tends to require higher-speed, higher-memory machines. Art teachers might want more sophisticated or more varied hardware than that preferred by their school as a whole, perhaps preferring a different platform altogether. They use a range of peripherals too. One teacher suggested that there should be 'art IT suites'.

All of the teachers used software packages intended for design professionals. They had the sense that most of these products were unusually expensive. They wanted site licences but these were often unavailable. Art teachers would have preferred software targeted to students but felt there was a shortage of appropriate material.

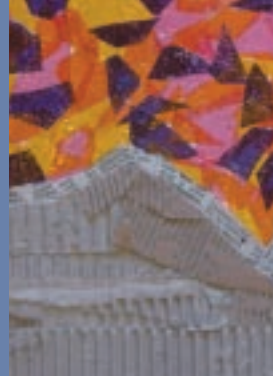
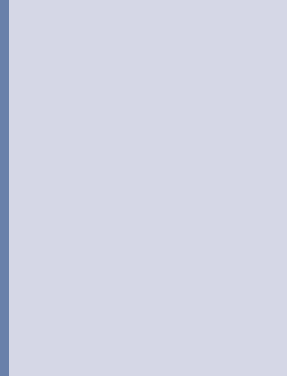
Thus, even if art departments got their fair share of schools' technology budgets, they might not be able to equip themselves as they wish. However, many seem to get less than a fair share. Art departments are near the end of the queue when technology funds are allocated.

Senior managers have little incentive to ameliorate this situation. Schools are

2 Art teachers told us that network managers often influence schools to buy either the cheapest product or something usable across all subjects, even though art and design may be far better off with something specialised.

3 This was a serious problem even before the wide-scale introduction of ICT. As of summer 1991, according to an important NSEAD-supported study, the average spending on art resources in English and Welsh schools was only £2.68 per annum, per secondary school student, and even lower for primary school children. See [<http://www.art-works.org.uk/research/index.shtml>].

4 This has always been true. Paintbrushes cost more than biro's and art books are usually more expensive than novels.



The need for art-specific ICT training is intensified by the fact that technology is redefining art itself – its themes, tools and vocabulary

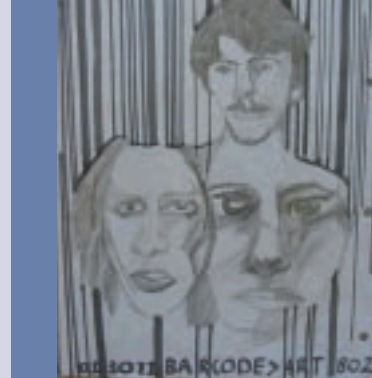
What does it mean to be ‘good at art’ today?

not judged by their art exam results. Secondly, art teachers’ ingenuity ensures that their students are not short-changed at the end of the day – and managers know this. It would be of interest to know what might be achieved if art department resourcing matched art teachers’ commitment and talents. A second lament had to do with training – or rather the lack of it. Few of the NOF (New Opportunities Fund) trainers specialised exclusively in art. This makes art teachers’ engagement with technology even more striking. No one told them what to do – but, given the way art teachers work, this may have been a stimulus.

In our interviews with art teachers, the issue of training arose with unusual frequency. All teachers felt they needed more training, but art teachers especially so. The need for art-specific ICT training is intensified by the fact that technology is redefining art itself – its themes, tools and vocabulary. As with biology and music, technology is changing the subject of art – not just the way it can be taught or learned. Many professional artists embrace technology as a medium. Some are preoccupied with its impacts – on society, and on our sense of who we are.

What does it mean to be ‘good at art’ today? Technology is displacing time-honoured skills. Traditional art critics and teachers worry that draftsmanship is on the decline. With the emphasis on collaborative work in classrooms, an art student’s personal vision may also count for less than it used to. Even the act of observation – so central to art – appears to be changing. As noted by one of the teachers quoted below, modern children look at things differently. They have an altered sense of what they observe. Some teachers argue that the curriculum has yet to come to terms with the pervasiveness of mediated imagery in modern life.

The teachers interviewed for this report engage with technology in a variety of ways. A few have immersed themselves – and their students – in the production of digital art. However, most of them simply add technology to their repertoire of tools. Their students may use digital cameras to prepare initial studies – thus supplementing sketches not supplanting them. Or a student might use software tools to play with an initial study and explore the directions it might take. The digital image is simply a step on the path. The final work is still hand-produced. Whatever their use of technology, however, art teachers’ hallmarks are resourcefulness and freshness – as the following examples indicate.



The internet

The student had no access to books about the artist (perhaps there weren't any) but managed to find the artist's website and used the ensuing contact as a basis for further work. . .

. . . she was conversing with a real, living artist, getting the artist's own view – rather than an art historian's view of a famous, dead artist

Initially, art teachers used the internet mainly for research and contextual work. Perhaps even more than in other subjects (because of the high costs of art books), the internet supplemented the often scant resources of school libraries. It came into its own especially for studying new or relatively obscure artists whose work might not feature in print media.

A postcard from the Tate Modern gift shop captivated one of Jan Woolridge's sixth-form students at Trinity School, Northampton. The student had no access to books about the artist (perhaps there weren't any) but managed to find the artist's website and used the ensuing contact as a basis for further work.

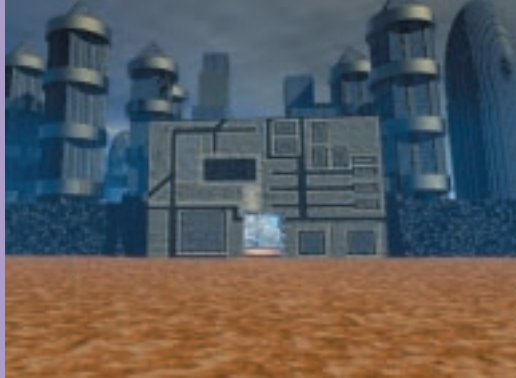
Jan, who is Head of Art at the school, reports: "She was an average student but her dialogue with the artist really pushed her on, informed her work and gave it meaning. She became interested in the artist's motivation and technique. It enthused her because she made the contact herself. She was conversing with a real, living artist, getting the artist's own view – rather than an art historian's view of a famous, dead artist. She produced a high volume of work."

Sue Crudgington, Head of Art and Design at the Friary School in Lichfield, Staffordshire, notes that: "Interestingly, using the web hooks students on the process of research. They start to use books more effectively."

As they gained experience with the internet, art teachers began to explore the communication and publishing potential of this medium. Human contact and collaboration are at the heart of Phil Callow's approach, both as Head of Art and Design at Christ the King Catholic High School, Merseyside, and as an artist in his own right. Dozens of students of all ages – and their teachers – enter an annual digital art competition run by Phil from his website [www.treacletart.net]. He provides a 'starter' image which young entrants can manipulate to create original works. The website doubles as an online gallery for displaying students' entries. Site visitors vote to select the winning work.

One starter image, for example, was a digital photograph of a tiger's head. The winning entrant – a 17-year-old girl from the Outer Hebrides – used software to strip away the background of the photograph and substitute an urban night scene. She added a neon glow to the tiger's stripes.

Apart from his *treacletart* competition, Phil uses the internet to broaden students' artistic and philosophical horizons. He encourages them to make contact online with their peers or with practising artists whose work they admire. They then collaborate expressively with their new correspondents, emailing images back and forth across the world, altering or embellishing each other's work, building on shared ideas and discussing the results.



Its global nature enables any young artist to create an online portfolio that the entire world can see

The internet also becomes what Phil calls “a global shop window”, letting students exhibit their work to a wide and disparate audience. Its global nature “enables any young artist to... create an online portfolio that the entire world can see”.⁵

Phil himself subscribes to newsgroups, exchanging tips, ideas and moral support with kindred spirits. Through one such group, he discovered the work of Caleb Avery, an American artist who in turn introduced Phil and his GCSE students to three-dimensional rendering. Students emailed their work to Avery for comment and conversed with him as part of their coursework. “He became an inspiration to my students. It’s boring just to read up on artists, but quite another thing to engage with them.”

One of his sixth-formers used the internet to find an American artist who shared her interest in colour. The two began emailing images back and forth. Their ideas became so enmeshed that “the GCSE moderator thought her work was the artist’s”.⁶

The next step Phil anticipates is “to develop ideas across cultures – and, within a school, across curriculum subjects”. Collaboration or teamworking skills pervade the curriculum. The citizenship curriculum requires students to “use their imagination to consider other people’s experiences...”.⁷ It is possible to envisage projects that merge citizenship, modern languages, geography and art, linking students in far-flung schools and using cultural artefacts as starter images.

5 Callow, ‘ICT in Art’, *JADE [Journal of Art & Design Education]*, vol. 20, no. 1, pp. 41–8.

6 Phil acknowledges that collaborative projects pose assessment challenges, in that “ownership of the work can be ambiguous”. But with the new emphasis on teamwork as a key skill in every curriculum subject, exam boards have begun to address this. For example, art students must explain how their work relates to that of other artists (including student collaborators).

7 3a of Key Stage 3 Citizenship, *The National Curriculum for England*, DfES and QCA, 1999.

8 See [<http://www.haberarts.com/imprism.htm>].

9 For example, British Rail initially provided cellphones to buffet car attendants for their security following a criminal incident. The phones then began to be used for just-in-time stock ordering and other data applications. J. Wood, *Cellphones on the Clapham Omnibus – The Lead-up to a Cellular Mass Market* (SPRU CICT Report Series No. 11), University of Sussex, 1993.

Paradoxically, Phil uses technology to recapture what he regards as a more traditional way of working. “Only since the late nineteenth century have we had this idea of art as a purely individual expression, as opposed to the older tradition of the artist as a craftsman and part of a team.” He refers also to the development of analytical cubism, citing Braque’s remark that he and Picasso collaborated in this like two climbers ‘roped together on a mountain’⁸

Early adopters of new technologies often discover that a tool they’ve acquired for one very limited purpose has wider, unanticipated utility.⁹ The experience of Jan McGranaghan, former Head of Art at Sidney Stringer C.T.C. Coventry and now Head of Art at Lutterworth Grammar School and Community College, Leicestershire, corresponds to Phil’s. “I started off using ICT as a research tool, then discovered that it’s so much more. Gradually, as I used it, the possibilities began to unpack themselves. I’ve now taken ICT into areas I never dreamed of.”

Phil Callow began using the internet only three years ago but, as he says: “The key thing in art – and certainly in learning – is the element of curiosity. ‘What if we try this? Or that?’ That’s what sparked my exploration of this medium, which has now exploded in me. Learning is about exploration and discovery, and art should be an exciting journey. You never know where you’re going to finish.”



In art and design, we continually
seek to break the rules. . .

. . . we move the boundaries
beyond normal expectations and
encourage our students to look
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the materials at hand

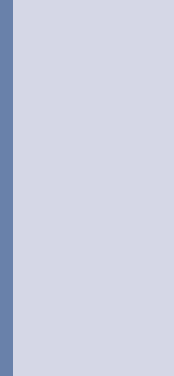
The scanner

As with the internet, the potential of the scanner became evident to teachers only gradually. Jan McGranaghan began by scanning images onto her school's intranet for students to use as starting points. Then students scanned in their finished work, which in turn became starting points for other students. "Next we moved from images to objects. We put fruit onto the scanner, with cling film underneath to protect the scanning mechanism. We rapidly discovered that accidental wrinkles in the cling film gave the scanned image a more interesting quality, with wonderful textures and creases. So, having first tried to smooth the cling film, we now began crinkling it deliberately to see what we would get. We then extended this to other materials – scrunching up acetates and bits of foil. A lot of this came from the students saying, 'What if?' They sparked off each others' ideas."

Simultaneously, Sue Crudginton and her students at The Friary School in Staffordshire were testing the light-filtering properties of plastic, net curtains and film negatives. "Just as filters can be used in traditional processes, so materials such as lace, samples of decorative glass, fragments of fruit and students' own hands can be placed on the scanner to produce many special effects and starting points. The possibilities are boundless for the development of ideas and the manipulation and use of visual elements."

Having first used the scanner simply as a recording device, Sue discovered it could be "a great tool for inspiring creativity". Her students use scanned images in collages and other mixed media work. She enjoys merging novel processes with more familiar ones.

"You don't necessarily use the equipment in the way it was intended to be used," says Sue. "The scanner salesman would never have said, 'Try putting bits of lemon on the screen.'" However, it was probably inevitable that art teachers (in particular) should discover surprising new uses for technology. Experimentation is at the heart of the artistic process. Sue adds: "In art and design, we continually seek to break the rules. We move the boundaries beyond normal expectations and encourage our students to look beyond the original purpose of the materials at hand."



Digital filters and special effects

Art teachers find that computers foster experimentation. Software packages¹⁰ give students rapid results and countless new tools to try out. Rob Young, Head of Art and Design at St Margaret's Church of England High School in Liverpool, explains: "Students can try different combinations and variations – lots and lots of them, very quickly – and see straight away what's good and what isn't. If it doesn't work, they can reset and try something else."

Digital devices let students isolate
or enlarge elements of an image
for closer study or replication

What are some of these tools? An inexpensive package called Kai's Power Goo lets students distort, twist or bend images. Rob uses this in studies of Francis Bacon or the German Expressionists. The starting point might be a digital photograph of the student. The distorted version, printed out, then becomes the basis of a large acrylic drawing. In the old days, studies of distortion would have been achieved far more laboriously by drawing from the student's reflection in a kettle or spoon.

Students might use software to fragment an image when studying David Hockney, or, in learning about cubism, overlay photos taken from several angles.

Students can alter or emphasise
texture, tone, colour or shape

Digital devices let students isolate or enlarge elements of an image for closer study or replication. Students can alter or emphasise texture, tone, colour or shape. They can 'solarise' an image, separating the areas of light and dark. Sue Crudgington believes these digital techniques "might help them see the different layers or levels of an image – or the hidden colours within it. A trained eye can see all this without help but students often can't. Isolating the elements of an image may help students 'get it' faster."

Rob Young's students use filters in Photoshop® when studying the work of Chuck Close. Close himself does not work with computers but his art lends itself to study by digital means. Students enter photos of faces onto their computers, use filters to achieve distortion, pixelation or mosaic effects, and then print out the results as part of the development work towards a painting.

Similarly, Sue Crudgington's students take their digitally altered images into clay or another medium. In studying Chuck Close, one of her Year 12 students used software to make a dramatic enlargement of a photograph of her hand and then she painted from this image.

¹⁰ See <http://www.fischertrust.org/art.htm> for teachers' ratings of commonly used art and design resources.



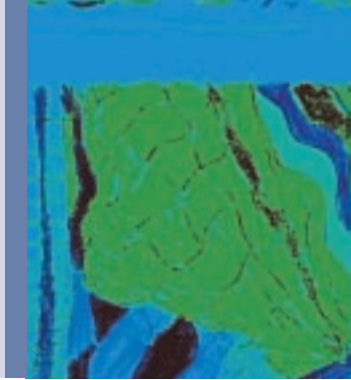
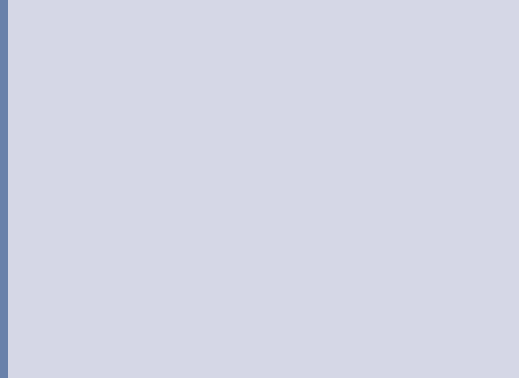
Students can find out instantly
whether an idea will work – before
they embark on a huge production

James Nairne, Head of Art at Abingdon School in Oxfordshire, describes a project in which his students made drawings of a live chicken, redrew these onto a computer and applied filters “to get interesting effects which they then explored in paint”. The computer was “a nice tool for getting them to work in a painterly way”. His students enjoyed using software tools to alter the quality of the colours or heighten texture in an image. They then duplicated the effects ‘in real life’, with paint.¹¹ “The image on the screen suggested ways of working in paint that they hadn’t expected.”

Jan McGranaghan and Sue Crudgington share an enthusiasm for digital collage. Sue writes: “This is a totally new language and the possibilities are vast. New techniques are now possible that were unavailable with traditional media.” In particular, students can ‘layer’ images, readily “cutting and pasting, moving bits, putting in, taking out”. The speed and ease with which this can be done “gives a totally different dimension”, according to Sue. Significantly, she adds: “Now parts can be removed without losing everything. You can rub out what you’ve done without affecting the layer underneath.”

“Technology,” says Sue, “takes out all the donkey work. Students can find out instantly whether an idea will work – before they embark on a huge production.” The resulting assurance liberates students. “They’re off then.”

¹¹ Note that all three of these teachers use computers more as a means than an end. On-screen work is simply a stage in the process. The final realisation is most often achieved by traditional means. By contrast, Phil Callow’s students produce digital art. Their end results are computer-generated. Note also that, whereas Phil Callow’s students also use computers to manipulate and alter images, their starting point is usually an image created by someone else – either an artist or a fellow student.



Kids are frightened to death of making marks that might be wrong. They're afraid to make the first stroke on a blank canvas or the first cut in a large piece of paper. . .

... the undo button takes away that terror

Trial and error

Computers don't just offer new tools and the ability to test ideas quickly. They also make spontaneity safer than it used to be. Mistakes no longer matter. A keystroke erases them, restoring the previous version. The 'undo' button may be technology's greatest gift to art students.

Jan McGranaghan explains: "Kids are frightened to death of making marks that might be wrong. They're afraid to make the first stroke on a blank canvas or the first cut in a large piece of paper. The undo button takes away that terror." Sue Crudgington agrees: "The student worries less about making a mistake and is more willing to 'have a go' and experiment."

Additionally, because the first image is now easier to create, the student's vested interest in it is reduced. Jan explains: "ICT has taken away the preciousness. They haven't had to take hours getting it right, so they feel readier to change or extend the work they've created."

Worries about wasting expensive art materials have also impeded students' efforts in the past, Jan has found. By contrast, there is no financial investment in an on-screen image. It can be discarded at no cost.

Sue makes the same point with respect to digital cameras, noting that they let students preview photographs without printing them. She says: "They develop an ability to be selective as to what they keep."¹² Students do not regard the images on screen with the same finality as those they draw, make or photograph by traditional means."

Experimentation is at the heart of any creative endeavour. Computers make it easier – both psychologically and technically – to try things out. They let art students work noncommittally – hence, fearlessly and with greater excitement.

¹² Students use photographs as initial studies when too rushed to make a sketch – or when the image they want to capture is fluid and fleeting. Digital photographs were the starting point for a study on domestic violence by one of Jolan Woolridge's A-level students at Trinity School, Northampton. "She wanted rapid, violent movements, punching hands, positions which couldn't have been sustained by someone posing." If the photographs are digital, they can then be manipulated in all the ways described earlier, or previewed efficiently, as just mentioned.



Art and design develops the whole person – imagination, skills, thought processes, values and awareness of the world around them

Technology provides access to art, and art, in turn, gives youngsters access to their inner strengths

Making art accessible

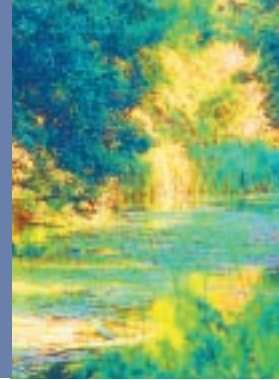
June Readhead, who teaches art and design and technology graphics at St Bede's Interchurch Comprehensive School in Cambridge, finds computers especially valuable in her work with special needs students. She scans their hand-produced artwork onto a computer. They then modify the work on screen. "These students may be visually aware and understand in a sophisticated way what the intent of an image is, but they may lack small motor skills or an ability to work from direct observation."

Sue Crudgington makes the point that partially sighted students can use technology to enlarge images and text. Like June, she has also discovered that students with poor hand-eye co-ordination "now have an alternative. They can somehow use image-manipulation packages as well as anyone else." They also discover that computers offer "lots of new avenues" in art, emphasising expression and a visual sense over technical mastery. "Art isn't just drawing."

She finds, moreover, that for any inexperienced student – not just those with special needs – "the flat digital image is easier to work with". Working from life, students may have to translate from three dimensions to two. June Readhead observes that mastery of a skill is achieved more readily if the job is "broken down into bite-size tasks."

She notes that the computer lets students "magnify an image and modify it pixel by pixel." Results are immediately apparent. Alterations can be made at speed, "so students can modify and modify and not become upset or discouraged." Instant gratification – much decried – is not a bad thing if it inspires further effort. A task which might take several lessons if done by hand and "not look as accomplished" can be carried out quickly and "the outcomes are often vibrant and refined." The resulting self-confidence encourages the student further. The ultimate contribution to learning is the motivation imparted by a sense of mastery.

"Give them successes," Sue Crudgington advises. "That's what teaching is about. Once you've shown them they can experience success, they're hooked. You've handed them the key." She feels her subject has a special edge in this respect. "Art and design develops the whole person – imagination, skills, thought processes, values and awareness of the world around them." Technology provides access to art, and art, in turn, gives youngsters access to their inner strengths.



If you give kids something all-singing,
all-dancing, they'll want to try the lot.
They can get carried away with the
technological aspects rather than the
aesthetics...

... it's better to start with
something limited

Practicalities

Because simplicity aids learning, art teachers may prefer to use just a small suite of functions within their chosen product. Jan McGranaghan explains: "If you give kids something all-singing, all-dancing, they'll want to try the lot. They can get carried away with the technological aspects rather than the aesthetics. It's better to start with something limited." Manufacturers' product manuals don't help. A complaint voiced by many art teachers, including Jan, is that software packages for art and design "all seem to have phone directory-style user manuals. You need a basic starter kit." Phil Callow discovers how to use a package by playing with it or asking his students for help. Sue Crudgington gets her more adept students to make simple guides for the rest of the class. Jan McGranaghan produces her own mini-manuals. These are sets of simple, fold-out worksheets that take students through the basics of opening a given program, using its basic tools and saving their work. "Later you can give them the manual and tell them to look it up, but as a starting point, manuals are too complex. In a class of 25, with everyone trying to get started at the same time, a kid just needs to miss one simple instruction and the whole thing stops making sense."



Good practice entails using the best available tool for the job. There is no point in using a computer when a traditional medium achieves equal or better effects

Reservations

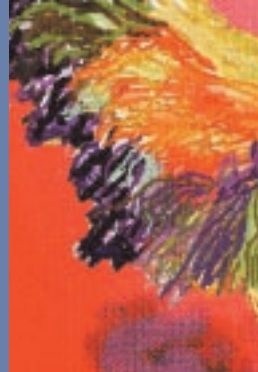
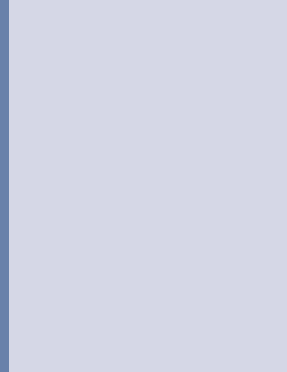
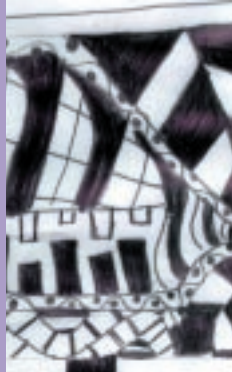
Art teachers surveyed by the Fischer Family Trust¹³ were concerned that technology might be misused in art classes, or used for trivial purposes. Expressing a prevalent view, one said that “many products are purely gimmicky”. Teachers of other subjects didn’t say this, suggesting that it may be a particular problem in products for art and design. Good practice entails using the best available tool for the job. There is no point in using a computer when a traditional medium achieves equal or better effects. For example, digital devices can simulate charcoal, pen and ink, or paint. However, Sue Crudginton avoids products that simply “mimic traditional art materials”, preferring those that “open up a whole new way of working – layering, juxtaposing, collaging”. Ideally, she likes students to work from life and screen simultaneously, cross-referring between the two. “The digital image is easier because it’s just two dimensions. But proportions, tonal values, the relationship between positive and negative shape, and depth all come to life better in the real thing. Old and new work well together.” She considers it crucial to “keep sight of the roots” – namely, the traditional sources and techniques of art and design.

Rob Young tends not to use simulation devices – “because you can use the real thing”. Instead, he encourages the use of “tools that are unique to IT. The trick is to use the computer for fine art, in other words to get a more painterly way of working.” He seeks an ever “more expressive way of using IT – a painterly way, not a design way”, not responding to a rigid, external brief, but “keeping it loose and open-ended. Using it in a free, more intuitive sort of way.”

Technology is appropriate when it helps students develop their ideas, but not when its trickery distracts them. James Nairne observes: “They’ll use software to make an image much brighter or more saturated. They love doing this. I’d like them then to go back to the real subject and work brightly with paint. Otherwise, the original subject loses its freshness. They lose touch with what the painting was about. They’re very inventive with filters and so on but have lost touch with the object or source that inspired them to produce the work of art in the first place.”

Is technology – even at its best – causing students to lose touch with ‘the real thing’?

13 Sources: Fischer Family Trust, *Software Best Practice Survey – Secondary Schools* (Year 2000) – published report, raw data and interviews.



Are computers changing children's sense of what 'the real thing' is?

Young people spend their lives with mediated imagery. To get them in touch with the real thing is harder work than it used to be

The real thing

Traditionally, artists have worked 'from life' and the National Curriculum requires art students to record and analyse 'first-hand observations'. What do these phrases mean in the digital age? Are computers changing children's sense of what 'the real thing' is?

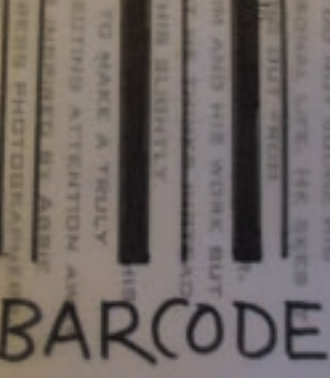
James Nairne points out that much of our so-called first-hand experience is in fact mediated. "I don't think we've got to grips in schools with the fact that we're so influenced by lens-based images of the world. Young people don't understand that a photograph is an interpretation of reality, as much as a drawing is. They think of the photograph as 'real'."

Technology outside the classroom may be changing the way children experience, feel about and even perceive the world around them. This concerns James: "Young people spend their lives with mediated imagery. To get them in touch with the real thing is harder work than it used to be."

Other teachers have mentioned the greater ease of working from a two-dimensional image but James believes that technical ease is not the issue. Students feel more at home with the mediated image. "They enjoy their experience mediated. That's what they're used to back in their own rooms at home. When they're making art, they'd rather use a mediated source."

When his students say they want to work in the style of Monet, they seem to mean they want to achieve a pointillist *look*. James would prefer that they *think* like Monet – producing (on their own terms) "an optical sensation of a fleeting moment".

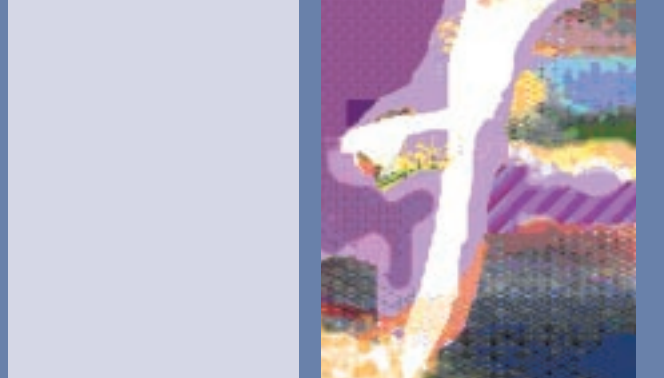
"They want to 'work like Monet' but from a two-dimensional image. The essence of Monet was the first-hand experience. Behind my previous school, there was a river – a very Monet-like subject. They wanted to take a photo of the river, perhaps enhance it on the computer, and then work from that. It's not that they're too lazy to sit by the river. They prefer to use mediated images. They don't see some of the visual qualities in reality. They see more in a mediated image and they like the ways they can manipulate that image before painting it."



If technology has transformed their mental landscape, perhaps a digital photograph has become 'a real thing' in itself

A digital photograph, he concedes, "can be good because it gives access to visual information – for instance, about change and movement – that is very hard to capture otherwise. As long as they're aware that it's a mediated image, that's okay." His concern is that "they do it unknowingly. Translating from two dimensions puts something in the way of the real experience. It's bad if they don't understand this."

As far as the young are concerned, reality isn't what it was. If technology has transformed their mental landscape, perhaps a digital photograph has become 'a real thing' in itself.



But is it art?

Great minds differ. Some teachers worry that the buzz and glitter of computing throw their students off course. Others find technology inspiring in itself. They believe that its speed, responsiveness and range spark ideas and maintain engagement.

In the old days, students would have to redraw and redraw till they lost their motivation – till all the freshness was gone. Technology has shifted the balance from perspiration to inspiration.

James Nairne would put it another way: “There’s now an emphasis on ideas in art, more than skills. We are expected to teach the ideas behind landscape painting as much as the skills of painting landscapes.”

Phil Callow cites Picasso, who famously said he could draw like a master from childhood but spent the rest of his life learning to draw like a child. “I interpret this as Picasso’s realisation of a need for artists to focus more on the expressive and emotive component of art, and to spend less time cultivating craftsmanship... Many artists were brandishing technical skill and virtuosity as the ultimate goal of their work...”¹⁴

In art and design, the computer shifts the emphasis from the left hemisphere of the brain to the right.

“The computer allows the artist to focus more on the message, with less emphasis on the execution. The technicalities are handled so easily that it no longer becomes a question of how to do it, but indeed what to do. Making art is about making choices and establishing priorities, and the computer simply gets the encumbrances out of the way and lets the artist combine variables until his or her intentions are realised.”¹⁵

Hence, the digital age rewards a different sort of student, not necessarily the one who would have excelled in the past.

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The computer allows the artist to focus more on the message, with less emphasis on the execution

¹⁴ ‘Some Thoughts on the Use of Digital Media in Secondary Art and Design’, email from Phil Callow to the author, 2 July 2002.

¹⁵ *ibid.*



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... some would say that's true of life today, and so perhaps digital art is truer to life as we now live it

"Traditionally, the pupils who were the highest achievers within the subject were the ones who possessed the highest degree of technical skill, especially in non-expressive observational drawing. The computer allows the *content* of art to be a higher priority and allows young people who may not be so highly skilled in traditional media to produce expressive work and to make a coherent series of visual statements."¹⁶

Whether the end result is definable as 'art' is beyond the scope of this discussion. The relevant question is whether computers and their peripherals help to achieve the aims of art and design as a curriculum subject. Here, the clear emphasis is on the development of creativity and imagination and on pupils' use of "visual language to communicate their own ideas, feelings and meanings."¹⁷ Inclusion is also a priority.

Of course, the National Curriculum seeks to reflect and communicate the values of our culture, and these, in turn, are shaped increasingly by the computer. Consider the new emphasis on substance over form, or spontaneity over self-discipline. Art teachers cite these values in discussing the virtues of technology.

We think of computers as clinical, yet art teachers say they encourage self-expression. There is also another paradox. The promise of an error-proof outcome may free young people to plumb their own depths, yet the results can seem superficial and slick.

Art student Lucy Wood dislikes "the high-end sheen" of computer art. She expressly likes the fact that "you can see human error" in hand-produced art. "You can trace the process and see where changes were made or where the artist changed course."

Are we attendants at the birth of a new digital aesthetic? A final word from James Nairne: "With a digital image, you never know what you're looking at. The human touch isn't there at all. There is more interposition or distance between myself and a digital image than there would be with a painted image. Digital art is once-removed. That's its essential characteristic. Some would say that's true of life today, and so perhaps digital art is truer to life as we now live it."

16 *ibid.*

17 Art and Design, *The National Curriculum for England*, DfES and QCA, 1999. See especially 'Programme of Study: Art and Design Key Stage 3'. The development of 'practical and critical skills' is also included, of course.



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